# 2.4 Changes to the DEIS/EIR—Technical Appendices

## 2.4.1 Technical Appendix A—Water Resources/Water Quality

**1.1 Surface-water Hydrology** *(SEE SUBSECTIONS)*

**1.1.1 Affected Environment** **(CHANGES FOLLOW)**
**pgs. A-2 through A-4**

**Table A-1A has been modified to more accurately represent dry-year Delta inflow when comparing the Preferred Alternative to existing conditions. See Section 2.4.1.1 for revised Table A-1A.**

**1.1.2 Environmental Consequences** *(SEE SUBSECTIONS)*

**1.1.2.1 Methodology** **(CHANGES FOLLOW)**
**p. A-8**

At the 2020 level of development, ~~annual~~ CVP contracts total approximately ~~6.6~~ 6.5 million acre-feet (maf) per year north and south of the Delta. The CVP contracts consist of agricultural water service contracts, municipal and industrial (M&I) water service contracts, exchange contracts, water rights contracts, and refuge water supplies. At the 2020 level of development, ~~annual~~ SWP entitlements amount to approximately 4.2 maf per year, and the variable demands range from 3.4 - 4.2 maf per year.

**1.1.2.2 Significance Criteria** *(NO CHANGE)*
**1.1.2.3 No Action** *(NO CHANGE)*

**1.1.2.4 Maximum Flow Alternative** **(CHANGES FOLLOW)**
**pg. A-9**

Under this alternative, diversions from the TRD to the Central Valley would be eliminated. In comparison to the No Action Alternative, simulated long-term average annual releases from Keswick Reservoir would be reduced by approximately 860,000 af or 13 percent. Releases from Keswick Reservoir include releases from Shasta Reservoir and Spring Creek diversions. In comparison to the No Action Alternative, simulated long-term average annual delta inflow would be reduced by about ~~780,000~~ 790,000 af, or ~~3~~ 4 percent, and simulated long-term average annual Delta outflow would be reduced by about 420,000 af or 3 percent.

**1.1.2.5 Flow Evaluation Alternative** **(CHANGES FOLLOW)**
**pg. A-10**

This alternative was designed to use a mix of flow and non-flow measures to promote the restoration of Trinity River geomorphology and natural habitat. The differences between Flow Evaluation Alternative and ~~existing condition~~ No Action Alternative simulation instream flow releases are presented by water-year class in Table A-3.

**Table A-3 has been modified to more accurately represent total acre-feet during the normal water-year class under the Flow Evaluation Alternative. See Section 2.4.1.1 for revised Table A-3.**

Under this alternative, diversions from the TRD to the Central Valley would be reduced due to increased instream flow releases and increased minimum Trinity Reservoir storage levels. In comparison to the ~~existing conditions~~ No Action Alternative simulation, the pattern of diversions from the TRD would be shifted from a spring and summer emphasis to a summer and fall emphasis to help meet Trinity River instream temperature requirements. Simulated long-term average annual diversions from the TRD in the Flow Evaluation Alternative would be reduced by about 240,000 af, or 28 percent. In comparison to the ~~existing conditions~~ No Action Alternative simulation, simulated long-term average annual releases from Keswick Reservoir would be reduced by approximately ~~230,000~~ 240,000 af, or 4 percent. Releases from Keswick Reservoir include releases from Shasta Reservoir and Spring Creek diversions. In comparison to the existing conditions No Action Alternative simulation, simulated long-term average annual Delta inflow would be reduced by about ~~200,000~~ 220,000 af, or 1 percent, and simulated long-term average annual delta outflow would be reduced by about 150,000 af, or ~~4~~ 1 percent.

**1.1.2.6 Percent Inflow Alternative** *(NO CHANGE)*
**1.1.2.7 Mechanical Restoration Alternative** *(NO CHANGE)*

**1.1.2.8 State Permit Alternative** **(CHANGES FOLLOW)**
**pg. A-12**

Under this alternative, diversions from the TRD to the Central Valley would increase due to reduced instream flow releases. In comparison to the No Action Alternative, the pattern of diversions from the TRD would be shifted from a spring and summer emphasis to a summer and fall emphasis to help meet Trinity River instream temperature requirements. Simulated long-term average annual diversions from the TRD in the State Permit Alternative would increase by about 200,000 af, or 23 percent. In comparison to the No Action Alternative, simulated long-term average annual releases from Keswick Reservoir would increase by approximately ~~190,000~~ 200,000 af, or 3 percent. Releases from Keswick Reservoir include releases from Shasta Reservoir and Spring Creek diversions. In comparison to the No Action Alternative, simulated long-term average annual Delta inflow would increase by about 170,000 af, or 1 percent, and simulated long-term average annual Delta outflow would increase by about ~~130,000~~ 120,000 af, or 1 percent.

**1.1.2.9 Existing Conditions** *(NO CHANGE)*

**1.2 Surface-water Management** *(SEE SUBSECTIONS)*
**1.2.1 Affected Environment** *(NO CHANGE)*
**1.2.2 Environmental Consequences** *(SEE SUBSECTIONS)*
**1.2.2.2 Significance Criteria** *(NO CHANGE)*
**1.2.2.3 No Action** *(NO CHANGE)*

**1.2.2.4 Maximum Flow Alternative** **(CHANGES FOLLOW)**
**pg. A-19**

The Maximum Flow Alternative would require operating the TRD to retain inflow into Trinity Reservoir for release to the Trinity River according to the prescribed flow release schedule. In comparison to the No Action Alternative, simulated average end-of-water year storage in Trinity Reservoir for release to the Trinity River according to the prescribed flow release schedule. In comparison to the No Action Alternative, simulated average end-of-

water year storage in Trinity Reservoir would increase during the dry period by about ~~430,000~~ 440,000 af, or 60 percent, and decrease over the long-term by about 170,000 af, or ~~23~~ 22 percent. The elimination of diversions from the TRD would potentially increase uncontrolled instream releases down the Trinity River in wetter years.

**pg. A-20**

**Table A-8 has been modified to more accurately reflect reservoir storage and CVP deliveries comparing Maximum Flow and No Action Alternatives. See Section 2.4.1.1 for revised Table A-8.**

Shasta Reservoir storage would be influenced by the absence of diversions from the TRD. There would be no diversions to contribute to the Sacramento River flows used to meet CVP deliveries, Delta water quality requirements, 1993 Winter-Run Biological Opinion temperature requirements, and other downstream obligations. In the Maximum Flow Alternative, simulate average end-of-water year Shasta Reservoir storage would be less than the No Action Alternative by approximately ~~200,000~~ 210,000 af, or ~~12~~ 8 percent. Dry period operations under this alternative would be infeasible due to decreased end-of-month storages, which could sometimes be less than the minimum operating pool of approximately ~~590,000~~ 550,000 af and could reach a simulated minimum end-of-month storage level of 5,000 af.

**pg. A-21**

In comparison to the No Action Alternative, simulated long-term average annual exports through Tracy Pumping Plant would be reduced by about 320,000 af, or 12 percent, due to the elimination of TRD diversions. Simulated annual exports through Banks Pumping Plant would be similar to the No Action Alternative.

In comparison to the No Action Alternative, simulated annual CVP deliveries would be reduced. The simulated long-term average annual reduction in deliveries north and south of the Delta would be about ~~480,000~~ 470,000 af. During the dry period, both the available water supply and the ability to further reduce CVP deliveries would be limited, so the average annual reduction in diversions would exceed the average annual reduction in CVP deliveries.

**1.2.2.5 Flow Evaluation** **(CHANGES FOLLOW)**
**pg. A-22**

The TRD would be operated to release additional Trinity Reservoir inflow to the Trinity River. Dam operating rules would be adjusted to account for the new instream releases. In comparison to the No Action Alternative, simulated average end-of-water year storage in Trinity Reservoir would increase during the dry period by about ~~30,000~~ 40,000 af, or ~~4~~ 5 percent, and decrease over the long-term by about ~~40,000~~ 50,000 af, or ~~3~~ 4 percent.

Shasta Reservoir storage would be influenced by the reductions in diversions from the TRD. The diversions contribute to the Sacramento River flows used to meet CVP deliveries, Delta water quality requirements, 1993 Winter-Run Biological Opinion temperature requirements, and other downstream obligations. In the Flow Evaluation Alternative, simulated average end-of-water year storage would be less than the No Action Alternative by approximately ~~50,000~~ 60,000 af, or 2 percent. During the dry period, these storage reductions could reduce

the ability of the CVP to maintain the coldwater pool for releases to meet 1993 Winter-Run Biological Opinion temperature requirements.

**pg. A-23**

**Table A-9 has been modified to more accurately reflect reservoir storage and CVP deliveries comparing Flow Evaluation and No Action Alternatives. See Section 2.4.1.1 for revised Table A-9.**

In comparison to the No Action Alternative, simulated long-term average annual exports through Tracy Pumping Plant would be reduced by about 60,000 af, or 2 percent, due to the reduction of TRD diversions. Simulated annual exports through Banks Pumping Plant would be similar to the No Action Alternative.

**1.2.2.6 Percent Inflow** **(CHANGES FOLLOW)**

**pg. A-25**

Each week, the TRD would be operated to release 40 percent of the previous week's average Trinity Reservoir inflow into the Trinity River. In drier years, instream releases would be less than the No Action Alternative, and in wetter years, they would be greater. In comparison to the No Action Alternative, simulated average end-of-water year storage in Trinity Reservoir would increase during the dry period by about ~~90,000~~ 100,000 af, or ~~12~~ 14 percent, and decrease over the long-term by about 20,000 af, or 1 percent.

**Table A-10 has been modified to more accurately reflect reservoir storage and CVP deliveries comparing Percent Inflow and No Action Alternatives. See Section 2.4.1.1 for revised Table A-10.**

**pg. A-26**

In comparison to the No Action Alternative, simulated long-term average annual exports through Tracy Pumping Plant would be reduced by about ~~20,000~~ 10,000 af, or less than 1 percent, due to the reduction of TRD diversions. Simulated annual exports through Banks Pumping Plant would be similar to the No Action Alternative.

In comparison to the No Action Alternative, simulated annual CVP deliveries would be reduced. The simulated long-term average annual reduction in deliveries north and south of the Delta would be about ~~20,000~~ 10,000 af. As in the No Action Alternative, agricultural and M&I water service contractors would be subject to delivery shortages of up to 100 percent and 50 percent of contract amounts, respectively. In both simulations, American River M&I water service contract and water rights deliveries would be reduced below minimum levels in 1977. Simulated annual deliveries to agricultural and M&I water service contractors are discussed below.

**1.2.2.7 Mechanical Restoration** *(NO CHANGE)*

**1.2.2.8 State Permit** **(CHANGES FOLLOW)**

**pg. A-27**

In comparison to the No Action Alternative, this alternative would increase simulated long-term average annual diversions to the Central Valley by ~~200,000~~ 210,000 af, or 23 percent, and the diversion pattern would change to help meet Trinity River instream temperature

requirements. Operations of the remaining CVP facilities would need to be rescheduled to maximize the use of this additional water. A comparison of simulated water management characteristics for the State Permit Alternative and No Action Alternative is presented in Table A-10.

The TRD would release less Trinity Reservoir inflow to the Trinity River. Dam operating rules would be adjusted to account for the lower instream releases. In comparison to the No Action Alternative, simulated average end-of-water year storage in Trinity Reservoir would increase during the dry period by about ~~30,000~~ 40,000 af, or ~~14~~ 15 percent, and over the long-term by about 80,000 af, or 6 percent.

**pg. A-28**

In comparison to the No Action Alternative, simulated annual exports through Tracy Pumping Plant would be increased by about ~~50,000~~ 60,000 af, or 2 percent, due to the increased TRD diversions, which would often allow additional CVP pumping. Simulated annual exports through Banks Pumping Plant would be similar to the No Action Alternative.

**pg. A-29**

**Table A-11 has been modified to more accurately reflect reservoir storage and CVP deliveries comparing Maximum Flow and No Action Alternatives. See Section 2.4.1.1 for revised Table A-11.**

**1.3 Groundwater** *(SEE SUBSECTIONS)*
**1.3.1 Affected Environment** *(SEE SUBSECTIONS)*
**1.3.1.1 Data Sources** *(NO CHANGE)*

**1.3.1.2 Historical Perspective and Recent Conditions** **(CHANGES FOLOW)**
**pg. A-31**

**The following new text has been added to the end of Section 1.3.1.2 immediately before Section 1.3.1.3:**

**Trinity River Basin**. Most usable groundwater in the mountainous Trinity River Basin occurs in widely scattered alluvium-filled valleys, such as those immediately adjacent to the Trinity River. These valleys contain only small quantities of recoverable groundwater, and therefore, are not considered a major source. Groundwater withdrawals in the Trinity River Basin totaled approximately 5,000 af in 1990. The Hoopa Valley is a notable groundwater resource located in the Trinity River Basin. This shallow aquifer supplies mostly domestic water and is recharged from precipitation and infiltration from local streams.

**Lower Klamath River Basin/Coastal Area**. Groundwater conditions in the Lower Klamath River Basin / Coastal Area are similar to the Trinity River Basin. In general, the mountainous region is not a major source of groundwater, although some alluvial valleys do have usable resources.

**Santa Clara and San Benito Counties.** Imported surface water from the CVP San Felipe Unit is provided to areas in Santa Clara and San Benito Counties. Water conveyed to these areas is intended to supplement available supplies, minimize groundwater mining, stabilize groundwater level, arrest land subsidence, and improve water quality conditions.

Three interconnected groundwater basins are located within the Santa Clara County area: Santa Clara Valley Basin, Coyote Basin, and Llagas Basin (U.S. Bureau of Reclamation, 1976b). Extensive groundwater pumping for agricultural purposes produced overdraft conditions in these groundwater basins, and resulted in land subsidence, increased pumping costs, and seawater intrusion from the San Francisco Bay. To reverse these conditions, surface water was initially imported to the area in the 1960s through the SWP South Bay Aqueduct. Continued growth during the late 1960s and 1970s threatened to return the area to overdraft conditions. These concerns were dampened by additional surface-water imports to the area from the San Felipe Unit of the CVP in the 1980s. Much of this imported water is distributed to percolation ponds for groundwater recharge, and the remainder is further distributed for direct use and storage.

Groundwater resources in the San Benito County (Hollister area) consist of numerous sub-basins partially separated by barriers, generally fault zones, which criss-cross the area. Irrigation of agricultural lands in this area has relied on groundwater as the primary supply. As historical agricultural development expanded, groundwater withdrawals began to exceed groundwater recharge, causing severe declines in groundwater levels. In the 1980s, surface water was imported to this area from the San Felipe Unit of the CVP for the purposes of alleviating the degenerating groundwater conditions. Because of the complex geological fault system, direct groundwater recharge is limited; and imported water is distributed primarily for direct use and storage.

**1.3.1.3 Overview of the Central Valley Regional Aquifer System** *(NO CHANGE)*

**1.3.1.4 Groundwater Resources of the Sacramento River Region (CHANGES FOLLOW)**

**Hydrogeology.**
**pg. A-32**

Aquifer recharge of the basin has historically occurred in part from deep percoloation of rainfall, the infiltration from stream beds, and subsurface inflow along basin boundaries. Most of the recharge for the Central Valley occurs in the north and east sides of the valley where the precipitation is the greatest. With the introduction of agriculture to the region, aquifer recharge was substantially augmented by deep percolation of applied agricultural water and seepage from irrigation distribution and drainage canals.

**1.3.1.5 Groundwater Resources of the San Joaquin River Region (CHANGES FOLLOW)**

**Hydrogeology.**
**pg. A-39**

Recharge to the semi-confined upper aquifer ~~generally~~ occurs in part from stream seepage, deep percolation of rainfall, and subsurface inflow along basin boundaries. As agricultural practices expanded in the region, recharge was substantially augmented with deep percolation of applied agricultural water and seepage from the distribution systems used to convey this water. Recharge of the lower confined aquifer consists of subsurface inflow from the valley floor and foothill areas to the east of the eastern boundary of the Corcoran Clay Member. Present information indicates that the clay layers, including the Corcoran Clay, are not continuous in some areas, and some seepage from the semi-confined aquifer above does occur through the confining layer.

~~Historically, the interaction of groundwater and surface water resulted in net gains to the streams. This condition existed on a regional basis through about the mid-1950s. Since that time groundwater level declines have resulted in some stream reaches losing flow through seepage to the groundwater systems below.~~ Prior to the mid-1950s, the southern portion of the San Joaquin Valley in Madera County experienced net losses from streams, while the northern portion of the San Joaquin Valley generally experienced gains from streams. This situation has not changed. Currently, portions of the San Joaquin Valley continue to experience net gains from streams, while the Madera County portions of the Valley experience losses from streams. Where the hydraulic connection have been maintained, the amount of seepage has varied as groundwater levels and streamflows have fluctuated. Areas in the San Joaquin River Region where these dynamics have changed include the eastern San Joaquin and Merced counties, and western Madera County, as well as other local areas. Similar to the Sacramento River Region, the largest stream losses have occurred during the drought periods of 1976 to 1977 and 1987 to 1992.

**1.3.1.6 Groundwater Resources of the Tulare Lake Region** *(NO CHANGE)*
**1.3.1.7 Groundwater Management and Conjunctive Use Programs** *(NO CHANGE)*

**1.3.2 Environmental Consequences** *(SEE SUBSECTIONS)*

**~~1.3.1.2~~ 1.3.2.1 Impact Assessment Methodology (CHANGES FOLLOW)**
**pg. A-54**

**The following new paragraph has been added as paragraph four immediately above Significance Criteria:**

Groundwater resources in Santa Clara and San Benito Counties are managed through local groundwater regulations to minimize groundwater overdraft, land subsidence, and groundwater quality degradation. This groundwater management task is facilitated by CVP project water imports via the San Felipe Unit. It is assumed that these management practices will remain in place and that groundwater ordinances will limit the potential for groundwater pumping. Because of these actions, no significant impacts to groundwater resources are anticipated and, therefore, are not analyzed under environmental consequences. However, possible reductions in CVP deliveries to the San Felipe Unit could result in other impacts. These potential impacts are discussed elsewhere in the document (see Sections 3.9 Land Use, 3.11 Socioeconomics, and 4.1 Cumulative Impacts).

**1.3.2.2 Groundwater Storage and Production** *(NO CHANGE)*
**1.3.2.3 Groundwater Levels** *(NO CHANGE)*
**1.3.2.4 Land Subsidence** *(NO CHANGE)*
**1.3.2.5 Groundwater Quality** *(NO CHANGE)*
**1.3.2.6 No-action Alternative** *(NO CHANGE)*
**1.3.2.7 Sacramento River Region** *(NO CHANGE)*
**1.3.2.8 San Joaquin River Region** *(NO CHANGE)*
**1.3.2.9 Tulare Lake Region** *(NO CHANGE)*
**1.3.2.10 Maximum Flow Alternative** *(NO CHANGE)*
**1.3.2.11 Sacramento River Region** *(NO CHANGE)*
**1.3.2.12 San Joaquin River Region** *(NO CHANGE)*
**1.3.2.13 Tulare Lake Region** *(NO CHANGE)*
**1.3.2.14 Flow Evaluation Alternative/Preferred Alternative** *(NO CHANGE)*


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**1.3.2.15 Percent Inflow Alternative** *(NO CHANGE)*
**1.3.2.16 Mechanical Restoration Alternative** *(NO CHANGE)*
**1.3.2.17 State Permit Alternative** *(NO CHANGE)*

**The following five new sections have been added to the end of Groundwater:**

**pg. A-72**

**1.3.2.18 Existing Conditions versus Preferred Alternative**

The comparison of the Preferred Alternative (i.e., Flow Evaluation) to 1995 existing conditions to without-project conditions in 2020 (i.e., No-Action Alternative) indicates that most impacts to groundwater elevations between 1995 and 2020 would be attributed to changes unrelated to the project. For example, the largest declines in groundwater elevations are seen in the urban areas of Sacramento and Fresno, the result of population growth. Impacts as a result of the Preferred Alternative are not as great.

**1.3.2.19 Sacramento River Region**

Groundwater elevations under the Preferred Alternative would be lower compared to existing conditions primarily on the east side of the region where long-term elevations would decline by as much as 65 feet in the Sacramento area. However, these impacts are caused by the increase in development (e.g., population growth) from 1995-2020. Groundwater-elevation declines of 5 feet on the west side of the region can be attributed to the Preferred Alternative, and would result in a significant impact. These declines occur in areas receiving agricultural service contract water from the CVP, such as the Tehama-Colusa Canal service area. No additional impacts with regard to subsidence or decreased water quality would be expected in comparison to existing conditions.

**1.3.2.20 San Joaquin River Region**

Groundwater elevations under the Preferred Alternative would be higher compared to existing conditions on the northeast side of the region where long-term groundwater elevations would increase by as much as 20 feet. These impacts are caused by the assumed level of development from 1995-2020. No significant impacts to groundwater elevations, subsidence, or water quality can be attributed to the Preferred Alternative.

**1.3.2.21 Tulare Lake Region**

Groundwater elevations in the south and east side of the region would be 15 and 25 feet lower, respectively, under the Preferred Alternative compared to existing conditions. Groundwater elevations would increase 5-15 feet along the west side and mid-valley areas. All of these changes are caused by the assumed level of development from 1995-2020, i.e., they are not related to the project. Impacts attributable to the Preferred Alternative would occur along the extreme west side area, where the maximum decline in groundwater elevations would be approximately 20 feet. Additional land subsidence would occur along the west side of the Tulare Lake Region. The range of changes is from 1 and 10 feet, primarily in areas receiving CVP agricultural service contract water via the San Luis Canal. The range impacts decreases 1-5 feet towards the axis of the Central Valley. The area of land subsidence surrounds major conveyance facilities, including the California Aqueduct. Additional groundwater pumping, causing the upwards migration of lesser quality ground-

water along the west side of the region, could possibly result in upwelling of groundwater high in TDS into productive groundwater zones; resulting in significant impacts to groundwater quality.

### 1.3.2.22 Mitigation

Potentially significant groundwater-related impacts could occur with the implementation of the Maximum Flow, Flow Evaluation, and Percent Inflow Alternatives as a result of decreased surface-water supplies. Although changes to water supply per se were not considered an impact, the development of additional water supplies to meet demands would lessen the associated impacts (e.g., groundwater impacts). A number of demand- and supply-related programs are currently being studied across California, many of which are being addressed through the on-going CALFED and CVPIA programs and planning processes. Although none of these actions would be directly implemented as part of the alternatives discussed in the DEIR/EIS, each could assist in offsetting impacts resulting from decreased Trinity River exports. Examples of actions being assessed in the CALFED and CVPIA planning processes include:

- Develop and implement additional groundwater and/or surface-water storage. Such programs could include the construction of new surface reservoirs and groundwater storage facilities, as well as expansion of existing facilities. Potential locations include sites throughout the Sacramento and San Joaquin Valley watersheds, the Trinity River Basin, and the Delta.
- Purchase long- and/or short-term water supplies from willing sellers (both in-basin and out-of-basin) through actions including, but not limited to, temporary or permanent land fallowing.
- Facilitate willing buyer/willing seller inter- and intra-basin water transfers that derive water supplies from activities such as conservation, crop modification, land fallowing, land retirement, groundwater substitution, and reservoir re-operation.
- Promote and/or provide incentive for additional water conservation to reduce demand.
- Decrease demand through purchasing and/or promoting the temporary fallowing of agricultural lands.
- Increase water supplies by promoting additional water recycling.

**1.4 Water Quality** *(SEE SUBSECTIONS)*
**1.4.1 Temperature** *(NO CHANGE)*
**1.4.2 Turbidity** *(NO CHANGE)*
**1.4.3 Sediment** *(NO CHANGE)*
**1.4.4 Affected Environment** *(SEE SUBSECTIONS)*
**1.4.4.1 Trinity River Basin** *(NO CHANGE)*
**1.4.4.2 Lower Klamath River Basin/Coastal Area** *(NO CHANGE)*

**1.4.4.3 Central Valley** **(CHANGES FOLLOW)**
**pg. A-78**

**Water Quality Concerns**. Water in the Sacramento-San Joaquin Delta generally meets public water supply water quality standards identified by the EPA and the California

Department of Health Services. However, stricter federal standards have been promulgated and are significantly more difficult and costly to meet. The standards of concern relate to DBPs and the potential requirements for more rigorous disinfection. In addition, the standard for arsenic, which is found naturally in Delta waters, is under evaluation and will be lowered. A new MCL will be proposed in ~~January~~ spring 2000.

**pg. A-79**

The presence of bromide in a drinking water source complicates the disinfection process. As with chlorine, bromide forms THMs in the chlorination process and these brominated THMs are also potentially harmful to human health. Bromide is about twice as heavy as chlorine, and the THM standard is based on weight. Hence, it takes fewer molecules of brominated THMs to exceed the drinking water standard. Current EPA statements suggest that bromine compounds may be more harmful than chlorine compounds. Another method of disinfection, ozone treatment, is also complicated by the presence of bromide because it forms bromate, a compound known to be carcinogenic in laboratory animals and thought to be a potential human carcinogenic.

**Health Effects of Contaminants in Water.**

Parasites.

*Giardia lamblia*.

**pg. A-83**

Ingestion of as few as 10 cysts ~~can~~ may cause infection (Rendtorff and Holt, 1954). Infection was measured by the excretion of cysts, and illness was not determined. The ratio of illness to infection is highly variable. *Giardia lamblia* infections with no symptoms of illness may be as high as 39 percent for children under five years old and 76 percent for adults in certain populations (Craft, 1981; and Wolf, 1979; as reported in Rose, et al., 1991). At the same time, symptomatic infections have been reported at a rate of 50 to 67 percent and as high as 91 percent in others (Veazie, et al., 1979, as reported in Rose, et al., 1991). In yet other groups, chronic giardiasis may develop in as many as 58 percent of an infected population.

**pg. A-84**

**Table A-26 has been modified to correct a typographical error it the title. See Section 2.4.1.1 for revised Table A-26.**

**Results of the State Project/Delta Water Pathogen Monitoring Project**.

A total of 48 samples was collected and analyzed for *Giardia lamblia* cysts, *Cryptosporidium* oocysts, enteric viruses and coliform bacteria. The percent positive and mean concentrations (cysts(o~~nd~~ocysts)/100 ~~l~~ L) at each of the four stations for protozoans are shown in Table II-4.

**Water Quality Rules and Regulations**.
**pg. A-89**

Trihalomethane Regulation. In 1979, the EPA published an amendment to the NPDWR, which established an MCL for THMs. The THM regulation applies to all public water systems serving populations greater than 10,000. Large sized utilities were required to begin monitoring for total trihalomethanes (TTHMs) in November 1980. The regulation established an MCL of 100 Fg/l for TTHMs in the distribution system. TTHMs include the summation of chloroform, bromodichloromethane, dibromochloromethane, and bromoform concentrations. Because THMs form after the application of the disinfectant, compliance with the MCL is based on a running annual average of at least four sampling points for each treatment plant with 25 percent of the samples taken at locations within the distribution system representing the maximum residence time of water in the system, and with at least 75 percent of the samples being collected from representative sites in the distribution system (considering number of persons served, sources of water, and treatment methods). The current TTHM MCL is 80 ppb and may be reduced in the future.

Disinfectants/Disinfection By-Products Regulation.
**pg. A-91**

On December 16, 1998 the USEPA promulgated the "Disinfectant/Disinfection By-Products Rule" which lowers the MCL for Trihalomethanes from 100 ppb to 80 ppb and adds regulations from other disinfection by-products. The reduction of the TTHM, HAA, and bromate MCLs from their current levels of 80 ppb, 40 ppb, and 10 ppb is the subject of discussion in the FACA negotiations. Information on probable levels of regulation for these and other disinfection byproducts are not available at this time. It also established source water Total Organic Carbon values that will require treatment at different levels depending upon the alkalinity and the background TOC. It can be anticipated that some of the water suppliers taking water out of the Delta will be required to provide more treatment. In that the three alternatives do not show a variance in TOC, as expressed by DOC, this treatment change is not as a results of the proposed project.

**1.4.5 Environmental Consequences** *(SEE SUBSECTIONS)*
**1.4.5.1 Methodology** *(NO CHANGE)*

**1.4.5.2 Significance Criteria** **(CHANGES FOLLOW)**
**pg. A-93**

The following significance criteria were identified for Water Quality:

- Substantial degradation of water quality, such that existing beneficial uses are precluded specifically due to adverse water quality.
- Violate any water quality standards or waste discharge requirements.
- Substantial alterations of the course of a stream or river in a manner that would result in substantial erosion or siltation on- or off-site.
- Short- or long-term increases in turbidity of 20 percent or more over naturally occurring background levels.

- Contamination of a public water supply.
- Variation in instream temperatures so as to adversely impact state or federally listed aquatic species (see the Fishery Resources section [3.5]). This is defined as an increase in the number of months with modeled temperatures exceeding the 1993 Winter-run Biological Opinion by more than ~~0.5°F, or a change in carryover storage at Shasta Reservoir compared to No Action. Notably, the use of a 0.5°F change in temperature as a significant impact represents a very conservative approach, in that the~~ any modeled temperature greater than the 56°F threshold criterion (or 60°F depending on date), or a change in carryover storage at Shasta Reservoir compared to No Action. Notably, the use of no change in temperature greater than the threshold criterion of 56°F (or 60°F) as a significant impact represents a very conservative approach, in that the Central Valley Regional Water Quality Control Board normally considers a temperature change to be significant if a 1.0 degree change occurs.
- Degradation of water quality for a water quality constituent in a waterbody listed as impaired (e.g., under California's Clean Water Act 303(d) list).

**1.4.5.3 No Action** *(NO CHANGE)*

**1.4.5.4 Maximum Flow** **(CHANGES FOLLOW)**
**pg. A-95**

**Central Valley**. The elimination of TRD exports would significantly reduce the ability to meet temperature criteria in the Sacramento River. This is evidenced by an increase of ~~3~~ 7 percentage points in the frequency that Sacramento River temperatures would exceed the Biological Opinion temperature objectives, compared to the No Action Alternative (Table A-31). Shasta Reservoir carryover storage violations would increase 2 percentage points compared to No Action due to increased reliance on the reservoir to meet river temperature requirements in spring and early summer (Table A-31). The decreased ability to meet the Biological Opinion criteria would be a significant impact.

**1.4.5.5 Flow Evaluation** **(CHANGES FOLLOW)**
**pg. A-97**

**Central Valley**. Sacramento River modeled temperature violations occurred at a slightly higher frequency than under the No Action Alternative (20.5 percent versus ~~19.7~~ 15.9) (Table A-32). Violations occurred in both wet and dry conditions due to the variable nature of the standards. This impact would be significant. Modeled frequency of Shasta Reservoir carryover violations was the same as under No Action (Table A-32).

**1.4.5.6 Percent Inflow** **(CHANGES FOLLOW)**
**pg. A-98**

**Central Valley**. Sacramento River modeled temperature violations would occur slightly more frequently than No Action levels (20.1 percent versus ~~19.7~~ 15.9), resulting in a significant impact (Table A-33). The months with violations occur across wet and dry conditions due to the variable nature of the standards. The modeled frequency of Shasta carryover violations was the same as under No Action (Table A-33).

**1.4.5.7 Mechanical Restoration** *(NO CHANGE)*

**1.4.5.8 State Permit** **(CHANGES FOLLOW)**
**pg. A-100**

**Central Valley**. This alternative would result in a slight increase in temperature violations compared to the No Action Alternative (16.4 percent versus 15.9). Conditions would improve with regard to meeting ~~both Sacramento River temperature and~~ Shasta Reservoir carryover storage objectives as a result of the increased TRD exports compared to No Action levels (Table A-35). These months with temperature violations occurred across both wet and dry conditions due to the variable nature of the standards.

**1.4.5.9 Existing Conditions versus Preferred Alternative** **(CHANGES FOLLOW)**
**pg. A-101**

**Central Valley**. Modeled Sacramento River temperature violations would occur more frequently under the Preferred Alternative than under 1995 existing conditions (20 percent of the months compared to 14 percent). ~~However, most (87 percent) of the non-compliance is attributed to the increase in water demand assumed for the 2020 level of development.~~ Preferred Alternative carryover storage violations also increased compared to 1995 existing conditions, but all of the increase was attributed to non-project changes (e.g., population growth and higher contract demand). (In other words, the Preferred Alternative and No Action impacts are identical.)

**1.5 References** *(NO CHANGE)*




### 2.4.1.1 Technical Appendix A—Tables and Figures

**Tables**

| | | |
|---|---|---|
| A-1A | Comparison of Impacts on Water Resources | **(CHANGES FOLLOW)** |
| A-1B | Comparison of Impacts on Water Resources to the No Action Alternatives—Water Quality | *(NO CHANGE)* |
| A-2 | Comparison of No Action and Maximum Flow Alternatives | *(NO CHANGE)* |
| A-3 | Comparison of No Action and Flow Evaluation Alternatives | **(CHANGES FOLLOW)** |
| A-4 | Comparison of No Action and Percent Inflow Alternatives | *(NO CHANGE)* |
| A-5 | Comparison of No Action and State Permit Alternatives | *(NO CHANGE)* |
| A-6 | Water Projects in the Klamath Basin | *(NO CHANGE)* |
| A-8 | Comparison of Water Management Characteristics between Maximum Flow | **(CHANGES FOLLOW)** |
| A-9 | Comparison of Water Management Characteristics between Flow Evaluation and No Action Alternatives | **(CHANGES FOLLOW)** |
| A-10 | Comparison of Water Management Characteristics between Percent Inflow and No Action Alternatives | **(CHANGES FOLLOW)** |
| A-11 | Comparison of Water Management Characteristics between State Permit and No Action Alternatives | **(CHANGES FOLLOW)** |
| A-12 | Groundwater Quality Parameters of Concern | *(NO CHANGE)* |
| A-13 | Average Annual Groundwater Budget for the Sacramento River Region (West) (1922-1990) for Trinity Alternatives) | *(NO CHANGE)* |
| A-14 | Average Annual Groundwater Budget for the Sacramento River Region (East) (1922-1990) for Trinity Alternatives | *(NO CHANGE)* |
| A-15 | Average Annual Groundwater Budget for the San Joaquin River Region (1922-1990) for Trinity Alternatives | *(NO CHANGE)* |
| A-16 | Average Annual Groundwater Budget for the Tulare Lake Region (North) (1922-1990) for Trinity Alternatives | *(NO CHANGE)* |
| A-17 | Average Annual Groundwater Budget for the Tulare Lake Region (South) (1922-1990) for Trinity Alternatives | *(NO CHANGE)* |
| A-18 | Average Annual Groundwater Budget for Subregion 2 (1922-1990) for Trinity Alternatives | *(NO CHANGE)* |
| A-19 | Average Annual Groundwater Budget for Subregion 3 (1922-1990) for Trinity Alternatives | *(NO CHANGE)* |

**Figures**






A-28 Differences in Groundwater Elevations for Percent Inflow Alternative as Compared to No Action Alternative *(NO CHANGE)*

A-29 Increase in Simulated Land Subsidence in Percent Inflow Alternative from No Action Alternative *(NO CHANGE)*

A-30 Differences in Groundwater Elevations for State Permit Alternative as Compared to No Action Alternative *(NO CHANGE)*

DSM 2-2 Greens Landing Average Monthly Water Quality *(NO CHANGE)*

DSM 2-3 Sacramento River at Greens Landing Average Monthly Water Quality Average of Critical Dry Years Between 1976-1990 *(NO CHANGE)*

DSM 2-4 North Bay Aqueduct Average Monthly Water Quality *(NO CHANGE)*

DSM 2-5 North Bay Aqueduct Average Monthly Water Quality Average of Critical Dry Years Between 1976-1990 *(NO CHANGE)*

SEM 2-6 Contra Costa Canal Intake Average Monthly Water Quality *(NO CHANGE)*

DSM 2-7 Contra Costa Canal Intake Average Monthly Water Quality Average of Critical Dry Years Between 1976-1990 *(NO CHANGE)*

DSM 2-8 Old River at Highway 4 Average Monthly Water Quality *(NO CHANGE)*

DSM 2-9 Old River at Highway 4 Average Monthly Water Quality Average of Critical Dry Years Between 1976-1990 *(NO CHANGE)*

DSM 2-10 Delta Mendota Canal Intake Average Monthly Water Quality *(NO CHANGE)*

DSM 2-11 Delta Mendota Canal Intake Average Monthly Water Quality Average of Critical Dry Years Between 1976-1990 *(NO CHANGE)*

DSM 2-12 Clifton Court Forebay Average Monthly Water Quality *(NO CHANGE)*

DSM 2-13 Clifton Court Forebay Average Monthly Water Quality Average of Critical Dry Years Between 1976-1990 *(NO CHANGE)*





**Table A-1A**
**Comparison of Impacts on Water Resources**

| | | Alternatives Compared to No Action | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Parameter** | **Hydrologic Conditions[a]** | **No Action** | **Maximum Flow** | **Flow Evaluation** | **Percent Inflow** | **Mechanical Restoration** | **State Permit** | **Existing Conditions** | **Preferred Alternative to Existing Conditions** |
| Trinity Reservoir elevation (ft) | Dry | 2,255 | 34 | 11 | 19 | 0 | 22 | 2,267 | -1 |
| May 30 | Wet | 2,352 | -43 | -3 | -8 | 0 | 6 | 2,357 | -8 |
| | Average | 2,319 | -33 | 4 | 2 | 0 | 16 | 2,325 | -2 |
| September 30 | Dry | 2,207 | 64 | 18 | 25 | 0 | 11 | 2,217 | 8 |
| | Wet | 2,318 | -18 | -2 | -2 | 0 | 4 | 2,320 | -4 |
| | Average | 2,282 | -9 | 2 | 4 | 0 | 11 | 2,287 | -3 |
| Shasta Reservoir elevation (ft) | Dry | 995 | -22 | -7 | -3 | 0 | 0 | 998 | -10 |
| May 30 | Wet | 1,062 | -3 | -3 | -1 | 0 | 1 | 1,062 | -3 |
| | Average | 1,045 | -5 | -3 | -1 | 0 | 1 | 1,046 | -4 |
| September 30 | Dry | 933 | -65 | -11 | -1 | 0 | 3 | 939 | -17 |
| | Wet | 1,020 | -15 | -6 | -2 | 0 | 2 | 1,020 | -6 |
| | Average | 992 | -15 | -3 | 0 | 0 | 4 | 995 | -6 |
| San Luis Res. elevation (ft) | Dry | 467 | 4 | 1 | 1 | 0 | -3 | 463 | 5 |
| May 30 | Wet | 511 | -2 | 1 | 0 | 0 | 1 | 520 | -8 |
| | Average | 487 | 4 | 1 | 0 | 0 | 0 | 491 | -3 |
| September 30 | Dry | 381 | -3 | -2 | 0 | 0 | -5 | 373 | 6 |
| | Wet | 430 | -10 | 1 | -1 | 0 | 1 | 445 | -14 |
| | Average | 396 | -2 | -2 | 0 | 0 | 0 | 401 | -7 |
| Trinity River Exports (af/yr) | Dry | 540,000 | -100% | -30% | -2% | 0% | 39% | 530,000 | -28% |
| | Wet | 1,110,000 | -100% | -33% | -26% | 0% | 17% | 1,100,000 | -33% |
| | Average | 870,000 | -100% | -28% | -16% | 0% | 23% | 870,000 | -28% |
| Trinity Reservoir storage (af) | Dry | 730,000 | 60% | 5% | 14% | 0% | 5% | 750,000 | 3% |
| September 30 | Wet | 1,720,000 | -15% | -2% | -2% | 0% | 2% | 1,730,000 | -2% |
| | Average | 1,390,000 | -12% | -4% | -1% | 0% | 6% | 1,400,000 | -4% |

**Table A-1A**
**Comparison of Impacts on Water Resources**

| | Alternatives Compared to No Action | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Parameter** | **Hydrologic Conditions[a]** | **No Action** | **Maximum Flow** | **Flow Evaluation** | **Percent Inflow** | **Mechanical Restoration** | **State Permit** | **Existing Conditions** | **Preferred Alternative to Existing Conditions** |
| Shasta Reservoir storage (af) | Dry | 1,690,000 | -30% | -8% | -1% | 0% | 2% | 1,780,000 | -12% |
| September 30 | Wet | 3,290,000 | -10% | -4% | -1% | 0% | 1% | 3,280,000 | -4% |
| | Average | 2,770,000 | -8% | -2% | 0% | 0% | 2% | 2,810,000 | -4% |
| San Luis Reservoir storage (af) | Dry[b] | 390,000 | -5% | -3% | 0% | 0% | -10% | 340,000 | 12% |
| September 30 | Wet | 850,000 | -13% | 0% | -1% | 0% | 1% | 990,000 | -14% |
| | Average | 540,000 | -6% | -4% | -2% | 0% | -2% | 590,000 | -12% |
| CVP deliveries north of Delta[b] (af/yr) | Dry[b] | 2,680,000 | -6% | -4% | 0% | 0% | 2% | 2,390,000 | 8% |
| | Wet | 3,240,000 | -1% | 0% | 0% | 0% | 0% | 2,880,000 | 13% |
| | Average | 3,120,000 | -4% | -1% | 0% | 0% | 1% | 2,780,000 | 11% |
| CVP deliveries south of Delta[b] (af/yr) | Dry[b] | 1,580,000 | -13% | -3% | 1% | 0% | 13% | 1,630,000 | -6% |
| | Wet | 2,960,000 | -3% | -1% | 0% | 0% | 0% | 2,980,000 | -1% |
| | Average | 2,570,000 | -13% | -2% | 0% | 0% | 2% | 2,600,000 | -3% |
| Exports, Tracy Pumping Plant (af/yr) | Dry | 1,810,000 | -13% | -5% | 0% | 0% | 10% | 1,830,000 | -6% |
| | Wet | 2,850,000 | -1% | 0% | 0% | 0% | 0% | 2,870,000 | -1% |
| | Average | 2,640,000 | -12% | -2% | 0% | 0% | 2% | 2,670,000 | -3% |
| Exports, Banks Pumping Plant (af/yr) | Dry | 1,860,000 | -2% | 2% | 0% | 0% | 3% | 1,880,000 | 1% |
| | Wet | 4,060,000 | -1% | -1% | 0% | 0% | -1% | 3,160,000 | 27% |
| | Average | 3,310,000 | -1% | 0% | 0% | 0% | 0% | 2,890,000 | 14% |
| Exports, Tracy and Banks Pumping Plants (af/yr) | Dry | 3,670,000 | -5% | -2% | 0% | 0% | 6% | 3,710,000 | -3% |
| | Wet | 6,910,000 | -1% | -1% | 0% | 0% | 0% | 6,030,000 | 14% |
| | Average | 5,950,000 | -6% | -1% | 0% | 0% | 1% | 5,560,000 | 6% |

**Table A-1A**
**Comparison of Impacts on Water Resources**

| | | Alternatives Compared to No Action | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Parameter** | **Hydrologic Conditions[a]** | **No Action** | **Maximum Flow** | **Flow Evaluation** | **Percent Inflow** | **Mechanical Restoration** | **State Permit** | **Existing Conditions** | **Preferred Alternative to Existing Conditions** |
| Delta Inflow (af/yr) | Dry | 11,830,000 | -2% | -1% | 0% | 0% | 2% | 11,850,000 | ~~0%~~ 1% |
| | Wet | 29,730,000 | -4% | -1% | -1% | 0% | 1% | 29,690,000 | -1% |
| | Average | 22,570,000 | -4% | -1% | -1% | 0% | 1% | 22,550,000 | -1% |
| Delta Outflow (af/yr) | Dry | 6,320,000 | -1% | 0% | 0% | 0% | -1% | 6,320,000 | 0% |
| | Wet | 20,890,000 | -5% | -1% | -1% | 0% | 1% | 21,770,000 | -5% |
| | Average | 14,710,000 | -3% | -1% | -1% | 0% | 1% | 15,120,000 | -4% |
| Trinity River releases (af/yr) | Critically dry | 340,000b | 36% | 8.5% | -51% | 0% | -65% | 340,000 | 8.5% |
| | Dry | 340,000b | 160% | 33% | -4.7% | 0% | -65% | 340,000 | 33% |
| | Normal | 340,000b | 250% | 87% | 30% | 0% | -65% | 340,000 | 87% |
| | Wet | 340,000b | 340% | 110% | 93% | 0% | -65% | 340,000 | 110% |
| | Extremely wet | 340,000b | 530% | 140% | 190% | 0% | -65% | 340,000 | 140% |

[a] "Dry" is based on hydrology in the dry period (1928-34); "wet" is based on a wet period (1967-71); and "average" is based on the long-term average (1922-90).

[b]Plus additional releases as required by U.S. Bureau of Reclamation Safety of Dams criteria, if needed.

**Table A-3**
**Comparison of No Action and Flow Evaluation Alternatives**

| Water-year Class | No Action Alternative | Flow Evaluation Alternative | Percent Change |
|---|---|---|---|
| Critically dry | 340,000 af | 369,000 af | 9 |
| Dry | 340,000 af | 453,000 af | 25 |
| Normal | 340,000 af | ~~636,000 af~~ 647,000 | 87 |
| Wet | 340,000 af | 701,000 af | 106 |
| Extremely wet | 340,000 af | 815,000 af | 140 |
| Peak flow | 2,000 cfs in May | 11,000 cfs / 5 days in May (extremely wet year) | 450 |

**Table A-8**
**Comparison of Water Management Characteristics between Maximum Flow and No Action Alternatives**

| Parameter | Water-year Condition | No Action | Maximum Flow | Percent Change |
|---|---|---|---|---|
| Trinity Reservoir storage (af) on September 30 [a] | Dry [b] | ~~733,000~~ 730,000 | ~~1,167,000~~ 1,170,000 | ~~59~~ 60 |
| | Wet [c] | ~~1,609,000~~ 1,720,000 | ~~1,266,000~~ 1,470,000 | ~~-21~~ -15 |
| | Average [d] | ~~1,374,000~~ 1,390,000 | ~~1,374,000~~ 1,220,000 | -12 |
| Shasta Reservoir storage (af) on September 30 [a] | Dry [b] | ~~1,688,000~~ 1,690,000 | ~~1,177,000~~ 1,180,000 | -30 |
| | Wet [c] | ~~3,036,000~~ 3,290,000 | ~~2,790,000~~ 2,970,000 | ~~-8~~ -10 |
| | Average [d] | ~~2,746,000~~ 2,770,000 | ~~2,541,000~~ 2,560,000 | ~~-7~~ -8 |
| CVP deliveries north of Delta[e] (af / yr) | Dry [b] | 2,680,000 | ~~2,604,000~~ 2,520,000 | -6 |
| | Wet [c] | 3,240,000 | ~~3,298,000~~ 3,210,000 | -1 |
| | Average [d] | 3,120,000 | ~~3,078,000~~ 2,990,000 | -4 |
| CVP deliveries south of Delta[e] (af / yr) | Dry [b] | 1,580,000 | ~~1,618,000~~ 1,380,000 | -13 |
| | Wet [c] | 2,960,000 | ~~3,142,000~~ 2,880,000 | -3 |
| | Average [d] | 2,570,000 | ~~2,480,000~~ 2,230,000 | -14 ~~-13~~ |

[a] September 30 is the end of the October 1-September 30 water year. This estimates carryover storage.

[b] Average annual values for a dry period (1928-34), assuming 2020 development and water demand.

[c] Average annual values for a wet period (1967-71), assuming 2020 development and water demand.

[d] Average annual values for the 69-year period of simulation (1922-90), assuming 2020 development and water demand.

[e] Annual values calculated on a contract year basis (March through February).

**Table A-9**
**Comparison of Water Management Characteristics between Flow Evaluation and No Action Alternatives**

| Parameter | Water-year Condition | No Action | Flow Evaluation | Percent Change |
|---|---|---|---|---|
| Trinity Reservoir storage (af) on September 30 [a] | Dry [b] | ~~733,000~~ 730,000 | ~~767,000~~ 770,000 | 5 |
| | Wet [c] | ~~1,609,000~~ 1,720,000 | ~~1,576,000~~ 1,690,000 | -2 |
| | Average [d] | ~~1,374,000~~ 1,390,000 | ~~1,332,000~~ 1,340,000 | ~~-3~~ -4 |
| Shasta Reservoir storage (af) on September 30 [a] | Dry [b] | ~~1,688,000~~ 1,690,000 | ~~1,559,000~~ 1,560,000 | -8 |
| | Wet [c] | ~~3,036,000~~ 3,290,000 | ~~2,968,000~~ 3,160,000 | ~~-2~~ -4 |
| | Average [d] | ~~2,746,000~~ 2,770,000 | ~~2,696,000~~ 2,710,000 | ~~-2~~ -2 |
| CVP deliveries north of Delta[e] (af/yr) | Dry [b] | ~~2,760,000~~ 2,680,000 | ~~2,654,000~~ 2,570,000 | -4 |
| | Wet [c] | ~~3,328,000~~ 3,240,000 | ~~3,328,000~~ 3,240,000 | 0 |
| | Average [d] | ~~3,209,000~~ 3,120,000 | ~~3,180,000~~ 3,090,000 | -1 |
| CVP deliveries south of Delta[e] (af/yr) | Dry [b] | ~~1,820,000~~ 1,580,000 | ~~1,764,000~~ 1,530,000 | ~~-4~~ -3 |
| | Wet [c] | ~~3,222,000~~ 2,960,000 | ~~3,203,000~~ 2,940,000 | -1 |
| | Average [d] | ~~2,828,000~~ 2,570,000 | ~~2,763,000~~ 2,510,000 | -2 |

[a] September 30 is the end of the October 1-September 30 water year. This estimates carryover storage.

[b] Average annual values for a dry period (1928-34), assuming 2020 development and water demand.

[c] Average annual values for a wet period (1967-71), assuming 2020 development and water demand.

[d] Average annual values for the 69-year period of simulation (1922-90), assuming 2020 development and water demand.

[e] Annual values calculated on a contract year basis (March through February).

**Table A-10**
**Comparison of Water Management Characteristics between Percent Inflow and No Action Alternatives**

| Parameter | Water-year Condition | No Action | Percent Inflow | Percent Change |
|---|---|---|---|---|
| Trinity Reservoir storage (af) on September 30 [a] | Dry [b] | ~~733,000~~ 730,000 | ~~826,000~~ 830,000 | ~~13~~ 14 |
| | Wet [c] | ~~1,609,000~~ 1,720,000 | ~~1,579,000~~ 1,690,000 | -2 |
| | Average [d] | ~~1,374,000~~ 1,390,000 | ~~1,357,000~~ 1,370,000 | -1 |
| Shasta Reservoir storage (af) on September 30 [a] | Dry [b] | ~~1,688,000~~ 1,690,000 | ~~1,666,000~~ 1,670,000 | -1 |
| | Wet [c] | ~~3,036,000~~ 3,290,000 | ~~3,008,000~~ 3,250,000 | -1 |
| | Average [d] | ~~2,746,000~~ 2,770,000 | ~~2,738,000~~ 2,760,000 | 0 |
| CVP deliveries north of Delta[e] (af/yr) | Dry [b] | ~~2,760,000~~ 2,680,000 | ~~2,771,000~~ 2,690,000 | ~~0~~ 1 |
| | Wet [c] | ~~3,328,000~~ 3,240,000 | ~~3,328,000~~ 3,240,000 | 0 |
| | Average [d] | ~~3,209,000~~ 3,120,000 | ~~3,206,000~~ 3,120,000 | 0 |
| CVP deliveries south of Delta[e] (af/yr) | Dry [b] | ~~1,820,000~~ 1,580,000 | ~~1,838,000~~ 1,600,000 | 1 |
| | Wet [c] | ~~3,222,000~~ 2,960,000 | ~~3,222,000~~ 2,960,000 | 0 |
| | Average [d] | ~~2,828,000~~ 2,570,000 | ~~2,809,000~~ 2,560,000 | ~~-1~~ 0 |

[a] September 30 is the end of the October 1-September 30 water year. This estimates carryover storage.
[b] Average annual values for a dry period (1928-34), assuming 2020 development and water demand.
[c] Average annual values for a wet period (1967-71), assuming 2020 development and water demand.
[d] Average annual values for the 69-year period of simulation (1922-90), assuming 2020 development and water demand.
[e] Annual values calculated on a contract year basis (March through February).

**Table A-11**
**Comparison of Water Management Characteristics between State Permit and No Action Alternatives**

| Parameter | Water-year Condition | No Action | State Permit | Percent Change |
|---|---|---|---|---|
| Trinity Reservoir storage (af) on September 30 [a] | Dry [b] | ~~733,000~~ 730,000 | ~~765,000~~ 770, 000 | ~~4~~ 5 |
| | Wet [c] | ~~1,609,000~~ 1,720,000 | ~~1,665,000~~ 1,760,000 | ~~3~~ 2 |
| | Average [d] | ~~1,374,000~~ 1,390,000 | ~~1,458,000~~ 1,470,000 | 6 |
| Shasta Reservoir storage (af) on September 30 [a] | Dry [b] | ~~1,688,000~~ 1,690,000 | ~~1,728,000~~ 1,730,000 | 2 |
| | Wet [c] | ~~3,036,000~~ 3,290,000 | ~~3,039,800~~ 3,320,000 | 2 |
| | Average [d] | ~~2,746,000~~ 2,770,000 | ~~2,810,000~~ 2,830,000 | ~~2~~ 1 |
| CVP deliveries north of Delta[e] (af / yr) | Dry [b] | ~~2,760,000~~ 2,680,000 | ~~2,820,000~~ 2,740,000 | 2 |
| | Wet [c] | ~~3,328,000~~ 3,240,000 | ~~3,328,000~~ 3,240,000 | 0 |
| | Average [d] | ~~3,209,000~~ 3,120,000 | ~~3,231,000~~ 3,140,000 | 1 |
| CVP deliveries south of Delta[e] (af / yr) | Dry [b] | ~~1,820,000~~ 1,580,000 | ~~2,028,000~~ 1,790,000 | 13 |
| | Wet [c] | ~~3,222,000~~ 2,960,000 | ~~3,222,000~~ 2,960,000 | 0 |
| | Average [d] | ~~2,828,000~~ 2,570,000 | ~~2,884,000~~ 2,630,000 | 2 |

[a] September 30 is the end of the October 1-September 30 water year. This estimates carryover storage.
[b] Average annual values for a dry period (1928-34), assuming 2020 development and water demand.
[c] Average annual values for a wet period (1967-71), assuming 2020 development and water demand.
[d] Average annual values for the 69-year period of simulation (1922-90), assuming 2020 development and water demand.
[e] Annual values calculated on a contract year basis (March through February).

**Table A-26**
**Oocysts in Typical U.~~s~~S. Waters**

| Water Source | Percent of Samples Positive for Oocysts | Average Oocysts per Liter (1) |
|---|---|---|
| Sewage, raw | 91 | 4 – 5180 |
| Sewage, treated | 91 | 4 – 1297 |
| Streams / Rivers | 77 | 0.94, 1.09, 1.3 |
| Lakes / Reservoirs | 75 | 0.58, 0.91 |
| Pristine Rivers | 83 | 0.02, 0.08 |
| Treated Drinking Water | 28 | 0.002, 0.009 |

NOTES:
(1) Geometric means of samples.
SOURCE:
Rose, 1988.

### 2.4.1.2 Technical Appendix A—Attachments

Technical Memorandum: CVPIA—PEIS Revised No Action Alternative and Trinity EIS/EIR Alternatives Comparisons **(CHANGES FOLLOW)**

Technical Memorandum: Existing Conditions and Flow Evaluation Study Alternative **(CHANGES FOLLOW)**

Further Analysis of Potential Spills for Operations Under Varying Dam Raises and Minimum Pools *(NO CHANGE)*

Summary of Spills at Trinity Dam: Trinity Dam Restoration EIS/EIR Flow Alternatives *(NO CHANGE)*

Reclamation Temperature Model: Sacramento River *(NO CHANGE)*

Reclamation Temperature Model: Trinity Dam *(NO CHANGE)*

Temperature Analysis of Proposed Trinity River Fish and Wildlife Restoration Flow Alternatives Using the BETTER model *(NO CHANGE)*

Addendum to Temperature Analysis of Proposed Trinity River Fish and Wildlife Restoration Flow Alternatives Using the BETTER Model—Cumulative Effects Analyses *(NO CHANGE)*

Trinity Dam Auxillary Outlet Releases *(NO CHANGE)*

Assessment of the Hoopa Valley Tribe Water Temperature Objectives in Relation to Alternatives of the Trinity River EIS/EIR

CVRWQCB 1998 Clean Water Act Section 303(d) List **(CHANGES FOLLOW)**

# Technical Memorandum: CVPIA—PEIS Revised No Action Alternative and Trinity EIS/EIR Alternatives Comparisons

**MODELING BACKGROUND** *(NO CHANGE)*

**ALTERNATIVE ASSUMPTIONS** *(NO CHANGE)*

**INSTREAM FLOWS AND DIVERSIONS FROM THE TRINITY RIVER BASIN** *(NO CHANGE)*

**STORAGE** **(CHANGES FOLLOW)**

**Shasta Reservoir**
**pg. 4**

For each of the alternatives, frequency distributions of simulated end-of-water year storages in Shasta Reservoir are presented in Figure TM3a-5. These storages are influenced by the increases and decreases in diversions from the Trinity River Basin in the alternatives as compared to the No-Action Alternative. The diversions contribute to the Sacramento River flows that are used to meet CVP deliveries, Delta water quality requirements, Winter-Run Biological Opinion temperature requirements, and other downstream obligations. In the State Permit Alternative, end-of-water year storages are greater than the No-Action Alternative because increases in Trinity River Basin diversions often decrease the need for Shasta Reservoir releases. In the Flow Evaluation Study and Percent Inflow alternatives, end-of-water year storages are often less than the No-Action Alternative. In these alternatives, Trinity River Basin diversions are less than in the No-Action Alternative so additional releases from Shasta Reservoir are often required. Unless the reservoir refills, these additional releases may reduce storage in Shasta Reservoir in following years as compared to the No-Action Alternative. These storage reductions may reduce the ability of the CVP to maintain the cold water pool for releases to meet Winter-Run Biological Opinion temperature requirements. In the Maximum Flow Alternative, dry period operations are infeasible due to decreased end-of-month storages which are sometimes less than the minimum operating pool of approximately ~~590~~ 550 taf and reach a minimum end-of-month storage level of 5 taf.

**DELTA FLOWS AND EXPORTS** **(CHANGES FOLLOW)**

**Delta Inflow and Outflow**
**pg. 5**

For each of the alternatives, frequency distributions of simulated annual Delta inflow and outflow volumes are presented in Figures TM3a-6 and 8. The average annual Delta inflow and outflow volumes for the dry, wet, and overall simulation periods are presented in Figures TM3a-7 and 9. Due to the magnitude of scale, it is difficult to see the differences amongst the alternatives. For each of the alternatives, average annual inflows and outflows are presented in Table TM3a-1. During the overall simulation period, average annual inflows vary as much as ~~3~~ 4 percent from the No-Action Alternative. This is a reduction of approximately 0.8 maf in the Maximum Flow Alternative as compared to an average annual Delta inflow of ~~22.7~~ 22.6 maf in the No-Action Alternative. The same variance is seen in


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Delta outflows. During the overall simulation period, average annual outflows vary as much as 3 percent from the No-Action Alternative. This is a reduction of approximately 0.4 maf in the Maximum Flow Alternative as compared to an average annual Delta outflow of ~~14.9~~ 47.7 maf in the No-Action Alternative.

**CVP DELIVERIES** *(NO CHANGE)*

# Technical Memorandum: Existing Conditions and Flow Evaluation Study Alternative

**MODELING BACKGROUND** *(NO CHANGE)*

**ALTERNATIVE ASSUMPTIONS** *(NO CHANGE)*

**INSTREAM FLOWS AND DIVERSIONS FROM THE TRINITY RIVER BASIN** *(NO CHANGE)*

**STORAGE** **(CHANGES FOLLOW)**

**Shasta Reservoir**
**pg. 4**

In the Winter-Run Biological Opinion, the minimum end-of-water year storage in Shasta Reservoir is specified as 1.9 maf, except in the 10 percent driest years when reconsultation between Reclamation and the National Marine Fisheries Service would occur. This 1.9 maf storage criterion is met in over 90 percent of the years in the Existing Conditions Simulation. In the Flow Evaluation Study Alternative, end-of-water year storage in Shasta Reservoir is below 1.9 maf in 12 percent of the years.

**DELTA FLOWS AND EXPORTS** **(CHANGES FOLLOW)**

**Delta Inflow and Outflow**
**pg. 5**

Frequency distributions of simulated annual Delta inflow and outflow volumes are presented in Figures TM3b-6 and 8. The average annual Delta inflow and outflow volumes for the dry, wet, and overall simulation periods are presented in Figures TM3b-7 and 9. Due to the magnitude of scale, it is difficult to see the differences between the simulations. Average annual inflows and outflows are presented in Table TM3b-1. In comparison to the Existing Conditions Simulation, average annual inflows during the 69-year simulation period are reduced by approximately ~~220~~ 200 taf or 1 percent, and average annual outflows during the 69-year simulation period are reduced by approximately 560 taf or 4 percent.

**Exports Through Tracy Pumping Plant**

Frequency distributions of simulated annual exports and average annual exports through Tracy Pumping Plant are presented in Figures TM3b-10 and 11. A summary of the average annual exports is presented in Table TM3b-1. Exports in the Flow Evaluation Study Alternative are less than those in the Existing Conditions Simulation due to the reduction in Trinity River Basin diversions. In comparison the Existing Conditions Simulation, average annual exports are reduced by approximately ~~80~~ 90 taf or 3 percent.

**Exports Through Banks Pumping Plant**

Frequency distributions of simulated annual exports and average annual exports through Banks Pumping Plant are presented in Figures TM3b-12 and 13. A summary of the average annual exports is shown in Table TM3b-1. In comparison to the Existing Conditions Simulation, average annual Banks exports are increased in the Flow Evaluation Study Alternative

in an attempt to meet SWP demands at the 2022 level of development. In comparison to the Existing Conditions Simulation, average annual exports increase by approximately ~~400~~410 taf or 14 percent.

**CVP DELIVERIES** **(CHANGES FOLLOW)**

**Total CVP Deliveries**

The average annual total CVP deliveries north and south of the Delta and diversions from the Trinity River Basin for the wet, dry, and overall simulation periods are presented in Table TM3b-1. CVP water deliveries are a function of hydrologic conditions in both the Trinity River and Sacramento River basins. In the EIS/EIR, Trinity River Basin diversions to the Sacramento River Basin are determined based on the minimum required Trinity River flows, minimum reservoir storage levels, minimum diversion targets, and CVP requirements (e.g., CVP deliveries, Delta water quality requirements, Winter-Run Biological Opinion temperature requirements, and other obligations). CVP water deliveries are also a function of the water demands at different projected levels of development. Between the 1995 and 2022 levels of development, annual M&I water service contracts and water rights increase approximately ~~295~~320 taf north of the Delta. Although annual agricultural water service and water rights contract amounts do not change between the 1995 and 2022 levels of development, annual demands are based on DWR's Depletion Analysis and increase approximately 40 taf north of the Delta. Changes in CVP water deliveries are also influenced by differences in carryover storage conditions in Shasta, Folsom, and Whiskeytown reservoirs.

**SWP DELIVERIES** *(NO CHANGE)*

**Assessment of the Hoopa Valley Tribe Water Temperature Objectives in Relation to Alternatives of the Trinity River EIS/EIR**

# Introduction

On May 17, 1996, the U.S. Environmental Protection Agency (EPA) granted Program Authorization to the Hoopa Valley Tribe with respect to Section 303 of the Clean Water Act. Since that time, the Hoopa Valley Tribe has pursued development of a Water Quality Control Plan (WQCP) through the Hoopa Valley Tribe Environmental Protection Agency (Hoopa EPA). An important component of the WQCP is water temperature criteria for waters within the Reservation, which includes part of the mainstem Trinity River as well as several tributaries to the river. Please note that the temperature criteria presented in Table 1 were adopted by the Hoopa Valley Tribal Council (HVTC) on June 8, 2000; but at the time this document was prepared, the criteria remain to be approved by EPA.

**TABLE 1**
Water Temperature Criteria of the Hoopa Valley Tribe Water Quality Control Plan for the Mainstem Trinity River

| Water-year Class | Time Periods | | | | |
|---|---|---|---|---|---|
| Extremely Wet, Wet, and Normal | May 23 - Jun 4 | Jun 5 - Jul 9 | Jul 10 - Sep 14 | Sep 15 - Oct 31 | Nov 1 - May 22 |
| Criteria [a] | 15.0 | 17.0 | 22.1 | 19.0 | 13.0 |
| Dry and Critically Dry | May 23 - Jun 4 | Jun 5 - Jun 15 | Jun 16 - Sep 14 | Sep 15 - Oct 31 | Nov 1 - May 22 |
| Criteria [a] | 17.0 | 20.0 | 23.5 | 19.0 | 15.0 |

[a]Criteria represent 7-day running averages and are not to be exceeded.

## Methods

The SNTEMP model of the Trinity River (Zedonis, 1997), a 7-day average daily model, was used to assess water temperatures of the Trinity River at Weitchpec (River Mile 0.0) for the different alternatives of the Trinity River EIS/EIR. SNTEMP output, although representing independent 7-day average daily water temperatures rather than the criteria of 7-day running averages as prescribed in the WQCP, was assumed adequate for evaluating relative differences of alternatives in meeting the water temperature criteria. Input to the SNTEMP model included dam-release patterns from the operations model, PROSIM, and Lewiston Dam release water temperatures predicted from upstream models including the Reservoir Temperature Model (RTM) and the Box Exchange Transport Temperature and Ecology of Reservoirs Model (BETTER). Lewiston Dam release magnitudes typically followed the prescribed flow pattern of each alternative. However, in some instances dam releases were greater than those prescribed by an alternative due to spills or safety-of-dam releases. Release water temperatures and flows used in the SNTEMP model are provided at the end of this document in Tables A – E. For more detail on methods and results of these other models, please refer to the attachment, "Temperature Analysis of Proposed Trinity River


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Fish and Wildlife Restoration Flow Alternatives using the BETTER Model," located in the DEIS/EIR Technical Appendix A.

SNTEMP simulations were performed for each alternative and each of five water-year classes identified in the DEIS/EIR. Eight alternatives were evaluated with the SNTEMP model and they included: State Permit, No Action, Percent Inflow, Flow Evaluation, Maximum Flow, Existing Conditions, and two Cumulative Effects alternatives. The Existing Conditions alternative was represented by the No Action river release schedule and reflected a 1995 level of development. Cumulative Effects alternatives were represented by river release schedules similar to those of the Flow Evaluation but differed by having end-of-year carryover storage in Trinity Reservoir of 400 thousand acre-feet (taf) and 600 taf. In total, forty model runs were performed. Simulations were conducted with hydrologic (i.e., tributary accretion) and meteorologic conditions represented by water year 1977 (critically dry), 1990 (dry), 1989 (normal), 1986 (wet), and 1983 (extremely wet). These years were selected from the historic record available to the SNTEMP model of the Trinity River and also were chosen for evaluations using the BETTER model.

## Results

Critically Dry Year (1977)

Model results for the Critically Dry Year (1977) indicate that relative to the No Action Alternative, which had 6 weeks exceeding the criteria, the Maximum Flow, Flow Evaluation and Cumulative (600K) Alternatives had 0, 4, and 4 weeks that exceeded the criteria, respectively (see Table F). Similar to the No Action Alternative, the Existing Conditions, Cumulative (400K), and State Permit Alternatives had 6 weeks that exceeded the criteria, respectively. The Percent Inflow Alternative had 7 weeks that exceeded the water temperature criteria. All violations occurred during the months of July and August.

Dry Year (1990)

Model results for the Dry Year (1990) indicate that relative to the No Action Alternative, which had 4 weeks exceeding the criteria, the Maximum Flow, Flow Evaluation, and Cumulative (600K and 400K) Alternatives had 1, 3, 3, and 3 weeks that exceeded the criteria, respectively (see Table G). Similar to the No Action Alternative, the Existing Conditions alternative had the same number of weeks (4) that exceeded the criteria. The Percent Inflow and State Permit Alternatives had 6 and 8 weeks that exceeded the criteria, respectively. Temperature violations, where they occurred, were restricted to the first 2 weeks in May, between early July and early August, and during the last week of September.

Normal Year (1989)

Model results for the Normal Year (1989) indicate that relative to the No Action Alternative, which had 16 weeks exceeding the criteria, the Maximum Flow, Flow Evaluation, and Cumulative (600K and 400K) Alternatives had 3, 8, 7, and 10 weeks that exceeded the criteria, respectively (see Table H). Similar to the No Action Alternative, the Existing Conditions alternative had the same number of weeks (16) that exceeded the criteria. The Percent Inflow and State Permit Alternatives had 15 and 18 weeks that exceeded the criteria, respectively. Temperature violations occurred in April and mid to late August. Examination of the meteorology for April revealed air temperatures were very warm.

Wet (1986)

Model results for the Wet Year (1986) indicate that relative to the No Action Alternative, which had 14 weeks exceeding the criteria, the Maximum Flow, Flow Evaluation, and Cumulative (600K and 400K) Alternatives had 3, 4, 4, and 4 weeks that exceeded the criteria, respectively (see Table I). While the Existing Conditions alternative had the same number of weeks as the No Action Alternative that exceeded the criteria, the Percent Inflow and State Permit Alternatives had 12 and 16 weeks that exceeded the criteria, respectively. There was one exception: weekly violations occurred in early May and mid August.

Extremely Wet (1983)

Model results for the Extremely Wet Year (1983) indicate that the No Action, Flow Evaluation, Existing Conditions, and Cumulative (600K and 400K) Alternatives had zero weeks that exceeded the criteria (see Table J). The Maximum Flow Alternative had the largest number of weeks not meeting the criteria (5); this is explained by the warm Lewiston Dam releases (see Table E) that occur during early July (> 12 º C) and August and September (> 15 º C). The State Permit and Percent Inflow Alternatives both had 3 weeks that exceeded the criteria, with violations occurring in mid May and early August.

## Summary

Results of the modeling show the variability of meeting the objectives for five differing hydrologic year classes and alternative flow regimes represented by each alternative (Table 2). On average, the No Action, the Maximum Flow, Flow Evaluation, and Cumulative Alternatives (based on Trinity River Flow Evaluation Study [TRFES] flows), met the Hoopa Valley Tribe criteria a larger percentage of time (91 to 96 percent). Other alternatives such as the No Action, Existing Conditions, Percent Inflow, and State Permit met the Hoopa Valley Tribe criteria a smaller percentage of time (78 to 83 percent). The time periods of most frequent violation were July and August.

## References

Zedonis, P. 1997. A Water Temperature Model of the Trinity River. U.S. Fish and Wildlife Service, Arcata Fish and Wildlife Office, Arcata, CA. 96 pp.

**TABLE 2**
Percentage of the Year that Water Temperatures of the Trinity River Would Meet the Water Temperature Objectives Identified in the Hoopa Valley Tribe WQCP

| Water Year | Expected No. of Occurrences Per 100 Years | Modeled Year | Alternatives | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | State Permit | No Action | Percent Inflow | Flow Evaluation | Maximum Flow | Exist. Cond. | Cum. 400K[a] | Cum. 600K[a] |
| C.Dry | 12 | 1977 | 88 | 88 | 87 | 92 | 100 | 88 | 88 | 92 |
| Dry | 28 | 1990 | 85 | 92 | 88 | 94 | 98 | 92 | 94 | 94 |
| Normal | 20 | 1989 | 65 | 69 | 71 | 85 | 94 | 69 | 81 | 87 |
| Wet | 28 | 1986 | 69 | 73 | 77 | 92 | 94 | 73 | 92 | 92 |
| E.Wet | 12 | 1983 | 94 | 100 | 94 | 100 | 90 | 100 | 100 | 100 |
| Wt. Avg. | - | - | 78 | 83 | 82 | 92 | 96 | 83 | 91 | 93 |

[a]Flow schedules are identical to the Flow Evaluation Alternative. These alternatives, which utilize different minimum carryover storages in Trinity Reservoir, were evaluated for the influence of altered diversion patterns on the Hoopa EPA criteria.

Table A. Lewiston Dam release water temperatures and magnitudes for a CRITICALLY DRY year. Values are derived from PROSIM 99 and BETTER model output. These data represent input data to SNTEMP for evaluation of HVT Objectives

| Critically Dry Year | State Permit Alternative | | No Action Alternative | | % Inflow Alternative | | Flow Study Alternative | | Max Flow Alternative | | Existing Conditions | | Cumulative 400 TAF Carryover | | Cumulative 600 TAF Carryover | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | |
| Week | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) |
| 10/1/76 | 200 | 13.6 | 300 | 13.6 | 54 | 10.9 | 451 | 10.4 | 300 | 11.4 | 300 | 14.3 | 451 | 12.9 | 451 | 11.0 |
| 10/8/76 | 200 | 9.5 | 300 | 9.6 | 69 | 10.3 | 451 | 9.8 | 300 | 11.7 | 300 | 11.1 | 451 | 10.3 | 451 | 10.1 |
| 10/15/76 | 200 | 8.7 | 300 | 8.9 | 86 | 9.5 | 322 | 9.3 | 300 | 11.7 | 300 | 9.8 | 322 | 9.9 | 322 | 9.3 |
| 10/22/76 | 200 | 8.5 | 300 | 8.7 | 78 | 9.2 | 301 | 8.8 | 300 | 12.0 | 300 | 9.2 | 301 | 9.9 | 301 | 8.8 |
| 10/29/76 | 204 | 8.3 | 300 | 8.5 | 158 | 8.8 | 300 | 8.7 | 300 | 11.3 | 300 | 8.9 | 300 | 9.9 | 300 | 8.7 |
| 11/5/76 | 257 | 8.3 | 300 | 8.5 | 122 | 8.6 | 300 | 8.5 | 300 | 10.7 | 300 | 8.7 | 300 | 9.9 | 300 | 8.5 |
| 11/12/76 | 257 | 8.3 | 300 | 8.6 | 169 | 8.4 | 300 | 8.4 | 300 | 10.3 | 300 | 8.6 | 300 | 10.0 | 300 | 8.4 |
| 11/19/76 | 257 | 8.4 | 300 | 8.7 | 312 | 8.2 | 300 | 8.3 | 300 | 10.1 | 300 | 8.6 | 300 | 10.1 | 300 | 8.3 |
| 11/26/76 | 254 | 8.2 | 300 | 8.5 | 230 | 8.0 | 300 | 8.0 | 300 | 9.6 | 300 | 8.3 | 300 | 9.8 | 300 | 8.0 |
| 12/3/76 | 197 | 7.8 | 300 | 8.0 | 232 | 7.5 | 300 | 7.5 | 300 | 8.8 | 300 | 7.9 | 300 | 9.4 | 300 | 7.5 |
| 12/10/76 | 197 | 7.7 | 300 | 8.0 | 383 | 7.4 | 300 | 7.5 | 300 | 8.3 | 300 | 7.9 | 300 | 9.7 | 300 | 7.5 |
| 12/17/76 | 197 | 7.6 | 300 | 7.9 | 358 | 7.3 | 300 | 7.4 | 300 | 8.0 | 300 | 7.8 | 300 | 9.8 | 300 | 7.4 |
| 12/24/76 | 197 | 7.3 | 300 | 7.5 | 268 | 6.9 | 300 | 7.1 | 300 | 7.5 | 300 | 7.4 | 300 | 9.3 | 300 | 7.1 |
| 12/31/76 | 191 | 6.9 | 300 | 7.1 | 241 | 6.6 | 300 | 6.7 | 299 | 6.9 | 300 | 7.0 | 300 | 8.5 | 300 | 6.7 |
| 1/7/77 | 140 | 6.4 | 300 | 6.6 | 256 | 6.1 | 300 | 6.3 | 299 | 6.3 | 300 | 6.7 | 300 | 7.6 | 300 | 6.3 |
| 1/14/77 | 140 | 6.3 | 300 | 6.7 | 273 | 6.1 | 300 | 6.3 | 299 | 6.1 | 300 | 6.8 | 300 | 7.1 | 300 | 6.4 |
| 1/21/77 | 140 | 6.7 | 300 | 6.9 | 271 | 6.4 | 300 | 6.6 | 299 | 6.2 | 300 | 7.1 | 300 | 7.1 | 300 | 6.7 |
| 1/28/77 | 144 | 7.1 | 300 | 7.3 | 384 | 6.9 | 300 | 7.1 | 1900 | 7.5 | 300 | 7.4 | 300 | 7.3 | 300 | 7.1 |
| 2/4/77 | 150 | 7.3 | 300 | 7.7 | 314 | 7.7 | 300 | 7.7 | 1950 | 7.7 | 300 | 7.7 | 300 | 7.7 | 300 | 7.7 |
| 2/11/77 | 150 | 7.8 | 300 | 7.9 | 519 | 8.1 | 300 | 8.3 | 2000 | 7.9 | 300 | 7.9 | 300 | 8.2 | 300 | 8.3 |
| 2/18/77 | 150 | 7.9 | 300 | 7.8 | 617 | 8.4 | 300 | 8.5 | 2000 | 7.8 | 300 | 7.8 | 300 | 8.3 | 300 | 8.5 |
| 2/25/77 | 150 | 7.8 | 300 | 7.7 | 398 | 8.0 | 300 | 8.4 | 1271 | 7.5 | 300 | 7.6 | 300 | 8.1 | 300 | 8.4 |
| 3/4/77 | 150 | 7.9 | 300 | 7.9 | 210 | 7.3 | 300 | 8.4 | 300 | 7.9 | 300 | 7.9 | 300 | 8.1 | 300 | 8.4 |
| 3/11/77 | 150 | 7.8 | 300 | 8.2 | 381 | 7.1 | 300 | 8.5 | 300 | 8.4 | 300 | 8.2 | 300 | 8.4 | 300 | 8.5 |
| 3/18/77 | 150 | 8.2 | 300 | 8.7 | 429 | 7.3 | 300 | 8.8 | 300 | 9.4 | 300 | 8.7 | 300 | 8.7 | 300 | 8.8 |
| 3/25/77 | 150 | 8.3 | 300 | 9.0 | 567 | 7.4 | 300 | 9.0 | 300 | 9.9 | 300 | 9.0 | 300 | 9.0 | 300 | 9.0 |
| 4/1/77 | 150 | 9.2 | 300 | 9.4 | 491 | 7.8 | 300 | 9.3 | 300 | 10.4 | 300 | 9.4 | 300 | 9.3 | 300 | 9.3 |
| 4/8/77 | 150 | 10.1 | 300 | 9.8 | 565 | 9.0 | 300 | 9.7 | 300 | 11.3 | 300 | 9.8 | 300 | 9.7 | 300 | 9.5 |
| 4/15/77 | 150 | 11.1 | 300 | 10.3 | 542 | 9.9 | 300 | 10.3 | 300 | 11.6 | 300 | 10.3 | 300 | 10.3 | 300 | 10.1 |
| 4/22/77 | 150 | 11.0 | 300 | 10.5 | 518 | 10.1 | 1243 | 9.8 | 300 | 12.0 | 300 | 10.5 | 1243 | 9.8 | 1243 | 9.6 |
| 4/29/77 | 150 | 9.5 | 300 | 9.3 | 578 | 9.0 | 1505 | 8.9 | 300 | 12.4 | 300 | 9.4 | 1505 | 9.1 | 1505 | 8.4 |
| 5/6/77 | 150 | 8.0 | 300 | 7.9 | 696 | 7.7 | 1507 | 8.1 | 300 | 12.1 | 300 | 7.9 | 1507 | 8.7 | 1507 | 7.7 |
| 5/13/77 | 150 | 8.1 | 857 | 7.8 | 608 | 7.7 | 1507 | 8.3 | 1250 | 11.7 | 857 | 7.8 | 1507 | 8.9 | 1507 | 7.8 |
| 5/20/77 | 150 | 8.2 | 4714 | 8.0 | 562 | 7.8 | 1507 | 8.4 | 2000 | 9.4 | 4714 | 8.0 | 1507 | 8.9 | 1507 | 7.9 |
| 5/27/77 | 150 | 8.4 | 1343 | 8.0 | 574 | 8.0 | 1448 | 8.5 | 2000 | 9.4 | 1343 | 8.0 | 1448 | 9.0 | 1448 | 8.1 |
| 6/3/77 | 150 | 8.7 | 800 | 8.5 | 392 | 8.3 | 1097 | 8.3 | 2000 | 10.1 | 800 | 8.4 | 1097 | 8.3 | 1097 | 8.7 |
| 6/10/77 | 150 | 8.8 | 607 | 8.5 | 303 | 8.3 | 804 | 8.3 | 2000 | 10.1 | 607 | 8.5 | 804 | 8.3 | 804 | 8.7 |
| 6/17/77 | 150 | 8.9 | 386 | 8.9 | 267 | 8.4 | 589 | 8.4 | 2000 | 10.1 | 386 | 8.9 | 589 | 8.7 | 589 | 8.8 |
| 6/24/77 | 150 | 9.2 | 300 | 9.9 | 273 | 8.8 | 454 | 8.7 | 2000 | 10.5 | 300 | 9.8 | 454 | 9.6 | 454 | 9.1 |
| 7/1/77 | 150 | 9.5 | 450 | 11.0 | 147 | 9.8 | 450 | 8.7 | 900 | 11.0 | 450 | 11.0 | 450 | 10.8 | 450 | 9.3 |
| 7/8/77 | 150 | 9.8 | 450 | 12.2 | 100 | 10.7 | 450 | 8.6 | 900 | 12.1 | 450 | 12.2 | 450 | 11.8 | 450 | 9.4 |
| 7/15/77 | 150 | 10.5 | 450 | 13.3 | 74 | 12.6 | 450 | 9.0 | 900 | 12.5 | 450 | 13.3 | 450 | 12.7 | 450 | 9.7 |
| 7/22/77 | 150 | 10.7 | 450 | 13.9 | 62 | 12.9 | 450 | 9.0 | 900 | 12.1 | 450 | 13.9 | 450 | 13.4 | 450 | 9.7 |
| 7/29/77 | 150 | 11.6 | 450 | 14.3 | 51 | 13.9 | 450 | 9.2 | 900 | 12.0 | 450 | 14.3 | 450 | 13.7 | 450 | 9.7 |
| 8/5/77 | 150 | 12.7 | 450 | 15.5 | 42 | 16.1 | 450 | 10.5 | 900 | 13.0 | 450 | 15.3 | 450 | 14.7 | 450 | 10.1 |
| 8/12/77 | 150 | 13.2 | 450 | 16.2 | 38 | 16.1 | 450 | 11.0 | 900 | 12.3 | 450 | 16.0 | 450 | 15.3 | 450 | 10.1 |
| 8/19/77 | 150 | 13.9 | 450 | 16.5 | 34 | 16.6 | 450 | 11.2 | 900 | 12.2 | 450 | 16.2 | 450 | 15.6 | 450 | 10.2 |
| 8/26/77 | 150 | 14.5 | 450 | 16.6 | 33 | 16.3 | 450 | 11.3 | 900 | 12.2 | 450 | 16.4 | 450 | 15.7 | 450 | 10.3 |
| 9/2/77 | 150 | 15.5 | 450 | 17.4 | 33 | 15.8 | 450 | 11.7 | 900 | 12.4 | 450 | 17.2 | 450 | 16.5 | 450 | 10.7 |
| 9/9/77 | 150 | 16.2 | 450 | 18.0 | 30 | 16.1 | 450 | 12.1 | 900 | 12.4 | 450 | 17.9 | 450 | 17.2 | 450 | 11.3 |
| 9/16/77 | 150 | 16.0 | 450 | 17.0 | 29 | 13.9 | 450 | 11.4 | 300 | 12.4 | 450 | 17.1 | 450 | 16.5 | 450 | 11.0 |
| 9/23/77 | 150 | 16.6 | 450 | 16.5 | 50 | 13.9 | 450 | 11.1 | 300 | 12.5 | 450 | 16.6 | 450 | 15.9 | 450 | 11.2 |

Table B. Lewiston Dam release water temperatures and magnitudes for a DRY year. Values are derived from PROSIM 99 and BETTER model output. These data represent input data to SNTEMP for evaluation of HVT Objectives

| Dry Year | State Permit Alternative | | No Action Alternative | | % Inflow Alternative | | Flow Study Alternative | | Max Flow Alternative | | Existing Conditions | | Cumulative 400 TAF Carryover | | Cumulative 600 TAF Carryover | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | |
| Week | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) |
| 10/1/89 | 200 | 9.2 | 300 | 12.0 | 70 | 10.6 | 451 | 10.2 | 300 | 14.2 | 300 | 9.6 | 451 | 14.2 | 451 | 11.2 |
| 10/8/89 | 200 | 9.2 | 300 | 10.1 | 77 | 10.5 | 451 | 10.1 | 300 | 13.5 | 300 | 9.0 | 451 | 13.3 | 451 | 11.6 |
| 10/15/89 | 200 | 9.0 | 300 | 9.1 | 82 | 10.2 | 322 | 10.3 | 300 | 12.7 | 300 | 8.6 | 322 | 13.0 | 322 | 11.8 |
| 10/22/89 | 200 | 8.3 | 300 | 8.2 | 129 | 8.1 | 301 | 9.7 | 300 | 11.1 | 300 | 7.9 | 301 | 11.9 | 301 | 11.2 |
| 10/29/89 | 204 | 7.9 | 300 | 7.5 | 93 | 8.0 | 300 | 9.2 | 300 | 10.0 | 300 | 7.4 | 300 | 11.0 | 300 | 10.5 |
| 11/5/89 | 257 | 7.8 | 300 | 7.5 | 134 | 7.9 | 300 | 9.2 | 300 | 9.1 | 300 | 7.4 | 300 | 10.8 | 300 | 10.3 |
| 11/12/89 | 257 | 7.7 | 300 | 7.5 | 194 | 7.6 | 300 | 9.3 | 300 | 8.8 | 300 | 7.4 | 300 | 10.9 | 300 | 10.5 |
| 11/19/89 | 257 | 7.5 | 300 | 7.3 | 291 | 7.2 | 300 | 9.3 | 300 | 8.4 | 300 | 7.3 | 300 | 10.9 | 300 | 10.5 |
| 11/26/89 | 254 | 6.9 | 300 | 6.7 | 275 | 6.6 | 300 | 8.5 | 300 | 7.8 | 300 | 6.7 | 300 | 9.8 | 300 | 9.4 |
| 12/3/89 | 197 | 6.7 | 300 | 6.5 | 284 | 6.3 | 300 | 8.1 | 300 | 7.4 | 300 | 6.4 | 300 | 9.1 | 300 | 8.8 |
| 12/10/89 | 197 | 6.6 | 300 | 6.5 | 263 | 6.3 | 300 | 8.1 | 300 | 7.1 | 300 | 6.5 | 300 | 8.7 | 300 | 8.6 |
| 12/17/89 | 197 | 6.7 | 300 | 6.6 | 227 | 6.4 | 300 | 8.0 | 300 | 7.0 | 300 | 6.6 | 300 | 8.2 | 300 | 8.2 |
| 12/24/89 | 197 | 6.7 | 300 | 6.6 | 324 | 6.4 | 300 | 7.8 | 300 | 6.8 | 300 | 6.6 | 300 | 7.7 | 300 | 7.8 |
| 12/31/89 | 191 | 6.3 | 300 | 6.2 | 311 | 6.0 | 300 | 7.1 | 299 | 6.4 | 300 | 6.2 | 300 | 7.0 | 300 | 7.2 |
| 1/7/90 | 140 | 5.9 | 300 | 5.8 | 313 | 5.6 | 300 | 6.4 | 2999 | 6.2 | 300 | 5.7 | 300 | 6.3 | 300 | 6.5 |
| 1/14/90 | 140 | 5.8 | 300 | 5.8 | 770 | 5.9 | 300 | 6.2 | 2999 | 6.2 | 300 | 5.7 | 300 | 6.1 | 300 | 6.2 |
| 1/21/90 | 140 | 5.9 | 300 | 6.0 | 634 | 6.2 | 300 | 6.2 | 2999 | 6.2 | 300 | 6.0 | 300 | 6.0 | 300 | 6.2 |
| 1/28/90 | 144 | 5.9 | 300 | 6.0 | 558 | 5.9 | 300 | 6.1 | 2999 | 5.7 | 300 | 6.1 | 300 | 6.1 | 300 | 6.2 |
| 2/4/90 | 150 | 5.4 | 300 | 5.3 | 635 | 5.2 | 300 | 5.4 | 2999 | 5.6 | 300 | 5.4 | 300 | 5.4 | 300 | 5.5 |
| 2/11/90 | 150 | 5.3 | 300 | 5.2 | 835 | 5.6 | 300 | 5.3 | 2999 | 5.6 | 300 | 5.3 | 300 | 5.2 | 300 | 5.3 |
| 2/18/90 | 150 | 5.2 | 300 | 5.2 | 738 | 5.3 | 300 | 5.2 | 2999 | 5.8 | 300 | 5.2 | 300 | 5.2 | 300 | 5.2 |
| 2/25/90 | 150 | 5.4 | 300 | 5.6 | 854 | 6.7 | 300 | 5.7 | 2571 | 6.5 | 300 | 5.6 | 300 | 5.6 | 300 | 5.7 |
| 3/4/90 | 150 | 5.8 | 300 | 6.3 | 565 | 7.2 | 300 | 6.7 | 2000 | 6.3 | 300 | 6.3 | 300 | 6.4 | 300 | 6.5 |
| 3/11/90 | 150 | 6.5 | 300 | 6.8 | 763 | 7.0 | 300 | 7.4 | 2000 | 6.1 | 300 | 6.8 | 300 | 6.8 | 300 | 6.8 |
| 3/18/90 | 150 | 6.7 | 300 | 6.8 | 792 | 7.2 | 300 | 7.4 | 2000 | 7.1 | 300 | 6.8 | 300 | 6.7 | 300 | 6.7 |
| 3/25/90 | 150 | 7.0 | 300 | 7.1 | 770 | 8.5 | 300 | 7.8 | 2000 | 7.5 | 300 | 7.1 | 300 | 7.0 | 300 | 7.1 |
| 4/1/90 | 150 | 7.4 | 300 | 7.7 | 880 | 8.3 | 229 | 8.5 | 1999 | 7.7 | 300 | 7.7 | 229 | 7.5 | 229 | 7.6 |
| 4/8/90 | 150 | 7.6 | 300 | 8.0 | 1085 | 7.8 | 229 | 8.6 | 2099 | 7.7 | 300 | 8.0 | 229 | 7.8 | 229 | 7.9 |
| 4/15/90 | 150 | 7.8 | 300 | 8.0 | 1235 | 7.6 | 229 | 8.4 | 2499 | 7.5 | 300 | 8.0 | 229 | 7.9 | 229 | 8.0 |
| 4/22/90 | 150 | 7.9 | 300 | 7.8 | 1282 | 7.4 | 486 | 8.1 | 2899 | 7.0 | 300 | 7.8 | 486 | 7.9 | 486 | 7.9 |
| 4/29/90 | 150 | 8.2 | 300 | 8.3 | 1266 | 7.7 | 4107 | 7.3 | 3800 | 7.1 | 300 | 8.2 | 4107 | 7.0 | 4107 | 7.3 |
| 5/6/90 | 150 | 7.5 | 300 | 7.4 | 1306 | 7.7 | 3867 | 7.1 | 2500 | 7.7 | 300 | 7.4 | 3867 | 6.6 | 3867 | 7.2 |
| 5/13/90 | 150 | 7.2 | 857 | 7.0 | 1234 | 7.4 | 2862 | 7.1 | 2300 | 7.7 | 857 | 7.0 | 2862 | 6.6 | 2862 | 7.3 |
| 5/20/90 | 150 | 6.8 | 4714 | 6.2 | 1198 | 7.0 | 2124 | 6.6 | 2100 | 7.1 | 4714 | 6.2 | 2124 | 6.2 | 2124 | 6.8 |
| 5/27/90 | 150 | 6.5 | 1343 | 6.1 | 1051 | 6.7 | 1557 | 6.7 | 2000 | 7.1 | 1343 | 6.1 | 1557 | 6.3 | 1557 | 6.9 |
| 6/3/90 | 150 | 6.7 | 800 | 6.6 | 969 | 7.1 | 1093 | 7.2 | 2000 | 8.2 | 800 | 6.7 | 1093 | 7.0 | 1093 | 7.6 |
| 6/10/90 | 150 | 7.0 | 607 | 6.8 | 723 | 7.4 | 800 | 7.8 | 2000 | 8.8 | 607 | 7.0 | 800 | 7.5 | 800 | 8.6 |
| 6/17/90 | 150 | 7.1 | 386 | 6.7 | 573 | 7.4 | 585 | 7.8 | 2000 | 9.0 | 386 | 6.9 | 585 | 7.7 | 585 | 8.7 |
| 6/24/90 | 150 | 7.2 | 300 | 6.9 | 416 | 7.7 | 450 | 8.0 | 2000 | 9.7 | 300 | 7.1 | 450 | 8.5 | 450 | 8.4 |
| 7/1/90 | 150 | 7.7 | 450 | 7.3 | 285 | 8.8 | 450 | 8.4 | 2000 | 10.1 | 450 | 7.5 | 450 | 9.7 | 450 | 8.9 |
| 7/8/90 | 150 | 7.4 | 450 | 7.4 | 202 | 9.1 | 450 | 7.9 | 1500 | 10.7 | 450 | 7.5 | 450 | 10.6 | 450 | 8.2 |
| 7/15/90 | 150 | 7.4 | 450 | 7.6 | 150 | 9.9 | 450 | 8.1 | 1100 | 12.0 | 450 | 7.7 | 450 | 11.5 | 450 | 8.5 |
| 7/22/90 | 150 | 7.5 | 450 | 7.7 | 118 | 10.6 | 450 | 8.2 | 700 | 12.7 | 450 | 7.7 | 450 | 12.1 | 450 | 8.5 |
| 7/29/90 | 150 | 7.6 | 450 | 8.0 | 93 | 9.9 | 450 | 8.5 | 700 | 13.6 | 450 | 8.0 | 450 | 12.6 | 450 | 8.8 |
| 8/5/90 | 150 | 7.4 | 450 | 8.0 | 83 | 7.8 | 450 | 8.8 | 700 | 13.8 | 450 | 8.5 | 450 | 13.0 | 450 | 8.9 |
| 8/12/90 | 150 | 7.4 | 450 | 8.2 | 72 | 7.9 | 450 | 8.6 | 700 | 13.6 | 450 | 8.5 | 450 | 13.0 | 450 | 8.7 |
| 8/19/90 | 150 | 7.2 | 450 | 8.5 | 65 | 7.7 | 450 | 8.3 | 700 | 13.2 | 450 | 8.1 | 450 | 13.0 | 450 | 8.5 |
| 8/26/90 | 150 | 7.3 | 450 | 9.1 | 58 | 7.9 | 450 | 8.4 | 700 | 13.4 | 450 | 8.0 | 450 | 13.1 | 450 | 8.7 |
| 9/2/90 | 150 | 8.5 | 450 | 10.3 | 55 | 10.3 | 450 | 9.0 | 700 | 13.5 | 450 | 8.7 | 450 | 13.8 | 450 | 9.4 |
| 9/9/90 | 150 | 9.0 | 450 | 11.3 | 52 | 10.5 | 450 | 9.4 | 700 | 13.6 | 450 | 9.3 | 450 | 14.2 | 450 | 10.0 |
| 9/16/90 | 150 | 8.9 | 450 | 11.9 | 50 | 10.1 | 450 | 9.7 | 300 | 14.1 | 450 | 9.3 | 450 | 14.2 | 450 | 10.3 |
| 9/23/90 | 150 | 8.9 | 450 | 12.3 | 50 | 9.7 | 450 | 9.9 | 300 | 14.1 | 450 | 9.5 | 450 | 14.3 | 450 | 10.6 |

Table C. Lewiston Dam release water temperatures and magnitudes for a NORMAL year. Values are derived from PROSIM 99 and BETTER model output. These data represent input data to SNTEMP for evaluation of HVT Objectives

| Normal Year | State Permit Alternative | | No Action Alternative | | % Inflow Alternative | | Flow Study Alternative | | Max Flow Alternative | | Existing Conditions | | Cumulative 400 TAF Carryover | | Cumulative 600 TAF Carryover | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | |
| Week | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) |
| 10/1/88 | 200 | 8.2 | 300 | 8.9 | 54 | 10.7 | 451 | 9.3 | 300 | 11.4 | 300 | 9.0 | 451 | 12.2 | 451 | 10.7 |
| 10/8/88 | 200 | 8.9 | 300 | 9.7 | 69 | 11.7 | 451 | 10.1 | 300 | 11.9 | 300 | 9.8 | 451 | 13.0 | 451 | 11.9 |
| 10/15/88 | 200 | 9.3 | 300 | 10.4 | 86 | 10.5 | 322 | 10.4 | 300 | 11.6 | 300 | 10.4 | 322 | 13.2 | 322 | 12.4 |
| 10/22/88 | 200 | 9.8 | 300 | 10.7 | 78 | 11.3 | 301 | 10.6 | 300 | 11.3 | 300 | 10.8 | 301 | 13.4 | 301 | 12.6 |
| 10/29/88 | 204 | 9.7 | 300 | 10.7 | 158 | 8.8 | 300 | 10.5 | 300 | 10.6 | 300 | 10.8 | 300 | 13.2 | 300 | 12.5 |
| 11/5/88 | 257 | 9.3 | 300 | 10.6 | 122 | 8.8 | 300 | 10.2 | 300 | 9.8 | 300 | 10.6 | 300 | 12.9 | 300 | 12.0 |
| 11/12/88 | 257 | 8.8 | 300 | 10.1 | 169 | 8.0 | 300 | 9.7 | 300 | 9.1 | 300 | 10.1 | 300 | 12.3 | 300 | 11.4 |
| 11/19/88 | 257 | 8.2 | 300 | 9.5 | 312 | 7.7 | 300 | 9.0 | 300 | 8.6 | 300 | 9.4 | 300 | 11.3 | 300 | 10.5 |
| 11/26/88 | 254 | 7.9 | 300 | 8.9 | 230 | 7.5 | 300 | 8.5 | 300 | 7.8 | 300 | 8.9 | 300 | 10.4 | 300 | 9.6 |
| 12/3/88 | 197 | 7.8 | 300 | 8.8 | 232 | 7.5 | 300 | 8.4 | 300 | 7.3 | 300 | 8.7 | 300 | 9.8 | 300 | 9.3 |
| 12/10/88 | 197 | 7.9 | 300 | 8.5 | 383 | 7.6 | 300 | 8.4 | 300 | 7.1 | 300 | 8.5 | 300 | 9.1 | 300 | 8.8 |
| 12/17/88 | 197 | 7.6 | 300 | 7.8 | 358 | 7.4 | 300 | 7.8 | 300 | 7.0 | 300 | 7.8 | 300 | 8.0 | 300 | 8.1 |
| 12/24/88 | 197 | 6.4 | 300 | 6.4 | 268 | 6.2 | 300 | 6.5 | 300 | 5.9 | 300 | 6.4 | 300 | 6.2 | 300 | 6.5 |
| 12/31/88 | 191 | 5.1 | 300 | 5.0 | 241 | 4.9 | 300 | 5.1 | 299 | 4.5 | 300 | 5.0 | 300 | 4.5 | 300 | 4.9 |
| 1/7/89 | 140 | 4.3 | 300 | 4.3 | 256 | 4.3 | 300 | 4.4 | 299 | 3.8 | 300 | 4.3 | 300 | 3.9 | 300 | 4.1 |
| 1/14/89 | 140 | 4.9 | 300 | 4.6 | 273 | 4.6 | 300 | 4.7 | 299 | 4.1 | 300 | 4.6 | 300 | 4.2 | 300 | 4.4 |
| 1/21/89 | 140 | 5.2 | 300 | 5.2 | 271 | 5.0 | 300 | 5.3 | 299 | 4.6 | 300 | 5.2 | 300 | 4.6 | 300 | 4.9 |
| 1/28/89 | 144 | 5.4 | 300 | 5.7 | 384 | 5.7 | 300 | 5.8 | 1900 | 6.0 | 300 | 5.8 | 300 | 5.3 | 300 | 5.6 |
| 2/4/89 | 150 | 5.2 | 300 | 5.8 | 314 | 5.9 | 300 | 5.9 | 1950 | 5.4 | 300 | 5.8 | 300 | 5.6 | 300 | 5.8 |
| 2/11/89 | 150 | 5.9 | 300 | 5.7 | 519 | 5.6 | 300 | 5.8 | 2000 | 5.9 | 300 | 5.7 | 300 | 5.6 | 300 | 5.8 |
| 2/18/89 | 150 | 6.7 | 300 | 6.2 | 617 | 6.3 | 300 | 6.2 | 2000 | 6.0 | 300 | 6.2 | 300 | 6.0 | 300 | 6.2 |
| 2/25/89 | 150 | 7.4 | 300 | 6.9 | 769 | 6.9 | 300 | 7.0 | 2428 | 6.4 | 300 | 6.9 | 300 | 6.6 | 300 | 6.8 |
| 3/4/89 | 150 | 7.2 | 300 | 7.0 | 1120 | 6.4 | 300 | 7.0 | 2999 | 5.7 | 300 | 7.0 | 300 | 6.7 | 300 | 6.9 |
| 3/11/89 | 150 | 7.6 | 300 | 7.2 | 1311 | 6.4 | 300 | 7.2 | 2999 | 6.2 | 300 | 7.1 | 300 | 6.9 | 300 | 7.1 |
| 3/18/89 | 150 | 8.1 | 300 | 7.6 | 1296 | 6.6 | 300 | 7.6 | 2999 | 6.2 | 300 | 7.6 | 300 | 7.3 | 300 | 7.5 |
| 3/25/89 | 150 | 8.4 | 300 | 7.8 | 1156 | 6.7 | 300 | 7.8 | 2999 | 6.2 | 300 | 7.8 | 300 | 7.5 | 300 | 7.7 |
| 4/1/89 | 150 | 8.6 | 300 | 8.2 | 1306 | 7.1 | 300 | 8.3 | 2999 | 6.7 | 300 | 8.2 | 300 | 8.2 | 300 | 8.2 |
| 4/8/89 | 150 | 9.4 | 300 | 9.2 | 1406 | 8.0 | 300 | 9.2 | 2999 | 7.4 | 300 | 9.1 | 300 | 9.5 | 300 | 9.1 |
| 4/15/89 | 150 | 9.8 | 300 | 9.8 | 1563 | 8.1 | 300 | 9.9 | 2999 | 7.4 | 300 | 9.8 | 300 | 10.6 | 300 | 9.7 |
| 4/22/89 | 150 | 9.6 | 300 | 9.6 | 1740 | 7.1 | 500 | 9.0 | 2999 | 6.5 | 300 | 9.5 | 500 | 10.0 | 500 | 8.9 |
| 4/29/89 | 150 | 9.3 | 300 | 8.9 | 1551 | 7.4 | 2512 | 7.8 | 4214 | 6.7 | 300 | 8.8 | 2512 | 7.5 | 2512 | 7.5 |
| 5/6/89 | 150 | 8.9 | 300 | 8.2 | 1569 | 8.1 | 5700 | 6.5 | 5428 | 6.5 | 300 | 8.1 | 5700 | 6.0 | 5700 | 6.4 |
| 5/13/89 | 150 | 8.9 | 857 | 7.3 | 1613 | 8.1 | 5022 | 6.6 | 3999 | 6.8 | 857 | 7.2 | 5022 | 6.1 | 5022 | 6.4 |
| 5/20/89 | 150 | 9.0 | 4714 | 6.5 | 1555 | 8.5 | 3884 | 6.8 | 2713 | 7.3 | 4714 | 6.5 | 3884 | 6.5 | 3884 | 6.6 |
| 5/27/89 | 150 | 8.2 | 1343 | 6.6 | 1241 | 8.2 | 2995 | 7.1 | 2299 | 7.5 | 1343 | 6.6 | 2995 | 6.9 | 2995 | 6.9 |
| 6/3/89 | 150 | 7.2 | 800 | 7.0 | 1200 | 7.8 | 2291 | 7.3 | 2000 | 8.5 | 800 | 7.3 | 2291 | 7.3 | 2291 | 7.3 |
| 6/10/89 | 150 | 7.2 | 607 | 7.2 | 1041 | 7.9 | 1982 | 7.6 | 2000 | 8.8 | 607 | 7.7 | 1982 | 7.8 | 1982 | 7.6 |
| 6/17/89 | 150 | 7.2 | 386 | 7.2 | 745 | 7.8 | 1982 | 7.5 | 2000 | 8.7 | 386 | 7.8 | 1982 | 8.0 | 1982 | 7.6 |
| 6/24/89 | 150 | 7.1 | 300 | 7.5 | 488 | 8.3 | 1982 | 7.6 | 2000 | 9.0 | 300 | 8.2 | 1982 | 8.5 | 1982 | 7.8 |
| 7/1/89 | 150 | 7.5 | 450 | 7.2 | 342 | 8.1 | 2000 | 7.1 | 2000 | 8.6 | 450 | 7.3 | 2000 | 9.2 | 2000 | 7.6 |
| 7/8/89 | 150 | 7.9 | 450 | 7.6 | 248 | 8.5 | 1543 | 7.4 | 1500 | 9.6 | 450 | 7.4 | 1543 | 10.1 | 1543 | 8.0 |
| 7/15/89 | 150 | 8.2 | 450 | 7.8 | 189 | 9.0 | 696 | 7.7 | 1200 | 10.3 | 450 | 7.4 | 696 | 10.6 | 696 | 8.3 |
| 7/22/89 | 150 | 8.1 | 450 | 7.8 | 147 | 9.6 | 450 | 8.0 | 800 | 11.0 | 450 | 7.5 | 450 | 11.2 | 450 | 8.9 |
| 7/29/89 | 150 | 7.9 | 450 | 8.1 | 115 | 9.9 | 450 | 8.4 | 650 | 11.7 | 450 | 7.8 | 450 | 11.6 | 450 | 9.3 |
| 8/5/89 | 150 | 7.4 | 450 | 8.3 | 96 | 9.2 | 450 | 8.5 | 650 | 11.9 | 450 | 8.2 | 450 | 11.9 | 450 | 9.2 |
| 8/12/89 | 150 | 7.4 | 450 | 8.5 | 84 | 9.6 | 450 | 8.7 | 650 | 11.9 | 450 | 8.5 | 450 | 11.9 | 450 | 9.4 |
| 8/19/89 | 150 | 7.2 | 450 | 8.5 | 75 | 9.3 | 450 | 8.7 | 650 | 11.9 | 450 | 8.5 | 450 | 12.0 | 450 | 9.5 |
| 8/26/89 | 150 | 7.3 | 450 | 8.7 | 70 | 9.6 | 450 | 8.7 | 650 | 11.6 | 450 | 8.7 | 450 | 12.1 | 450 | 9.6 |
| 9/2/89 | 150 | 7.9 | 450 | 8.8 | 64 | 10.3 | 450 | 8.7 | 650 | 11.2 | 450 | 8.8 | 450 | 12.2 | 450 | 9.9 |
| 9/9/89 | 150 | 8.1 | 450 | 9.0 | 58 | 10.8 | 450 | 8.9 | 650 | 11.5 | 450 | 9.0 | 450 | 12.1 | 450 | 10.3 |
| 9/16/89 | 150 | 7.7 | 450 | 8.6 | 55 | 9.2 | 450 | 8.5 | 300 | 11.3 | 450 | 8.6 | 450 | 11.8 | 450 | 10.0 |
| 9/23/89 | 150 | 7.7 | 450 | 8.5 | 73 | 8.8 | 450 | 8.8 | 300 | 11.4 | 450 | 8.5 | 450 | 11.9 | 450 | 10.2 |

Table D. Lewiston Dam release water temperatures and magnitudes for a WET year. Values are derived from PROSIM 99 and BETTER model output. These data represent input data to SNTEMP for evaluation of HVT Objectives

| Wet Year | State Permit Alternative | | No Action Alternative | | % Inflow Alternative | | Flow Study Alternative | | Max Flow Alternative | | Existing Conditions | | Cumulative 400 TAF Carryover | | Cumulative 600 TAF Carryover | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | |
| Week | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) |
| 10/1/85 | 200 | 7.9 | 300 | 8.6 | 54 | 11.7 | 451 | 8.6 | 300 | 11.4 | 300 | 8.0 | 451 | 9.5 | 451 | 9.3 |
| 10/8/85 | 200 | 7.4 | 300 | 7.9 | 69 | 9.9 | 451 | 8.4 | 300 | 11.0 | 300 | 7.2 | 451 | 9.2 | 451 | 9.6 |
| 10/15/85 | 200 | 7.2 | 300 | 7.8 | 86 | 9.9 | 322 | 8.2 | 300 | 10.4 | 300 | 7.3 | 322 | 9.1 | 322 | 9.8 |
| 10/22/85 | 200 | 6.8 | 300 | 7.6 | 78 | 9.2 | 301 | 7.9 | 300 | 9.6 | 300 | 7.2 | 301 | 8.8 | 301 | 9.5 |
| 10/29/85 | 204 | 7.0 | 300 | 8.0 | 158 | 9.1 | 300 | 7.9 | 300 | 9.5 | 300 | 7.7 | 300 | 8.8 | 300 | 9.6 |
| 11/5/85 | 257 | 7.1 | 300 | 8.4 | 122 | 9.4 | 300 | 7.9 | 300 | 9.2 | 300 | 8.1 | 300 | 8.8 | 300 | 9.7 |
| 11/12/85 | 257 | 6.9 | 300 | 8.2 | 169 | 8.8 | 300 | 7.4 | 300 | 8.5 | 300 | 8.0 | 300 | 8.3 | 300 | 9.1 |
| 11/19/85 | 257 | 6.2 | 300 | 7.4 | 312 | 8.1 | 300 | 6.4 | 300 | 7.3 | 300 | 7.3 | 300 | 7.4 | 300 | 8.1 |
| 11/26/85 | 254 | 5.5 | 300 | 6.6 | 230 | 7.3 | 300 | 5.7 | 300 | 5.8 | 300 | 6.6 | 300 | 6.6 | 300 | 7.2 |
| 12/3/85 | 197 | 5.4 | 300 | 6.4 | 232 | 6.8 | 300 | 5.6 | 300 | 5.1 | 300 | 6.3 | 300 | 6.3 | 300 | 6.8 |
| 12/10/85 | 197 | 5.5 | 300 | 6.3 | 383 | 6.6 | 300 | 5.7 | 300 | 5.1 | 300 | 6.3 | 300 | 6.3 | 300 | 6.6 |
| 12/17/85 | 197 | 6.0 | 300 | 6.5 | 358 | 6.7 | 300 | 6.1 | 300 | 5.4 | 300 | 6.5 | 300 | 6.5 | 300 | 6.7 |
| 12/24/85 | 197 | 6.3 | 300 | 6.8 | 268 | 7.0 | 300 | 6.5 | 300 | 5.8 | 300 | 6.8 | 300 | 6.8 | 300 | 6.9 |
| 12/31/85 | 191 | 6.3 | 300 | 7.0 | 241 | 7.0 | 300 | 6.7 | 299 | 6.1 | 300 | 7.0 | 300 | 6.9 | 300 | 6.9 |
| 1/7/86 | 140 | 6.5 | 300 | 7.0 | 256 | 6.9 | 300 | 6.8 | 299 | 6.4 | 300 | 6.9 | 300 | 6.9 | 300 | 6.8 |
| 1/14/86 | 140 | 6.7 | 300 | 7.0 | 273 | 6.9 | 300 | 6.9 | 299 | 6.6 | 300 | 6.9 | 300 | 6.9 | 300 | 6.8 |
| 1/21/86 | 140 | 6.6 | 300 | 6.8 | 271 | 6.8 | 300 | 6.6 | 299 | 6.6 | 300 | 6.7 | 300 | 6.6 | 300 | 6.6 |
| 1/28/86 | 144 | 6.7 | 300 | 6.8 | 384 | 6.8 | 300 | 6.7 | 1900 | 6.5 | 300 | 6.7 | 300 | 6.7 | 300 | 6.6 |
| 2/4/86 | 150 | 6.6 | 300 | 6.7 | 314 | 6.7 | 300 | 6.6 | 1950 | 6.4 | 300 | 6.6 | 300 | 6.6 | 300 | 6.5 |
| 2/11/86 | 150 | 6.8 | 300 | 6.8 | 519 | 6.9 | 300 | 6.8 | 2000 | 6.3 | 300 | 6.8 | 300 | 6.8 | 300 | 6.7 |
| 2/18/86 | 150 | 6.6 | 300 | 6.7 | 617 | 6.4 | 300 | 6.7 | 2000 | 6.1 | 300 | 6.6 | 300 | 6.7 | 300 | 6.6 |
| 2/25/86 | 150 | 6.9 | 300 | 6.6 | 871 | 7.0 | 300 | 6.6 | 2428 | 7.3 | 300 | 6.6 | 300 | 6.6 | 300 | 6.5 |
| 3/4/86 | 150 | 7.4 | 300 | 7.5 | 1401 | 8.3 | 300 | 7.7 | 2999 | 7.2 | 300 | 7.5 | 300 | 7.5 | 300 | 7.5 |
| 3/11/86 | 150 | 6.9 | 300 | 8.4 | 1156 | 7.2 | 300 | 8.0 | 2999 | 6.5 | 300 | 8.5 | 300 | 8.4 | 300 | 8.4 |
| 3/18/86 | 150 | 7.1 | 300 | 8.4 | 1038 | 7.5 | 300 | 7.9 | 2999 | 7.2 | 300 | 8.5 | 300 | 8.4 | 300 | 8.4 |
| 3/25/86 | 150 | 7.6 | 300 | 8.9 | 1018 | 8.4 | 300 | 8.5 | 2999 | 7.6 | 300 | 8.9 | 300 | 8.9 | 300 | 8.8 |
| 4/1/86 | 150 | 8.2 | 300 | 9.4 | 1429 | 8.4 | 300 | 9.3 | 2999 | 7.3 | 300 | 9.5 | 300 | 9.4 | 300 | 9.6 |
| 4/8/86 | 150 | 8.5 | 300 | 8.7 | 1393 | 8.0 | 300 | 9.2 | 3630 | 7.2 | 300 | 8.7 | 300 | 8.7 | 300 | 9.2 |
| 4/15/86 | 150 | 8.7 | 300 | 8.6 | 1635 | 7.9 | 300 | 8.9 | 4261 | 7.1 | 300 | 8.6 | 300 | 8.6 | 300 | 9.2 |
| 4/22/86 | 150 | 9.0 | 300 | 8.8 | 1873 | 8.1 | 500 | 9.0 | 4892 | 7.0 | 300 | 8.9 | 500 | 8.9 | 500 | 9.1 |
| 4/29/86 | 150 | 8.0 | 300 | 7.8 | 2068 | 7.2 | 2036 | 8.0 | 5523 | 6.8 | 300 | 7.9 | 2036 | 7.6 | 2036 | 7.8 |
| 5/6/86 | 150 | 7.0 | 300 | 6.9 | 1994 | 6.9 | 2550 | 7.1 | 6154 | 6.9 | 300 | 6.9 | 2550 | 7.0 | 2550 | 6.9 |
| 5/13/86 | 150 | 7.4 | 857 | 7.3 | 2287 | 7.3 | 5907 | 7.3 | 6785 | 7.2 | 857 | 7.3 | 5907 | 7.2 | 5907 | 7.2 |
| 5/20/86 | 150 | 7.4 | 4714 | 7.3 | 2476 | 7.2 | 7121 | 7.1 | 6428 | 7.1 | 4714 | 7.3 | 7121 | 7.1 | 7121 | 7.1 |
| 5/27/86 | 150 | 7.8 | 1343 | 7.5 | 2335 | 7.7 | 5306 | 7.6 | 4285 | 8.1 | 1343 | 7.5 | 5306 | 7.5 | 5306 | 7.5 |
| 6/3/86 | 150 | 7.6 | 800 | 7.3 | 1813 | 7.3 | 3309 | 7.9 | 3713 | 8.3 | 800 | 7.3 | 3309 | 7.7 | 3309 | 7.7 |
| 6/10/86 | 150 | 7.4 | 607 | 7.4 | 1414 | 7.3 | 2126 | 8.2 | 2713 | 8.8 | 607 | 7.4 | 2126 | 7.9 | 2126 | 8.0 |
| 6/17/86 | 150 | 7.4 | 386 | 7.3 | 1088 | 7.3 | 1947 | 8.1 | 2399 | 8.9 | 386 | 7.3 | 1947 | 7.8 | 1947 | 7.9 |
| 6/24/86 | 150 | 7.4 | 300 | 7.3 | 857 | 7.4 | 1947 | 8.2 | 1999 | 9.2 | 300 | 7.3 | 1947 | 8.0 | 1947 | 8.0 |
| 7/1/86 | 150 | 7.5 | 450 | 7.4 | 593 | 7.7 | 2000 | 7.6 | 2000 | 9.8 | 450 | 7.4 | 2000 | 7.9 | 2000 | 7.9 |
| 7/8/86 | 150 | 9.5 | 450 | 8.0 | 430 | 9.2 | 1543 | 7.6 | 2000 | 9.9 | 450 | 8.0 | 1543 | 8.0 | 1543 | 8.0 |
| 7/15/86 | 150 | 9.3 | 450 | 8.0 | 313 | 9.7 | 696 | 8.0 | 1800 | 10.0 | 450 | 8.0 | 696 | 8.5 | 696 | 8.5 |
| 7/22/86 | 150 | 9.2 | 450 | 8.0 | 237 | 10.1 | 450 | 8.4 | 1000 | 10.8 | 450 | 8.0 | 450 | 8.9 | 450 | 9.0 |
| 7/29/86 | 150 | 9.4 | 450 | 8.2 | 181 | 10.4 | 450 | 8.5 | 900 | 12.0 | 450 | 8.2 | 450 | 9.4 | 450 | 9.2 |
| 8/5/86 | 150 | 9.7 | 450 | 8.4 | 145 | 10.4 | 450 | 8.5 | 900 | 12.9 | 450 | 8.4 | 450 | 10.6 | 450 | 9.5 |
| 8/12/86 | 150 | 9.3 | 450 | 8.2 | 118 | 10.4 | 450 | 8.3 | 800 | 12.4 | 450 | 8.2 | 450 | 10.5 | 450 | 9.3 |
| 8/19/86 | 150 | 9.0 | 450 | 8.1 | 102 | 10.5 | 450 | 8.2 | 670 | 11.9 | 450 | 8.1 | 450 | 10.3 | 450 | 9.2 |
| 8/26/86 | 150 | 9.2 | 450 | 8.3 | 93 | 11.3 | 450 | 8.4 | 650 | 11.7 | 450 | 8.3 | 450 | 10.3 | 450 | 9.3 |
| 9/2/86 | 150 | 11.4 | 450 | 9.6 | 97 | 15.0 | 450 | 9.0 | 650 | 12.0 | 450 | 9.6 | 450 | 11.0 | 450 | 9.9 |
| 9/9/86 | 150 | 10.3 | 450 | 10.0 | 84 | 14.5 | 450 | 8.7 | 650 | 11.7 | 450 | 10.0 | 450 | 10.8 | 450 | 9.5 |
| 9/16/86 | 150 | 8.2 | 450 | 9.3 | 81 | 10.3 | 450 | 8.0 | 300 | 11.7 | 450 | 9.3 | 450 | 9.9 | 450 | 8.7 |
| 9/23/86 | 150 | 8.3 | 450 | 8.9 | 92 | 10.2 | 450 | 8.1 | 300 | 11.2 | 450 | 8.9 | 450 | 9.5 | 450 | 8.7 |

Table E. Lewiston Dam release water temperatures and magnitudes for an EXTREMELY WET year. Values are derived from PROSIM 99 and BETTER model output. These data represent input data to SNTEMP for evaluation of HVT Objectives

| Extremely Wet Year | State Permit Alternative | | No Action Alternative | | % Inflow Alternative | | Flow Study Alternative | | Max Flow Alternative | | Existing Conditions | | Cumulative 400 TAF Carryover | | Cumulative 600 TAF Carryover | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | | Lewiston Dam Release | |
| Week | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) | Q (cfs) | Temp (°C) |
| 10/1/82 | 200 | 7.6 | 300 | 7.4 | 152 | 7.8 | 451 | 9.5 | 300 | 15.1 | 300 | 7.4 | 451 | 9.6 | 451 | 9.5 |
| 10/8/82 | 200 | 6.4 | 300 | 6.2 | 145 | 6.7 | 451 | 8.3 | 300 | 14.5 | 300 | 6.2 | 451 | 8.2 | 451 | 8.2 |
| 10/15/82 | 200 | 6.4 | 300 | 6.2 | 270 | 6.3 | 322 | 8.4 | 300 | 14.5 | 300 | 6.3 | 322 | 8.4 | 322 | 8.4 |
| 10/22/82 | 200 | 6.0 | 300 | 5.9 | 196 | 6.0 | 301 | 8.0 | 300 | 13.9 | 300 | 5.9 | 301 | 7.9 | 301 | 7.9 |
| 10/29/82 | 204 | 6.0 | 300 | 5.8 | 520 | 5.8 | 300 | 7.5 | 300 | 13.4 | 300 | 5.9 | 300 | 7.4 | 300 | 7.5 |
| 11/5/82 | 257 | 6.3 | 300 | 6.2 | 963 | 6.3 | 300 | 7.4 | 300 | 12.6 | 300 | 6.3 | 300 | 7.4 | 300 | 7.4 |
| 11/12/82 | 257 | 6.2 | 300 | 6.2 | 886 | 6.2 | 300 | 7.1 | 300 | 11.9 | 300 | 6.2 | 300 | 7.0 | 300 | 7.0 |
| 11/19/82 | 257 | 5.8 | 300 | 5.8 | 972 | 5.8 | 300 | 6.5 | 300 | 10.8 | 300 | 5.8 | 300 | 6.5 | 300 | 6.5 |
| 11/26/82 | 254 | 5.7 | 300 | 5.7 | 1060 | 5.8 | 300 | 6.1 | 325 | 9.7 | 300 | 5.7 | 300 | 6.1 | 300 | 6.1 |
| 12/3/82 | 197 | 5.8 | 300 | 5.8 | 879 | 5.8 | 300 | 5.8 | 387 | 8.8 | 300 | 5.8 | 300 | 5.8 | 300 | 5.8 |
| 12/10/82 | 197 | 6.0 | 300 | 5.9 | 1021 | 6.0 | 300 | 5.9 | 387 | 8.2 | 300 | 5.9 | 300 | 5.8 | 300 | 5.8 |
| 12/17/82 | 197 | 6.0 | 300 | 5.9 | 1053 | 5.9 | 300 | 5.8 | 387 | 7.4 | 300 | 5.9 | 300 | 5.8 | 300 | 5.8 |
| 12/24/82 | 197 | 5.8 | 300 | 5.8 | 1748 | 5.9 | 300 | 5.7 | 387 | 6.6 | 300 | 5.8 | 300 | 5.7 | 300 | 5.7 |
| 12/31/82 | 191 | 6.0 | 300 | 6.0 | 1478 | 6.0 | 300 | 5.9 | 822 | 6.3 | 300 | 6.0 | 300 | 5.8 | 300 | 5.9 |
| 1/7/83 | 140 | 6.1 | 300 | 6.0 | 1330 | 6.0 | 300 | 6.0 | 3522 | 5.8 | 300 | 6.0 | 300 | 5.9 | 300 | 6.0 |
| 1/14/83 | 140 | 6.0 | 300 | 5.9 | 1369 | 6.0 | 300 | 5.9 | 3522 | 5.4 | 300 | 5.9 | 300 | 5.9 | 300 | 5.9 |
| 1/21/83 | 140 | 5.9 | 300 | 5.8 | 1817 | 5.8 | 300 | 5.8 | 3522 | 5.3 | 300 | 5.8 | 300 | 5.8 | 300 | 5.8 |
| 1/28/83 | 144 | 5.9 | 300 | 5.8 | 1745 | 5.8 | 300 | 5.8 | 3298 | 5.4 | 300 | 5.8 | 300 | 5.8 | 300 | 5.8 |
| 2/4/83 | 150 | 5.8 | 300 | 5.7 | 1568 | 5.7 | 300 | 5.7 | 2999 | 5.3 | 300 | 5.7 | 300 | 5.7 | 300 | 5.7 |
| 2/11/83 | 150 | 5.8 | 300 | 5.7 | 1706 | 5.8 | 300 | 5.7 | 2999 | 5.5 | 300 | 5.7 | 300 | 5.7 | 300 | 5.7 |
| 2/18/83 | 150 | 5.9 | 300 | 5.8 | 1721 | 5.9 | 300 | 5.8 | 2999 | 5.7 | 300 | 5.8 | 300 | 5.8 | 300 | 5.8 |
| 2/25/83 | 1702 | 5.8 | 1788 | 5.8 | 2632 | 5.8 | 1788 | 5.8 | 2999 | 5.6 | 1788 | 5.8 | 1788 | 5.8 | 1788 | 5.8 |
| 3/4/83 | 3772 | 5.9 | 3772 | 5.9 | 4331 | 5.9 | 3772 | 5.9 | 2999 | 5.9 | 3772 | 5.9 | 3772 | 5.9 | 3772 | 5.9 |
| 3/11/83 | 3772 | 5.8 | 3772 | 5.8 | 3663 | 5.9 | 3772 | 5.8 | 2999 | 5.9 | 3772 | 5.8 | 3772 | 5.8 | 3772 | 5.8 |
| 3/18/83 | 3772 | 6.0 | 3772 | 6.0 | 3535 | 6.0 | 3772 | 6.0 | 2999 | 6.0 | 3772 | 6.0 | 3772 | 6.0 | 3772 | 6.0 |
| 3/25/83 | 3772 | 5.9 | 3772 | 5.9 | 3457 | 5.9 | 3772 | 5.9 | 2999 | 6.0 | 3772 | 5.9 | 3772 | 5.9 | 3772 | 5.9 |
| 4/1/83 | 150 | 6.5 | 300 | 6.3 | 2087 | 6.5 | 300 | 6.3 | 2999 | 6.1 | 300 | 6.3 | 300 | 6.3 | 300 | 6.3 |
| 4/8/83 | 150 | 7.2 | 300 | 7.0 | 1982 | 7.0 | 300 | 7.1 | 4440 | 5.9 | 300 | 7.0 | 300 | 7.0 | 300 | 7.0 |
| 4/15/83 | 150 | 7.4 | 300 | 7.2 | 1788 | 7.2 | 300 | 7.3 | 5881 | 5.9 | 300 | 7.2 | 300 | 7.3 | 300 | 7.3 |
| 4/22/83 | 150 | 7.6 | 300 | 7.3 | 1949 | 7.1 | 500 | 7.2 | 7322 | 6.0 | 300 | 7.3 | 500 | 7.1 | 500 | 7.1 |
| 4/29/83 | 3063 | 6.6 | 2184 | 6.6 | 2606 | 6.4 | 1560 | 6.4 | 8761 | 6.5 | 2184 | 6.6 | 1560 | 6.4 | 1560 | 6.4 |
| 5/6/83 | 4229 | 6.2 | 2938 | 6.2 | 3179 | 6.2 | 2084 | 6.2 | 10202 | 6.9 | 2938 | 6.2 | 2084 | 6.2 | 2084 | 6.2 |
| 5/13/83 | 4229 | 6.4 | 3495 | 6.5 | 3534 | 6.5 | 2084 | 6.4 | 11640 | 7.4 | 3495 | 6.5 | 2084 | 6.4 | 2084 | 6.4 |
| 5/20/83 | 4229 | 6.7 | 7352 | 6.6 | 3730 | 6.8 | 7871 | 6.6 | 27854 | 7.8 | 7352 | 6.6 | 7871 | 6.6 | 7871 | 6.6 |
| 5/27/83 | 4446 | 6.6 | 4488 | 6.7 | 4823 | 6.6 | 9949 | 6.5 | 7926 | 8.8 | 4488 | 6.7 | 9949 | 6.5 | 9949 | 6.5 |
| 6/3/83 | 4989 | 6.7 | 5211 | 6.7 | 5752 | 6.6 | 6752 | 6.6 | 4999 | 9.7 | 5211 | 6.7 | 6752 | 6.6 | 6752 | 6.6 |
| 6/10/83 | 4989 | 6.6 | 5018 | 6.6 | 5163 | 6.6 | 5380 | 6.6 | 4285 | 10.4 | 5018 | 6.6 | 5380 | 6.6 | 5380 | 6.6 |
| 6/17/83 | 4989 | 6.9 | 4797 | 6.9 | 4615 | 6.9 | 3740 | 6.9 | 2642 | 11.4 | 4797 | 6.9 | 3740 | 6.9 | 3740 | 6.9 |
| 6/24/83 | 4989 | 7.1 | 4711 | 7.1 | 4109 | 7.0 | 2631 | 7.0 | 1999 | 11.8 | 4711 | 7.1 | 2631 | 7.0 | 2631 | 7.0 |
| 7/1/83 | 3499 | 7.4 | 3499 | 7.4 | 3973 | 7.3 | 4397 | 7.3 | 2000 | 12.2 | 3499 | 7.4 | 4397 | 7.3 | 4397 | 7.3 |
| 7/8/83 | 3499 | 7.7 | 3499 | 7.7 | 3689 | 7.7 | 3940 | 7.6 | 2000 | 12.6 | 3499 | 7.7 | 3940 | 7.7 | 3940 | 7.6 |
| 7/15/83 | 3499 | 7.8 | 3499 | 7.8 | 3391 | 7.8 | 3093 | 7.8 | 1700 | 12.9 | 3499 | 7.8 | 3093 | 7.8 | 3093 | 7.8 |
| 7/22/83 | 3499 | 8.1 | 3499 | 8.1 | 3152 | 8.1 | 2847 | 8.1 | 1200 | 13.4 | 3499 | 8.1 | 2847 | 8.1 | 2847 | 8.1 |
| 7/29/83 | 1585 | 8.5 | 1757 | 8.3 | 1546 | 8.3 | 1477 | 8.3 | 629 | 14.4 | 1757 | 8.3 | 1477 | 8.3 | 1477 | 8.3 |
| 8/5/83 | 150 | 9.0 | 450 | 8.8 | 312 | 8.8 | 450 | 8.8 | 450 | 15.6 | 450 | 8.8 | 450 | 8.7 | 450 | 8.8 |
| 8/12/83 | 150 | 9.2 | 450 | 9.0 | 233 | 9.0 | 450 | 9.0 | 450 | 15.6 | 450 | 9.0 | 450 | 8.9 | 450 | 9.0 |
| 8/19/83 | 150 | 9.2 | 450 | 8.9 | 187 | 9.1 | 450 | 8.9 | 450 | 15.6 | 450 | 8.9 | 450 | 8.8 | 450 | 8.9 |
| 8/26/83 | 150 | 9.4 | 450 | 9.1 | 172 | 9.3 | 450 | 9.1 | 455 | 15.9 | 450 | 9.1 | 450 | 9.0 | 450 | 9.1 |
| 9/2/83 | 150 | 9.4 | 450 | 9.2 | 148 | 9.4 | 450 | 9.2 | 485 | 15.6 | 450 | 9.2 | 450 | 9.1 | 450 | 9.2 |
| 9/9/83 | 150 | 9.5 | 450 | 9.4 | 150 | 9.5 | 450 | 9.4 | 335 | 15.5 | 450 | 9.4 | 450 | 9.3 | 450 | 9.4 |
| 9/16/83 | 150 | 9.7 | 450 | 9.6 | 168 | 9.7 | 450 | 9.6 | 335 | 15.4 | 450 | 9.6 | 450 | 9.6 | 450 | 9.6 |
| 9/23/83 | 150 | 9.8 | 450 | 9.7 | 116 | 9.9 | 450 | 9.7 | 335 | 15.5 | 450 | 9.7 | 450 | 9.7 | 450 | 9.7 |

Table F. Predicted water temperatures of the Trinity River at Weitchpec (RM 0.0) for a **CRITICALLY DRY** year (1977).
SNTEMP utilized dam release water temperatures predicted by the BETTER model that used PROSIM 99 output.
Bolded values represent times that the draft Hoopa Valley Tribe water temperature objectives would not be met.

| | Predicted Water Temperatures of the Trinity River at Weitchpec - 1977 | | | | | | | | HVTEPA[a] |
|---|---|---|---|---|---|---|---|---|---|
| | Alternatives | | | | | | | | Criteria |
| Date | State Permit | NO Action | % Inflow | TRFE | Max Flow | E. Cond. | Cum 400K | Cum. 600K | NTE |
| **01-Oct** | 15.6 | 15.5 | 15.7 | 15.0 | 15.4 | 15.6 | 15.3 | 15.1 | 19.0 |
| **08-Oct** | 14.7 | 14.5 | 14.9 | 14.1 | 14.7 | 14.6 | 14.2 | 14.2 | 19.0 |
| **15-Oct** | 12.3 | 12.1 | 12.4 | 12.1 | 12.4 | 12.2 | 12.2 | 12.1 | 19.0 |
| **22-Oct** | 10.3 | 10.3 | 10.4 | 10.3 | 10.6 | 10.4 | 10.4 | 10.3 | 19.0 |
| **29-Oct** | 9.3 | 9.3 | 9.3 | 9.3 | 9.5 | 9.3 | 9.4 | 9.3 | 19.0 |
| **05-Nov** | 8.0 | 8.1 | 8.0 | 8.1 | 8.2 | 8.1 | 8.2 | 8.1 | 15.0 |
| **12-Nov** | 7.4 | 7.4 | 7.3 | 7.4 | 7.6 | 7.4 | 7.5 | 7.4 | 15.0 |
| **19-Nov** | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 15.0 |
| **26-Nov** | 5.8 | 5.8 | 5.8 | 5.8 | 5.9 | 5.8 | 5.9 | 5.8 | 15.0 |
| **03-Dec** | 5.4 | 5.5 | 5.4 | 5.4 | 5.5 | 5.4 | 5.5 | 5.4 | 15.0 |
| **10-Dec** | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 15.0 |
| **17-Dec** | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.1 | 5.0 | 15.0 |
| **24-Dec** | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 15.0 |
| **31-Dec** | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 5.0 | 4.9 | 15.0 |
| **07-Jan** | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 15.0 |
| **14-Jan** | 5.8 | 5.8 | 5.8 | 5.8 | 5.8 | 5.8 | 5.8 | 5.8 | 15.0 |
| **21-Jan** | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 15.0 |
| **28-Jan** | 5.7 | 5.8 | 5.8 | 5.8 | 6.2 | 5.8 | 5.8 | 5.8 | 15.0 |
| **04-Feb** | 6.1 | 6.1 | 6.1 | 6.1 | 6.3 | 6.1 | 6.1 | 6.1 | 15.0 |
| **11-Feb** | 6.7 | 6.7 | 6.8 | 6.7 | 7.0 | 6.7 | 6.7 | 6.7 | 15.0 |
| **18-Feb** | 6.7 | 6.7 | 6.8 | 6.7 | 7.0 | 6.7 | 6.7 | 6.7 | 15.0 |
| **25-Feb** | 7.0 | 7.0 | 7.0 | 7.0 | 7.1 | 7.0 | 7.0 | 7.0 | 15.0 |
| **04-Mar** | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 15.0 |
| **11-Mar** | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 7.2 | 15.0 |
| **18-Mar** | 8.4 | 8.5 | 8.4 | 8.5 | 8.5 | 8.5 | 8.5 | 8.5 | 15.0 |
| **25-Mar** | 9.1 | 9.1 | 9.1 | 9.1 | 9.1 | 9.1 | 9.1 | 9.1 | 15.0 |
| **01-Apr** | 10.4 | 10.4 | 10.3 | 10.4 | 10.4 | 10.4 | 10.4 | 10.4 | 15.0 |
| **08-Apr** | 10.7 | 10.7 | 10.7 | 10.7 | 10.7 | 10.7 | 10.7 | 10.7 | 15.0 |
| **15-Apr** | 12.2 | 12.1 | 12.1 | 12.1 | 12.2 | 12.1 | 12.1 | 12.1 | 15.0 |
| **22-Apr** | 12.6 | 12.6 | 12.5 | 12.4 | 12.6 | 12.6 | 12.4 | 12.4 | 15.0 |
| **29-Apr** | 12.3 | 12.3 | 12.2 | 11.9 | 12.4 | 12.3 | 12.0 | 11.9 | 15.0 |
| **06-May** | 11.4 | 11.4 | 11.2 | 11.0 | 11.5 | 11.4 | 11.1 | 10.9 | 15.0 |
| **13-May** | 13.3 | 12.8 | 12.9 | 12.5 | 13.2 | 12.8 | 12.6 | 12.4 | 15.0 |
| **20-May** | 14.9 | 12.1 | 14.5 | 13.8 | 13.7 | 12.1 | 13.9 | 13.7 | 17.0 |
| **27-May** | 16.6 | 15.0 | 16.0 | 15.0 | 14.8 | 15.0 | 15.1 | 14.9 | 17.0 |
| **03-Jun** | 18.3 | 17.2 | 17.8 | 16.7 | 16.1 | 17.1 | 16.7 | 16.7 | 20.0 |
| **10-Jun** | 18.6 | 17.6 | 18.3 | 17.2 | 16.0 | 17.6 | 17.2 | 17.3 | 20.0 |
| **17-Jun** | 20.7 | 20.0 | 20.3 | 19.4 | 17.2 | 20.0 | 19.4 | 19.5 | 23.5 |
| **24-Jun** | 23.2 | 22.7 | 22.8 | 22.1 | 18.8 | 22.7 | 22.2 | 22.2 | 23.5 |
| **01-Jul** | 21.1 | 20.4 | 21.2 | 20.2 | 19.3 | 20.4 | 20.4 | 20.2 | 23.5 |
| **08-Jul** | 23.5 | 22.6 | **23.7** | 22.2 | 21.2 | 22.6 | 22.5 | 22.3 | 23.5 |
| **15-Jul** | **25.5** | **24.5** | **25.8** | **24.0** | 22.8 | **24.5** | **24.4** | **24.1** | 23.5 |
| **22-Jul** | **24.8** | **23.8** | **25.2** | 23.2 | 21.9 | **23.8** | **23.7** | 23.3 | 23.5 |
| **29-Jul** | **25.9** | **24.9** | **26.2** | **24.3** | 22.7 | **24.9** | **24.8** | **24.3** | 23.5 |
| **05-Aug** | **25.9** | **25.0** | **26.1** | **24.4** | 22.8 | **25.0** | **24.9** | **24.4** | 23.5 |
| **12-Aug** | **25.2** | **24.4** | **25.3** | **23.8** | 22.0 | **24.4** | **24.3** | **23.7** | 23.5 |
| **19-Aug** | **24.6** | **23.9** | **24.8** | 23.3 | 21.5 | **23.9** | **23.8** | 23.2 | 23.5 |
| **26-Aug** | 22.1 | 21.7 | 22.2 | 21.0 | 19.6 | 21.7 | 21.6 | 20.9 | 23.5 |
| **02-Sep** | 22.7 | 22.2 | 22.9 | 21.5 | 20.1 | 22.2 | 22.1 | 21.3 | 23.5 |
| **09-Sep** | 20.4 | 20.2 | 20.6 | 19.5 | 18.6 | 20.2 | 20.1 | 19.4 | 23.5 |
| **16-Sep** | 15.4 | 15.6 | 15.4 | 14.9 | 15.2 | 15.7 | 15.6 | 14.8 | 19.0 |
| **23-Sep** | 15.5 | 15.7 | 15.5 | 15.0 | 15.3 | 15.7 | 15.6 | 15.0 | 19.0 |
| **Non-Compliant** | 6 | 6 | 7 | 4 | 0 | 6 | 6 | 4 | |

a - based on Draft Standards of the Water Quality Control Plan of the Hoopa Valley Tribal Environmental Protection Agency, June 2000. NTE = Not to Exceed

Table G. Predicted water temperatures of the Trinity River at Weitchpec (RM 0.0) for a **DRY** year (1990).
SNTEMP utilized dam release water temperatures predicted by the BETTER model that used PROSIM 99 output.
Bolded values represent times that the draft Hoopa Valley Tribe water temperature objectives would not be met.

| | Predicted Water Temperatures of the Trinity River at Weitchpec - 1990 | | | | | | | | HVTEPA[a] |
|---|---|---|---|---|---|---|---|---|---|
| | Alternatives | | | | | | | | Criteria |
| Date | State Permit | NO Action | % Inflow | TRFE | Max Flow | E. Cond. | Cum 400K | Cum. 600K | NTE |
| **01-Oct** | 15.5 | 15.4 | 15.7 | 14.9 | 15.6 | 15.2 | 15.6 | 15.1 | 19.0 |
| **08-Oct** | 16.9 | 16.7 | 17.2 | 16.2 | 17.0 | 16.6 | 16.7 | 16.4 | 19.0 |
| **15-Oct** | 14.4 | 14.1 | 14.6 | 14.2 | 14.5 | 14.1 | 14.5 | 14.4 | 19.0 |
| **22-Oct** | 11.6 | 11.5 | 11.7 | 11.6 | 11.8 | 11.4 | 11.8 | 11.8 | 19.0 |
| **29-Oct** | 10.4 | 10.3 | 10.5 | 10.4 | 10.5 | 10.3 | 10.6 | 10.6 | 19.0 |
| **05-Nov** | 10.9 | 10.8 | 11.1 | 11.0 | 11.0 | 10.8 | 11.2 | 11.1 | 15.0 |
| **12-Nov** | 9.3 | 9.3 | 9.3 | 9.5 | 9.4 | 9.3 | 9.6 | 9.6 | 15.0 |
| **19-Nov** | 9.3 | 9.3 | 9.2 | 9.5 | 9.4 | 9.3 | 9.6 | 9.6 | 15.0 |
| **26-Nov** | 6.1 | 6.2 | 6.1 | 6.3 | 6.3 | 6.2 | 6.5 | 6.4 | 15.0 |
| **03-Dec** | 7.9 | 7.9 | 7.9 | 8.1 | 8.0 | 7.9 | 8.2 | 8.1 | 15.0 |
| **10-Dec** | 5.4 | 5.4 | 5.4 | 5.6 | 5.5 | 5.4 | 5.7 | 5.7 | 15.0 |
| **17-Dec** | 6.0 | 6.0 | 6.0 | 6.2 | 6.1 | 6.0 | 6.2 | 6.2 | 15.0 |
| **24-Dec** | 5.2 | 5.3 | 5.3 | 5.5 | 5.4 | 5.3 | 5.5 | 5.5 | 15.0 |
| **31-Dec** | 5.6 | 5.7 | 5.6 | 5.8 | 5.7 | 5.7 | 5.7 | 5.8 | 15.0 |
| **07-Jan** | 6.9 | 6.9 | 6.8 | 6.9 | 7.1 | 6.9 | 6.9 | 6.9 | 15.0 |
| **14-Jan** | 6.0 | 6.0 | 6.1 | 6.0 | 6.6 | 6.0 | 6.0 | 6.0 | 15.0 |
| **21-Jan** | 6.5 | 6.5 | 6.6 | 6.5 | 7.0 | 6.5 | 6.5 | 6.5 | 15.0 |
| **28-Jan** | 5.7 | 5.8 | 5.9 | 5.8 | 6.3 | 5.8 | 5.8 | 5.8 | 15.0 |
| **04-Feb** | 5.9 | 5.9 | 5.9 | 5.9 | 6.2 | 5.9 | 5.9 | 5.9 | 15.0 |
| **11-Feb** | 6.0 | 6.0 | 6.1 | 6.0 | 6.4 | 6.0 | 6.0 | 6.0 | 15.0 |
| **18-Feb** | 8.7 | 8.6 | 8.2 | 8.6 | 7.6 | 8.6 | 8.6 | 8.6 | 15.0 |
| **25-Feb** | 10.6 | 10.4 | 10.1 | 10.4 | 9.3 | 10.4 | 10.4 | 10.4 | 15.0 |
| **04-Mar** | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 | 15.0 |
| **11-Mar** | 8.6 | 8.6 | 8.6 | 8.6 | 8.2 | 8.6 | 8.6 | 8.6 | 15.0 |
| **18-Mar** | 11.3 | 11.2 | 11.0 | 11.2 | 10.4 | 11.2 | 11.2 | 11.2 | 15.0 |
| **25-Mar** | 11.0 | 10.9 | 10.9 | 10.9 | 10.4 | 10.9 | 10.9 | 10.9 | 15.0 |
| **01-Apr** | 12.2 | 12.1 | 11.9 | 12.1 | 11.5 | 12.1 | 12.1 | 12.1 | 15.0 |
| **08-Apr** | 13.0 | 13.0 | 12.5 | 13.0 | 12.0 | 13.0 | 13.0 | 13.0 | 15.0 |
| **15-Apr** | 14.7 | 14.5 | 13.6 | 14.6 | 12.6 | 14.5 | 14.6 | 14.6 | 15.0 |
| **22-Apr** | 13.7 | 13.6 | 12.7 | 13.5 | 11.6 | 13.6 | 13.4 | 13.4 | 15.0 |
| **29-Apr** | 14.4 | 14.2 | 13.2 | 11.4 | 11.4 | 14.2 | 11.2 | 11.4 | 15.0 |
| **06-May** | **15.5** | **15.3** | 13.9 | 11.8 | 12.9 | **15.3** | 11.5 | 11.9 | 15.0 |
| **13-May** | **15.7** | 14.5 | 14.0 | 12.3 | 13.0 | 14.5 | 12.1 | 12.4 | 15.0 |
| **20-May** | 15.6 | 10.7 | 13.8 | 12.6 | 12.8 | 10.7 | 12.5 | 12.7 | 17.0 |
| **27-May** | 16.8 | 13.7 | 14.5 | 13.5 | 13.1 | 13.7 | 13.4 | 13.6 | 17.0 |
| **03-Jun** | 18.4 | 16.6 | 16.3 | 16.1 | 14.9 | 16.6 | 16.0 | 16.2 | 20.0 |
| **10-Jun** | 18.7 | 17.3 | 17.1 | 16.9 | 15.0 | 17.3 | 16.9 | 17.1 | 20.0 |
| **17-Jun** | 21.7 | 20.8 | 20.1 | 20.1 | 16.6 | 20.8 | 20.1 | 20.2 | 23.5 |
| **24-Jun** | 21.9 | 21.4 | 21.0 | 20.8 | 16.9 | 21.4 | 20.9 | 20.9 | 23.5 |
| **01-Jul** | 20.9 | 19.9 | 20.6 | 20.0 | 16.5 | 19.9 | 20.1 | 20.0 | 23.5 |
| **08-Jul** | **24.2** | 23.1 | **24.2** | 23.1 | 19.4 | 23.1 | 23.4 | 23.1 | 23.5 |
| **15-Jul** | **26.1** | **24.7** | **26.1** | **24.7** | 22.3 | **24.7** | **25.1** | **24.8** | 23.5 |
| **22-Jul** | **24.0** | 22.7 | **24.1** | 22.7 | 22.2 | 22.7 | 23.2 | 22.8 | 23.5 |
| **29-Jul** | **25.0** | **23.6** | **25.1** | **23.6** | 23.2 | **23.6** | **24.1** | **23.7** | 23.5 |
| **05-Aug** | **24.4** | 22.9 | **24.4** | 23.0 | 22.6 | 23.0 | 23.5 | 23.0 | 23.5 |
| **12-Aug** | 23.3 | 21.9 | 23.3 | 21.9 | 21.6 | 21.9 | 22.5 | 21.9 | 23.5 |
| **19-Aug** | 21.7 | 20.3 | 21.8 | 20.2 | 20.1 | 20.2 | 20.9 | 20.3 | 23.5 |
| **26-Aug** | 20.3 | 19.1 | 20.4 | 19.0 | 19.0 | 18.9 | 19.7 | 19.0 | 23.5 |
| **02-Sep** | 20.3 | 19.2 | 20.3 | 19.0 | 19.0 | 19.0 | 19.7 | 19.1 | 23.5 |
| **09-Sep** | 20.3 | 19.2 | 20.4 | 18.9 | 18.9 | 18.9 | 19.7 | 19.0 | 23.5 |
| **16-Sep** | 18.5 | 17.8 | 18.5 | 17.4 | 18.4 | 17.3 | 18.1 | 17.5 | 19.0 |
| **23-Sep** | **20.3** | **19.5** | **19.8** | **19.1** | **20.2** | **19.0** | **19.8** | **19.2** | 19.0 |
| **Non-Compliant** | 8 | 4 | 6 | 3 | 1 | 4 | 3 | 3 | |

a - based on Draft Standards of the Water Quality Control Plan of the Hoopa Valley Tribal Environmental Protection Agency, June 2000. NTE = Not to Exceed

Table H. Predicted water temperatures of the Trinity River at Weitchpec (RM 0.0) for a **NORMAL** year (1989).
SNTEMP utilized dam release water temperatures predicted by the BETTER model that used PROSIM 99 output.
Bolded values represent times that the draft Hoopa Valley Tribe water temperature objectives would not be met.

| | Predicted Water Temperatures of the Trinity River at Weitchpec - 1989 | | | | | | | | HVTEPA[a] |
|---|---|---|---|---|---|---|---|---|---|
| | Alternatives | | | | | | | | Criteria |
| Date | State Permit | NO Action | % Inflow | TRFE | Max Flow | E. Cond. | Cum 400K | Cum. 600K | NTE |
| **01-Oct** | 15.5 | 15.3 | 15.8 | 15.0 | 15.5 | 15.3 | 15.4 | 15.2 | 19.0 |
| **08-Oct** | 14.4 | 14.3 | 14.7 | 14.1 | 14.5 | 14.3 | 14.5 | 14.4 | 19.0 |
| **15-Oct** | 11.5 | 11.6 | 11.6 | 11.6 | 11.7 | 11.6 | 11.9 | 11.8 | 19.0 |
| **22-Oct** | 9.8 | 9.8 | 9.8 | 9.8 | 9.9 | 9.8 | 10.0 | 9.9 | 19.0 |
| **29-Oct** | 8.5 | 8.6 | 8.5 | 8.6 | 8.6 | 8.6 | 8.8 | 8.7 | 19.0 |
| **05-Nov** | 6.3 | 6.5 | 6.2 | 6.5 | 6.4 | 6.5 | 6.7 | 6.6 | 13.0 |
| **12-Nov** | 5.4 | 5.5 | 5.2 | 5.5 | 5.5 | 5.5 | 5.7 | 5.7 | 13.0 |
| **19-Nov** | 4.0 | 4.2 | 4.1 | 4.2 | 4.1 | 4.2 | 4.3 | 4.3 | 13.0 |
| **26-Nov** | 4.0 | 4.1 | 4.0 | 4.1 | 4.1 | 4.1 | 4.2 | 4.2 | 13.0 |
| **03-Dec** | 3.9 | 4.1 | 3.9 | 4.0 | 4.0 | 4.1 | 4.1 | 4.1 | 13.0 |
| **10-Dec** | 4.6 | 4.9 | 4.9 | 4.8 | 4.7 | 4.9 | 4.9 | 4.9 | 13.0 |
| **17-Dec** | 2.4 | 2.7 | 2.8 | 2.7 | 2.6 | 2.7 | 2.7 | 2.7 | 13.0 |
| **24-Dec** | 0.9 | 1.1 | 1.0 | 1.2 | 1.1 | 1.1 | 1.1 | 1.2 | 13.0 |
| **31-Dec** | 2.6 | 2.8 | 2.7 | 2.8 | 2.7 | 2.8 | 2.7 | 2.8 | 13.0 |
| **07-Jan** | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 13.0 |
| **14-Jan** | 4.7 | 4.7 | 4.7 | 4.7 | 4.7 | 4.7 | 4.7 | 4.7 | 13.0 |
| **21-Jan** | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 4.9 | 13.0 |
| **28-Jan** | 6.4 | 6.4 | 6.4 | 6.4 | 6.6 | 6.4 | 6.4 | 6.4 | 13.0 |
| **04-Feb** | 4.4 | 4.4 | 4.4 | 4.4 | 4.9 | 4.4 | 4.4 | 4.4 | 13.0 |
| **11-Feb** | 5.5 | 5.5 | 5.5 | 5.5 | 5.9 | 5.5 | 5.5 | 5.5 | 13.0 |
| **18-Feb** | 6.5 | 6.5 | 6.6 | 6.5 | 6.7 | 6.5 | 6.5 | 6.5 | 13.0 |
| **25-Feb** | 6.9 | 6.9 | 6.9 | 6.9 | 7.0 | 6.9 | 6.9 | 6.9 | 13.0 |
| **04-Mar** | 6.5 | 6.5 | 6.6 | 6.5 | 6.6 | 6.5 | 6.5 | 6.5 | 13.0 |
| **11-Mar** | 8.4 | 8.4 | 8.3 | 8.4 | 8.1 | 8.4 | 8.4 | 8.4 | 13.0 |
| **18-Mar** | 8.6 | 8.6 | 8.4 | 8.6 | 8.2 | 8.6 | 8.6 | 8.6 | 13.0 |
| **25-Mar** | 9.4 | 9.3 | 9.1 | 9.3 | 8.6 | 9.3 | 9.3 | 9.3 | 13.0 |
| **01-Apr** | 11.0 | 10.9 | 10.4 | 11.0 | 9.7 | 10.9 | 10.9 | 10.9 | 13.0 |
| **08-Apr** | **14.1** | **14.0** | 12.9 | **14.0** | 11.6 | **14.0** | **14.0** | **14.0** | 13.0 |
| **15-Apr** | **15.8** | **15.6** | **13.9** | **15.6** | 12.4 | **15.6** | **15.6** | **15.6** | 13.0 |
| **22-Apr** | 13.0 | 12.9 | 11.4 | 12.7 | 10.5 | 12.9 | 12.8 | 12.7 | 13.0 |
| **29-Apr** | **16.6** | **16.4** | **14.0** | **13.2** | 11.4 | **16.4** | 13.0 | 13.0 | 13.0 |
| **06-May** | **18.0** | **17.6** | **15.0** | 10.8 | 10.9 | **17.6** | 10.5 | 10.8 | 13.0 |
| **13-May** | **19.4** | **17.3** | **15.7** | 11.4 | 12.2 | **17.3** | 11.0 | 11.3 | 13.0 |
| **20-May** | **15.9** | 11.6 | 14.4 | 12.1 | 13.1 | 11.6 | 12.0 | 12.0 | 15.0 |
| **27-May** | 14.4 | 13.8 | 14.0 | 13.2 | 13.5 | 13.8 | 13.2 | 13.2 | 15.0 |
| **03-Jun** | **17.7** | **17.1** | 16.8 | 15.8 | 16.3 | **17.1** | 15.8 | 15.8 | 17.0 |
| **10-Jun** | **19.7** | **18.9** | **18.2** | 16.7 | 17.0 | **18.9** | 16.8 | 16.7 | 17.0 |
| **17-Jun** | **21.0** | **20.5** | **19.6** | 16.9 | **17.3** | **20.5** | **17.1** | 16.9 | 17.0 |
| **24-Jun** | **21.4** | **21.1** | **20.6** | 16.7 | **17.2** | **21.1** | **17.1** | 16.8 | 17.0 |
| **01-Jul** | **21.9** | **20.9** | **21.4** | 16.2 | 16.9 | **20.9** | **17.2** | 16.5 | 17.0 |
| **08-Jul** | **24.0** | **22.8** | **23.7** | 18.3 | 19.3 | **22.8** | 19.4 | 18.5 | 22.1 |
| **15-Jul** | **24.9** | **23.6** | **24.9** | **22.3** | 20.9 | **23.6** | **22.8** | **22.4** | 22.1 |
| **22-Jul** | **24.3** | **22.9** | **24.3** | **22.9** | 21.7 | **22.9** | **23.3** | **23.0** | 22.1 |
| **29-Jul** | **23.8** | **22.4** | **23.8** | **22.4** | 22.0 | **22.4** | **22.8** | **22.5** | 22.1 |
| **05-Aug** | **24.9** | **23.4** | **25.0** | **23.4** | **22.9** | **23.4** | **23.8** | **23.5** | 22.1 |
| **12-Aug** | **23.9** | **22.3** | **24.0** | **22.4** | 21.9 | **22.3** | **22.8** | **22.5** | 22.1 |
| **19-Aug** | **22.7** | 21.3 | **22.8** | 21.3 | 20.9 | 21.3 | 21.8 | 21.4 | 22.1 |
| **26-Aug** | 21.7 | 20.4 | 21.9 | 20.4 | 20.0 | 20.4 | 20.9 | 20.5 | 22.1 |
| **02-Sep** | 21.2 | 19.9 | 21.4 | 19.8 | 19.4 | 19.9 | 20.3 | 20.0 | 22.1 |
| **09-Sep** | 20.4 | 19.0 | 20.5 | 19.0 | 18.7 | 19.0 | 19.5 | 19.2 | 22.1 |
| **16-Sep** | 16.3 | 15.4 | 16.4 | 15.3 | 16.1 | 15.4 | 15.9 | 15.6 | 19.0 |
| **23-Sep** | 16.3 | 15.4 | 16.5 | 15.5 | 16.2 | 15.4 | 15.9 | 15.7 | 19.0 |
| **Non-Compliant** | 18 | 16 | 15 | 8 | 3 | 16 | 10 | 7 | |

a - based on Draft Standards of the Water Quality Control Plan of the Hoopa Valley Tribal Environmental Protection Agency, June 2000. NTE = Not to Exceed

Table I. Predicted water temperatures of the Trinity River at Weitchpec (RM 0.0) for a **WET** year (1986).

SNTEMP utilized dam release water temperatures predicted by the BETTER model that used PROSIM 99 output.

Bolded values represent times that the draft Hoopa Valley Tribe water temperature objectives would not be met.

| | Predicted Water Temperatures of the Trinity River at Weitchpec - 1986 | | | | | | | | HVTEPA[a] |
|---|---|---|---|---|---|---|---|---|---|
| | Alternatives | | | | | | | | Criteria |
| Date | State Permit | NO Action | % Inflow | TRFE | Max Flow | E. Cond. | Cum 400K | Cum. 600K | NTE |
| **01-Oct** | 15.4 | 15.2 | 15.7 | 14.8 | 15.4 | 15.1 | 14.9 | 14.9 | 19.0 |
| **08-Oct** | 12.2 | 12.1 | 12.5 | 11.9 | 12.4 | 12.0 | 12.0 | 12.1 | 19.0 |
| **15-Oct** | 10.4 | 10.4 | 10.6 | 10.4 | 10.6 | 10.3 | 10.5 | 10.5 | 19.0 |
| **22-Oct** | 8.9 | 8.9 | 9.0 | 8.9 | 9.1 | 8.9 | 9.0 | 9.1 | 19.0 |
| **29-Oct** | 8.2 | 8.3 | 8.3 | 8.3 | 8.4 | 8.2 | 8.3 | 8.4 | 19.0 |
| **05-Nov** | 6.6 | 6.8 | 6.6 | 6.7 | 6.8 | 6.7 | 6.8 | 6.9 | 13.0 |
| **12-Nov** | 4.1 | 4.3 | 4.0 | 4.2 | 4.3 | 4.3 | 4.3 | 4.4 | 13.0 |
| **19-Nov** | 3.3 | 3.4 | 3.5 | 3.3 | 3.4 | 3.4 | 3.4 | 3.5 | 13.0 |
| **26-Nov** | 3.3 | 3.4 | 3.3 | 3.3 | 3.4 | 3.4 | 3.4 | 3.4 | 13.0 |
| **03-Dec** | 4.6 | 4.7 | 4.7 | 4.7 | 4.7 | 4.7 | 4.7 | 4.7 | 13.0 |
| **10-Dec** | 2.8 | 3.0 | 3.1 | 2.9 | 2.9 | 3.0 | 3.0 | 3.0 | 13.0 |
| **17-Dec** | 3.1 | 3.3 | 3.3 | 3.2 | 3.2 | 3.3 | 3.3 | 3.3 | 13.0 |
| **24-Dec** | 3.2 | 3.3 | 3.2 | 3.3 | 3.2 | 3.3 | 3.3 | 3.3 | 13.0 |
| **31-Dec** | 5.3 | 5.4 | 5.3 | 5.3 | 5.3 | 5.4 | 5.4 | 5.4 | 13.0 |
| **07-Jan** | 4.3 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 4.4 | 13.0 |
| **14-Jan** | 4.7 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 13.0 |
| **21-Jan** | 4.7 | 4.7 | 4.7 | 4.7 | 4.7 | 4.7 | 4.7 | 4.7 | 13.0 |
| **28-Jan** | 5.7 | 5.7 | 5.7 | 5.7 | 5.9 | 5.7 | 5.7 | 5.7 | 13.0 |
| **04-Feb** | 5.6 | 5.7 | 5.7 | 5.6 | 5.9 | 5.6 | 5.6 | 5.6 | 13.0 |
| **11-Feb** | 5.6 | 5.6 | 5.6 | 5.6 | 5.8 | 5.6 | 5.6 | 5.6 | 13.0 |
| **18-Feb** | 6.5 | 6.5 | 6.5 | 6.5 | 6.6 | 6.5 | 6.5 | 6.5 | 13.0 |
| **25-Feb** | 8.3 | 8.3 | 8.3 | 8.3 | 8.4 | 8.3 | 8.3 | 8.3 | 13.0 |
| **04-Mar** | 7.1 | 7.1 | 7.3 | 7.1 | 7.3 | 7.1 | 7.1 | 7.1 | 13.0 |
| **11-Mar** | 6.9 | 6.9 | 6.9 | 6.9 | 7.0 | 6.9 | 6.9 | 6.9 | 13.0 |
| **18-Mar** | 8.7 | 8.7 | 8.7 | 8.7 | 8.6 | 8.7 | 8.7 | 8.7 | 13.0 |
| **25-Mar** | 10.0 | 10.0 | 10.0 | 10.0 | 9.7 | 10.0 | 10.0 | 10.0 | 13.0 |
| **01-Apr** | 10.5 | 10.5 | 10.3 | 10.5 | 9.9 | 10.5 | 10.5 | 10.5 | 13.0 |
| **08-Apr** | 11.5 | 11.4 | 11.0 | 11.4 | 10.3 | 11.4 | 11.4 | 11.4 | 13.0 |
| **15-Apr** | 11.6 | 11.5 | 11.0 | 11.5 | 10.1 | 11.5 | 11.5 | 11.5 | 13.0 |
| **22-Apr** | 12.8 | 12.7 | 11.9 | 12.7 | 10.5 | 12.8 | 12.6 | 12.7 | 13.0 |
| **29-Apr** | 11.6 | 11.6 | 10.6 | 10.9 | 9.6 | 11.6 | 10.7 | 10.8 | 13.0 |
| **06-May** | **13.7** | **13.5** | 11.9 | 11.6 | 10.3 | **13.5** | 11.6 | 11.6 | 13.0 |
| **13-May** | **16.1** | **14.8** | **13.1** | 11.2 | 10.9 | **14.8** | 11.2 | 11.2 | 13.0 |
| **20-May** | **18.4** | 12.0 | 13.6 | 10.9 | 11.1 | 12.0 | 10.9 | 10.9 | 15.0 |
| **27-May** | **22.2** | **18.0** | **16.0** | 13.1 | 14.1 | **18.0** | 13.0 | 13.0 | 15.0 |
| **03-Jun** | **20.8** | **18.4** | 15.7 | 14.0 | 13.9 | **18.4** | 13.9 | 13.9 | 17.0 |
| **10-Jun** | **22.6** | **20.6** | **17.5** | 16.3 | 15.7 | **20.6** | 16.1 | 16.2 | 17.0 |
| **17-Jun** | **22.1** | **21.0** | **17.7** | 15.8 | 15.5 | **21.0** | 15.6 | 15.7 | 17.0 |
| **24-Jun** | **23.9** | **23.3** | **20.0** | 16.6 | **17.1** | **23.3** | 16.5 | 16.5 | 17.0 |
| **01-Jul** | **24.3** | **22.8** | **21.9** | 16.3 | **17.5** | **22.8** | 16.5 | 16.5 | 17.0 |
| **08-Jul** | **24.6** | **23.4** | **23.6** | 17.6 | 17.6 | **23.4** | 17.8 | 17.8 | 22.1 |
| **15-Jul** | **24.9** | **23.7** | **24.6** | 21.9 | 18.1 | **23.7** | 22.0 | 22.0 | 22.1 |
| **22-Jul** | **25.2** | **24.1** | **25.2** | **24.1** | 21.6 | **24.1** | **24.2** | **24.2** | 22.1 |
| **29-Jul** | **25.0** | **23.4** | **25.0** | **23.4** | 21.6 | **23.4** | **23.5** | **23.5** | 22.1 |
| **05-Aug** | **25.2** | **23.8** | **25.3** | **23.9** | **22.3** | **23.8** | **24.1** | **24.0** | 22.1 |
| **12-Aug** | **24.3** | **22.9** | **24.2** | **23.0** | 21.9 | **22.9** | **23.2** | **23.1** | 22.1 |
| **19-Aug** | 22.1 | 20.8 | 22.1 | 20.8 | 20.4 | 20.8 | 21.1 | 20.9 | 22.1 |
| **26-Aug** | 20.5 | 19.0 | 20.4 | 19.0 | 18.7 | 19.0 | 19.3 | 19.1 | 22.1 |
| **02-Sep** | **23.0** | 21.3 | 23.2 | 21.2 | 20.7 | 21.3 | 21.5 | 21.3 | 22.1 |
| **09-Sep** | 17.4 | 16.5 | 17.5 | 16.3 | 16.3 | 16.5 | 16.6 | 16.4 | 22.1 |
| **16-Sep** | 13.6 | 13.0 | 13.7 | 12.7 | 13.6 | 13.0 | 13.1 | 12.9 | 19.0 |
| **23-Sep** | 13.1 | 12.5 | 13.2 | 12.4 | 13.1 | 12.5 | 12.6 | 12.5 | 19.0 |
| **Non-Compliant** | 16 | 14 | 12 | 4 | 3 | 14 | 4 | 4 | |

a - based on Draft Standards of the Water Quality Control Plan of the Hoopa Valley Tribal Environmental Protection Agency, June 2000. NTE = Not to Exceed

Table J. Predicted water temperatures of the Trinity River at Weitchpec (RM 0.0) for an **EXTREMELY WET** year (1983).
SNTEMP utilized dam release water temperatures predicted by the BETTER model that used PROSIM 99 output.
Bolded values represent times that the draft Hoopa Valley Tribe water temperature objectives would not be met.

| | Predicted Water Temperatures of the Trinity River at Weitchpec - 1983 | | | | | | | | HVTEPA[a] |
|---|---|---|---|---|---|---|---|---|---|
| | Alternatives | | | | | | | | Criteria |
| Date | State Permit | NO Action | % Inflow | TRFE | Max Flow | E. Cond. | Cum 400K | Cum. 600K | NTE |
| **01-Oct** | 12.3 | 12.1 | 12.3 | 12.1 | 12.7 | 12.1 | 12.1 | 12.1 | 19.0 |
| **08-Oct** | 12.8 | 12.4 | 12.8 | 12.4 | 13.1 | 12.4 | 12.4 | 12.4 | 19.0 |
| **15-Oct** | 11.2 | 10.8 | 10.9 | 11.0 | 11.5 | 10.8 | 11.2 | 11.0 | 19.0 |
| **22-Oct** | 9.8 | 9.5 | 9.6 | 9.6 | 10.1 | 9.5 | 9.7 | 9.6 | 19.0 |
| **29-Oct** | 7.5 | 7.3 | 7.3 | 7.5 | 7.9 | 7.4 | 7.5 | 7.5 | 19.0 |
| **05-Nov** | 6.9 | 6.8 | 6.9 | 6.9 | 7.0 | 6.8 | 6.9 | 6.9 | 13.0 |
| **12-Nov** | 6.1 | 6.0 | 6.0 | 6.0 | 6.1 | 6.0 | 6.0 | 6.0 | 13.0 |
| **19-Nov** | 6.2 | 6.1 | 6.2 | 6.2 | 6.2 | 6.1 | 6.2 | 6.2 | 13.0 |
| **26-Nov** | 5.7 | 5.6 | 5.7 | 5.6 | 5.7 | 5.6 | 5.6 | 5.6 | 13.0 |
| **03-Dec** | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.6 | 13.0 |
| **10-Dec** | 5.6 | 5.6 | 5.7 | 5.6 | 5.7 | 5.6 | 5.6 | 5.6 | 13.0 |
| **17-Dec** | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 13.0 |
| **24-Dec** | 5.3 | 5.3 | 5.4 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 13.0 |
| **31-Dec** | 5.0 | 5.0 | 5.1 | 5.0 | 5.1 | 5.0 | 5.0 | 5.0 | 13.0 |
| **07-Jan** | 5.0 | 5.0 | 5.2 | 5.0 | 5.5 | 5.0 | 5.0 | 5.0 | 13.0 |
| **14-Jan** | 4.9 | 4.9 | 5.2 | 4.9 | 5.4 | 4.9 | 4.9 | 4.9 | 13.0 |
| **21-Jan** | 5.3 | 5.4 | 5.6 | 5.4 | 5.7 | 5.4 | 5.4 | 5.4 | 13.0 |
| **28-Jan** | 5.5 | 5.5 | 5.8 | 5.5 | 5.8 | 5.5 | 5.5 | 5.5 | 13.0 |
| **04-Feb** | 4.6 | 4.7 | 5.1 | 4.7 | 5.3 | 4.7 | 4.7 | 4.7 | 13.0 |
| **11-Feb** | 6.0 | 6.0 | 6.1 | 6.0 | 6.1 | 6.0 | 6.0 | 6.0 | 13.0 |
| **18-Feb** | 6.5 | 6.5 | 6.6 | 6.5 | 6.6 | 6.5 | 6.5 | 6.5 | 13.0 |
| **25-Feb** | 6.6 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 13.0 |
| **04-Mar** | 7.5 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 13.0 |
| **11-Mar** | 7.5 | 7.4 | 7.5 | 7.4 | 7.5 | 7.4 | 7.4 | 7.4 | 13.0 |
| **18-Mar** | 7.8 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 | 13.0 |
| **25-Mar** | 7.9 | 7.8 | 7.9 | 7.8 | 7.9 | 7.8 | 7.8 | 7.8 | 13.0 |
| **01-Apr** | 10.3 | 10.2 | 9.7 | 10.2 | 9.3 | 10.2 | 10.2 | 10.2 | 13.0 |
| **08-Apr** | 10.1 | 10.0 | 9.7 | 10.0 | 9.0 | 10.0 | 10.0 | 10.0 | 13.0 |
| **15-Apr** | 10.8 | 10.8 | 10.4 | 10.8 | 9.3 | 10.8 | 10.8 | 10.8 | 13.0 |
| **22-Apr** | 10.5 | 10.5 | 10.0 | 10.4 | 8.7 | 10.5 | 10.4 | 10.4 | 13.0 |
| **29-Apr** | 10.6 | 10.9 | 10.7 | 11.1 | 9.5 | 10.9 | 11.1 | 11.1 | 13.0 |
| **06-May** | 10.4 | 10.8 | 10.7 | 11.1 | 9.7 | 10.8 | 11.1 | 11.1 | 13.0 |
| **13-May** | 11.9 | 12.2 | 12.2 | 13.0 | 10.7 | 12.2 | 13.0 | 13.0 | 13.0 |
| **20-May** | **13.1** | 11.8 | **13.5** | 11.6 | 10.3 | 11.8 | 11.6 | 11.6 | 13.0 |
| **27-May** | 12.6 | 12.7 | 12.5 | 10.7 | 12.7 | 12.7 | 10.7 | 10.7 | 15.0 |
| **03-Jun** | 12.3 | 12.3 | 12.0 | 11.6 | 14.1 | 12.3 | 11.6 | 11.6 | 15.0 |
| **10-Jun** | 11.7 | 11.8 | 11.7 | 11.6 | 14.3 | 11.8 | 11.6 | 11.6 | 17.0 |
| **17-Jun** | 12.2 | 12.4 | 12.5 | 13.0 | 16.1 | 12.4 | 13.0 | 13.0 | 17.0 |
| **24-Jun** | 12.4 | 12.6 | 12.9 | 14.3 | **17.1** | 12.6 | 14.3 | 14.3 | 17.0 |
| **01-Jul** | 13.7 | 13.8 | 13.3 | 13.0 | **17.9** | 13.8 | 13.0 | 13.0 | 17.0 |
| **08-Jul** | 13.9 | 14.0 | 13.8 | 13.5 | **18.3** | 14.0 | 13.6 | 13.5 | 17.0 |
| **15-Jul** | 13.4 | 13.5 | 13.6 | 13.9 | 18.1 | 13.5 | 13.9 | 13.9 | 22.1 |
| **22-Jul** | 13.9 | 14.0 | 14.3 | 14.7 | 19.9 | 14.0 | 14.7 | 14.7 | 22.1 |
| **29-Jul** | 17.7 | 17.3 | 17.8 | 18.1 | 22.6 | 17.3 | 18.1 | 18.1 | 22.1 |
| **05-Aug** | **23.4** | 22.1 | **22.8** | 22.1 | **22.9** | 22.1 | 22.1 | 22.1 | 22.1 |
| **12-Aug** | **22.7** | 21.4 | **22.4** | 21.4 | **22.2** | 21.4 | 21.4 | 21.4 | 22.1 |
| **19-Aug** | 18.6 | 17.6 | 18.5 | 17.6 | 18.5 | 17.6 | 17.6 | 17.6 | 22.1 |
| **26-Aug** | 18.2 | 17.2 | 18.1 | 17.2 | 18.1 | 17.2 | 17.2 | 17.2 | 22.1 |
| **02-Sep** | 19.6 | 18.5 | 19.6 | 18.5 | 19.3 | 18.5 | 18.4 | 18.5 | 22.1 |
| **09-Sep** | 19.2 | 18.1 | 19.2 | 18.1 | 19.1 | 18.1 | 18.1 | 18.1 | 22.1 |
| **16-Sep** | 17.9 | 16.9 | 17.8 | 16.9 | 17.8 | 16.9 | 16.9 | 16.9 | 19.0 |
| **23-Sep** | 15.6 | 15.0 | 15.7 | 15.0 | 15.8 | 15.0 | 15.0 | 15.0 | 19.0 |
| **Non-Compliant** | 3 | 0 | 3 | 0 | 5 | 0 | 0 | 0 | |

a - based on Draft Standards of the Water Quality Control Plan of the Hoopa Valley Tribal Environmental Protection Agency, June 2000. NTE = Not to Exceed

# Revised CVRWQXB 1998 Clean Water Act Section 303(d) List



**Old River @ Rock Slough (106)**
**Existing Conditions**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 225 | 221 | 199 | 313 | 520 | 513 | 430 | 379 | 377 | 337 | 456 | 479 | 4,449 |
| 1977 | 561 | 675 | 661 | 623 | 1072 | 789 | 557 | 506 | 521 | 594 | 681 | 790 | 8,230 |
| 1978 | 782 | 679 | 519 | 320 | 283 | 357 | 341 | 245 | 210 | 207 | 223 | 270 | 4,436 |
| 1979 | 309 | 492 | 488 | 411 | 320 | 264 | 222 | 212 | 212 | 205 | 255 | 341 | 3,731 |
| 1980 | 448 | 464 | 315 | 234 | 238 | 238 | 219 | 234 | 214 | 205 | 214 | 278 | 3,301 |
| 1981 | 342 | 429 | 344 | 246 | 253 | 225 | 223 | 240 | 273 | 315 | 377 | 438 | 3,705 |
| 1982 | 498 | 506 | 225 | 262 | 229 | 287 | 209 | 215 | 211 | 192 | 187 | 189 | 3,210 |
| 1983 | 197 | 241 | 261 | 258 | 191 | 195 | 180 | 180 | 202 | 218 | 205 | 206 | 2,534 |
| 1984 | 205 | 210 | 189 | 204 | 257 | 232 | 204 | 211 | 230 | 206 | 222 | 287 | 2,657 |
| 1985 | 445 | 523 | 229 | 258 | 474 | 315 | 256 | 277 | 256 | 299 | 375 | 447 | 4,154 |
| 1986 | 500 | 511 | 400 | 415 | 339 | 249 | 217 | 234 | 236 | 243 | 226 | 297 | 3,867 |
| 1987 | 457 | 620 | 590 | 840 | 836 | 421 | 291 | 271 | 282 | 315 | 413 | 518 | 5,854 |
| 1988 | 493 | 443 | 384 | 462 | 325 | 276 | 356 | 422 | 400 | 334 | 526 | 685 | 5,106 |
| 1989 | 654 | 564 | 506 | 753 | 930 | 401 | 208 | 211 | 257 | 297 | 384 | 450 | 5,617 |
| 1990 | 479 | 628 | 620 | 1096 | 965 | 447 | 375 | 356 | 307 | 318 | 488 | 642 | 6,721 |
| 76 - 90 AVG | 440 | 480 | 395 | 480 | 482 | 347 | 286 | 280 | 279 | 286 | 349 | 421 | 4,505 |

**Old River @ Rock Slough (106)**
**Existing Conditions**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 99 | 74 | 65 | 196 | 434 | 431 | 324 | 258 | 254 | 227 | 384 | 417 | 3,161 |
| 1977 | 472 | 584 | 583 | 806 | 1104 | 764 | 472 | 390 | 413 | 513 | 635 | 780 | 7,516 |
| 1978 | 736 | 555 | 410 | 154 | 95 | 125 | 116 | 78 | 69 | 76 | 101 | 143 | 2,658 |
| 1979 | 193 | 403 | 410 | 282 | 126 | 87 | 69 | 74 | 84 | 78 | 143 | 250 | 2,197 |
| 1980 | 371 | 387 | 213 | 85 | 71 | 67 | 63 | 76 | 74 | 74 | 92 | 154 | 1,727 |
| 1981 | 227 | 320 | 239 | 104 | 83 | 67 | 70 | 91 | 151 | 214 | 291 | 368 | 2,225 |
| 1982 | 420 | 434 | 102 | 92 | 71 | 94 | 49 | 59 | 65 | 59 | 62 | 61 | 1,568 |
| 1983 | 61 | 88 | 96 | 85 | 49 | 52 | 41 | 40 | 56 | 67 | 63 | 65 | 763 |
| 1984 | 68 | 56 | 53 | 50 | 76 | 69 | 59 | 77 | 107 | 81 | 104 | 185 | 985 |
| 1985 | 373 | 455 | 105 | 134 | 381 | 184 | 112 | 143 | 132 | 194 | 288 | 378 | 2,879 |
| 1986 | 421 | 418 | 304 | 312 | 147 | 76 | 64 | 74 | 84 | 95 | 99 | 191 | 2,285 |
| 1987 | 376 | 550 | 538 | 839 | 816 | 307 | 140 | 118 | 159 | 213 | 333 | 463 | 4,852 |
| 1988 | 418 | 321 | 281 | 373 | 194 | 138 | 240 | 328 | 306 | 232 | 465 | 663 | 3,959 |
| 1989 | 596 | 486 | 427 | 728 | 922 | 297 | 78 | 85 | 144 | 193 | 298 | 384 | 4,818 |
| 1990 | 407 | 555 | 554 | 1147 | 973 | 340 | 268 | 255 | 199 | 216 | 422 | 612 | 5,948 |
| 76 - 90 AVG | 349 | 378 | 292 | 359 | 369 | 207 | 144 | 143 | 153 | 169 | 252 | 341 | 3,156 |

**Old River @ Rock Slough (106)**
**Existing Conditions**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2653 | 2736 | 3043 | 3829 | 4224 | 4139 | 3871 | 3785 | 4096 | 3658 | 3294 | 2969 | 42,297 |
| 1977 | 3116 | 3234 | 3304 | 3797 | 4089 | 4212 | 4125 | 4209 | 4308 | 4391 | 4199 | 3721 | 46,705 |
| 1978 | 3614 | 3513 | 3706 | 5688 | 6109 | 7078 | 6347 | 4059 | 3280 | 3396 | 3353 | 3100 | 53,245 |
| 1979 | 2919 | 2816 | 3044 | 4694 | 6172 | 5352 | 3810 | 3201 | 3253 | 3330 | 3217 | 2979 | 44,787 |
| 1980 | 2810 | 2685 | 3117 | 4552 | 6791 | 6072 | 4366 | 3504 | 3261 | 3296 | 3239 | 3111 | 46,804 |
| 1981 | 2981 | 2927 | 3095 | 4077 | 4911 | 4607 | 3971 | 3618 | 3414 | 3162 | 3137 | 2921 | 42,821 |
| 1982 | 2898 | 2887 | 3440 | 5293 | 5543 | 6555 | 4893 | 4305 | 3345 | 3207 | 3085 | 2921 | 46,372 |
| 1983 | 2934 | 3841 | 5342 | 5913 | 6193 | 5067 | 4828 | 3527 | 4318 | 4139 | 3442 | 3191 | 52,535 |
| 1984 | 3128 | 3363 | 4213 | 4793 | 5839 | 4738 | 3368 | 3078 | 3299 | 3289 | 3183 | 2939 | 45,010 |
| 1985 | 2718 | 2954 | 3447 | 3731 | 4220 | 4486 | 3996 | 3582 | 3409 | 3165 | 3160 | 2947 | 41,815 |
| 1986 | 2942 | 2981 | 3374 | 4090 | 7424 | 6124 | 4365 | 3674 | 3486 | 3811 | 3500 | 3021 | 48,792 |
| 1987 | 2852 | 2882 | 3036 | 3553 | 4228 | 4474 | 4418 | 4038 | 3509 | 3213 | 3262 | 3041 | 42,506 |
| 1988 | 2971 | 3040 | 3253 | 3885 | 4389 | 4481 | 3792 | 3317 | 3443 | 3380 | 3480 | 3217 | 42,648 |
| 1989 | 3298 | 3171 | 3184 | 3764 | 4378 | 3964 | 3100 | 2918 | 3112 | 3115 | 3209 | 2917 | 40,130 |
| 1990 | 2835 | 2971 | 3212 | 3519 | 4098 | 4593 | 3559 | 3090 | 3285 | 3257 | 3361 | 3147 | 40,927 |
| 76 - 90 AVG | 2,978 | 3,067 | 3,454 | 4,345 | 5,227 | 5,063 | 4,174 | 3,594 | 3,521 | 3,454 | 3,340 | 3,076 | 45,293 |

**Old River @ Rock Slough (106)**
**No-Action Alternative**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 239 | 223 | 265 | 638 | 843 | 607 | 446 | 390 | 398 | 319 | 405 | 516 | 4,449 |
| 1977 | 621 | 739 | 738 | 948 | 1148 | 812 | 578 | 518 | 574 | 639 | 702 | 814 | 8,230 |
| 1978 | 836 | 728 | 498 | 318 | 357 | 369 | 258 | 217 | 208 | 216 | 226 | 316 | 4,436 |
| 1979 | 426 | 546 | 494 | 441 | 304 | 238 | 208 | 208 | 204 | 208 | 303 | 380 | 3,731 |
| 1980 | 434 | 426 | 282 | 317 | 385 | 217 | 187 | 218 | 215 | 209 | 219 | 315 | 3,301 |
| 1981 | 427 | 538 | 544 | 455 | 266 | 206 | 200 | 249 | 289 | 314 | 406 | 490 | 3,705 |
| 1982 | 533 | 492 | 221 | 292 | 256 | 316 | 225 | 201 | 202 | 190 | 195 | 195 | 3,210 |
| 1983 | 186 | 231 | 276 | 265 | 160 | 145 | 141 | 178 | 202 | 201 | 195 | 192 | 2,534 |
| 1984 | 190 | 284 | 209 | 201 | 230 | 206 | 199 | 214 | 219 | 212 | 248 | 304 | 2,657 |
| 1985 | 428 | 548 | 274 | 320 | 572 | 391 | 286 | 313 | 291 | 303 | 399 | 514 | 4,154 |
| 1986 | 532 | 508 | 401 | 420 | 594 | 297 | 188 | 217 | 234 | 228 | 219 | 284 | 3,867 |
| 1987 | 429 | 607 | 599 | 946 | 880 | 416 | 274 | 259 | 280 | 306 | 400 | 592 | 5,854 |
| 1988 | 677 | 540 | 461 | 512 | 370 | 289 | 347 | 385 | 405 | 335 | 502 | 713 | 5,106 |
| 1989 | 756 | 609 | 511 | 767 | 947 | 395 | 205 | 204 | 227 | 275 | 386 | 449 | 5,617 |
| 1990 | 497 | 651 | 664 | 1086 | 888 | 438 | 390 | 395 | 331 | 325 | 462 | 612 | 6,721 |
| 76 - 90 AVG | 481 | 511 | 429 | 528 | 547 | 356 | 275 | 278 | 285 | 285 | 351 | 446 | 4,505 |

**Old River @ Rock Slough (106)**
**No-Action Alternative**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 112 | 82 | 152 | 591 | 826 | 543 | 344 | 275 | 283 | 208 | 323 | 459 | 3,161 |
| 1977 | 529 | 651 | 672 | 954 | 1196 | 793 | 492 | 414 | 478 | 561 | 654 | 799 | 7,516 |
| 1978 | 773 | 589 | 385 | 152 | 133 | 135 | 79 | 64 | 67 | 81 | 105 | 191 | 2,658 |
| 1979 | 325 | 460 | 425 | 323 | 125 | 75 | 62 | 72 | 81 | 88 | 204 | 297 | 2,197 |
| 1980 | 354 | 341 | 173 | 124 | 141 | 66 | 50 | 69 | 74 | 77 | 98 | 197 | 1,727 |
| 1981 | 332 | 454 | 486 | 369 | 130 | 65 | 61 | 118 | 173 | 210 | 324 | 428 | 2,225 |
| 1982 | 460 | 414 | 96 | 107 | 83 | 108 | 62 | 53 | 60 | 59 | 71 | 66 | 1,568 |
| 1983 | 55 | 80 | 102 | 91 | 50 | 53 | 42 | 42 | 58 | 60 | 58 | 57 | 763 |
| 1984 | 60 | 97 | 57 | 54 | 66 | 57 | 56 | 73 | 92 | 91 | 137 | 205 | 985 |
| 1985 | 354 | 480 | 156 | 210 | 501 | 271 | 148 | 200 | 182 | 198 | 315 | 456 | 2,879 |
| 1986 | 452 | 408 | 305 | 318 | 286 | 110 | 57 | 68 | 82 | 86 | 97 | 179 | 2,285 |
| 1987 | 341 | 528 | 549 | 969 | 870 | 302 | 127 | 112 | 158 | 198 | 313 | 544 | 4,852 |
| 1988 | 616 | 423 | 374 | 434 | 236 | 142 | 220 | 272 | 296 | 226 | 435 | 694 | 3,959 |
| 1989 | 724 | 530 | 434 | 745 | 941 | 290 | 75 | 74 | 106 | 166 | 302 | 380 | 4,618 |
| 1990 | 429 | 585 | 602 | 1134 | 883 | 332 | 288 | 305 | 231 | 225 | 391 | 573 | 5,948 |
| 76 - 90 AVG | 394 | 408 | 331 | 438 | 431 | 223 | 144 | 147 | 161 | 169 | 255 | 368 | 3,156 |

**Old River @ Rock Slough (106)**
**No-Action Alternative**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2659 | 2874 | 2970 | 3723 | 4150 | 4158 | 3843 | 3686 | 4086 | 3572 | 3302 | 3025 | 42,297 |
| 1977 | 3123 | 3203 | 3322 | 3811 | 4073 | 4202 | 4232 | 4073 | 4321 | 4532 | 4384 | 3895 | 46,705 |
| 1978 | 3916 | 3661 | 3894 | 5675 | 7072 | 6664 | 4987 | 3731 | 3305 | 3571 | 3250 | 3094 | 53,245 |
| 1979 | 3073 | 2888 | 2994 | 4522 | 5786 | 4855 | 3632 | 3190 | 3009 | 3024 | 3029 | 2869 | 44,787 |
| 1980 | 2765 | 2676 | 3120 | 4494 | 7952 | 5619 | 3874 | 3387 | 3278 | 3365 | 3232 | 3101 | 46,804 |
| 1981 | 2976 | 2907 | 3031 | 3700 | 4154 | 3982 | 3415 | 3337 | 3391 | 3268 | 3270 | 2991 | 42,821 |
| 1982 | 2928 | 2893 | 3443 | 5270 | 5460 | 6829 | 5259 | 4111 | 3376 | 3212 | 3100 | 2930 | 48,372 |
| 1983 | 2740 | 3421 | 5271 | 6146 | 6242 | 5128 | 4665 | 3600 | 4340 | 4031 | 3415 | 3085 | 52,535 |
| 1984 | 2958 | 3373 | 4265 | 4914 | 5371 | 4396 | 3341 | 3218 | 3206 | 3092 | 3043 | 2888 | 45,010 |
| 1985 | 2699 | 2960 | 3420 | 3654 | 4099 | 4638 | 3987 | 3241 | 3220 | 3193 | 3329 | 3096 | 41,815 |
| 1986 | 3055 | 3025 | 3366 | 4063 | 8091 | 6640 | 4362 | 3680 | 3528 | 3669 | 3237 | 2902 | 48,792 |
| 1987 | 2827 | 2884 | 3026 | 3484 | 4175 | 4478 | 4153 | 3811 | 3506 | 3360 | 3509 | 3315 | 42,506 |
| 1988 | 3344 | 3203 | 3249 | 3875 | 4737 | 4769 | 4019 | 3604 | 3817 | 3576 | 3539 | 3289 | 42,648 |
| 1989 | 3321 | 3115 | 3141 | 3737 | 4394 | 3977 | 3081 | 3010 | 3129 | 3093 | 3190 | 2928 | 40,130 |
| 1990 | 2842 | 2950 | 3210 | 3517 | 4045 | 4508 | 3475 | 2972 | 3157 | 3186 | 3307 | 3157 | 40,927 |
| 76 - 90 AVG | 3,015 | 3,056 | 3,435 | 4,306 | 5,320 | 4,990 | 4,022 | 3,510 | 3,511 | 3,450 | 3,342 | 3,104 | 45,293 |

Main TOC
Next Page

**Old River @ Rock Slough (106)**
**State Permit**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 226 | 214 | 261 | 634 | 834 | 599 | 439 | 388 | 378 | 307 | 395 | 533 | 5,208 |
| 1977 | 630 | 804 | 778 | 887 | 1068 | 811 | 570 | 509 | 562 | 629 | 698 | 817 | 8,763 |
| 1978 | 831 | 703 | 538 | 323 | 341 | 332 | 255 | 227 | 210 | 211 | 222 | 303 | 4,496 |
| 1979 | 433 | 549 | 481 | 427 | 295 | 234 | 210 | 211 | 203 | 206 | 304 | 382 | 3,935 |
| 1980 | 429 | 404 | 266 | 226 | 350 | 230 | 202 | 227 | 216 | 208 | 222 | 319 | 3,299 |
| 1981 | 422 | 476 | 465 | 429 | 258 | 209 | 202 | 254 | 291 | 311 | 404 | 479 | 4,200 |
| 1982 | 512 | 463 | 215 | 261 | 227 | 301 | 223 | 210 | 212 | 192 | 194 | 192 | 3,202 |
| 1983 | 181 | 211 | 258 | 261 | 193 | 198 | 181 | 182 | 203 | 214 | 204 | 195 | 2,481 |
| 1984 | 191 | 207 | 192 | 211 | 243 | 215 | 204 | 217 | 220 | 212 | 248 | 306 | 2,666 |
| 1985 | 432 | 523 | 264 | 295 | 531 | 381 | 277 | 294 | 266 | 295 | 404 | 520 | 4,482 |
| 1986 | 531 | 526 | 398 | 407 | 416 | 288 | 221 | 237 | 240 | 238 | 222 | 286 | 4,010 |
| 1987 | 425 | 596 | 592 | 934 | 868 | 412 | 271 | 256 | 281 | 307 | 404 | 595 | 5,941 |
| 1988 | 706 | 612 | 525 | 525 | 369 | 288 | 350 | 395 | 384 | 308 | 447 | 642 | 5,551 |
| 1989 | 683 | 600 | 513 | 765 | 949 | 412 | 208 | 205 | 226 | 282 | 413 | 494 | 5,750 |
| 1990 | 494 | 644 | 654 | 1063 | 843 | 417 | 367 | 360 | 313 | 322 | 445 | 615 | 6,537 |
| 76 - 90 AVG | 475 | 502 | 427 | 510 | 519 | 355 | 279 | 278 | 280 | 283 | 348 | 445 | 4,701 |

**Old River @ Rock Slough (106)**
**State Permit**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 100 | 76 | 148 | 587 | 815 | 534 | 338 | 276 | 268 | 199 | 311 | 480 | 4,132 |
| 1977 | 561 | 751 | 725 | 877 | 1095 | 790 | 488 | 409 | 468 | 553 | 651 | 803 | 8,169 |
| 1978 | 776 | 584 | 441 | 159 | 125 | 116 | 78 | 69 | 69 | 77 | 102 | 183 | 2,779 |
| 1979 | 334 | 468 | 409 | 309 | 120 | 73 | 63 | 74 | 79 | 84 | 204 | 300 | 2,517 |
| 1980 | 350 | 315 | 154 | 74 | 125 | 69 | 56 | 73 | 75 | 76 | 102 | 204 | 1,673 |
| 1981 | 330 | 378 | 390 | 339 | 121 | 65 | 62 | 124 | 174 | 204 | 320 | 414 | 2,921 |
| 1982 | 434 | 380 | 89 | 91 | 69 | 102 | 56 | 56 | 65 | 60 | 71 | 64 | 1,537 |
| 1983 | 52 | 70 | 95 | 87 | 50 | 53 | 42 | 42 | 58 | 65 | 62 | 59 | 735 |
| 1984 | 60 | 56 | 55 | 54 | 70 | 62 | 59 | 75 | 93 | 91 | 137 | 206 | 1,016 |
| 1985 | 360 | 454 | 145 | 179 | 451 | 260 | 139 | 174 | 150 | 189 | 320 | 462 | 3,283 |
| 1986 | 453 | 434 | 304 | 303 | 194 | 96 | 66 | 75 | 85 | 91 | 99 | 180 | 2,380 |
| 1987 | 337 | 520 | 542 | 954 | 855 | 296 | 124 | 111 | 160 | 201 | 318 | 548 | 4,966 |
| 1988 | 656 | 523 | 456 | 450 | 233 | 140 | 227 | 287 | 282 | 203 | 371 | 610 | 4,438 |
| 1989 | 639 | 524 | 440 | 743 | 948 | 312 | 78 | 74 | 104 | 174 | 332 | 435 | 4,803 |
| 1990 | 428 | 583 | 597 | 1106 | 827 | 305 | 260 | 260 | 209 | 222 | 371 | 577 | 5,745 |
| 76 - 90 AVG | 391 | 406 | 333 | 421 | 407 | 218 | 142 | 145 | 156 | 166 | 251 | 368 | 3,406 |

**Old River @ Rock Slough (106)**
**State Permit**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2655 | 2674 | 2968 | 3718 | 4146 | 4159 | 3760 | 3593 | 3859 | 3420 | 3284 | 3051 | 41,287 |
| 1977 | 3078 | 3121 | 3284 | 3895 | 4199 | 4225 | 4128 | 3953 | 4241 | 4459 | 4354 | 3884 | 46,821 |
| 1978 | 3750 | 3520 | 3668 | 5659 | 7084 | 6677 | 4985 | 3730 | 3306 | 3450 | 3202 | 3091 | 52,122 |
| 1979 | 3026 | 2863 | 3006 | 4537 | 5787 | 4851 | 3633 | 3166 | 3002 | 3054 | 3046 | 2868 | 42,839 |
| 1980 | 2725 | 2659 | 3118 | 4490 | 7947 | 5742 | 3905 | 3398 | 3278 | 3336 | 3222 | 3104 | 46,924 |
| 1981 | 2897 | 2881 | 3037 | 3698 | 4148 | 4141 | 3486 | 3331 | 3410 | 3356 | 3357 | 3013 | 40,755 |
| 1982 | 2937 | 2893 | 3439 | 5270 | 5474 | 6748 | 5095 | 4100 | 3371 | 3212 | 3100 | 2925 | 48,564 |
| 1983 | 2736 | 3421 | 5293 | 5920 | 6208 | 5126 | 4664 | 3600 | 4341 | 4031 | 3415 | 3084 | 51,839 |
| 1984 | 2956 | 3373 | 4265 | 4914 | 5370 | 4403 | 3348 | 3222 | 3208 | 3091 | 3043 | 2888 | 44,081 |
| 1985 | 2654 | 2939 | 3417 | 3713 | 4151 | 4553 | 3915 | 3335 | 3271 | 3207 | 3348 | 3078 | 41,581 |
| 1986 | 3025 | 3011 | 3361 | 4064 | 8096 | 6641 | 4442 | 3713 | 3529 | 3768 | 3277 | 2905 | 49,832 |
| 1987 | 2827 | 2881 | 3025 | 3485 | 4176 | 4478 | 4111 | 3748 | 3479 | 3330 | 3485 | 3296 | 42,321 |
| 1988 | 3259 | 3122 | 3221 | 3863 | 4768 | 4786 | 3932 | 3532 | 3523 | 3304 | 3440 | 3262 | 44,012 |
| 1989 | 3261 | 3080 | 3136 | 3734 | 4297 | 3920 | 3081 | 3025 | 3163 | 3125 | 3280 | 2967 | 40,069 |
| 1990 | 2827 | 2908 | 3191 | 3519 | 4072 | 4543 | 3540 | 3066 | 3145 | 3122 | 3299 | 3154 | 40,386 |
| 76 - 90 AVG | 2,974 | 3,023 | 3,429 | 4,299 | 5,328 | 5,000 | 4,002 | 3,501 | 3,475 | 3,418 | 3,343 | 3,105 | 44,896 |

**Old River @ Rock Slough (106)**
**Percent Inflow**
**Electrical Conductivity**
Units are in microsiemens/centimeters

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 225 | 214 | 258 | 608 | 825 | 602 | 443 | 383 | 388 | 317 | 406 | 531 | 5,200 |
| 1977 | 611 | 723 | 738 | 943 | 1132 | 803 | 563 | 511 | 570 | 639 | 706 | 819 | 8,758 |
| 1978 | 838 | 718 | 495 | 318 | 340 | 332 | 256 | 227 | 210 | 229 | 229 | 304 | 4,496 |
| 1979 | 428 | 539 | 495 | 450 | 300 | 233 | 210 | 213 | 205 | 210 | 306 | 380 | 3,969 |
| 1980 | 435 | 430 | 284 | 228 | 351 | 225 | 201 | 226 | 216 | 226 | 226 | 307 | 3,355 |
| 1981 | 446 | 600 | 589 | 543 | 308 | 215 | 202 | 247 | 282 | 311 | 403 | 474 | 4,620 |
| 1982 | 504 | 481 | 220 | 261 | 226 | 304 | 234 | 210 | 212 | 195 | 200 | 197 | 3,244 |
| 1983 | 182 | 211 | 265 | 272 | 194 | 198 | 181 | 182 | 203 | 214 | 204 | 195 | 2,501 |
| 1984 | 191 | 207 | 192 | 211 | 243 | 215 | 204 | 217 | 220 | 212 | 248 | 305 | 2,665 |
| 1985 | 431 | 571 | 250 | 302 | 575 | 390 | 286 | 306 | 281 | 305 | 417 | 526 | 4,640 |
| 1986 | 538 | 518 | 405 | 398 | 406 | 288 | 219 | 235 | 240 | 232 | 220 | 285 | 3,984 |
| 1987 | 423 | 594 | 592 | 935 | 868 | 412 | 287 | 274 | 280 | 300 | 390 | 574 | 5,929 |
| 1988 | 644 | 506 | 418 | 482 | 360 | 286 | 341 | 371 | 396 | 334 | 495 | 708 | 5,341 |
| 1989 | 755 | 614 | 512 | 761 | 936 | 392 | 204 | 204 | 226 | 275 | 388 | 450 | 5,717 |
| 1990 | 495 | 644 | 648 | 1074 | 883 | 439 | 387 | 387 | 322 | 321 | 492 | 669 | 6,761 |
| 76 - 90 AVG | 476 | 505 | 424 | 519 | 530 | 358 | 281 | 280 | 283 | 288 | 356 | 448 | 4,745 |

**Old River @ Rock Slough (106)**
**Percent Inflow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 99 | 76 | 144 | 553 | 803 | 538 | 340 | 265 | 266 | 205 | 324 | 476 | 4,089 |
| 1977 | 532 | 644 | 671 | 946 | 1176 | 782 | 481 | 411 | 476 | 563 | 660 | 805 | 8,147 |
| 1978 | 778 | 585 | 385 | 153 | 124 | 115 | 78 | 69 | 70 | 89 | 107 | 184 | 2,737 |
| 1979 | 325 | 454 | 429 | 337 | 126 | 73 | 63 | 74 | 81 | 89 | 207 | 297 | 2,555 |
| 1980 | 354 | 346 | 176 | 77 | 125 | 66 | 56 | 73 | 75 | 87 | 102 | 189 | 1,726 |
| 1981 | 356 | 531 | 541 | 477 | 182 | 75 | 62 | 112 | 162 | 206 | 321 | 410 | 3,435 |
| 1982 | 427 | 403 | 95 | 91 | 69 | 104 | 62 | 56 | 65 | 62 | 77 | 71 | 1,582 |
| 1983 | 53 | 70 | 101 | 93 | 50 | 53 | 42 | 42 | 58 | 65 | 62 | 59 | 748 |
| 1984 | 60 | 56 | 55 | 54 | 70 | 62 | 59 | 75 | 93 | 91 | 138 | 205 | 1,018 |
| 1985 | 356 | 510 | 129 | 189 | 504 | 268 | 148 | 190 | 170 | 200 | 336 | 468 | 3,468 |
| 1986 | 458 | 421 | 311 | 293 | 182 | 95 | 65 | 75 | 85 | 88 | 99 | 179 | 2,351 |
| 1987 | 335 | 518 | 542 | 955 | 856 | 297 | 135 | 118 | 150 | 186 | 298 | 521 | 4,913 |
| 1988 | 567 | 367 | 320 | 397 | 220 | 137 | 208 | 249 | 280 | 223 | 426 | 688 | 4,082 |
| 1989 | 720 | 535 | 437 | 738 | 928 | 285 | 74 | 74 | 105 | 167 | 304 | 381 | 4,748 |
| 1990 | 427 | 576 | 586 | 1120 | 876 | 334 | 285 | 294 | 217 | 219 | 427 | 642 | 6,003 |
| 76 - 91 AVG | 390 | 406 | 328 | 432 | 419 | 219 | 144 | 145 | 157 | 169 | 259 | 372 | 3,440 |

**Old River @ Rock Slough (106)**
**Percent Inflow**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2655 | 2674 | 2976 | 3755 | 4177 | 4163 | 3844 | 3725 | 4164 | 3589 | 3314 | 3044 | 42,080 |
| 1977 | 3132 | 3206 | 3327 | 3823 | 4084 | 4205 | 4086 | 3964 | 4278 | 4505 | 4373 | 3892 | 46,875 |
| 1978 | 3916 | 3662 | 3694 | 5875 | 7067 | 6666 | 4986 | 3733 | 3313 | 3685 | 3280 | 3095 | 52,772 |
| 1979 | 3073 | 2889 | 2987 | 4533 | 5810 | 4844 | 3619 | 3186 | 3010 | 3024 | 3029 | 2869 | 42,873 |
| 1980 | 2770 | 2680 | 3121 | 4495 | 7945 | 5618 | 3873 | 3388 | 3278 | 3547 | 3295 | 3097 | 47,107 |
| 1981 | 2950 | 2885 | 3024 | 3619 | 4099 | 4036 | 3452 | 3423 | 3431 | 3272 | 3269 | 2978 | 40,438 |
| 1982 | 2910 | 2883 | 3443 | 5271 | 5460 | 6829 | 5258 | 4107 | 3384 | 3258 | 3125 | 2938 | 48,866 |
| 1983 | 2744 | 3424 | 5357 | 6201 | 6242 | 5128 | 4664 | 3600 | 4341 | 4031 | 3415 | 3084 | 52,231 |
| 1984 | 2956 | 3373 | 4265 | 4914 | 5371 | 4400 | 3345 | 3219 | 3206 | 3091 | 3043 | 2888 | 44,071 |
| 1985 | 2708 | 2968 | 3481 | 3637 | 4097 | 4650 | 3993 | 3266 | 3236 | 3220 | 3367 | 3107 | 41,730 |
| 1986 | 3066 | 3041 | 3370 | 4041 | 6078 | 6639 | 4361 | 3680 | 3535 | 3697 | 3248 | 2903 | 49,657 |
| 1987 | 2827 | 2883 | 3026 | 3485 | 4177 | 4481 | 4405 | 4145 | 3685 | 3479 | 3637 | 3379 | 43,609 |
| 1988 | 3422 | 3294 | 3274 | 3877 | 4785 | 4806 | 4143 | 3738 | 3933 | 3643 | 3584 | 3308 | 45,807 |
| 1989 | 3348 | 3145 | 3152 | 3742 | 4406 | 3983 | 3082 | 3010 | 3130 | 3093 | 3190 | 2929 | 40,210 |
| 1990 | 2846 | 2960 | 3217 | 3521 | 4035 | 4492 | 3473 | 3018 | 3244 | 3234 | 3359 | 3188 | 40,587 |
| 76 - 91 AVG | 3,022 | 3,064 | 3,448 | 4,306 | 5,322 | 4,996 | 4,039 | 3,547 | 3,545 | 3,491 | 3,369 | 3,113 | 45,261 |

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**Old River @ Rock Slough (106)**
**Flow Study**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 244 | 217 | 263 | 632 | 833 | 599 | 444 | 385 | 402 | 322 | 417 | 539 | 5,297 |
| 1977 | 569 | 620 | 572 | 713 | 1021 | 773 | 566 | 509 | 559 | 630 | 700 | 821 | 8,053 |
| 1978 | 849 | 730 | 526 | 323 | 330 | 327 | 255 | 227 | 211 | 229 | 229 | 308 | 4,544 |
| 1979 | 432 | 544 | 497 | 450 | 300 | 232 | 208 | 212 | 205 | 206 | 299 | 376 | 3,961 |
| 1980 | 441 | 439 | 286 | 229 | 351 | 225 | 201 | 226 | 216 | 221 | 222 | 308 | 3,365 |
| 1981 | 451 | 607 | 591 | 551 | 316 | 216 | 202 | 247 | 289 | 302 | 377 | 445 | 4,594 |
| 1982 | 500 | 485 | 216 | 261 | 226 | 304 | 233 | 210 | 212 | 196 | 199 | 197 | 3,219 |
| 1983 | 182 | 211 | 265 | 261 | 192 | 198 | 181 | 182 | 203 | 214 | 204 | 195 | 2,488 |
| 1984 | 191 | 207 | 192 | 211 | 243 | 215 | 204 | 217 | 220 | 213 | 248 | 304 | 2,665 |
| 1985 | 428 | 565 | 250 | 299 | 568 | 390 | 286 | 297 | 268 | 289 | 394 | 502 | 4,534 |
| 1986 | 511 | 456 | 374 | 421 | 423 | 289 | 220 | 236 | 240 | 239 | 221 | 287 | 3,917 |
| 1987 | 429 | 597 | 592 | 934 | 868 | 412 | 302 | 294 | 284 | 300 | 388 | 583 | 5,983 |
| 1988 | 649 | 502 | 489 | 525 | 378 | 295 | 322 | 357 | 368 | 313 | 468 | 675 | 5,339 |
| 1989 | 707 | 589 | 509 | 760 | 948 | 413 | 208 | 205 | 238 | 281 | 386 | 471 | 5,713 |
| 1990 | 489 | 642 | 646 | 1054 | 859 | 423 | 343 | 309 | 304 | 306 | 417 | 560 | 6,352 |
| 76 - 90 AVG | 471 | 493 | 418 | 508 | 523 | 354 | 278 | 274 | 281 | 284 | 345 | 438 | 4,668 |

**Old River @ Rock Slough (106)**
**Flow Study**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 122 | 79 | 150 | 583 | 814 | 534 | 339 | 264 | 275 | 208 | 337 | 487 | 4,192 |
| 1977 | 472 | 503 | 476 | 675 | 1042 | 745 | 474 | 401 | 460 | 549 | 652 | 806 | 7,255 |
| 1978 | 790 | 598 | 418 | 158 | 120 | 113 | 78 | 69 | 70 | 89 | 108 | 189 | 2,800 |
| 1979 | 332 | 462 | 431 | 337 | 126 | 72 | 62 | 74 | 81 | 84 | 196 | 292 | 2,551 |
| 1980 | 361 | 357 | 177 | 78 | 125 | 66 | 56 | 73 | 75 | 85 | 99 | 190 | 1,742 |
| 1981 | 363 | 540 | 543 | 487 | 193 | 77 | 62 | 112 | 163 | 188 | 286 | 373 | 3,387 |
| 1982 | 420 | 383 | 91 | 91 | 69 | 105 | 62 | 56 | 65 | 62 | 75 | 70 | 1,549 |
| 1983 | 53 | 70 | 102 | 87 | 50 | 53 | 42 | 42 | 58 | 65 | 62 | 59 | 743 |
| 1984 | 60 | 56 | 55 | 54 | 71 | 62 | 59 | 75 | 93 | 92 | 138 | 205 | 1,020 |
| 1985 | 353 | 504 | 129 | 185 | 498 | 268 | 148 | 178 | 149 | 179 | 307 | 440 | 3,336 |
| 1986 | 429 | 352 | 274 | 320 | 202 | 96 | 65 | 75 | 85 | 92 | 98 | 182 | 2,270 |
| 1987 | 342 | 522 | 542 | 954 | 856 | 296 | 143 | 128 | 148 | 182 | 294 | 533 | 4,940 |
| 1988 | 583 | 388 | 413 | 449 | 240 | 138 | 170 | 217 | 243 | 201 | 396 | 649 | 4,087 |
| 1989 | 668 | 509 | 434 | 737 | 944 | 314 | 79 | 77 | 120 | 169 | 299 | 405 | 4,755 |
| 1990 | 421 | 577 | 587 | 1097 | 846 | 313 | 225 | 194 | 196 | 202 | 337 | 511 | 5,506 |
| 76 - 90 AVG | 385 | 393 | 321 | 419 | 413 | 217 | 138 | 138 | 152 | 163 | 246 | 359 | 3,342 |

**Old River @ Rock Slough (106)**
**Flow Study**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2662 | 2675 | 2970 | 3724 | 4151 | 4158 | 3904 | 3806 | 4297 | 3644 | 3338 | 3050 | 42,379 |
| 1977 | 3196 | 3325 | 3311 | 3774 | 4082 | 4204 | 4272 | 4136 | 4349 | 4531 | 4383 | 3942 | 47,505 |
| 1978 | 3907 | 3671 | 3722 | 5690 | 6907 | 6606 | 4984 | 3733 | 3315 | 3688 | 3280 | 3095 | 52,598 |
| 1979 | 3045 | 2874 | 2986 | 4533 | 5811 | 4806 | 3592 | 3180 | 3009 | 3072 | 3056 | 2889 | 42,833 |
| 1980 | 2781 | 2685 | 3121 | 4495 | 7946 | 5617 | 3872 | 3384 | 3275 | 3488 | 3269 | 3092 | 47,025 |
| 1981 | 2933 | 2874 | 3019 | 3618 | 4106 | 4028 | 3444 | 3412 | 3630 | 3536 | 3380 | 3008 | 40,998 |
| 1982 | 2934 | 2893 | 3441 | 5270 | 5462 | 6841 | 5252 | 4109 | 3385 | 3274 | 3131 | 2938 | 48,930 |
| 1983 | 2751 | 3429 | 5308 | 5811 | 6193 | 5127 | 4864 | 3600 | 4341 | 4031 | 3415 | 3084 | 51,754 |
| 1984 | 2959 | 3373 | 4265 | 4914 | 5374 | 4397 | 3341 | 3218 | 3207 | 3091 | 3043 | 2888 | 44,070 |
| 1985 | 2894 | 2963 | 3483 | 3855 | 4111 | 4661 | 4003 | 3349 | 3314 | 3344 | 3424 | 3085 | 42,086 |
| 1986 | 3019 | 2978 | 3351 | 4073 | 8098 | 6639 | 4392 | 3694 | 3530 | 3782 | 3281 | 2905 | 49,742 |
| 1987 | 2827 | 2881 | 3025 | 3485 | 4176 | 4480 | 4579 | 4463 | 3826 | 3657 | 3635 | 3315 | 44,349 |
| 1988 | 3285 | 3117 | 3219 | 3865 | 4789 | 5097 | 4482 | 4055 | 3957 | 3500 | 3474 | 3252 | 46,092 |
| 1989 | 3265 | 3085 | 3141 | 3740 | 4299 | 3921 | 3082 | 2966 | 3162 | 3285 | 3416 | 2999 | 40,361 |
| 1990 | 2848 | 2931 | 3192 | 3514 | 4068 | 4542 | 3747 | 3194 | 3286 | 3210 | 3284 | 3114 | 40,930 |
| 76 - 90 AVG | 3,007 | 3,050 | 3,437 | 4,277 | 5,305 | 5,008 | 4,107 | 3,620 | 3,592 | 3,542 | 3,388 | 3,109 | 45,443 |

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**Old River @ Rock Slough (106)**
**Maximum Flow**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 303 | 260 | 297 | 771 | 909 | 599 | 454 | 390 | 384 | 334 | 494 | 645 | 5,840 |
| 1977 | 607 | 578 | 543 | 667 | 980 | 775 | 563 | 506 | 543 | 616 | 692 | 812 | 7,882 |
| 1978 | 835 | 715 | 513 | 323 | 343 | 333 | 256 | 227 | 211 | 229 | 225 | 303 | 4,513 |
| 1979 | 434 | 533 | 458 | 420 | 295 | 231 | 209 | 215 | 209 | 203 | 272 | 355 | 3,834 |
| 1980 | 449 | 471 | 311 | 231 | 351 | 227 | 203 | 229 | 218 | 236 | 227 | 308 | 3,461 |
| 1981 | 410 | 503 | 525 | 518 | 326 | 220 | 202 | 255 | 315 | 319 | 386 | 492 | 4,471 |
| 1982 | 520 | 468 | 217 | 262 | 227 | 309 | 220 | 213 | 213 | 201 | 206 | 203 | 3,259 |
| 1983 | 182 | 211 | 223 | 259 | 192 | 198 | 181 | 182 | 203 | 213 | 200 | 194 | 2,438 |
| 1984 | 189 | 208 | 192 | 211 | 243 | 215 | 204 | 217 | 220 | 212 | 250 | 302 | 2,663 |
| 1985 | 439 | 620 | 263 | 313 | 584 | 394 | 287 | 288 | 281 | 291 | 398 | 532 | 4,690 |
| 1986 | 545 | 494 | 399 | 424 | 424 | 289 | 220 | 236 | 240 | 245 | 225 | 286 | 4,017 |
| 1987 | 428 | 597 | 592 | 934 | 867 | 412 | 393 | 369 | 343 | 348 | 402 | 589 | 6,274 |
| 1988 | 683 | 550 | 385 | 466 | 369 | 324 | 328 | 363 | 390 | 338 | 484 | 706 | 5,386 |
| 1989 | 728 | 549 | 485 | 743 | 924 | 395 | 205 | 214 | 237 | 272 | 391 | 487 | 5,830 |
| 1990 | 492 | 643 | 649 | 1056 | 856 | 422 | 339 | 302 | 302 | 318 | 512 | 684 | 6,575 |
| 76 - 90 AVG | 483 | 493 | 403 | 507 | 526 | 356 | 284 | 280 | 287 | 292 | 358 | 460 | 4,729 |

**Old River @ Rock Slough (106)**
**Maximum Flow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 193 | 132 | 192 | 754 | 910 | 534 | 348 | 263 | 258 | 218 | 424 | 611 | 4,837 |
| 1977 | 514 | 451 | 434 | 614 | 991 | 744 | 475 | 400 | 440 | 533 | 643 | 797 | 7,036 |
| 1978 | 776 | 586 | 407 | 158 | 126 | 116 | 78 | 69 | 70 | 89 | 101 | 182 | 2,758 |
| 1979 | 331 | 442 | 378 | 300 | 120 | 72 | 62 | 76 | 84 | 79 | 165 | 264 | 2,373 |
| 1980 | 367 | 395 | 207 | 81 | 126 | 67 | 57 | 74 | 76 | 94 | 101 | 190 | 1,835 |
| 1981 | 308 | 405 | 461 | 446 | 202 | 80 | 63 | 115 | 167 | 192 | 293 | 429 | 3,161 |
| 1982 | 443 | 385 | 91 | 91 | 69 | 106 | 54 | 58 | 66 | 66 | 82 | 77 | 1,588 |
| 1983 | 54 | 70 | 77 | 87 | 50 | 53 | 42 | 42 | 58 | 65 | 59 | 58 | 715 |
| 1984 | 58 | 56 | 55 | 54 | 70 | 62 | 59 | 75 | 93 | 91 | 140 | 202 | 1,015 |
| 1985 | 362 | 568 | 145 | 203 | 516 | 272 | 145 | 152 | 141 | 170 | 310 | 474 | 3,458 |
| 1986 | 457 | 380 | 289 | 323 | 203 | 96 | 65 | 75 | 85 | 96 | 102 | 180 | 2,351 |
| 1987 | 341 | 522 | 542 | 953 | 854 | 296 | 187 | 165 | 175 | 205 | 290 | 524 | 5,054 |
| 1988 | 591 | 376 | 265 | 376 | 229 | 152 | 166 | 227 | 260 | 220 | 408 | 683 | 3,953 |
| 1989 | 687 | 458 | 404 | 716 | 913 | 289 | 75 | 76 | 100 | 154 | 303 | 425 | 4,600 |
| 1990 | 425 | 579 | 591 | 1098 | 843 | 312 | 216 | 174 | 183 | 213 | 450 | 660 | 5,744 |
| 76 - 90 AVG | 394 | 387 | 303 | 417 | 415 | 217 | 139 | 136 | 150 | 166 | 258 | 384 | 3,365 |

**Old River @ Rock Slough (106)**
**Maximum Flow**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2694 | 2691 | 2971 | 3611 | 4024 | 4197 | 4012 | 3954 | 4202 | 3793 | 3584 | 3171 | 42,904 |
| 1977 | 3259 | 3333 | 3352 | 3839 | 4135 | 4334 | 4217 | 4081 | 4347 | 4527 | 4378 | 3895 | 47,697 |
| 1978 | 3857 | 3613 | 3899 | 5698 | 7125 | 6694 | 4986 | 3734 | 3321 | 3692 | 3344 | 3115 | 52,868 |
| 1979 | 3075 | 2926 | 3039 | 4548 | 5793 | 4804 | 3595 | 3219 | 3070 | 3140 | 3121 | 2954 | 43,284 |
| 1980 | 2841 | 2698 | 3124 | 4497 | 7947 | 5674 | 3910 | 3415 | 3302 | 3655 | 3369 | 3114 | 47,546 |
| 1981 | 3015 | 2963 | 3055 | 3687 | 4174 | 4069 | 3418 | 3623 | 4180 | 3901 | 3582 | 3079 | 42,746 |
| 1982 | 2947 | 2898 | 3445 | 5283 | 5474 | 6894 | 5044 | 4241 | 3398 | 3355 | 3208 | 2958 | 49,145 |
| 1983 | 2760 | 3435 | 4435 | 5787 | 6183 | 5123 | 4664 | 3600 | 4341 | 3979 | 3322 | 3051 | 50,670 |
| 1984 | 2913 | 3376 | 4265 | 4914 | 5371 | 4402 | 3345 | 3219 | 3206 | 3091 | 3043 | 2889 | 44,034 |
| 1985 | 2769 | 2999 | 3488 | 3643 | 4101 | 4694 | 4129 | 3743 | 3938 | 3673 | 3541 | 3158 | 43,876 |
| 1986 | 3174 | 3136 | 3397 | 4088 | 8113 | 6636 | 4408 | 3698 | 3530 | 3851 | 3306 | 2907 | 50,244 |
| 1987 | 2827 | 2880 | 3025 | 3485 | 4177 | 4489 | 4940 | 4860 | 4670 | 4403 | 4248 | 3782 | 47,786 |
| 1988 | 3892 | 3649 | 3365 | 3902 | 4846 | 5600 | 4726 | 3989 | 4159 | 3833 | 3780 | 3444 | 49,185 |
| 1989 | 3378 | 3118 | 3149 | 3758 | 4404 | 3985 | 3087 | 3325 | 3735 | 3540 | 3455 | 3008 | 41,942 |
| 1990 | 2843 | 2928 | 3196 | 3518 | 4069 | 4548 | 3870 | 3490 | 3473 | 3300 | 3408 | 3193 | 41,636 |
| 76 - 90 AVG | 3,083 | 3,110 | 3,400 | 4,283 | 5,330 | 5,076 | 4,157 | 3,748 | 3,791 | 3,716 | 3,513 | 3,181 | 46,384 |

**Old River at Rock Slough, 106**
**Cumulative Impact**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 292 | 386 | 898 | 1078 | 903 | 578 | 417 | 363 | 375 | 371 | 442 | 451 |
| 1977 | 523 | 554 | 610 | 745 | 914 | 668 | 447 | 467 | 501 | 488 | 613 | 766 |
| 1978 | 805 | 687 | 521 | 320 | 304 | 316 | 270 | 267 | 223 | 201 | 251 | 320 |
| 1979 | 445 | 553 | 1129 | 906 | 324 | 229 | 239 | 311 | 218 | 205 | 294 | 378 |
| 1980 | 444 | 454 | 599 | 324 | 351 | 285 | 228 | 298 | 242 | 201 | 227 | 314 |
| 1981 | 462 | 622 | 1351 | 1142 | 439 | 235 | 223 | 267 | 300 | 328 | 365 | 436 |
| 1982 | 515 | 510 | 224 | 261 | 227 | 271 | 193 | 226 | 216 | 192 | 226 | 217 |
| 1983 | 191 | 211 | 216 | 357 | 207 | 194 | 184 | 181 | 217 | 216 | 191 | 190 |
| 1984 | 201 | 223 | 197 | 197 | 247 | 211 | 222 | 265 | 218 | 203 | 245 | 308 |
| 1985 | 438 | 591 | 297 | 335 | 572 | 372 | 284 | 287 | 258 | 274 | 369 | 469 |
| 1986 | 526 | 515 | 689 | 579 | 343 | 269 | 263 | 309 | 260 | 210 | 241 | 305 |
| 1987 | 425 | 604 | 1354 | 1436 | 888 | 407 | 448 | 375 | 341 | 339 | 395 | 580 |
| 1988 | 642 | 481 | 842 | 763 | 353 | 443 | 349 | 320 | 350 | 355 | 501 | 655 |
| 1989 | 617 | 492 | 455 | 702 | 921 | 424 | 216 | 205 | 223 | 273 | 391 | 487 |
| 1990 | 476 | 571 | 556 | 916 | 715 | 384 | 301 | 275 | 272 | 312 | 487 | 623 |
| Average | 467 | 497 | 663 | 671 | 514 | 352 | 286 | 294 | 281 | 278 | 349 | 433 |

**Old River at Rock Slough, 106**
**Cumulative Impact**
**Bromide**
Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 189 | 293 | 921 | 1127 | 904 | 514 | 306 | 222 | 224 | 234 | 359 | 380 |
| 1977 | 407 | 421 | 484 | 687 | 900 | 608 | 337 | 354 | 413 | 405 | 560 | 750 |
| 1978 | 750 | 575 | 427 | 156 | 106 | 108 | 77 | 81 | 73 | 74 | 140 | 216 |
| 1979 | 350 | 477 | 1197 | 889 | 152 | 71 | 77 | 117 | 74 | 83 | 191 | 293 |
| 1980 | 363 | 376 | 556 | 190 | 129 | 95 | 67 | 107 | 85 | 70 | 112 | 202 |
| 1981 | 382 | 560 | 1464 | 1202 | 340 | 99 | 74 | 98 | 130 | 176 | 260 | 362 |
| 1982 | 438 | 438 | 101 | 91 | 69 | 87 | 42 | 61 | 67 | 82 | 109 | 102 |
| 1983 | 59 | 70 | 74 | 138 | 57 | 51 | 41 | 40 | 66 | 67 | 57 | 58 |
| 1984 | 63 | 74 | 59 | 51 | 73 | 59 | 68 | 94 | 76 | 80 | 134 | 209 |
| 1985 | 363 | 540 | 186 | 227 | 503 | 252 | 130 | 120 | 110 | 151 | 275 | 401 |
| 1986 | 442 | 423 | 655 | 511 | 166 | 88 | 84 | 108 | 93 | 79 | 128 | 204 |
| 1987 | 344 | 543 | 1467 | 1563 | 881 | 291 | 207 | 164 | 171 | 199 | 291 | 524 |
| 1988 | 558 | 345 | 834 | 737 | 223 | 210 | 148 | 161 | 203 | 223 | 424 | 622 |
| 1989 | 545 | 386 | 368 | 667 | 915 | 327 | 85 | 70 | 96 | 159 | 303 | 426 |
| 1990 | 406 | 504 | 491 | 932 | 675 | 271 | 165 | 128 | 138 | 199 | 417 | 587 |
| Average | 377 | 402 | 619 | 611 | 406 | 209 | 127 | 128 | 135 | 151 | 251 | 356 |

**Old River at Rock Slough, 106**
**Cumulative Impact**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2617 | 2600 | 2844 | 3497 | 3944 | 4004 | 3886 | 4012 | 4420 | 4403 | 3549 | 3025 |
| 1977 | 3274 | 3385 | 3530 | 4016 | 4330 | 4435 | 4060 | 3907 | 3714 | 3853 | 4010 | 3693 |
| 1978 | 3634 | 3462 | 3620 | 5663 | 6443 | 6440 | 5285 | 4074 | 3408 | 3161 | 3039 | 2936 |
| 1979 | 2964 | 2846 | 2876 | 4487 | 5894 | 4806 | 4134 | 4513 | 3246 | 3042 | 3105 | 2952 |
| 1980 | 2782 | 2698 | 3075 | 4475 | 7695 | 6785 | 4627 | 4527 | 3506 | 3260 | 3079 | 3038 |
| 1981 | 2879 | 2846 | 2916 | 3564 | 4137 | 4031 | 3795 | 3975 | 4208 | 4360 | 3889 | 3044 |
| 1982 | 2912 | 2878 | 3430 | 5314 | 5240 | 6222 | 4666 | 3930 | 3403 | 3172 | 3095 | 2846 |
| 1983 | 2911 | 3542 | 4350 | 7681 | 6503 | 5071 | 4638 | 3484 | 4353 | 3929 | 3279 | 3022 |
| 1984 | 3171 | 3791 | 4408 | 4829 | 5687 | 4482 | 3645 | 3813 | 3330 | 3065 | 3023 | 2874 |
| 1985 | 2695 | 2947 | 3411 | 3666 | 4050 | 4491 | 4459 | 4251 | 3767 | 3826 | 3516 | 3090 |
| 1986 | 3049 | 3004 | 3310 | 4050 | 6562 | 6239 | 5474 | 4574 | 3719 | 3244 | 3035 | 2882 |
| 1987 | 2777 | 2816 | 2895 | 3420 | 4160 | 4416 | 4924 | 4732 | 4519 | 4285 | 4044 | 3575 |
| 1988 | 3483 | 3254 | 3183 | 3865 | 4521 | 5717 | 5004 | 4088 | 4198 | 4192 | 3905 | 3364 |
| 1989 | 3300 | 3103 | 3149 | 3745 | 4274 | 3909 | 3203 | 3222 | 3342 | 3342 | 3454 | 3012 |
| 1990 | 2785 | 2826 | 3117 | 3492 | 4006 | 4324 | 4046 | 3644 | 3644 | 3571 | 3561 | 3193 |
| Average | 3016 | 3066 | 3341 | 4384 | 5163 | 5025 | 4390 | 4063 | 3785 | 3634 | 3426 | 3103 |


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**SJR @ Antioch (51)**
**Existing Conditions**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 1145 | 1025 | 1824 | 2880 | 3089 | 2556 | 2645 | 3457 | 2650 | 3751 | 4548 | 4587 | 34,157 |
| 1977 | 6272 | 6806 | 6426 | 6287 | 4305 | 3393 | 3721 | 4315 | 4574 | 5029 | 5785 | 6363 | 63,276 |
| 1978 | 5093 | 4596 | 3516 | 496 | 214 | 215 | 202 | 195 | 605 | 1230 | 2252 | 2014 | 20,628 |
| 1979 | 4753 | 6167 | 5775 | 1225 | 248 | 204 | 436 | 1072 | 740 | 1495 | 2530 | 3577 | 28,222 |
| 1980 | 4774 | 3715 | 1731 | 250 | 202 | 184 | 198 | 309 | 686 | 1228 | 1904 | 2814 | 17,995 |
| 1981 | 4781 | 5680 | 2889 | 391 | 201 | 187 | 518 | 2083 | 2774 | 2821 | 3377 | 3990 | 29,692 |
| 1982 | 4674 | 1221 | 202 | 207 | 184 | 196 | 174 | 169 | 181 | 543 | 909 | 396 | 9,056 |
| 1983 | 180 | 180 | 179 | 213 | 197 | 188 | 172 | 164 | 169 | 177 | 217 | 178 | 2,214 |
| 1984 | 192 | 176 | 177 | 179 | 181 | 179 | 323 | 1204 | 1217 | 1370 | 1826 | 3094 | 10,118 |
| 1985 | 5505 | 1374 | 345 | 2103 | 1720 | 779 | 1798 | 2010 | 2193 | 2729 | 3564 | 4144 | 28,264 |
| 1986 | 4660 | 4453 | 3117 | 1342 | 253 | 185 | 182 | 298 | 887 | 1190 | 2058 | 3435 | 21,858 |
| 1987 | 6175 | 7147 | 5565 | 4014 | 2105 | 685 | 775 | 2166 | 2787 | 3317 | 4424 | 4959 | 44,119 |
| 1988 | 4945 | 4769 | 4257 | 1296 | 856 | 2402 | 3375 | 3681 | 2790 | 3851 | 5610 | 6079 | 43,911 |
| 1989 | 5634 | 5955 | 5759 | 5873 | 4167 | 718 | 333 | 1133 | 2129 | 2981 | 4048 | 4260 | 42,970 |
| 1990 | 5901 | 6651 | 6421 | 4753 | 2312 | 2306 | 2256 | 2588 | 2860 | 3739 | 5236 | 5889 | 50,712 |
| 76 - 90 AVG | 4,312 | 3,994 | 3,212 | 2,101 | 1,349 | 958 | 1,141 | 1,656 | 1,789 | 2,362 | 3,219 | 3,719 | 29,813 |

**SJR @ Antioch (51)**
**Existing Conditions**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 1229 | 1084 | 2047 | 3321 | 3568 | 2925 | 3031 | 4015 | 3035 | 4369 | 5340 | 5392 | 39,356 |
| 1977 | 7433 | 8072 | 7606 | 7440 | 5041 | 3937 | 4333 | 5050 | 5361 | 5910 | 6826 | 7532 | 74,541 |
| 1978 | 5998 | 5385 | 4069 | 401 | 59 | 60 | 55 | 61 | 582 | 1322 | 2561 | 2277 | 22,810 |
| 1979 | 5595 | 7308 | 6831 | 1300 | 88 | 57 | 356 | 1131 | 732 | 1645 | 2899 | 4169 | 32,111 |
| 1980 | 5621 | 4340 | 1934 | 127 | 55 | 46 | 70 | 205 | 664 | 1320 | 2141 | 3246 | 19,789 |
| 1981 | 5628 | 6717 | 3335 | 303 | 66 | 53 | 457 | 2352 | 3190 | 3250 | 3926 | 4670 | 33,947 |
| 1982 | 5499 | 1321 | 84 | 58 | 48 | 55 | 43 | 40 | 54 | 494 | 938 | 321 | 8,955 |
| 1983 | 61 | 51 | 50 | 64 | 54 | 50 | 42 | 38 | 41 | 47 | 95 | 56 | 649 |
| 1984 | 73 | 48 | 49 | 46 | 44 | 44 | 225 | 1294 | 1309 | 1493 | 2048 | 3586 | 10,259 |
| 1985 | 6508 | 1505 | 255 | 2381 | 1911 | 788 | 2002 | 2263 | 2488 | 3140 | 4152 | 4857 | 32,230 |
| 1986 | 5482 | 5229 | 3606 | 1451 | 115 | 50 | 52 | 189 | 660 | 1267 | 2319 | 3996 | 24,416 |
| 1987 | 7317 | 8494 | 6576 | 4697 | 2377 | 656 | 764 | 2450 | 3204 | 3850 | 5192 | 5842 | 51,419 |
| 1988 | 5827 | 5611 | 4986 | 1399 | 881 | 2733 | 3914 | 4289 | 3211 | 4496 | 6626 | 7195 | 51,148 |
| 1989 | 6858 | 7041 | 6805 | 6943 | 4868 | 701 | 241 | 1212 | 2416 | 3422 | 4739 | 4997 | 50,043 |
| 1990 | 6987 | 7892 | 7608 | 5589 | 2625 | 2614 | 2562 | 2970 | 3057 | 4362 | 6174 | 6966 | 59,406 |
| 76 - 90 AVG | 5,061 | 4,673 | 3,723 | 2,368 | 1,452 | 983 | 1,210 | 1,837 | 1,999 | 2,692 | 3,732 | 4,340 | 34,071 |

**SJR @ Antioch (51)**
**Existing Conditions**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2442 | 2382 | 2596 | 2901 | 3204 | 3254 | 2816 | 2623 | 2948 | 2857 | 2696 | 2485 | 33,204 |
| 1977 | 2241 | 2229 | 2372 | 2582 | 3070 | 3253 | 2834 | 2662 | 2834 | 2953 | 2973 | 2792 | 32,795 |
| 1978 | 2748 | 2705 | 2999 | 4094 | 4606 | 4255 | 3528 | 3065 | 2878 | 2826 | 2873 | 2703 | 39,280 |
| 1979 | 2294 | 2101 | 2239 | 3488 | 4911 | 4059 | 2977 | 2621 | 2766 | 2757 | 2771 | 2534 | 35,518 |
| 1980 | 2315 | 2281 | 2731 | 3626 | 5011 | 4112 | 3139 | 2796 | 2843 | 2810 | 2841 | 2623 | 37,128 |
| 1981 | 2338 | 2184 | 2617 | 3206 | 3798 | 3460 | 2891 | 2624 | 2716 | 2657 | 2631 | 2470 | 33,592 |
| 1982 | 2311 | 2461 | 2974 | 4066 | 4297 | 4202 | 3265 | 2926 | 2715 | 2724 | 2814 | 2680 | 37,435 |
| 1983 | 2476 | 2877 | 3512 | 4622 | 5286 | 4391 | 3653 | 3062 | 3038 | 3203 | 3034 | 2662 | 41,816 |
| 1984 | 2579 | 2772 | 3612 | 3710 | 4052 | 3487 | 2717 | 2507 | 2768 | 2803 | 2808 | 2547 | 36,362 |
| 1985 | 2182 | 2469 | 3003 | 3004 | 3398 | 3561 | 2994 | 2704 | 2755 | 2659 | 2624 | 2480 | 33,833 |
| 1986 | 2345 | 2363 | 2753 | 3270 | 4920 | 4101 | 3144 | 2886 | 2959 | 2991 | 3013 | 2630 | 37,375 |
| 1987 | 2202 | 2038 | 2314 | 2675 | 3354 | 3411 | 2996 | 2760 | 2788 | 2633 | 2589 | 2471 | 32,231 |
| 1988 | 2352 | 2311 | 2545 | 3085 | 3525 | 3489 | 2841 | 2489 | 2696 | 2638 | 2574 | 2485 | 33,030 |
| 1989 | 2437 | 2358 | 2395 | 2591 | 3120 | 3139 | 2543 | 2431 | 2584 | 2566 | 2577 | 2469 | 31,210 |
| 1990 | 2171 | 2098 | 2282 | 2607 | 3279 | 3543 | 2774 | 2419 | 2613 | 2577 | 2548 | 2445 | 31,356 |
| 76 - 90 AVG | 2,362 | 2,375 | 2,730 | 3,302 | 3,969 | 3,714 | 3,007 | 2,705 | 2,793 | 2,777 | 2,758 | 2,565 | 35,078 |

**SJR @ Antioch (51)**
**No-Action Alternative**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 1269 | 1815 | 3763 | 4547 | 3781 | 2654 | 2701 | 3765 | 2753 | 3219 | 4472 | 5065 | 34,157 |
| 1,977 | 6613 | 7310 | 6955 | 6686 | 4416 | 3473 | 3774 | 4853 | 4978 | 5081 | 5721 | 6412 | 63,276 |
| 1,978 | 5101 | 4461 | 3394 | 492 | 228 | 229 | 194 | 200 | 559 | 1133 | 1794 | 3033 | 20,628 |
| 1,979 | 5877 | 6402 | 5123 | 1353 | 272 | 199 | 438 | 1239 | 949 | 1552 | 2445 | 3156 | 28,222 |
| 1,980 | 4309 | 3337 | 1361 | 255 | 208 | 177 | 206 | 324 | 790 | 1249 | 1965 | 3414 | 17,995 |
| 1,981 | 5859 | 6749 | 5280 | 1167 | 288 | 216 | 1061 | 2617 | 2839 | 3361 | 4233 | 4530 | 29,692 |
| 1,982 | 4838 | 1153 | 198 | 212 | 193 | 196 | 171 | 165 | 181 | 676 | 1098 | 460 | 9,056 |
| 1,983 | 204 | 178 | 183 | 213 | 183 | 161 | 147 | 160 | 167 | 174 | 228 | 191 | 2,214 |
| 1,984 | 210 | 193 | 186 | 177 | 176 | 172 | 298 | 1078 | 1256 | 1452 | 1815 | 2818 | 10,118 |
| 1,985 | 5257 | 1498 | 383 | 2004 | 2460 | 1405 | 1975 | 2174 | 2324 | 3116 | 4382 | 4970 | 26,264 |
| 1,986 | 4742 | 4354 | 3106 | 1251 | 298 | 189 | 176 | 296 | 674 | 1128 | 1633 | 2819 | 21,858 |
| 1,987 | 5883 | 7097 | 5597 | 3937 | 2032 | 661 | 819 | 2233 | 2801 | 3347 | 4596 | 6106 | 44,119 |
| 1,988 | 5691 | 5549 | 4817 | 1392 | 813 | 2421 | 3279 | 4044 | 2844 | 3635 | 5543 | 6562 | 43,911 |
| 1,989 | 6384 | 6203 | 5814 | 5943 | 4206 | 702 | 336 | 1086 | 1762 | 2888 | 4088 | 4397 | 42,970 |
| 1,990 | 6141 | 6948 | 6691 | 4445 | 2159 | 2237 | 2281 | 2593 | 2713 | 3640 | 4895 | 5814 | 50,712 |
| 76 - 90 AVG | 4,559 | 4,216 | 3,525 | 2,270 | 1,448 | 1,006 | 1,190 | 1,788 | 1,839 | 2,377 | 3,261 | 3,990 | 29,813 |

**SJR @ Antioch (51)**
**No-Action Alternative**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 1379 | 2042 | 4398 | 5341 | 4406 | 3043 | 3100 | 4388 | 3161 | 3727 | 5248 | 5970 | 39,356 |
| 1,977 | 7845 | 8680 | 8245 | 7898 | 5175 | 4035 | 4397 | 5702 | 5852 | 5973 | 6748 | 7590 | 74,541 |
| 1,978 | 6002 | 5209 | 3917 | 396 | 66 | 67 | 51 | 73 | 510 | 1205 | 2007 | 3511 | 22,810 |
| 1,979 | 6954 | 7580 | 6042 | 1458 | 124 | 55 | 361 | 1335 | 987 | 1717 | 2799 | 3861 | 32,111 |
| 1,980 | 5059 | 3882 | 1510 | 116 | 57 | 45 | 86 | 227 | 790 | 1346 | 2215 | 3972 | 19,769 |
| 1,981 | 6934 | 8012 | 6231 | 1247 | 181 | 96 | 1119 | 3002 | 3271 | 3903 | 4960 | 5322 | 33,947 |
| 1,982 | 5697 | 1238 | 79 | 61 | 52 | 54 | 43 | 39 | 56 | 656 | 1167 | 398 | 8,955 |
| 1,983 | 91 | 51 | 51 | 64 | 54 | 50 | 42 | 38 | 41 | 46 | 111 | 73 | 649 |
| 1,984 | 97 | 58 | 52 | 46 | 42 | 41 | 197 | 1140 | 1356 | 1595 | 2036 | 3252 | 10,259 |
| 1,985 | 6208 | 1656 | 304 | 2264 | 2809 | 1522 | 2215 | 2466 | 2650 | 3608 | 5140 | 5854 | 32,230 |
| 1,986 | 5580 | 5107 | 3593 | 1340 | 135 | 55 | 51 | 192 | 646 | 1193 | 1810 | 3253 | 24,416 |
| 1,987 | 6964 | 8433 | 6615 | 4604 | 2289 | 627 | 819 | 2533 | 3222 | 3885 | 5398 | 7227 | 51,419 |
| 1,988 | 6726 | 8548 | 5663 | 1515 | 805 | 2753 | 3795 | 4726 | 3273 | 4230 | 6542 | 7780 | 51,148 |
| 1,989 | 7566 | 7345 | 6874 | 7029 | 4916 | 680 | 245 | 1153 | 1970 | 3333 | 4786 | 5163 | 50,043 |
| 1,990 | 7276 | 8252 | 7935 | 5216 | 2442 | 2533 | 2593 | 2977 | 3122 | 4243 | 5762 | 6997 | 59,406 |
| 76 - 90 AVG | 5,359 | 4,940 | 4,101 | 2,573 | 1,570 | 1,044 | 1,274 | 1,999 | 2,060 | 2,711 | 3,782 | 4,668 | 34,071 |

**SJR @ Antioch (51)**
**No-Action Alternative**
**Dissolved Organic Carbon**
Units are in TAF

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 2437 | 2290 | 2353 | 2666 | 3092 | 3240 | 2800 | 2564 | 2917 | 2871 | 2662 | 2462 | 33,204 |
| 1,977 | 2218 | 2175 | 2314 | 2546 | 3052 | 3238 | 2837 | 2609 | 2778 | 2973 | 3035 | 2868 | 32,795 |
| 1,978 | 2860 | 2858 | 3042 | 4091 | 4852 | 4296 | 3341 | 2936 | 2860 | 2870 | 2882 | 2565 | 39,280 |
| 1,979 | 2238 | 2128 | 2317 | 3407 | 4620 | 3903 | 2869 | 2578 | 2866 | 2801 | 2632 | 2468 | 35,518 |
| 1,980 | 2282 | 2287 | 2768 | 3680 | 4822 | 3850 | 2930 | 2717 | 2827 | 2829 | 2842 | 2556 | 37,128 |
| 1,981 | 2240 | 2088 | 2342 | 2995 | 3571 | 3242 | 2689 | 2480 | 2675 | 2638 | 2628 | 2477 | 33,592 |
| 1,982 | 2324 | 2466 | 2965 | 4080 | 4283 | 4113 | 3222 | 2901 | 2723 | 2716 | 2806 | 2688 | 37,435 |
| 1,983 | 2459 | 2784 | 3478 | 4603 | 5280 | 4379 | 3628 | 3054 | 3038 | 3171 | 3025 | 2642 | 41,816 |
| 1,984 | 2541 | 2747 | 3604 | 3683 | 4009 | 3418 | 2697 | 2548 | 2743 | 2694 | 2712 | 2512 | 36,362 |
| 1,985 | 2171 | 2465 | 2901 | 2891 | 3202 | 3602 | 3004 | 2576 | 2638 | 2602 | 2611 | 2504 | 33,833 |
| 1,986 | 2407 | 2417 | 2761 | 3254 | 4841 | 4066 | 3130 | 2885 | 2974 | 2983 | 2903 | 2554 | 37,375 |
| 1,987 | 2172 | 2026 | 2305 | 2651 | 3338 | 3409 | 2935 | 2669 | 2767 | 2881 | 2686 | 2505 | 32,231 |
| 1,988 | 2468 | 2399 | 2533 | 3077 | 3597 | 3596 | 2948 | 2572 | 2830 | 2790 | 2648 | 2478 | 33,030 |
| 1,989 | 2401 | 2328 | 2363 | 2566 | 3113 | 3141 | 2537 | 2485 | 2641 | 2550 | 2564 | 2452 | 31,210 |
| 1,990 | 2155 | 2063 | 2250 | 2632 | 3272 | 3495 | 2710 | 2370 | 2547 | 2537 | 2547 | 2420 | 31,356 |
| 76 - 90 AVG | 2,358 | 2,368 | 2,686 | 3,255 | 3,929 | 3,666 | 2,952 | 2,662 | 2,775 | 2,767 | 2,746 | 2,543 | 35,078 |

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**SJR @ Antioch (51)**
**No-Action Alternative**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 1269 | 1815 | 3763 | 4547 | 3781 | 2654 | 2701 | 3765 | 2753 | 3219 | 4472 | 5065 | 34,157 |
| 1,977 | 6613 | 7310 | 6955 | 6666 | 4416 | 3473 | 3774 | 4853 | 4978 | 5081 | 5721 | 6412 | 63,276 |
| 1,978 | 5101 | 4461 | 3394 | 492 | 228 | 229 | 194 | 200 | 559 | 1133 | 1794 | 3033 | 20,628 |
| 1,979 | 5877 | 6402 | 5123 | 1353 | 272 | 199 | 438 | 1239 | 949 | 1552 | 2445 | 3156 | 28,222 |
| 1,980 | 4309 | 3337 | 1381 | 255 | 208 | 177 | 206 | 324 | 790 | 1249 | 1965 | 3414 | 17,995 |
| 1,981 | 5859 | 6749 | 5280 | 1167 | 288 | 216 | 1061 | 2617 | 2839 | 3361 | 4233 | 4530 | 29,692 |
| 1,982 | 4838 | 1153 | 198 | 212 | 193 | 196 | 171 | 165 | 181 | 676 | 1098 | 460 | 9,056 |
| 1,983 | 204 | 178 | 183 | 213 | 183 | 161 | 147 | 160 | 167 | 174 | 228 | 191 | 2,214 |
| 1,984 | 210 | 193 | 186 | 177 | 176 | 172 | 298 | 1078 | 1256 | 1452 | 1815 | 2818 | 10,118 |
| 1,985 | 5257 | 1498 | 383 | 2004 | 2460 | 1405 | 1975 | 2174 | 2324 | 3116 | 4382 | 4970 | 28,264 |
| 1,986 | 4742 | 4354 | 3106 | 1251 | 298 | 189 | 176 | 295 | 674 | 1128 | 1633 | 2819 | 21,858 |
| 1,987 | 5883 | 7097 | 5597 | 3937 | 2032 | 681 | 819 | 2233 | 2801 | 3347 | 4596 | 6106 | 44,119 |
| 1,988 | 5691 | 5549 | 4817 | 1392 | 813 | 2421 | 3279 | 4044 | 2844 | 3635 | 5543 | 6562 | 43,911 |
| 1,989 | 6384 | 6203 | 5814 | 5943 | 4206 | 702 | 336 | 1086 | 1762 | 2888 | 4088 | 4397 | 42,970 |
| 1,990 | 6141 | 6948 | 6691 | 4445 | 2159 | 2237 | 2281 | 2593 | 2713 | 3640 | 4895 | 5914 | 50,712 |
| 76 - 90 AVG | 4,559 | 4,216 | 3,525 | 2,270 | 1,448 | 1,006 | 1,190 | 1,788 | 1,839 | 2,377 | 3,261 | 3,990 | 29,813 |

**SJR @ Antioch (51)**
**No-Action Alternative**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 1379 | 2042 | 4398 | 5341 | 4406 | 3043 | 3100 | 4388 | 3161 | 3727 | 5248 | 5970 | 39,356 |
| 1,977 | 7845 | 8680 | 8245 | 7898 | 5175 | 4035 | 4397 | 5702 | 5852 | 5973 | 6748 | 7590 | 74,541 |
| 1,978 | 6002 | 5209 | 3917 | 396 | 66 | 67 | 51 | 73 | 510 | 1205 | 2007 | 3511 | 22,810 |
| 1,979 | 8954 | 7590 | 6042 | 1458 | 124 | 55 | 361 | 1335 | 987 | 1717 | 2789 | 3661 | 32,111 |
| 1,980 | 5059 | 3882 | 1510 | 116 | 57 | 45 | 86 | 227 | 790 | 1346 | 2215 | 3972 | 19,769 |
| 1,981 | 6934 | 8012 | 6231 | 1247 | 181 | 96 | 1119 | 3002 | 3271 | 3903 | 4960 | 5322 | 33,947 |
| 1,982 | 5697 | 1238 | 79 | 61 | 52 | 54 | 43 | 39 | 56 | 656 | 1167 | 398 | 8,955 |
| 1,983 | 91 | 51 | 51 | 64 | 54 | 50 | 42 | 38 | 41 | 46 | 111 | 73 | 649 |
| 1,984 | 97 | 58 | 52 | 46 | 42 | 41 | 197 | 1140 | 1356 | 1595 | 2036 | 3252 | 10,259 |
| 1,985 | 6208 | 1656 | 304 | 2264 | 2809 | 1522 | 2215 | 2466 | 2650 | 3608 | 5140 | 5854 | 32,230 |
| 1,986 | 5580 | 5107 | 3593 | 1340 | 135 | 55 | 51 | 192 | 646 | 1193 | 1810 | 3253 | 24,416 |
| 1,987 | 6964 | 8433 | 6615 | 4604 | 2289 | 627 | 819 | 2533 | 3222 | 3885 | 5398 | 7227 | 51,419 |
| 1,988 | 6726 | 6548 | 5683 | 1515 | 805 | 2753 | 3795 | 4726 | 3273 | 4230 | 6542 | 7780 | 51,148 |
| 1,989 | 7566 | 7345 | 6874 | 7029 | 4916 | 680 | 245 | 1153 | 1970 | 3333 | 4786 | 5163 | 50,043 |
| 1,990 | 7276 | 8252 | 7935 | 5216 | 2442 | 2533 | 2593 | 2977 | 3122 | 4243 | 5762 | 6997 | 59,406 |
| 76 - 90 AVG | 5,359 | 4,940 | 4,101 | 2,573 | 1,570 | 1,044 | 1,274 | 1,999 | 2,060 | 2,711 | 3,782 | 4,668 | 34,071 |

**SJR @ Antioch (51)**
**No-Action Alternative**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 2437 | 2290 | 2353 | 2666 | 3092 | 3240 | 2800 | 2564 | 2917 | 2871 | 2662 | 2482 | 33,204 |
| 1,977 | 2218 | 2175 | 2314 | 2546 | 3052 | 3238 | 2837 | 2609 | 2778 | 2973 | 3035 | 2668 | 32,795 |
| 1,978 | 2860 | 2858 | 3042 | 4091 | 4852 | 4296 | 3341 | 2936 | 2880 | 2870 | 2882 | 2565 | 39,280 |
| 1,979 | 2238 | 2128 | 2317 | 3407 | 4620 | 3903 | 2869 | 2578 | 2666 | 2601 | 2632 | 2488 | 35,518 |
| 1,980 | 2282 | 2287 | 2768 | 3680 | 4822 | 3850 | 2930 | 2717 | 2827 | 2829 | 2842 | 2556 | 37,128 |
| 1,981 | 2240 | 2088 | 2342 | 2995 | 3571 | 3242 | 2689 | 2480 | 2675 | 2638 | 2628 | 2477 | 33,592 |
| 1,982 | 2324 | 2466 | 2965 | 4080 | 4283 | 4113 | 3222 | 2901 | 2723 | 2716 | 2806 | 2688 | 37,435 |
| 1,983 | 2459 | 2784 | 3478 | 4803 | 5280 | 4379 | 3628 | 3054 | 3038 | 3171 | 3025 | 2642 | 41,816 |
| 1,984 | 2541 | 2747 | 3604 | 3683 | 4009 | 3418 | 2697 | 2548 | 2743 | 2694 | 2712 | 2512 | 36,362 |
| 1,985 | 2171 | 2485 | 2901 | 2891 | 3202 | 3602 | 3004 | 2576 | 2638 | 2602 | 2611 | 2504 | 33,833 |
| 1,986 | 2407 | 2417 | 2761 | 3254 | 4841 | 4066 | 3130 | 2885 | 2974 | 2983 | 2903 | 2554 | 37,375 |
| 1,987 | 2172 | 2026 | 2305 | 2651 | 3336 | 3409 | 2935 | 2669 | 2767 | 2681 | 2686 | 2505 | 32,231 |
| 1,988 | 2468 | 2399 | 2533 | 3077 | 3597 | 3596 | 2948 | 2572 | 2830 | 2790 | 2648 | 2478 | 33,030 |
| 1,989 | 2401 | 2328 | 2363 | 2566 | 3113 | 3141 | 2537 | 2465 | 2641 | 2550 | 2564 | 2452 | 31,210 |
| 1,990 | 2155 | 2063 | 2250 | 2632 | 3272 | 3495 | 2710 | 2370 | 2547 | 2537 | 2547 | 2420 | 31,358 |
| 76 - 90 AVG | 2,358 | 2,368 | 2,686 | 3,255 | 3,929 | 3,666 | 2,952 | 2,662 | 2,775 | 2,767 | 2,748 | 2,543 | 35,078 |

Main TOC
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**SJR @ Antioch (51)**
**Percent Inflow**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 1114 | 1771 | 3745 | 4596 | 3775 | 2607 | 2648 | 3540 | 2640 | 3179 | 4520 | 5206 | 39,341 |
| 1977 | 6645 | 7235 | 6897 | 6815 | 4363 | 3407 | 3773 | 4796 | 4966 | 5120 | 5747 | 6440 | 66,004 |
| 1978 | 5115 | 4463 | 3414 | 496 | 225 | 218 | 193 | 206 | 556 | 1104 | 1782 | 3024 | 20,796 |
| 1979 | 5826 | 6326 | 4993 | 1469 | 288 | 198 | 424 | 1225 | 950 | 1592 | 2444 | 3150 | 28,885 |
| 1980 | 4334 | 3359 | 1375 | 233 | 199 | 180 | 210 | 327 | 727 | 1217 | 1853 | 3309 | 17,323 |
| 1981 | 6157 | 7194 | 5423 | 1399 | 360 | 224 | 1023 | 2496 | 2785 | 3349 | 4226 | 4275 | 38,911 |
| 1982 | 4692 | 1142 | 197 | 207 | 184 | 193 | 174 | 168 | 191 | 734 | 1272 | 532 | 9,686 |
| 1983 | 213 | 175 | 175 | 213 | 198 | 188 | 172 | 163 | 168 | 176 | 231 | 189 | 2,261 |
| 1984 | 208 | 175 | 176 | 179 | 180 | 176 | 300 | 1083 | 1258 | 1453 | 1813 | 2815 | 9,816 |
| 1985 | 5271 | 1633 | 399 | 1999 | 2428 | 1399 | 1933 | 2095 | 2285 | 3292 | 4554 | 4989 | 32,277 |
| 1986 | 4764 | 4435 | 3131 | 1027 | 232 | 186 | 182 | 305 | 625 | 1131 | 1649 | 2767 | 20,434 |
| 1987 | 5804 | 7012 | 5517 | 3874 | 1993 | 646 | 773 | 2121 | 2699 | 3249 | 4498 | 5917 | 44,103 |
| 1988 | 5091 | 4868 | 4489 | 1283 | 761 | 2382 | 3157 | 3914 | 2773 | 3593 | 5499 | 6539 | 44,349 |
| 1989 | 6294 | 6174 | 5781 | 5874 | 4139 | 689 | 332 | 1065 | 1783 | 2918 | 4100 | 4382 | 43,531 |
| 1990 | 6070 | 6811 | 6572 | 4400 | 2138 | 2200 | 2237 | 2609 | 2673 | 3768 | 5301 | 6228 | 51,007 |
| 76 - 90 AVG | 4,507 | 4,185 | 3,486 | 2,258 | 1,431 | 993 | 1,169 | 1,741 | 1,805 | 2,392 | 3,299 | 3,984 | 31,248 |

**SJR @ Antioch (51)**
**Percent Inflow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 1192 | 1988 | 4376 | 5399 | 4399 | 2987 | 3035 | 4115 | 3024 | 3678 | 5306 | 6141 | 45,640 |
| 1977 | 7884 | 8593 | 8176 | 7836 | 5110 | 3954 | 4396 | 5634 | 5838 | 6021 | 6780 | 7824 | 77,846 |
| 1978 | 6018 | 5214 | 3943 | 401 | 64 | 61 | 51 | 79 | 505 | 1168 | 1991 | 3500 | 22,995 |
| 1979 | 6893 | 7498 | 5885 | 1598 | 143 | 55 | 345 | 1319 | 987 | 1766 | 2798 | 3655 | 32,942 |
| 1980 | 5089 | 3909 | 1503 | 104 | 54 | 45 | 89 | 229 | 713 | 1305 | 2077 | 3845 | 18,962 |
| 1981 | 7295 | 8550 | 6405 | 1529 | 268 | 105 | 1073 | 2855 | 3205 | 3888 | 4951 | 5014 | 45,138 |
| 1982 | 5521 | 1226 | 79 | 58 | 48 | 53 | 43 | 40 | 66 | 725 | 1377 | 485 | 9,721 |
| 1983 | 102 | 49 | 48 | 64 | 54 | 50 | 42 | 38 | 41 | 47 | 112 | 70 | 717 |
| 1984 | 95 | 49 | 49 | 46 | 43 | 43 | 199 | 1146 | 1357 | 1596 | 2033 | 3249 | 9,905 |
| 1985 | 6224 | 1820 | 320 | 2256 | 2769 | 1516 | 2164 | 2370 | 2603 | 3821 | 5348 | 5876 | 37,087 |
| 1986 | 5606 | 5204 | 3623 | 1070 | 91 | 50 | 52 | 197 | 584 | 1196 | 1830 | 3190 | 22,693 |
| 1987 | 6869 | 8330 | 6518 | 4527 | 2242 | 609 | 762 | 2395 | 3096 | 3764 | 5278 | 6998 | 51,388 |
| 1988 | 5998 | 5719 | 5262 | 1384 | 741 | 2705 | 3647 | 4566 | 3186 | 4179 | 6489 | 7752 | 51,628 |
| 1989 | 7457 | 7309 | 6834 | 6945 | 4834 | 666 | 240 | 1127 | 1995 | 3370 | 4801 | 5145 | 50,723 |
| 1990 | 7191 | 8086 | 7790 | 5161 | 2416 | 2488 | 2541 | 2995 | 3073 | 4397 | 6253 | 7377 | 59,769 |
| 76 - 90 AVG | 5,298 | 4,903 | 4,054 | 2,559 | 1,552 | 1,026 | 1,245 | 1,940 | 2,018 | 2,728 | 3,828 | 4,661 | 35,810 |

**SJR @ Antioch (51)**
**Percent Inflow**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2442 | 2292 | 2355 | 2673 | 3108 | 3249 | 2806 | 2594 | 2945 | 2891 | 2662 | 2461 | 32,478 |
| 1977 | 2225 | 2186 | 2323 | 2557 | 3064 | 3248 | 2816 | 2574 | 2754 | 2953 | 3023 | 2860 | 32,583 |
| 1978 | 2857 | 2857 | 3038 | 4090 | 4851 | 4298 | 3342 | 2939 | 2865 | 2889 | 2907 | 2570 | 39,503 |
| 1979 | 2245 | 2136 | 2330 | 3414 | 4641 | 3903 | 2963 | 2577 | 2666 | 2596 | 2632 | 2489 | 34,472 |
| 1980 | 2282 | 2287 | 2768 | 3681 | 4821 | 3851 | 2930 | 2717 | 2833 | 2872 | 2907 | 2568 | 36,517 |
| 1981 | 2206 | 2038 | 2326 | 2950 | 3548 | 3265 | 2709 | 2510 | 2704 | 2647 | 2631 | 2500 | 32,034 |
| 1982 | 2325 | 2481 | 2965 | 4081 | 4283 | 4115 | 3222 | 2901 | 2747 | 2738 | 2811 | 2694 | 37,343 |
| 1983 | 2466 | 2788 | 3458 | 4607 | 5283 | 4380 | 3630 | 3054 | 3038 | 3170 | 3025 | 2640 | 41,539 |
| 1984 | 2539 | 2748 | 3605 | 3687 | 4010 | 3425 | 2701 | 2549 | 2743 | 2694 | 2712 | 2512 | 35,925 |
| 1985 | 2172 | 2463 | 3018 | 2961 | 3211 | 3613 | 3015 | 2592 | 2651 | 2594 | 2612 | 2513 | 33,415 |
| 1986 | 2411 | 2419 | 2785 | 3248 | 4833 | 4065 | 3130 | 2884 | 2980 | 2990 | 2911 | 2561 | 37,197 |
| 1987 | 2181 | 2035 | 2313 | 2658 | 3341 | 3412 | 2991 | 2776 | 2866 | 2761 | 2761 | 2578 | 32,673 |
| 1988 | 2558 | 2507 | 2592 | 3085 | 3606 | 3617 | 3001 | 2640 | 2879 | 2832 | 2682 | 2499 | 34,498 |
| 1989 | 2422 | 2349 | 2378 | 2578 | 3125 | 3145 | 2537 | 2467 | 2639 | 2548 | 2563 | 2453 | 31,204 |
| 1990 | 2163 | 2080 | 2266 | 2639 | 3274 | 3494 | 2713 | 2380 | 2585 | 2560 | 2537 | 2419 | 31,110 |
| 76 - 90 AVG | 2,386 | 2,376 | 2,700 | 3,261 | 3,933 | 3,672 | 2,960 | 2,677 | 2,793 | 2,782 | 2,758 | 2,553 | 34,833 |

Main TOC
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**SJR @ Antioch (51)**
**Flow Study**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 1382 | 1795 | 3704 | 4479 | 3716 | 2591 | 2616 | 3673 | 2666 | 3203 | 4671 | 5132 | 39,628 |
| 1977 | 5865 | 6143 | 5799 | 5877 | 4231 | 3379 | 3694 | 4686 | 4834 | 5068 | 5749 | 6391 | 61,716 |
| 1978 | 5178 | 4615 | 3569 | 514 | 224 | 217 | 193 | 206 | 533 | 1090 | 1848 | 3075 | 21,262 |
| 1979 | 5875 | 6349 | 4997 | 1469 | 288 | 198 | 418 | 1217 | 948 | 1657 | 2463 | 3122 | 29,001 |
| 1980 | 4447 | 3453 | 1401 | 233 | 199 | 179 | 210 | 326 | 792 | 1198 | 1861 | 3332 | 17,631 |
| 1981 | 6204 | 7216 | 5429 | 1464 | 378 | 226 | 1019 | 2496 | 2636 | 3297 | 4103 | 4251 | 38,719 |
| 1982 | 4704 | 1099 | 195 | 207 | 184 | 193 | 174 | 168 | 191 | 713 | 1256 | 531 | 9,615 |
| 1983 | 243 | 177 | 175 | 214 | 197 | 188 | 172 | 163 | 168 | 176 | 231 | 193 | 2,297 |
| 1984 | 212 | 175 | 176 | 179 | 180 | 176 | 299 | 1082 | 1295 | 1485 | 1807 | 2809 | 9,855 |
| 1985 | 5182 | 1611 | 418 | 2042 | 2447 | 1414 | 1938 | 2016 | 2220 | 3293 | 4506 | 4846 | 31,933 |
| 1986 | 4454 | 4002 | 2951 | 1389 | 258 | 186 | 182 | 303 | 677 | 1098 | 1654 | 2834 | 19,988 |
| 1987 | 5828 | 7015 | 5516 | 3873 | 1989 | 645 | 759 | 2065 | 2638 | 3053 | 4558 | 6078 | 44,017 |
| 1988 | 5369 | 5675 | 4980 | 1375 | 790 | 2217 | 3041 | 3745 | 2726 | 3473 | 5263 | 6295 | 44,949 |
| 1989 | 6196 | 6166 | 5789 | 5878 | 4256 | 743 | 328 | 1094 | 2080 | 3179 | 4483 | 4527 | 44,719 |
| 1990 | 6044 | 6885 | 6581 | 4286 | 2066 | 2180 | 2063 | 2461 | 2610 | 3258 | 4537 | 5489 | 48,460 |
| 76 - 90 AVG | 4,479 | 4,158 | 3,445 | 2,232 | 1,427 | 982 | 1,140 | 1,713 | 1,801 | 2,348 | 3,266 | 3,927 | 30,919 |

**SJR @ Antioch (51)**
**Flow Study**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 1516 | 2017 | 4328 | 5258 | 4328 | 2967 | 2996 | 4275 | 3055 | 3706 | 5488 | 6051 | 45,983 |
| 1977 | 6938 | 7265 | 6844 | 6944 | 4951 | 3920 | 4301 | 5500 | 5677 | 5956 | 6783 | 7584 | 72,643 |
| 1978 | 6095 | 5397 | 4129 | 422 | 64 | 61 | 51 | 79 | 478 | 1151 | 2071 | 3562 | 23,560 |
| 1979 | 6953 | 7526 | 5890 | 1598 | 143 | 55 | 338 | 1309 | 985 | 1843 | 2820 | 3620 | 33,080 |
| 1980 | 5226 | 4024 | 1535 | 105 | 54 | 44 | 89 | 229 | 792 | 1283 | 2087 | 3873 | 19,341 |
| 1981 | 7352 | 8578 | 6412 | 1607 | 290 | 108 | 1068 | 2856 | 3022 | 3822 | 4801 | 4985 | 44,901 |
| 1982 | 5535 | 1173 | 76 | 58 | 48 | 53 | 43 | 40 | 66 | 699 | 1358 | 483 | 9,632 |
| 1983 | 138 | 51 | 48 | 64 | 54 | 50 | 42 | 38 | 41 | 47 | 112 | 75 | 760 |
| 1984 | 99 | 49 | 49 | 46 | 43 | 43 | 197 | 1144 | 1402 | 1611 | 2026 | 3242 | 9,951 |
| 1985 | 6117 | 1793 | 343 | 2308 | 2792 | 1534 | 2170 | 2273 | 2522 | 3821 | 5289 | 5704 | 36,666 |
| 1986 | 5231 | 4682 | 3406 | 1508 | 122 | 51 | 52 | 194 | 647 | 1156 | 1835 | 3270 | 22,154 |
| 1987 | 6898 | 8334 | 6517 | 4526 | 2238 | 608 | 744 | 2324 | 3019 | 3525 | 5349 | 7193 | 51,275 |
| 1988 | 6335 | 6703 | 5862 | 1496 | 777 | 2502 | 3502 | 4358 | 3125 | 4034 | 6204 | 7457 | 52,355 |
| 1989 | 7339 | 7301 | 6844 | 6950 | 4977 | 732 | 236 | 1163 | 2356 | 3684 | 5262 | 5319 | 52,163 |
| 1990 | 7159 | 8176 | 7803 | 5024 | 2328 | 2463 | 2327 | 2814 | 2996 | 3780 | 5329 | 6482 | 56,681 |
| 76 - 90 AVG | 5,262 | 4,871 | 4,006 | 2,528 | 1,547 | 1,013 | 1,210 | 1,906 | 2,012 | 2,675 | 3,788 | 4,592 | 35,410 |

**SJR @ Antioch (51)**
**Flow Study**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2433 | 2293 | 2359 | 2674 | 3101 | 3246 | 2821 | 2608 | 2982 | 2923 | 2667 | 2479 | 32,586 |
| 1977 | 2315 | 2346 | 2467 | 2617 | 3070 | 3249 | 2851 | 2641 | 2806 | 2979 | 3032 | 2880 | 33,253 |
| 1978 | 2873 | 2841 | 3043 | 4096 | 4834 | 4267 | 3342 | 2939 | 2867 | 2891 | 2900 | 2565 | 39,478 |
| 1979 | 2234 | 2122 | 2327 | 3413 | 4643 | 3893 | 2850 | 2572 | 2666 | 2604 | 2652 | 2474 | 34,450 |
| 1980 | 2276 | 2286 | 2788 | 3680 | 4816 | 3843 | 2923 | 2706 | 2819 | 2857 | 2879 | 2554 | 36,407 |
| 1981 | 2189 | 2023 | 2318 | 2945 | 3553 | 3262 | 2705 | 2506 | 2774 | 2791 | 2748 | 2538 | 32,352 |
| 1982 | 2347 | 2469 | 2965 | 4080 | 4283 | 4115 | 3223 | 2901 | 2747 | 2746 | 2818 | 2695 | 37,389 |
| 1983 | 2485 | 2794 | 3449 | 4628 | 5271 | 4380 | 3628 | 3054 | 3038 | 3170 | 3025 | 2641 | 41,563 |
| 1984 | 2542 | 2748 | 3604 | 3683 | 4010 | 3418 | 2697 | 2548 | 2739 | 2693 | 2713 | 2513 | 35,908 |
| 1985 | 2176 | 2462 | 3016 | 2967 | 3217 | 3619 | 3020 | 2623 | 2896 | 2854 | 2677 | 2526 | 33,653 |
| 1986 | 2426 | 2418 | 2756 | 3253 | 4844 | 4067 | 3137 | 2896 | 2976 | 3009 | 2935 | 2560 | 37,277 |
| 1987 | 2179 | 2033 | 2312 | 2658 | 3342 | 3412 | 3021 | 2852 | 2949 | 2852 | 2799 | 2537 | 32,946 |
| 1988 | 2489 | 2338 | 2491 | 3073 | 3608 | 3749 | 3162 | 2762 | 2949 | 2806 | 2640 | 2478 | 34,545 |
| 1989 | 2389 | 2305 | 2359 | 2574 | 3088 | 3115 | 2536 | 2451 | 2618 | 2608 | 2653 | 2520 | 31,216 |
| 1990 | 2184 | 2068 | 2254 | 2645 | 3285 | 3515 | 2857 | 2482 | 2615 | 2609 | 2576 | 2445 | 31,535 |
| 76 - 90 AVG | 2,369 | 2,370 | 2,699 | 3,266 | 3,931 | 3,678 | 2,985 | 2,703 | 2,816 | 2,813 | 2,781 | 2,560 | 34,971 |

**SJR @ Antioch (51)**
**Maximum Flow**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2809 | 2797 | 3997 | 4204 | 3504 | 2837 | 2708 | 3575 | 2864 | 3603 | 5509 | 5785 | 43,992 |
| 1977 | 5668 | 5774 | 5501 | 5889 | 4290 | 3657 | 3897 | 4517 | 4739 | 4999 | 5719 | 6438 | 61,088 |
| 1978 | 5149 | 4639 | 3538 | 511 | 229 | 220 | 193 | 211 | 527 | 1081 | 1861 | 3156 | 21,315 |
| 1979 | 5872 | 6187 | 5165 | 1410 | 273 | 198 | 421 | 1412 | 1025 | 1564 | 2523 | 3458 | 29,508 |
| 1980 | 4765 | 3828 | 1616 | 243 | 199 | 180 | 203 | 336 | 775 | 1192 | 1927 | 3383 | 18,647 |
| 1981 | 5549 | 6427 | 5179 | 1617 | 420 | 225 | 1041 | 2387 | 2389 | 3141 | 4497 | 4634 | 37,506 |
| 1982 | 4773 | 1105 | 195 | 208 | 184 | 194 | 174 | 168 | 191 | 789 | 1544 | 622 | 10,147 |
| 1983 | 290 | 180 | 173 | 213 | 197 | 188 | 172 | 163 | 168 | 176 | 260 | 261 | 2,441 |
| 1984 | 317 | 181 | 176 | 179 | 180 | 176 | 300 | 1082 | 1258 | 1495 | 1796 | 2790 | 9,930 |
| 1985 | 5683 | 1887 | 467 | 2067 | 2461 | 1471 | 1900 | 1804 | 1928 | 3188 | 4651 | 5139 | 32,646 |
| 1986 | 4472 | 4072 | 3021 | 1385 | 259 | 186 | 182 | 303 | 672 | 1159 | 1661 | 2808 | 20,180 |
| 1987 | 5829 | 7016 | 5514 | 3870 | 1991 | 643 | 734 | 2037 | 2412 | 2918 | 4284 | 5856 | 43,104 |
| 1988 | 4748 | 4025 | 4059 | 1318 | 783 | 2058 | 3079 | 3800 | 2899 | 3489 | 5381 | 6464 | 41,901 |
| 1989 | 5891 | 5791 | 5677 | 5887 | 4160 | 700 | 310 | 935 | 1794 | 3122 | 4590 | 4592 | 43,449 |
| 1990 | 6038 | 6889 | 6600 | 4289 | 2061 | 2171 | 1991 | 2723 | 2733 | 3844 | 5498 | 6208 | 51,045 |
| 76 - 90 AVG | 4,523 | 4,053 | 3,392 | 2,219 | 1,413 | 1,007 | 1,154 | 1,697 | 1,732 | 2,384 | 3,447 | 4,106 | 31,127 |

**SJR @ Antioch (51)**
**Maximum Flow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3244 | 3229 | 4681 | 4927 | 4072 | 3264 | 3107 | 4156 | 3050 | 4189 | 6500 | 6839 | 51,258 |
| 1977 | 8698 | 6816 | 6481 | 6956 | 5022 | 4255 | 4545 | 5296 | 5562 | 5873 | 6746 | 7621 | 71,871 |
| 1978 | 6060 | 5428 | 4095 | 418 | 66 | 62 | 51 | 84 | 470 | 1140 | 2086 | 3659 | 23,619 |
| 1979 | 6948 | 7329 | 6091 | 1526 | 125 | 54 | 342 | 1544 | 1078 | 1730 | 2892 | 4027 | 33,686 |
| 1980 | 5610 | 4476 | 1794 | 116 | 54 | 45 | 80 | 240 | 770 | 1274 | 2165 | 3933 | 20,557 |
| 1981 | 6558 | 7621 | 6109 | 1791 | 339 | 105 | 1095 | 2723 | 2719 | 3627 | 5273 | 5445 | 43,405 |
| 1982 | 5618 | 1180 | 76 | 59 | 48 | 54 | 43 | 40 | 66 | 790 | 1705 | 594 | 10,273 |
| 1983 | 194 | 55 | 47 | 64 | 54 | 50 | 42 | 38 | 41 | 47 | 149 | 156 | 937 |
| 1984 | 226 | 56 | 49 | 46 | 43 | 43 | 198 | 1145 | 1358 | 1647 | 2013 | 3218 | 10,042 |
| 1985 | 6723 | 2127 | 402 | 2339 | 2810 | 1602 | 2123 | 2013 | 2164 | 3688 | 5462 | 6058 | 37,511 |
| 1986 | 5251 | 4761 | 3487 | 1502 | 122 | 51 | 51 | 194 | 641 | 1229 | 1843 | 3239 | 22,371 |
| 1987 | 6898 | 8335 | 6515 | 4523 | 2240 | 605 | 712 | 2284 | 2738 | 3350 | 5007 | 6917 | 50,122 |
| 1988 | 5571 | 4681 | 4730 | 1423 | 767 | 2305 | 3542 | 4424 | 3092 | 4050 | 6343 | 7658 | 48,586 |
| 1989 | 8968 | 6844 | 6707 | 6961 | 4859 | 678 | 214 | 968 | 2004 | 3811 | 5390 | 5396 | 50,600 |
| 1990 | 7152 | 8181 | 7825 | 5027 | 2322 | 2451 | 2239 | 3129 | 3141 | 4487 | 6491 | 7353 | 59,798 |
| 76 - 90 AVG | 5,315 | 4,741 | 3,939 | 2,512 | 1,530 | 1,042 | 1,226 | 1,885 | 1,926 | 2,715 | 4,004 | 4,808 | 35,642 |

**SJR @ Antioch (51)**
**Maximum Flow**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2362 | 2247 | 2343 | 2659 | 3062 | 3249 | 2855 | 2656 | 2999 | 2914 | 2706 | 2517 | 32,569 |
| 1977 | 2393 | 2401 | 2505 | 2650 | 3090 | 3289 | 2877 | 2631 | 2804 | 2982 | 3032 | 2883 | 33,517 |
| 1978 | 2847 | 2811 | 3017 | 4099 | 4918 | 4332 | 3342 | 2941 | 2873 | 2894 | 2937 | 2590 | 39,601 |
| 1979 | 2249 | 2161 | 2330 | 3417 | 4626 | 3889 | 2952 | 2566 | 2691 | 2847 | 2691 | 2499 | 34,618 |
| 1980 | 2301 | 2276 | 2752 | 3679 | 4820 | 3860 | 2943 | 2729 | 2847 | 2908 | 2952 | 2588 | 36,655 |
| 1981 | 2287 | 2143 | 2374 | 2974 | 3575 | 3282 | 2694 | 2528 | 2923 | 3009 | 2849 | 2586 | 33,224 |
| 1982 | 2367 | 2474 | 2967 | 4089 | 4292 | 4142 | 3260 | 2921 | 2754 | 2758 | 2839 | 2708 | 37,571 |
| 1983 | 2501 | 2800 | 3410 | 4607 | 5271 | 4383 | 3630 | 3058 | 3042 | 3175 | 2971 | 2730 | 41,578 |
| 1984 | 2575 | 2760 | 3603 | 3690 | 4011 | 3428 | 2701 | 2549 | 2743 | 2690 | 2714 | 2514 | 35,976 |
| 1985 | 2156 | 2462 | 3014 | 2958 | 3207 | 3636 | 3086 | 2736 | 2925 | 2898 | 2771 | 2569 | 34,416 |
| 1986 | 2490 | 2518 | 2806 | 3267 | 4857 | 4066 | 3141 | 2899 | 2977 | 3013 | 2953 | 2567 | 37,554 |
| 1987 | 2180 | 2033 | 2312 | 2658 | 3342 | 3415 | 3095 | 2999 | 3192 | 3197 | 3119 | 2856 | 34,398 |
| 1988 | 2810 | 2794 | 2743 | 3108 | 3623 | 3912 | 3311 | 2766 | 2976 | 2925 | 2789 | 2599 | 36,354 |
| 1989 | 2506 | 2376 | 2379 | 2580 | 3128 | 3145 | 2538 | 2528 | 2843 | 2813 | 2708 | 2536 | 32,080 |
| 1990 | 2187 | 2067 | 2252 | 2646 | 3287 | 3519 | 2905 | 2542 | 2708 | 2613 | 2554 | 2440 | 31,720 |
| 76 - 90 AVG | 2,414 | 2,422 | 2,720 | 3,272 | 3,941 | 3,703 | 3,015 | 2,737 | 2,886 | 2,896 | 2,839 | 2,611 | 35,456 |

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**SJR @ Antioch, 51**
**Cumulative Impact**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2312 | 2865 | 3629 | 3581 | 3327 | 2111 | 2120 | 2865 | 2419 | 3442 | 4134 | 4493 |
| 1977 | 5252 | 5807 | 5761 | 6277 | 4682 | 2671 | 3396 | 4769 | 4526 | 4574 | 5655 | 6407 |
| 1978 | 5287 | 4934 | 3530 | 491 | 221 | 214 | 204 | 198 | 506 | 1325 | 1920 | 2995 |
| 1979 | 5790 | 6273 | 5143 | 1537 | 307 | 202 | 207 | 329 | 577 | 1614 | 2792 | 3645 |
| 1980 | 4496 | 3916 | 2001 | 325 | 199 | 182 | 182 | 206 | 464 | 1126 | 1758 | 3293 |
| 1981 | 6203 | 7134 | 5606 | 2106 | 555 | 291 | 355 | 978 | 1716 | 2770 | 3871 | 4308 |
| 1982 | 4925 | 1224 | 201 | 207 | 185 | 199 | 175 | 172 | 202 | 889 | 1857 | 991 |
| 1983 | 257 | 175 | 172 | 209 | 201 | 187 | 174 | 165 | 169 | 177 | 350 | 246 |
| 1984 | 191 | 169 | 176 | 177 | 179 | 177 | 220 | 290 | 703 | 1273 | 1730 | 2856 |
| 1985 | 5151 | 1629 | 470 | 2059 | 2063 | 1050 | 1052 | 1123 | 1773 | 3051 | 4267 | 4662 |
| 1986 | 4858 | 4424 | 2763 | 1108 | 246 | 187 | 185 | 216 | 500 | 1130 | 1756 | 2875 |
| 1987 | 5658 | 6977 | 5691 | 3865 | 1940 | 608 | 707 | 1965 | 2310 | 2950 | 4415 | 5932 |
| 1988 | 4829 | 5131 | 4474 | 1194 | 813 | 985 | 1986 | 3018 | 2503 | 3454 | 5379 | 5990 |
| 1989 | 5289 | 5547 | 5363 | 5632 | 4232 | 771 | 233 | 954 | 2017 | 3176 | 4619 | 4579 |
| 1990 | 5684 | 6373 | 6112 | 3586 | 1790 | 1400 | 1297 | 1980 | 2418 | 3710 | 5277 | 5872 |
| Average | 4412 | 4172 | 3406 | 2157 | 1395 | 749 | 833 | 1282 | 1520 | 2311 | 3319 | 3943 |

**SJR @ Antioch, 51**
**Cumulative Impact**
**Bromide**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2643 | 3314 | 4239 | 4174 | 3859 | 2388 | 2397 | 3296 | 2751 | 3987 | 4832 | 5276 |
| 1977 | 6194 | 6854 | 6791 | 7418 | 5465 | 3058 | 3938 | 5601 | 5307 | 5367 | 6674 | 7588 |
| 1978 | 6232 | 5794 | 4091 | 396 | 62 | 59 | 55 | 54 | 433 | 1438 | 2163 | 3467 |
| 1979 | 6851 | 7435 | 6070 | 1682 | 163 | 57 | 79 | 219 | 524 | 1790 | 3217 | 4253 |
| 1980 | 5285 | 4584 | 2263 | 216 | 54 | 46 | 50 | 69 | 382 | 1195 | 1966 | 3827 |
| 1981 | 7351 | 8479 | 6630 | 2385 | 502 | 186 | 262 | 1012 | 1898 | 3171 | 4510 | 5051 |
| 1982 | 5802 | 1324 | 84 | 58 | 48 | 56 | 43 | 41 | 76 | 913 | 2086 | 1041 |
| 1983 | 155 | 49 | 47 | 62 | 56 | 50 | 42 | 38 | 41 | 49 | 260 | 140 |
| 1984 | 73 | 45 | 49 | 45 | 43 | 45 | 99 | 179 | 679 | 1377 | 1933 | 3299 |
| 1985 | 6079 | 1815 | 410 | 2331 | 2329 | 1096 | 1095 | 1184 | 1972 | 3521 | 4997 | 5480 |
| 1986 | 5720 | 5192 | 3182 | 1170 | 109 | 51 | 49 | 73 | 419 | 1198 | 1964 | 3322 |
| 1987 | 6692 | 8289 | 6733 | 4518 | 2178 | 564 | 678 | 2191 | 2610 | 3388 | 5168 | 7011 |
| 1988 | 5678 | 6036 | 5250 | 1277 | 807 | 1010 | 2216 | 3473 | 2852 | 4003 | 6337 | 7083 |
| 1989 | 6239 | 6548 | 6327 | 6653 | 4949 | 766 | 120 | 992 | 2277 | 3680 | 5427 | 5382 |
| 1990 | 6723 | 7557 | 7238 | 4178 | 1997 | 1522 | 1399 | 2227 | 2758 | 4322 | 6220 | 6945 |
| Average | 5181 | 4888 | 3960 | 2438 | 1508 | 730 | 835 | 1377 | 1665 | 2627 | 3850 | 4611 |

**SJR @ Antioch, 51**
**Cumulative Impact**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2382 | 2171 | 2349 | 2674 | 3047 | 3196 | 2811 | 2707 | 3046 | 3087 | 2931 | 2542 |
| 1977 | 2396 | 2405 | 2519 | 2688 | 3124 | 3378 | 2853 | 2564 | 2695 | 2712 | 2813 | 2712 |
| 1978 | 2724 | 2671 | 2953 | 4084 | 4751 | 4229 | 3658 | 3317 | 3007 | 2758 | 2707 | 2501 |
| 1979 | 2196 | 2108 | 2286 | 3357 | 4748 | 3971 | 2955 | 2986 | 2903 | 2832 | 2649 | 2492 |
| 1980 | 2304 | 2248 | 2683 | 3616 | 4759 | 3949 | 3112 | 3027 | 2999 | 2818 | 2765 | 2510 |
| 1981 | 2178 | 2020 | 2270 | 2876 | 3555 | 3312 | 2806 | 2752 | 3027 | 3127 | 3013 | 2604 |
| 1982 | 2339 | 2459 | 2967 | 4077 | 4200 | 4197 | 3351 | 3016 | 2788 | 2700 | 2734 | 2666 |
| 1983 | 2504 | 2810 | 3411 | 4526 | 5312 | 4405 | 3638 | 3066 | 2967 | 3066 | 2954 | 2634 |
| 1984 | 2568 | 2730 | 3606 | 3727 | 4087 | 3493 | 2780 | 2796 | 2879 | 2704 | 2703 | 2499 |
| 1985 | 2167 | 2452 | 2894 | 2894 | 3272 | 3571 | 3179 | 2926 | 2956 | 2848 | 2801 | 2571 |
| 1986 | 2404 | 2408 | 2722 | 3205 | 4663 | 4062 | 3360 | 3301 | 3146 | 2867 | 2724 | 2510 |
| 1987 | 2174 | 2010 | 2249 | 2633 | 3350 | 3394 | 3129 | 3069 | 3177 | 3155 | 3040 | 2746 |
| 1988 | 2666 | 2482 | 2528 | 3056 | 3555 | 3891 | 3398 | 2873 | 2998 | 3000 | 2885 | 2648 |
| 1989 | 2508 | 2369 | 2404 | 2599 | 3082 | 3110 | 2569 | 2520 | 2717 | 2664 | 2662 | 2535 |
| 1990 | 2198 | 2059 | 2243 | 2691 | 3292 | 3449 | 2932 | 2699 | 2811 | 2730 | 2687 | 2505 |
| Average | 2381 | 2360 | 2672 | 3247 | 3920 | 3707 | 3102 | 2908 | 2941 | 2858 | 2805 | 2578 |

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**DMC Intake (216)**
**Existing Conditions**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 283 | 280 | 399 | 466 | 568 | 611 | 729 | 613 | 649 | 421 | 416 | 415 | 5,850 |
| 1977 | 517 | 589 | 694 | 744 | 919 | 818 | 767 | 803 | 851 | 706 | 603 | 631 | 8,642 |
| 1978 | 716 | 689 | 652 | 465 | 359 | 232 | 233 | 281 | 372 | 413 | 371 | 304 | 5,087 |
| 1979 | 329 | 443 | 530 | 435 | 328 | 290 | 349 | 384 | 379 | 344 | 370 | 333 | 4,514 |
| 1980 | 429 | 443 | 447 | 219 | 188 | 172 | 312 | 321 | 367 | 367 | 357 | 305 | 3,927 |
| 1981 | 348 | 406 | 466 | 503 | 536 | 479 | 585 | 470 | 372 | 364 | 404 | 384 | 5,317 |
| 1982 | 477 | 499 | 403 | 345 | 181 | 185 | 178 | 213 | 275 | 301 | 315 | 300 | 3,672 |
| 1983 | 284 | 228 | 174 | 252 | 206 | 236 | 168 | 173 | 183 | 228 | 292 | 319 | 2,743 |
| 1984 | 331 | 201 | 187 | 177 | 265 | 333 | 370 | 436 | 378 | 355 | 354 | 300 | 3,687 |
| 1985 | 414 | 497 | 424 | 442 | 555 | 503 | 493 | 473 | 374 | 358 | 392 | 390 | 5,315 |
| 1986 | 480 | 507 | 509 | 500 | 235 | 182 | 257 | 302 | 339 | 477 | 383 | 313 | 4,484 |
| 1987 | 422 | 525 | 561 | 705 | 757 | 562 | 612 | 565 | 398 | 383 | 391 | 431 | 6,312 |
| 1988 | 492 | 483 | 527 | 566 | 728 | 569 | 559 | 516 | 654 | 380 | 438 | 546 | 6,458 |
| 1989 | 611 | 578 | 658 | 715 | 964 | 561 | 428 | 391 | 360 | 338 | 365 | 394 | 6,361 |
| 1990 | 462 | 579 | 717 | 880 | 963 | 668 | 536 | 536 | 533 | 345 | 409 | 509 | 7,137 |
| 76 - 90 AVG | 440 | 463 | 490 | 494 | 517 | 427 | 436 | 432 | 432 | 385 | 391 | 392 | 5,300 |

**DMC Intake (216)**
**Existing Conditions**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 123 | 104 | 161 | 217 | 321 | 363 | 333 | 310 | 331 | 238 | 290 | 313 | 3,104 |
| 1977 | 364 | 424 | 403 | 527 | 710 | 622 | 375 | 393 | 426 | 423 | 477 | 562 | 5,706 |
| 1978 | 609 | 497 | 380 | 209 | 128 | 57 | 59 | 88 | 149 | 182 | 164 | 144 | 2,666 |
| 1979 | 169 | 295 | 317 | 214 | 113 | 90 | 125 | 152 | 186 | 151 | 174 | 204 | 2,170 |
| 1980 | 292 | 307 | 233 | 60 | 49 | 34 | 103 | 113 | 146 | 152 | 152 | 146 | 1,787 |
| 1981 | 190 | 245 | 239 | 214 | 224 | 194 | 249 | 204 | 183 | 203 | 248 | 278 | 2,671 |
| 1982 | 336 | 365 | 186 | 126 | 39 | 47 | 33 | 50 | 92 | 114 | 123 | 110 | 1,621 |
| 1983 | 94 | 62 | 39 | 84 | 58 | 73 | 35 | 37 | 42 | 63 | 103 | 115 | 805 |
| 1984 | 121 | 45 | 53 | 35 | 76 | 113 | 138 | 183 | 173 | 156 | 157 | 163 | 1,413 |
| 1985 | 284 | 368 | 198 | 195 | 309 | 242 | 210 | 218 | 182 | 193 | 244 | 284 | 2,927 |
| 1986 | 339 | 347 | 285 | 273 | 74 | 46 | 75 | 101 | 127 | 213 | 169 | 168 | 2,217 |
| 1987 | 282 | 386 | 366 | 519 | 554 | 319 | 279 | 259 | 197 | 210 | 259 | 337 | 3,967 |
| 1988 | 357 | 301 | 290 | 335 | 356 | 262 | 267 | 294 | 357 | 226 | 324 | 473 | 3,842 |
| 1989 | 496 | 405 | 383 | 480 | 491 | 322 | 183 | 170 | 180 | 185 | 236 | 289 | 3,820 |
| 1990 | 324 | 425 | 447 | 717 | 679 | 389 | 284 | 290 | 282 | 199 | 298 | 434 | 4,768 |
| 76 - 90 AVG | 292 | 305 | 285 | 280 | 279 | 212 | 183 | 191 | 202 | 194 | 228 | 268 | 2,899 |

**DMC Intake (216)**
**Existing Conditions**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3014 | 2993 | 3452 | 4405 | 5346 | 4857 | 4491 | 4125 | 4556 | 4301 | 3733 | 3334 | 48,607 |
| 1977 | 3473 | 3598 | 3730 | 4366 | 5086 | 4926 | 4553 | 3951 | 4586 | 5335 | 4973 | 4354 | 52,931 |
| 1978 | 4156 | 4027 | 4023 | 5759 | 6435 | 4783 | 4328 | 3472 | 3956 | 3918 | 3775 | 3519 | 52,151 |
| 1979 | 3307 | 3081 | 3452 | 4737 | 5932 | 4912 | 4402 | 3532 | 3918 | 3863 | 3643 | 3345 | 48,124 |
| 1980 | 3158 | 2943 | 3433 | 4324 | 5761 | 4654 | 4497 | 3518 | 3965 | 3743 | 3641 | 3512 | 47,149 |
| 1981 | 3372 | 3207 | 3484 | 4452 | 5793 | 5218 | 4476 | 4104 | 4042 | 3843 | 3565 | 3277 | 48,633 |
| 1982 | 3258 | 3203 | 3747 | 5283 | 5788 | 4880 | 4319 | 3194 | 3982 | 3653 | 3506 | 3729 | 48,342 |
| 1983 | 3629 | 3089 | 3729 | 4433 | 5811 | 4779 | 4342 | 3183 | 4080 | 3820 | 3665 | 4004 | 48,364 |
| 1984 | 3747 | 2993 | 3778 | 4198 | 5717 | 4906 | 4224 | 3574 | 3957 | 3806 | 3595 | 3302 | 47,797 |
| 1985 | 3052 | 3260 | 3828 | 4297 | 5228 | 5085 | 4567 | 4038 | 4034 | 3651 | 3604 | 3305 | 47,949 |
| 1986 | 3319 | 3313 | 3726 | 4588 | 5727 | 4670 | 4489 | 3462 | 4061 | 4115 | 3889 | 3383 | 48,742 |
| 1987 | 3199 | 3152 | 3417 | 4168 | 5299 | 5259 | 4762 | 4304 | 4199 | 3741 | 3712 | 3433 | 48,645 |
| 1988 | 3385 | 3425 | 3578 | 4549 | 5543 | 5152 | 4507 | 3866 | 4212 | 4008 | 3971 | 3691 | 49,887 |
| 1989 | 3777 | 3581 | 3614 | 4326 | 5447 | 4856 | 4025 | 3487 | 3717 | 3595 | 3642 | 3271 | 47,338 |
| 1990 | 3191 | 3340 | 3641 | 4149 | 5228 | 5248 | 4371 | 3632 | 4055 | 3802 | 3818 | 3577 | 48,052 |
| 76 - 90 AVG | 3,402 | 3,280 | 3,642 | 4,536 | 5,609 | 4,932 | 4,424 | 3,696 | 4,088 | 3,920 | 3,782 | 3,536 | 48,847 |

**DMC Intake (216)**
**No-Action Alternative**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 289 | 272 | 394 | 584 | 710 | 660 | 737 | 578 | 657 | 444 | 434 | 450 | 5,850 |
| 1,977 | 538 | 612 | 715 | 808 | 961 | 816 | 898 | 736 | 848 | 839 | 677 | 670 | 8,642 |
| 1,978 | 752 | 723 | 604 | 451 | 355 | 237 | 237 | 274 | 366 | 482 | 358 | 318 | 5,087 |
| 1,979 | 404 | 482 | 506 | 420 | 320 | 274 | 343 | 390 | 369 | 340 | 382 | 359 | 4,514 |
| 1,980 | 420 | 416 | 415 | 225 | 174 | 177 | 293 | 318 | 367 | 371 | 345 | 321 | 3,927 |
| 1,981 | 396 | 468 | 519 | 486 | 442 | 397 | 518 | 458 | 393 | 389 | 436 | 435 | 5,317 |
| 1,982 | 500 | 490 | 403 | 341 | 185 | 184 | 178 | 213 | 272 | 303 | 316 | 301 | 3,672 |
| 1,983 | 263 | 225 | 172 | 222 | 159 | 179 | 165 | 173 | 180 | 232 | 284 | 296 | 2,743 |
| 1,984 | 308 | 199 | 185 | 177 | 270 | 314 | 349 | 415 | 396 | 347 | 354 | 314 | 3,687 |
| 1,985 | 404 | 506 | 433 | 449 | 587 | 541 | 502 | 473 | 416 | 388 | 453 | 456 | 5,315 |
| 1,986 | 508 | 508 | 496 | 512 | 221 | 153 | 254 | 301 | 333 | 458 | 352 | 303 | 4,484 |
| 1,987 | 402 | 511 | 553 | 744 | 770 | 546 | 633 | 571 | 401 | 398 | 456 | 497 | 6,312 |
| 1,988 | 630 | 566 | 550 | 587 | 931 | 491 | 662 | 540 | 620 | 384 | 447 | 565 | 6,458 |
| 1,989 | 676 | 611 | 643 | 712 | 925 | 554 | 435 | 389 | 307 | 343 | 388 | 408 | 6,361 |
| 1,990 | 466 | 592 | 735 | 876 | 884 | 643 | 535 | 530 | 499 | 369 | 424 | 502 | 7,137 |
| 76 - 90 AVG | 464 | 479 | 488 | 506 | 527 | 411 | 449 | 424 | 428 | 406 | 407 | 413 | 5,300 |

**DMC Intake (216)**
**No-Action Alternative**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 138 | 111 | 156 | 358 | 492 | 395 | 336 | 304 | 343 | 238 | 258 | 336 | 3,104 |
| 1,977 | 410 | 472 | 397 | 581 | 772 | 630 | 421 | 406 | 422 | 448 | 495 | 582 | 5,706 |
| 1,978 | 641 | 533 | 358 | 233 | 162 | 89 | 51 | 76 | 117 | 192 | 153 | 177 | 2,686 |
| 1,979 | 243 | 338 | 289 | 258 | 132 | 90 | 100 | 142 | 148 | 142 | 194 | 233 | 2,170 |
| 1,980 | 283 | 280 | 203 | 170 | 49 | 38 | 68 | 110 | 130 | 147 | 141 | 170 | 1,787 |
| 1,981 | 248 | 323 | 310 | 288 | 190 | 158 | 204 | 203 | 200 | 210 | 258 | 320 | 2,671 |
| 1,982 | 362 | 356 | 192 | 186 | 61 | 47 | 33 | 43 | 74 | 99 | 118 | 125 | 1,621 |
| 1,983 | 98 | 87 | 45 | 79 | 57 | 73 | 35 | 37 | 42 | 56 | 81 | 100 | 805 |
| 1,984 | 109 | 89 | 54 | 35 | 54 | 88 | 113 | 154 | 161 | 150 | 163 | 173 | 1,413 |
| 1,985 | 269 | 386 | 214 | 212 | 364 | 279 | 222 | 233 | 219 | 204 | 257 | 339 | 2,927 |
| 1,986 | 364 | 347 | 279 | 284 | 209 | 46 | 57 | 91 | 116 | 163 | 151 | 156 | 2,217 |
| 1,987 | 264 | 377 | 349 | 572 | 587 | 306 | 276 | 255 | 201 | 212 | 262 | 383 | 3,967 |
| 1,988 | 493 | 380 | 324 | 364 | 436 | 232 | 323 | 283 | 341 | 227 | 314 | 485 | 3,842 |
| 1,989 | 572 | 457 | 384 | 481 | 537 | 331 | 187 | 161 | 139 | 180 | 239 | 294 | 3,820 |
| 1,990 | 331 | 443 | 460 | 716 | 667 | 376 | 295 | 301 | 278 | 211 | 292 | 411 | 4,768 |
| 76 - 90 AVG | 322 | 332 | 268 | 321 | 318 | 212 | 181 | 187 | 195 | 192 | 225 | 286 | 2,899 |

**DMC Intake (216)**
**No-Action Alternative**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 3024 | 2932 | 3380 | 4297 | 5322 | 4859 | 4497 | 4218 | 4510 | 4145 | 3740 | 3414 | 48,607 |
| 1,977 | 3488 | 3554 | 3742 | 4383 | 5062 | 4904 | 4610 | 4322 | 4527 | 5102 | 5099 | 4532 | 52,931 |
| 1,978 | 4508 | 4199 | 3996 | 5724 | 6221 | 4926 | 4421 | 3498 | 3962 | 3996 | 3664 | 3496 | 52,151 |
| 1,979 | 3482 | 3168 | 3403 | 4671 | 5926 | 4943 | 4305 | 3513 | 3733 | 3515 | 3454 | 3231 | 48,124 |
| 1,980 | 3112 | 2937 | 3449 | 4348 | 5762 | 4782 | 4421 | 3466 | 3973 | 3791 | 3627 | 3496 | 47,149 |
| 1,981 | 3364 | 3183 | 3412 | 4320 | 5221 | 4752 | 4321 | 3893 | 4026 | 3768 | 3700 | 3389 | 48,633 |
| 1,982 | 3313 | 3207 | 3754 | 5249 | 5791 | 4689 | 4319 | 3194 | 3998 | 3662 | 3516 | 3732 | 48,342 |
| 1,983 | 3439 | 3158 | 3730 | 4408 | 5804 | 4778 | 4342 | 3184 | 4080 | 3676 | 3644 | 3862 | 48,364 |
| 1,984 | 3643 | 2990 | 3778 | 4198 | 5720 | 4842 | 4201 | 3522 | 3900 | 3588 | 3473 | 3251 | 47,797 |
| 1,985 | 3036 | 3258 | 3827 | 4301 | 5176 | 5122 | 4631 | 3770 | 3891 | 3687 | 3782 | 3520 | 47,949 |
| 1,986 | 3463 | 3366 | 3718 | 4615 | 5734 | 4672 | 4498 | 3447 | 4075 | 4053 | 3651 | 3249 | 48,742 |
| 1,987 | 3174 | 3158 | 3407 | 4124 | 5259 | 5235 | 4659 | 4211 | 4218 | 3942 | 4004 | 3780 | 48,645 |
| 1,988 | 3817 | 3613 | 3573 | 4533 | 5634 | 5496 | 4605 | 4149 | 4437 | 4262 | 4059 | 3779 | 49,887 |
| 1,989 | 3828 | 3519 | 3571 | 4303 | 5475 | 4866 | 3973 | 3604 | 3691 | 3573 | 3631 | 3303 | 47,338 |
| 1,990 | 3218 | 3313 | 3642 | 4150 | 5121 | 5163 | 4289 | 3517 | 3874 | 3732 | 3779 | 3606 | 48,052 |
| 76 - 90 AVG | 3,461 | 3,304 | 3,625 | 4,508 | 5,549 | 4,935 | 4,406 | 3,701 | 4,060 | 3,899 | 3,788 | 3,576 | 48,847 |

**DMC Intake (216)**
**State Permit**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 284 | 271 | 392 | 582 | 700 | 655 | 649 | 568 | 557 | 414 | 438 | 462 | 5,972 |
| 1977 | 549 | 659 | 730 | 814 | 914 | 812 | 873 | 704 | 842 | 810 | 670 | 670 | 9,047 |
| 1978 | 756 | 699 | 622 | 455 | 354 | 237 | 238 | 273 | 366 | 410 | 352 | 317 | 5,079 |
| 1979 | 404 | 484 | 510 | 417 | 320 | 274 | 342 | 383 | 367 | 341 | 381 | 360 | 4,583 |
| 1980 | 414 | 402 | 409 | 224 | 189 | 178 | 295 | 318 | 366 | 370 | 346 | 325 | 3,836 |
| 1981 | 390 | 435 | 485 | 476 | 438 | 428 | 496 | 457 | 400 | 385 | 438 | 431 | 5,259 |
| 1982 | 487 | 472 | 399 | 341 | 185 | 184 | 178 | 212 | 272 | 304 | 315 | 300 | 3,649 |
| 1983 | 263 | 225 | 173 | 256 | 206 | 236 | 166 | 174 | 181 | 232 | 285 | 296 | 2,693 |
| 1984 | 308 | 198 | 187 | 178 | 264 | 313 | 348 | 414 | 396 | 347 | 354 | 314 | 3,621 |
| 1985 | 401 | 492 | 428 | 446 | 567 | 525 | 499 | 453 | 395 | 380 | 446 | 459 | 5,491 |
| 1986 | 504 | 519 | 496 | 505 | 239 | 182 | 259 | 301 | 333 | 496 | 357 | 303 | 4,494 |
| 1987 | 401 | 509 | 551 | 739 | 764 | 544 | 599 | 545 | 395 | 391 | 451 | 498 | 6,387 |
| 1988 | 636 | 596 | 580 | 595 | 930 | 491 | 595 | 544 | 492 | 339 | 418 | 519 | 6,735 |
| 1989 | 621 | 596 | 649 | 713 | 912 | 558 | 438 | 374 | 303 | 344 | 407 | 442 | 6,355 |
| 1990 | 465 | 585 | 707 | 866 | 880 | 634 | 532 | 526 | 420 | 346 | 410 | 506 | 6,877 |
| 76 - 90 AVG | 459 | 476 | 488 | 507 | 524 | 417 | 434 | 416 | 406 | 394 | 405 | 413 | 5,339 |

**DMC Intake (216)**
**State Permit**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 123 | 101 | 174 | 364 | 479 | 400 | 335 | 306 | 306 | 222 | 253 | 353 | 3,416 |
| 1977 | 408 | 520 | 440 | 543 | 710 | 615 | 427 | 399 | 427 | 456 | 494 | 584 | 6,023 |
| 1978 | 635 | 506 | 373 | 204 | 124 | 60 | 62 | 85 | 146 | 180 | 154 | 161 | 2,690 |
| 1979 | 251 | 340 | 301 | 214 | 116 | 85 | 123 | 152 | 158 | 148 | 196 | 237 | 2,321 |
| 1980 | 280 | 260 | 195 | 59 | 49 | 37 | 96 | 111 | 145 | 154 | 147 | 171 | 1,704 |
| 1981 | 248 | 284 | 284 | 260 | 194 | 172 | 207 | 206 | 206 | 207 | 259 | 317 | 2,844 |
| 1982 | 344 | 331 | 179 | 124 | 40 | 47 | 33 | 50 | 89 | 115 | 125 | 110 | 1,587 |
| 1983 | 87 | 62 | 38 | 86 | 58 | 73 | 35 | 37 | 41 | 66 | 99 | 105 | 787 |
| 1984 | 111 | 43 | 54 | 35 | 75 | 104 | 126 | 166 | 174 | 151 | 164 | 178 | 1,381 |
| 1985 | 274 | 363 | 210 | 210 | 329 | 266 | 226 | 220 | 199 | 196 | 260 | 348 | 3,101 |
| 1986 | 362 | 359 | 278 | 276 | 76 | 46 | 76 | 100 | 123 | 221 | 155 | 160 | 2,232 |
| 1987 | 258 | 367 | 361 | 572 | 572 | 302 | 271 | 249 | 197 | 210 | 263 | 388 | 4,010 |
| 1988 | 509 | 429 | 370 | 374 | 434 | 229 | 284 | 293 | 299 | 196 | 277 | 430 | 4,124 |
| 1989 | 506 | 439 | 384 | 483 | 563 | 328 | 189 | 160 | 139 | 179 | 260 | 331 | 3,961 |
| 1990 | 333 | 440 | 462 | 701 | 630 | 356 | 280 | 289 | 238 | 202 | 279 | 413 | 4,623 |
| 76 - 90 AVG | 315 | 323 | 274 | 300 | 297 | 208 | 185 | 188 | 192 | 194 | 226 | 286 | 2,987 |

**DMC Intake (216)**
**State Permit**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3021 | 2932 | 3378 | 4293 | 5319 | 4859 | 4511 | 4144 | 4507 | 3983 | 3732 | 3453 | 48,132 |
| 1977 | 3438 | 3461 | 3720 | 4439 | 5166 | 4930 | 4613 | 4323 | 4486 | 5094 | 5066 | 4520 | 53,256 |
| 1978 | 4299 | 4003 | 3973 | 5717 | 6211 | 4927 | 4437 | 3508 | 3962 | 3957 | 3626 | 3495 | 52,115 |
| 1979 | 3431 | 3140 | 3430 | 4680 | 5926 | 4942 | 4305 | 3511 | 3728 | 3551 | 3470 | 3230 | 47,344 |
| 1980 | 3068 | 2916 | 3448 | 4348 | 5762 | 4774 | 4439 | 3475 | 3971 | 3771 | 3619 | 3500 | 47,091 |
| 1981 | 3283 | 3154 | 3415 | 4319 | 5217 | 4879 | 4357 | 3880 | 4059 | 3871 | 3801 | 3412 | 47,647 |
| 1982 | 3322 | 3206 | 3750 | 5248 | 5790 | 4680 | 4319 | 3194 | 3995 | 3683 | 3517 | 3730 | 48,416 |
| 1983 | 3437 | 3158 | 3730 | 4458 | 5812 | 4779 | 4342 | 3182 | 4079 | 3682 | 3644 | 3861 | 48,164 |
| 1984 | 3641 | 2990 | 3778 | 4198 | 5720 | 4845 | 4203 | 3525 | 3901 | 3589 | 3474 | 3251 | 47,115 |
| 1985 | 2982 | 3232 | 3825 | 4329 | 5211 | 5099 | 4588 | 3883 | 3936 | 3699 | 3800 | 3498 | 48,082 |
| 1986 | 3425 | 3347 | 3713 | 4614 | 5734 | 4672 | 4502 | 3461 | 4074 | 4060 | 3681 | 3251 | 48,534 |
| 1987 | 3173 | 3155 | 3407 | 4125 | 5260 | 5236 | 4697 | 4217 | 4175 | 3902 | 3973 | 3758 | 49,078 |
| 1988 | 3725 | 3506 | 3548 | 4528 | 5554 | 5511 | 4613 | 4082 | 4193 | 3857 | 3944 | 3754 | 50,815 |
| 1989 | 3758 | 3475 | 3569 | 4301 | 5413 | 4816 | 3972 | 3623 | 3737 | 3607 | 3739 | 3361 | 47,371 |
| 1990 | 3190 | 3259 | 3611 | 4151 | 5163 | 5195 | 4356 | 3624 | 3765 | 3599 | 3761 | 3596 | 47,270 |
| 76 - 90 AVG | 3,413 | 3,262 | 3,620 | 4,517 | 5,551 | 4,943 | 4,417 | 3,709 | 4,036 | 3,859 | 3,790 | 3,578 | 48,695 |

**DMC Intake (216)**
**Percent Inflow**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 283 | 271 | 398 | 571 | 695 | 657 | 725 | 607 | 719 | 453 | 438 | 459 | 6,276 |
| 1977 | 547 | 615 | 717 | 808 | 953 | 817 | 847 | 720 | 848 | 839 | 678 | 673 | 9,062 |
| 1978 | 756 | 725 | 605 | 452 | 355 | 237 | 238 | 273 | 367 | 546 | 361 | 318 | 5,233 |
| 1979 | 404 | 480 | 503 | 424 | 321 | 274 | 341 | 390 | 368 | 339 | 382 | 359 | 4,585 |
| 1980 | 420 | 420 | 417 | 224 | 189 | 178 | 293 | 317 | 366 | 431 | 348 | 318 | 3,921 |
| 1981 | 403 | 502 | 540 | 511 | 462 | 411 | 521 | 496 | 392 | 388 | 435 | 426 | 5,487 |
| 1982 | 480 | 482 | 402 | 341 | 185 | 184 | 178 | 212 | 272 | 309 | 318 | 303 | 3,666 |
| 1983 | 264 | 225 | 173 | 244 | 205 | 236 | 167 | 174 | 181 | 232 | 285 | 296 | 2,682 |
| 1984 | 308 | 198 | 187 | 178 | 264 | 313 | 348 | 414 | 396 | 347 | 354 | 314 | 3,621 |
| 1985 | 405 | 522 | 422 | 433 | 588 | 541 | 499 | 490 | 412 | 398 | 467 | 465 | 5,642 |
| 1986 | 512 | 518 | 499 | 503 | 238 | 182 | 258 | 301 | 333 | 476 | 354 | 303 | 4,477 |
| 1987 | 400 | 508 | 551 | 739 | 765 | 544 | 735 | 677 | 426 | 427 | 480 | 490 | 6,742 |
| 1988 | 609 | 556 | 532 | 571 | 929 | 491 | 768 | 556 | 701 | 397 | 446 | 562 | 7,118 |
| 1989 | 675 | 618 | 646 | 711 | 930 | 553 | 434 | 375 | 304 | 343 | 389 | 409 | 6,387 |
| 1990 | 466 | 589 | 733 | 870 | 888 | 643 | 533 | 563 | 598 | 381 | 442 | 542 | 7,248 |
| 76 - 90 AVG | 462 | 482 | 488 | 505 | 531 | 417 | 459 | 438 | 446 | 420 | 412 | 418 | 5,476 |

**DMC Intake (216)**
**Percent Inflow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 123 | 101 | 176 | 349 | 471 | 401 | 340 | 317 | 349 | 240 | 257 | 350 | 3,474 |
| 1977 | 399 | 458 | 420 | 590 | 758 | 603 | 429 | 400 | 429 | 458 | 501 | 587 | 6,032 |
| 1978 | 645 | 526 | 351 | 201 | 124 | 60 | 62 | 85 | 148 | 245 | 160 | 162 | 2,767 |
| 1979 | 247 | 332 | 307 | 224 | 118 | 85 | 122 | 155 | 158 | 147 | 198 | 235 | 2,328 |
| 1980 | 283 | 280 | 204 | 60 | 49 | 38 | 96 | 111 | 145 | 182 | 149 | 163 | 1,760 |
| 1981 | 260 | 386 | 352 | 319 | 226 | 167 | 220 | 222 | 197 | 206 | 257 | 313 | 3,105 |
| 1982 | 339 | 344 | 183 | 124 | 40 | 47 | 33 | 50 | 89 | 117 | 127 | 113 | 1,606 |
| 1983 | 87 | 63 | 39 | 79 | 57 | 73 | 35 | 37 | 42 | 66 | 99 | 105 | 782 |
| 1984 | 111 | 43 | 53 | 35 | 75 | 104 | 126 | 166 | 174 | 151 | 164 | 177 | 1,379 |
| 1985 | 273 | 397 | 203 | 204 | 355 | 273 | 228 | 239 | 213 | 208 | 272 | 352 | 3,217 |
| 1986 | 368 | 353 | 281 | 273 | 75 | 46 | 76 | 100 | 123 | 211 | 154 | 160 | 2,220 |
| 1987 | 257 | 365 | 361 | 572 | 572 | 303 | 331 | 313 | 208 | 222 | 266 | 374 | 4,144 |
| 1988 | 475 | 353 | 303 | 345 | 434 | 227 | 352 | 285 | 368 | 233 | 309 | 480 | 4,164 |
| 1989 | 571 | 457 | 384 | 481 | 512 | 315 | 186 | 160 | 140 | 178 | 245 | 293 | 3,920 |
| 1990 | 331 | 438 | 481 | 705 | 664 | 369 | 269 | 314 | 319 | 217 | 312 | 455 | 4,874 |
| 76 - 90 AVG | 318 | 325 | 272 | 304 | 302 | 207 | 195 | 197 | 207 | 205 | 231 | 288 | 3,051 |

**DMC Intake (216)**
**Percent Inflow**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3021 | 2931 | 3394 | 4322 | 5340 | 4861 | 4497 | 4187 | 4504 | 4153 | 3753 | 3439 | 48,402 |
| 1977 | 3498 | 3558 | 3748 | 4392 | 5075 | 4905 | 4622 | 4268 | 4522 | 5093 | 5084 | 4528 | 53,291 |
| 1978 | 4508 | 4200 | 3996 | 5723 | 6221 | 4926 | 4437 | 3508 | 3965 | 3983 | 3688 | 3497 | 52,652 |
| 1979 | 3482 | 3169 | 3389 | 4672 | 5934 | 4940 | 4298 | 3511 | 3731 | 3514 | 3453 | 3231 | 47,324 |
| 1980 | 3118 | 2941 | 3450 | 4348 | 5762 | 4783 | 4421 | 3470 | 3971 | 3845 | 3669 | 3490 | 47,268 |
| 1981 | 3337 | 3159 | 3407 | 4238 | 5167 | 4801 | 4346 | 3928 | 4068 | 3773 | 3699 | 3374 | 47,297 |
| 1982 | 3283 | 3194 | 3753 | 5248 | 5791 | 4689 | 4319 | 3194 | 3998 | 3693 | 3534 | 3736 | 48,432 |
| 1983 | 3441 | 3158 | 3732 | 4407 | 5804 | 4778 | 4343 | 3184 | 4080 | 3683 | 3644 | 3861 | 48,115 |
| 1984 | 3641 | 2990 | 3778 | 4198 | 5720 | 4843 | 4201 | 3523 | 3899 | 3589 | 3473 | 3251 | 47,106 |
| 1985 | 3046 | 3265 | 3844 | 4224 | 5166 | 5123 | 4636 | 3785 | 3907 | 3727 | 3824 | 3533 | 48,080 |
| 1986 | 3475 | 3384 | 3722 | 4605 | 5734 | 4672 | 4499 | 3454 | 4075 | 4050 | 3659 | 3249 | 48,578 |
| 1987 | 3173 | 3157 | 3407 | 4126 | 5260 | 5237 | 4549 | 4091 | 4400 | 4097 | 4112 | 3855 | 49,464 |
| 1988 | 3908 | 3735 | 3597 | 4537 | 5539 | 5526 | 4544 | 4248 | 4505 | 4367 | 4114 | 3804 | 52,424 |
| 1989 | 3857 | 3555 | 3580 | 4305 | 5483 | 4870 | 3972 | 3604 | 3693 | 3573 | 3631 | 3303 | 47,426 |
| 1990 | 3223 | 3325 | 3649 | 4152 | 5096 | 5149 | 4287 | 3565 | 4064 | 3834 | 3855 | 3650 | 47,849 |
| 76 - 90 AVG | 3,467 | 3,315 | 3,630 | 4,500 | 5,539 | 4,940 | 4,398 | 3,701 | 4,092 | 3,932 | 3,813 | 3,587 | 48,914 |

**DMC Intake (216)**
**Flow Study**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 296 | 272 | 394 | 581 | 700 | 648 | 748 | 613 | 729 | 464 | 447 | 468 | 6,360 |
| 1977 | 531 | 565 | 622 | 687 | 884 | 797 | 898 | 754 | 850 | 837 | 673 | 672 | 8,770 |
| 1978 | 767 | 732 | 621 | 454 | 356 | 237 | 238 | 273 | 367 | 546 | 361 | 321 | 5,273 |
| 1979 | 405 | 482 | 504 | 424 | 322 | 272 | 340 | 390 | 366 | 360 | 380 | 356 | 4,601 |
| 1980 | 424 | 427 | 417 | 225 | 189 | 178 | 294 | 317 | 366 | 434 | 346 | 318 | 3,935 |
| 1981 | 405 | 506 | 541 | 514 | 486 | 412 | 518 | 493 | 454 | 456 | 430 | 408 | 5,603 |
| 1982 | 478 | 473 | 400 | 341 | 185 | 184 | 178 | 212 | 272 | 311 | 318 | 302 | 3,654 |
| 1983 | 264 | 225 | 173 | 265 | 206 | 236 | 167 | 174 | 181 | 232 | 285 | 296 | 2,704 |
| 1984 | 308 | 198 | 187 | 178 | 264 | 313 | 348 | 414 | 396 | 347 | 354 | 314 | 3,621 |
| 1985 | 403 | 518 | 422 | 434 | 585 | 542 | 507 | 526 | 419 | 481 | 442 | 447 | 5,726 |
| 1986 | 496 | 473 | 482 | 511 | 239 | 182 | 259 | 301 | 333 | 538 | 359 | 304 | 4,477 |
| 1987 | 403 | 510 | 551 | 739 | 765 | 545 | 736 | 760 | 452 | 515 | 447 | 489 | 6,912 |
| 1988 | 611 | 530 | 558 | 594 | 930 | 575 | 716 | 669 | 756 | 371 | 427 | 539 | 7,276 |
| 1989 | 641 | 592 | 638 | 711 | 909 | 558 | 436 | 382 | 317 | 551 | 413 | 428 | 6,576 |
| 1990 | 462 | 585 | 721 | 860 | 887 | 637 | 794 | 518 | 687 | 353 | 396 | 471 | 7,371 |
| 76 - 90 AVG | 460 | 473 | 482 | 501 | 526 | 421 | 478 | 453 | 463 | 453 | 405 | 409 | 5,524 |

**DMC Intake (216)**
**Flow Study**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 138 | 103 | 175 | 362 | 478 | 406 | 342 | 319 | 357 | 246 | 264 | 360 | 3,550 |
| 1977 | 375 | 384 | 369 | 454 | 673 | 572 | 437 | 404 | 429 | 456 | 495 | 586 | 5,634 |
| 1978 | 651 | 534 | 367 | 204 | 125 | 60 | 62 | 85 | 146 | 245 | 160 | 165 | 2,804 |
| 1979 | 251 | 337 | 308 | 224 | 118 | 84 | 122 | 155 | 157 | 157 | 194 | 232 | 2,339 |
| 1980 | 287 | 287 | 205 | 60 | 49 | 38 | 96 | 111 | 145 | 183 | 147 | 164 | 1,772 |
| 1981 | 263 | 372 | 354 | 323 | 231 | 169 | 219 | 221 | 225 | 232 | 245 | 289 | 3,143 |
| 1982 | 333 | 332 | 179 | 124 | 40 | 47 | 33 | 50 | 89 | 119 | 127 | 112 | 1,585 |
| 1983 | 87 | 63 | 39 | 90 | 58 | 73 | 35 | 37 | 41 | 66 | 99 | 105 | 793 |
| 1984 | 111 | 43 | 54 | 35 | 75 | 104 | 126 | 166 | 174 | 152 | 165 | 177 | 1,382 |
| 1985 | 271 | 392 | 203 | 203 | 351 | 273 | 231 | 251 | 209 | 238 | 255 | 331 | 3,208 |
| 1986 | 351 | 307 | 262 | 262 | 76 | 46 | 76 | 100 | 123 | 241 | 156 | 161 | 2,181 |
| 1987 | 261 | 368 | 361 | 572 | 572 | 303 | 330 | 359 | 220 | 259 | 258 | 377 | 4,238 |
| 1988 | 479 | 347 | 344 | 373 | 434 | 268 | 327 | 322 | 380 | 209 | 290 | 455 | 4,228 |
| 1989 | 531 | 433 | 379 | 480 | 566 | 328 | 189 | 164 | 151 | 278 | 251 | 312 | 4,062 |
| 1990 | 328 | 437 | 460 | 693 | 632 | 360 | 368 | 262 | 349 | 198 | 281 | 371 | 4,719 |
| 76 - 90 AVG | 314 | 316 | 271 | 299 | 299 | 209 | 200 | 200 | 213 | 219 | 224 | 280 | 3,043 |

**DMC Intake (216)**
**Flow Study**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3027 | 2932 | 3380 | 4297 | 5323 | 4858 | 4494 | 4244 | 4602 | 4204 | 3788 | 3447 | 48,594 |
| 1977 | 3562 | 3706 | 3701 | 4334 | 5073 | 4905 | 4665 | 4289 | 4524 | 5102 | 5094 | 4579 | 53,534 |
| 1978 | 4494 | 4223 | 4019 | 5730 | 6257 | 4922 | 4437 | 3507 | 3965 | 3983 | 3688 | 3497 | 52,722 |
| 1979 | 3452 | 3152 | 3388 | 4672 | 5934 | 4923 | 4285 | 3508 | 3726 | 3605 | 3483 | 3231 | 47,359 |
| 1980 | 3130 | 2947 | 3450 | 4348 | 5762 | 4783 | 4417 | 3466 | 3971 | 3827 | 3653 | 3486 | 47,240 |
| 1981 | 3321 | 3149 | 3405 | 4237 | 5175 | 4798 | 4339 | 3922 | 4295 | 4102 | 3832 | 3400 | 47,975 |
| 1982 | 3319 | 3208 | 3752 | 5247 | 5790 | 4688 | 4319 | 3194 | 3999 | 3704 | 3539 | 3736 | 48,495 |
| 1983 | 3443 | 3159 | 3735 | 4514 | 5813 | 4779 | 4342 | 3182 | 4079 | 3682 | 3644 | 3861 | 48,233 |
| 1984 | 3642 | 2990 | 3778 | 4198 | 5720 | 4843 | 4199 | 3523 | 3900 | 3590 | 3474 | 3251 | 47,108 |
| 1985 | 3031 | 3258 | 3844 | 4232 | 5176 | 5129 | 4637 | 3822 | 3996 | 3957 | 3875 | 3496 | 48,453 |
| 1986 | 3424 | 3303 | 3704 | 4621 | 5735 | 4672 | 4505 | 3459 | 4074 | 4014 | 3682 | 3251 | 48,444 |
| 1987 | 3173 | 3155 | 3407 | 4126 | 5259 | 5235 | 4531 | 3971 | 4528 | 4261 | 4123 | 3760 | 49,529 |
| 1988 | 3755 | 3505 | 3544 | 4528 | 5540 | 5659 | 4712 | 4245 | 4455 | 4137 | 3977 | 3736 | 51,793 |
| 1989 | 3760 | 3481 | 3565 | 4304 | 5408 | 4815 | 3973 | 3550 | 3740 | 4062 | 3938 | 3402 | 47,998 |
| 1990 | 3214 | 3288 | 3621 | 4144 | 5169 | 5192 | 4541 | 3779 | 4255 | 3741 | 3746 | 3542 | 48,232 |
| 76 - 90 AVG | 3,450 | 3,297 | 3,620 | 4,502 | 5,542 | 4,947 | 4,426 | 3,711 | 4,141 | 3,998 | 3,836 | 3,578 | 49,047 |

**DMC Intake (216)**
**Existing Conditions**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 283 | 280 | 399 | 466 | 568 | 611 | 729 | 613 | 649 | 421 | 416 | 415 | 5,850 |
| 1977 | 517 | 589 | 694 | 744 | 919 | 818 | 767 | 803 | 851 | 706 | 603 | 631 | 8,642 |
| 1978 | 716 | 689 | 652 | 465 | 359 | 232 | 233 | 281 | 372 | 413 | 371 | 304 | 5,087 |
| 1979 | 329 | 443 | 530 | 435 | 328 | 290 | 349 | 384 | 379 | 344 | 370 | 333 | 4,514 |
| 1980 | 429 | 443 | 447 | 219 | 188 | 172 | 312 | 321 | 367 | 367 | 357 | 305 | 3,927 |
| 1981 | 348 | 406 | 466 | 503 | 536 | 479 | 585 | 470 | 372 | 364 | 404 | 384 | 5,317 |
| 1982 | 477 | 499 | 403 | 345 | 181 | 185 | 178 | 213 | 275 | 301 | 315 | 300 | 3,672 |
| 1983 | 284 | 228 | 174 | 252 | 206 | 236 | 168 | 173 | 183 | 228 | 292 | 319 | 2,743 |
| 1984 | 331 | 201 | 187 | 177 | 265 | 333 | 370 | 436 | 378 | 355 | 354 | 300 | 3,687 |
| 1985 | 414 | 497 | 424 | 442 | 555 | 503 | 493 | 473 | 374 | 358 | 392 | 390 | 5,315 |
| 1986 | 480 | 507 | 509 | 500 | 235 | 182 | 257 | 302 | 339 | 477 | 383 | 313 | 4,484 |
| 1987 | 422 | 525 | 561 | 705 | 757 | 562 | 612 | 565 | 398 | 383 | 391 | 431 | 6,312 |
| 1988 | 492 | 483 | 527 | 566 | 728 | 569 | 559 | 516 | 654 | 380 | 438 | 546 | 6,458 |
| 1989 | 611 | 578 | 656 | 715 | 964 | 561 | 428 | 391 | 360 | 338 | 365 | 394 | 6,361 |
| 1990 | 462 | 579 | 717 | 880 | 963 | 668 | 536 | 536 | 533 | 345 | 409 | 509 | 7,137 |
| 76 - 90 AVG | 440 | 463 | 490 | 494 | 517 | 427 | 438 | 432 | 432 | 385 | 391 | 392 | 5,300 |

**DMC Intake (216)**
**Existing Conditions**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 123 | 104 | 161 | 217 | 321 | 363 | 333 | 310 | 331 | 238 | 290 | 313 | 3,104 |
| 1977 | 364 | 424 | 403 | 527 | 710 | 622 | 375 | 393 | 426 | 423 | 477 | 562 | 5,708 |
| 1978 | 609 | 497 | 380 | 209 | 128 | 57 | 59 | 88 | 149 | 182 | 164 | 144 | 2,666 |
| 1979 | 169 | 295 | 317 | 214 | 113 | 90 | 125 | 152 | 166 | 151 | 174 | 204 | 2,170 |
| 1980 | 292 | 307 | 233 | 60 | 49 | 34 | 103 | 113 | 146 | 152 | 152 | 146 | 1,787 |
| 1981 | 190 | 245 | 239 | 214 | 224 | 194 | 249 | 204 | 183 | 203 | 248 | 278 | 2,671 |
| 1982 | 336 | 365 | 186 | 126 | 39 | 47 | 33 | 50 | 92 | 114 | 123 | 110 | 1,621 |
| 1983 | 94 | 62 | 39 | 84 | 58 | 73 | 35 | 37 | 42 | 63 | 103 | 115 | 805 |
| 1984 | 121 | 45 | 53 | 35 | 76 | 113 | 138 | 183 | 173 | 156 | 157 | 163 | 1,413 |
| 1985 | 284 | 368 | 198 | 195 | 309 | 242 | 210 | 218 | 182 | 193 | 244 | 284 | 2,927 |
| 1986 | 339 | 347 | 285 | 273 | 74 | 46 | 75 | 101 | 127 | 213 | 169 | 168 | 2,217 |
| 1987 | 282 | 386 | 368 | 519 | 554 | 319 | 279 | 259 | 197 | 210 | 259 | 337 | 3,967 |
| 1988 | 357 | 301 | 290 | 335 | 356 | 262 | 267 | 294 | 357 | 226 | 324 | 473 | 3,842 |
| 1989 | 496 | 405 | 383 | 480 | 491 | 322 | 183 | 170 | 180 | 185 | 236 | 289 | 3,820 |
| 1990 | 324 | 425 | 447 | 717 | 679 | 389 | 284 | 290 | 282 | 199 | 298 | 434 | 4,768 |
| 76 - 90 AVG | 292 | 305 | 285 | 280 | 279 | 212 | 183 | 191 | 202 | 194 | 228 | 268 | 2,899 |

**DMC Intake (216)**
**Existing Conditions**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3014 | 2993 | 3452 | 4405 | 5346 | 4857 | 4491 | 4125 | 4556 | 4301 | 3733 | 3334 | 48,607 |
| 1977 | 3473 | 3596 | 3730 | 4366 | 5086 | 4926 | 4553 | 3951 | 4586 | 5335 | 4973 | 4354 | 52,931 |
| 1978 | 4156 | 4027 | 4023 | 5759 | 6435 | 4783 | 4328 | 3472 | 3956 | 3918 | 3775 | 3519 | 52,151 |
| 1979 | 3307 | 3081 | 3452 | 4737 | 5932 | 4912 | 4402 | 3532 | 3918 | 3863 | 3643 | 3345 | 48,124 |
| 1980 | 3158 | 2943 | 3433 | 4324 | 5761 | 4654 | 4497 | 3518 | 3965 | 3743 | 3641 | 3512 | 47,149 |
| 1981 | 3372 | 3207 | 3484 | 4452 | 5793 | 5218 | 4476 | 4104 | 4042 | 3643 | 3565 | 3277 | 48,633 |
| 1982 | 3258 | 3203 | 3747 | 5283 | 5788 | 4680 | 4319 | 3194 | 3982 | 3653 | 3506 | 3729 | 48,342 |
| 1983 | 3629 | 3089 | 3729 | 4433 | 5811 | 4779 | 4342 | 3183 | 4080 | 3620 | 3665 | 4004 | 48,364 |
| 1984 | 3747 | 2993 | 3778 | 4198 | 5717 | 4906 | 4224 | 3574 | 3957 | 3806 | 3595 | 3302 | 47,797 |
| 1985 | 3052 | 3260 | 3828 | 4297 | 5228 | 5085 | 4567 | 4038 | 4034 | 3651 | 3604 | 3305 | 47,949 |
| 1986 | 3319 | 3313 | 3726 | 4588 | 5727 | 4670 | 4489 | 3462 | 4061 | 4115 | 3889 | 3383 | 48,742 |
| 1987 | 3199 | 3152 | 3417 | 4168 | 5299 | 5259 | 4762 | 4304 | 4199 | 3741 | 3712 | 3433 | 48,645 |
| 1988 | 3385 | 3425 | 3578 | 4549 | 5543 | 5152 | 4507 | 3866 | 4212 | 4008 | 3971 | 3691 | 49,887 |
| 1989 | 3777 | 3581 | 3614 | 4326 | 5447 | 4856 | 4025 | 3487 | 3717 | 3595 | 3642 | 3271 | 47,338 |
| 1990 | 3191 | 3340 | 3641 | 4149 | 5228 | 5248 | 4371 | 3632 | 4055 | 3802 | 3818 | 3577 | 48,052 |
| 76 - 90 AVG | 3,402 | 3,280 | 3,642 | 4,536 | 5,609 | 4,932 | 4,424 | 3,696 | 4,088 | 3,920 | 3,782 | 3,536 | 48,847 |

**DMC Intake (216)**
**Existing Conditions**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 283 | 280 | 399 | 466 | 568 | 611 | 729 | 613 | 649 | 421 | 416 | 415 | 5,850 |
| 1977 | 517 | 589 | 694 | 744 | 919 | 818 | 767 | 803 | 851 | 706 | 603 | 631 | 8,642 |
| 1978 | 716 | 689 | 652 | 465 | 359 | 232 | 233 | 281 | 372 | 413 | 371 | 304 | 5,087 |
| 1979 | 329 | 443 | 530 | 435 | 328 | 290 | 349 | 384 | 379 | 344 | 370 | 333 | 4,514 |
| 1980 | 429 | 443 | 447 | 219 | 188 | 172 | 312 | 321 | 367 | 367 | 357 | 305 | 3,927 |
| 1981 | 348 | 406 | 466 | 503 | 536 | 479 | 585 | 470 | 372 | 364 | 404 | 384 | 5,317 |
| 1982 | 477 | 499 | 403 | 345 | 181 | 185 | 178 | 213 | 275 | 301 | 315 | 300 | 3,672 |
| 1983 | 284 | 228 | 174 | 252 | 206 | 236 | 188 | 173 | 183 | 228 | 292 | 319 | 2,743 |
| 1984 | 331 | 201 | 187 | 177 | 265 | 333 | 370 | 436 | 378 | 355 | 354 | 300 | 3,687 |
| 1985 | 414 | 497 | 424 | 442 | 555 | 503 | 493 | 473 | 374 | 358 | 392 | 390 | 5,315 |
| 1986 | 480 | 507 | 509 | 500 | 235 | 182 | 257 | 302 | 339 | 477 | 383 | 313 | 4,484 |
| 1987 | 422 | 525 | 561 | 705 | 757 | 562 | 612 | 565 | 398 | 383 | 391 | 431 | 6,312 |
| 1988 | 492 | 483 | 527 | 566 | 728 | 569 | 559 | 516 | 654 | 380 | 438 | 546 | 6,458 |
| 1989 | 611 | 578 | 656 | 715 | 964 | 561 | 428 | 391 | 360 | 338 | 365 | 394 | 6,361 |
| 1990 | 462 | 579 | 717 | 880 | 963 | 668 | 536 | 536 | 533 | 345 | 409 | 509 | 7,137 |
| 76 - 90 AVG | 440 | 463 | 490 | 494 | 517 | 427 | 438 | 432 | 432 | 385 | 391 | 392 | 5,300 |

**DMC Intake (216)**
**Existing Conditions**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 123 | 104 | 161 | 217 | 321 | 383 | 333 | 310 | 331 | 238 | 290 | 313 | 3,104 |
| 1977 | 364 | 424 | 403 | 527 | 710 | 622 | 375 | 393 | 426 | 423 | 477 | 562 | 5,706 |
| 1978 | 609 | 497 | 380 | 209 | 128 | 57 | 59 | 88 | 149 | 182 | 164 | 144 | 2,668 |
| 1979 | 169 | 295 | 317 | 214 | 113 | 90 | 125 | 152 | 166 | 151 | 174 | 204 | 2,170 |
| 1980 | 292 | 307 | 233 | 60 | 49 | 34 | 103 | 113 | 146 | 152 | 152 | 146 | 1,787 |
| 1981 | 190 | 245 | 239 | 214 | 224 | 194 | 249 | 204 | 183 | 203 | 248 | 278 | 2,671 |
| 1982 | 336 | 365 | 186 | 126 | 39 | 47 | 33 | 50 | 92 | 114 | 123 | 110 | 1,621 |
| 1983 | 94 | 62 | 39 | 84 | 58 | 73 | 35 | 37 | 42 | 63 | 103 | 115 | 805 |
| 1984 | 121 | 45 | 53 | 35 | 76 | 113 | 138 | 183 | 173 | 156 | 157 | 163 | 1,413 |
| 1985 | 284 | 388 | 198 | 195 | 309 | 242 | 210 | 218 | 182 | 193 | 244 | 284 | 2,927 |
| 1986 | 339 | 347 | 285 | 273 | 74 | 46 | 75 | 101 | 127 | 213 | 169 | 168 | 2,217 |
| 1987 | 282 | 386 | 366 | 519 | 554 | 319 | 279 | 259 | 197 | 210 | 259 | 337 | 3,967 |
| 1988 | 357 | 301 | 290 | 335 | 356 | 262 | 267 | 294 | 357 | 226 | 324 | 473 | 3,842 |
| 1989 | 496 | 405 | 383 | 480 | 491 | 322 | 183 | 170 | 180 | 185 | 236 | 289 | 3,820 |
| 1990 | 324 | 425 | 447 | 717 | 679 | 389 | 284 | 290 | 282 | 199 | 298 | 434 | 4,768 |
| 76 - 90 AVG | 292 | 305 | 285 | 280 | 279 | 212 | 183 | 191 | 202 | 194 | 228 | 268 | 2,899 |

**DMC Intake (216)**
**Existing Conditions**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3014 | 2993 | 3452 | 4405 | 5348 | 4857 | 4491 | 4125 | 4556 | 4301 | 3733 | 3334 | 48,607 |
| 1977 | 3473 | 3598 | 3730 | 4366 | 5086 | 4926 | 4553 | 3951 | 4586 | 5335 | 4973 | 4354 | 52,931 |
| 1978 | 4156 | 4027 | 4023 | 5759 | 6435 | 4783 | 4328 | 3472 | 3956 | 3918 | 3775 | 3519 | 52,151 |
| 1979 | 3307 | 3081 | 3452 | 4737 | 5932 | 4912 | 4402 | 3532 | 3918 | 3863 | 3643 | 3345 | 48,124 |
| 1980 | 3158 | 2943 | 3433 | 4324 | 5761 | 4654 | 4497 | 3518 | 3965 | 3743 | 3641 | 3512 | 47,149 |
| 1981 | 3372 | 3207 | 3484 | 4452 | 5793 | 5218 | 4476 | 4104 | 4042 | 3643 | 3565 | 3277 | 48,633 |
| 1982 | 3258 | 3203 | 3747 | 5283 | 5788 | 4680 | 4319 | 3194 | 3982 | 3653 | 3506 | 3729 | 48,342 |
| 1983 | 3629 | 3089 | 3729 | 4433 | 5811 | 4779 | 4342 | 3183 | 4080 | 3620 | 3665 | 4004 | 48,364 |
| 1984 | 3747 | 2993 | 3778 | 4198 | 5717 | 4906 | 4224 | 3574 | 3957 | 3808 | 3595 | 3302 | 47,797 |
| 1985 | 3052 | 3260 | 3828 | 4297 | 5228 | 5085 | 4587 | 4038 | 4034 | 3651 | 3604 | 3305 | 47,949 |
| 1986 | 3319 | 3313 | 3726 | 4588 | 5727 | 4670 | 4489 | 3462 | 4061 | 4115 | 3889 | 3383 | 48,742 |
| 1987 | 3199 | 3152 | 3417 | 4168 | 5299 | 5259 | 4762 | 4304 | 4199 | 3741 | 3712 | 3433 | 48,645 |
| 1988 | 3385 | 3425 | 3578 | 4549 | 5543 | 5152 | 4507 | 3866 | 4212 | 4008 | 3971 | 3691 | 49,887 |
| 1989 | 3777 | 3581 | 3614 | 4326 | 5447 | 4856 | 4025 | 3487 | 3717 | 3595 | 3642 | 3271 | 47,338 |
| 1990 | 3191 | 3340 | 3641 | 4149 | 5228 | 5248 | 4371 | 3632 | 4055 | 3802 | 3818 | 3577 | 48,052 |
| 76 - 90 AVG | 3,402 | 3,280 | 3,642 | 4,536 | 5,609 | 4,932 | 4,424 | 3,696 | 4,088 | 3,920 | 3,782 | 3,536 | 48,847 |

**North Bay Aqueduct (406)**
**Existing Conditions**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 183 | 181 | 187 | 206 | 234 | 233 | 239 | 221 | 204 | 197 | 194 | 194 | 2,473 |
| 1977 | 196 | 198 | 195 | 205 | 237 | 251 | 259 | 269 | 258 | 241 | 229 | 226 | 2,764 |
| 1978 | 227 | 231 | 229 | 255 | 333 | 491 | 545 | 427 | 268 | 211 | 197 | 195 | 3,609 |
| 1979 | 196 | 194 | 193 | 264 | 408 | 469 | 418 | 284 | 222 | 199 | 193 | 194 | 3,234 |
| 1980 | 189 | 185 | 201 | 269 | 397 | 523 | 428 | 326 | 237 | 203 | 194 | 194 | 3,346 |
| 1981 | 195 | 197 | 197 | 224 | 288 | 280 | 254 | 242 | 210 | 196 | 191 | 191 | 2,665 |
| 1982 | 188 | 204 | 234 | 294 | 448 | 440 | 523 | 475 | 324 | 223 | 198 | 192 | 3,741 |
| 1983 | 189 | 206 | 246 | 279 | 422 | 545 | 643 | 480 | 290 | 212 | 193 | 191 | 3,896 |
| 1984 | 191 | 198 | 223 | 312 | 318 | 270 | 266 | 224 | 202 | 194 | 191 | 192 | 2,781 |
| 1985 | 191 | 217 | 255 | 252 | 263 | 268 | 281 | 278 | 223 | 200 | 193 | 193 | 2,814 |
| 1986 | 193 | 198 | 215 | 262 | 334 | 461 | 529 | 392 | 258 | 210 | 198 | 196 | 3,446 |
| 1987 | 196 | 196 | 194 | 206 | 243 | 275 | 289 | 266 | 224 | 203 | 196 | 197 | 2,685 |
| 1988 | 198 | 196 | 201 | 236 | 310 | 345 | 336 | 288 | 238 | 215 | 206 | 208 | 2,977 |
| 1989 | 210 | 210 | 206 | 212 | 236 | 260 | 267 | 243 | 213 | 200 | 195 | 194 | 2,646 |
| 1990 | 190 | 189 | 192 | 209 | 249 | 284 | 310 | 272 | 227 | 210 | 203 | 204 | 2,739 |
| 76 - 90 AVG | 195 | 200 | 211 | 248 | 315 | 360 | 372 | 312 | 240 | 208 | 198 | 197 | 3,054 |

**North Bay Aqueduct (406)**
**Existing Conditions**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 60 | 57 | 58 | 61 | 69 | 70 | 79 | 80 | 79 | 72 | 65 | 66 | 816 |
| 1977 | 73 | 75 | 67 | 65 | 73 | 78 | 83 | 97 | 104 | 104 | 97 | 92 | 1,008 |
| 1978 | 96 | 103 | 102 | 109 | 137 | 193 | 224 | 178 | 107 | 75 | 65 | 66 | 1,455 |
| 1979 | 71 | 69 | 62 | 87 | 144 | 175 | 159 | 107 | 83 | 69 | 63 | 65 | 1,154 |
| 1980 | 64 | 60 | 65 | 93 | 144 | 203 | 166 | 126 | 90 | 71 | 63 | 66 | 1,211 |
| 1981 | 70 | 71 | 66 | 70 | 93 | 91 | 86 | 89 | 78 | 68 | 62 | 64 | 908 |
| 1982 | 64 | 76 | 91 | 109 | 169 | 165 | 220 | 214 | 139 | 81 | 65 | 64 | 1,457 |
| 1983 | 64 | 77 | 101 | 104 | 160 | 216 | 274 | 210 | 118 | 74 | 62 | 63 | 1,523 |
| 1984 | 66 | 71 | 81 | 123 | 120 | 93 | 96 | 82 | 75 | 67 | 62 | 65 | 1,001 |
| 1985 | 67 | 86 | 108 | 94 | 89 | 89 | 103 | 113 | 87 | 71 | 63 | 66 | 1,036 |
| 1986 | 69 | 73 | 77 | 93 | 118 | 176 | 219 | 163 | 102 | 75 | 68 | 67 | 1,298 |
| 1987 | 71 | 70 | 64 | 63 | 74 | 90 | 104 | 102 | 88 | 74 | 66 | 69 | 935 |
| 1988 | 74 | 72 | 70 | 80 | 106 | 121 | 123 | 112 | 96 | 84 | 74 | 76 | 1,088 |
| 1989 | 83 | 85 | 77 | 72 | 76 | 84 | 94 | 93 | 83 | 73 | 66 | 66 | 952 |
| 1990 | 65 | 65 | 63 | 67 | 78 | 93 | 112 | 105 | 89 | 80 | 72 | 74 | 963 |
| 76 - 90 AVG | 70 | 74 | 77 | 86 | 110 | 129 | 143 | 125 | 95 | 76 | 67 | 69 | 1,120 |

**North Bay Aqueduct (406)**
**Existing Conditions**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3742 | 3504 | 3907 | 4807 | 5804 | 5516 | 5765 | 5105 | 4820 | 4729 | 4770 | 4648 | 57,017 |
| 1977 | 4535 | 4330 | 4060 | 4575 | 5964 | 6249 | 6515 | 6985 | 6912 | 6745 | 6726 | 6742 | 70,338 |
| 1978 | 6647 | 6540 | 6163 | 7313 | 10922 | 15320 | 14001 | 10299 | 6310 | 4795 | 4566 | 4435 | 97,311 |
| 1979 | 4264 | 3964 | 3834 | 7303 | 12555 | 12725 | 10213 | 6511 | 5051 | 4488 | 4489 | 4420 | 79,817 |
| 1980 | 3965 | 3566 | 4341 | 7193 | 11278 | 14081 | 10542 | 7583 | 5440 | 4582 | 4487 | 4415 | 81,473 |
| 1981 | 4245 | 4131 | 4088 | 5445 | 7739 | 7087 | 5967 | 5467 | 4768 | 4456 | 4447 | 4337 | 62,177 |
| 1982 | 3979 | 4659 | 5909 | 8248 | 12964 | 11977 | 13249 | 11583 | 7792 | 5108 | 4560 | 4281 | 94,309 |
| 1983 | 3946 | 4691 | 6083 | 7422 | 12149 | 15217 | 16410 | 11466 | 6846 | 4806 | 4423 | 4257 | 97,716 |
| 1984 | 4039 | 4230 | 5350 | 8376 | 8196 | 6708 | 6356 | 4954 | 4543 | 4388 | 4447 | 4398 | 65,985 |
| 1985 | 4109 | 5326 | 6734 | 6232 | 6490 | 6613 | 6718 | 6498 | 5188 | 4647 | 4572 | 4501 | 67,626 |
| 1986 | 4274 | 4320 | 5020 | 6807 | 9039 | 12636 | 12929 | 9208 | 5930 | 4766 | 4598 | 4464 | 83,991 |
| 1987 | 4255 | 4056 | 3909 | 4588 | 6043 | 6963 | 7254 | 6294 | 5301 | 4846 | 4788 | 4772 | 63,069 |
| 1988 | 4586 | 4252 | 4421 | 5962 | 8472 | 9159 | 8767 | 7271 | 5967 | 5511 | 5378 | 5415 | 75,161 |
| 1989 | 5298 | 5015 | 4674 | 4894 | 5981 | 6620 | 6499 | 5743 | 5098 | 4855 | 4800 | 4625 | 64,100 |
| 1990 | 4171 | 3941 | 3996 | 4823 | 6387 | 7099 | 7739 | 6638 | 5477 | 5255 | 5247 | 5221 | 65,994 |
| 76 - 90 AVG | 4,404 | 4,435 | 4,826 | 6,266 | 8,666 | 9,598 | 9,262 | 7,440 | 5,696 | 4,932 | 4,820 | 4,729 | 75,072 |

**North Bay Aqueduct, 406**
**Cumulative Impact**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 175 | 175 | 178 | 199 | 214 | 218 | 226 | 213 | 199 | 194 | 194 | 191 |
| 1977 | 193 | 193 | 191 | 204 | 236 | 246 | 255 | 265 | 249 | 233 | 222 | 222 |
| 1978 | 223 | 227 | 224 | 265 | 370 | 495 | 527 | 355 | 231 | 195 | 186 | 184 |
| 1979 | 186 | 185 | 185 | 271 | 415 | 470 | 368 | 255 | 208 | 189 | 185 | 186 |
| 1980 | 182 | 179 | 200 | 280 | 429 | 527 | 361 | 285 | 214 | 191 | 186 | 185 |
| 1981 | 186 | 189 | 188 | 223 | 282 | 251 | 245 | 236 | 207 | 196 | 194 | 192 |
| 1982 | 187 | 202 | 227 | 298 | 462 | 402 | 533 | 427 | 270 | 202 | 187 | 184 |
| 1983 | 181 | 204 | 242 | 290 | 487 | 610 | 672 | 428 | 257 | 199 | 187 | 186 |
| 1984 | 185 | 193 | 225 | 335 | 276 | 246 | 238 | 204 | 190 | 184 | 182 | 182 |
| 1985 | 180 | 210 | 239 | 236 | 246 | 245 | 277 | 269 | 218 | 198 | 193 | 193 |
| 1986 | 191 | 195 | 212 | 259 | 345 | 527 | 502 | 326 | 225 | 195 | 186 | 184 |
| 1987 | 185 | 186 | 185 | 200 | 232 | 255 | 294 | 294 | 258 | 227 | 214 | 213 |
| 1988 | 215 | 213 | 212 | 235 | 299 | 343 | 306 | 248 | 212 | 199 | 197 | 199 |
| 1989 | 198 | 195 | 193 | 205 | 231 | 244 | 250 | 224 | 201 | 193 | 191 | 189 |
| 1990 | 185 | 183 | 187 | 206 | 250 | 287 | 287 | 241 | 209 | 199 | 196 | 198 |
| Average | 190 | 195 | 206 | 247 | 318 | 358 | 356 | 285 | 223 | 200 | 193 | 193 |

**North Bay Aqueduct, 406**
**Cumulative Impact**
**Bromide**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 53 | 51 | 50 | 55 | 59 | 63 | 73 | 76 | 75 | 70 | 65 | 65 |
| 1977 | 69 | 70 | 63 | 63 | 71 | 75 | 82 | 97 | 102 | 100 | 91 | 88 |
| 1978 | 93 | 101 | 97 | 111 | 148 | 192 | 217 | 141 | 85 | 63 | 56 | 58 |
| 1979 | 62 | 60 | 55 | 87 | 147 | 177 | 136 | 92 | 74 | 61 | 56 | 60 |
| 1980 | 58 | 55 | 63 | 96 | 156 | 205 | 134 | 105 | 76 | 61 | 56 | 58 |
| 1981 | 62 | 63 | 58 | 67 | 89 | 78 | 82 | 86 | 76 | 68 | 64 | 64 |
| 1982 | 63 | 73 | 85 | 108 | 175 | 149 | 230 | 190 | 107 | 67 | 57 | 57 |
| 1983 | 57 | 73 | 96 | 103 | 186 | 246 | 292 | 183 | 99 | 65 | 57 | 59 |
| 1984 | 60 | 65 | 81 | 135 | 97 | 81 | 81 | 69 | 65 | 58 | 54 | 57 |
| 1985 | 57 | 78 | 94 | 81 | 78 | 77 | 102 | 107 | 84 | 70 | 64 | 66 |
| 1986 | 67 | 69 | 74 | 90 | 122 | 208 | 208 | 128 | 82 | 64 | 56 | 58 |
| 1987 | 61 | 61 | 56 | 57 | 68 | 80 | 104 | 117 | 109 | 94 | 80 | 81 |
| 1988 | 87 | 86 | 81 | 85 | 105 | 122 | 110 | 91 | 79 | 71 | 67 | 70 |
| 1989 | 73 | 70 | 63 | 62 | 69 | 75 | 86 | 82 | 75 | 67 | 63 | 62 |
| 1990 | 61 | 59 | 58 | 62 | 76 | 94 | 102 | 88 | 78 | 71 | 66 | 69 |
| Average | 66 | 69 | 72 | 84 | 110 | 128 | 136 | 110 | 84 | 70 | 63 | 65 |

**North Bay Aqueduct, 406**
**Cumulative Impact**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3241 | 3165 | 3374 | 4493 | 4804 | 5069 | 5287 | 4773 | 4582 | 4558 | 4664 | 4469 |
| 1977 | 4269 | 4012 | 3831 | 4502 | 5695 | 5871 | 6275 | 6791 | 6610 | 6444 | 6447 | 6505 |
| 1978 | 6358 | 6194 | 5773 | 7752 | 12510 | 14414 | 12722 | 8124 | 5039 | 4096 | 4008 | 3849 |
| 1979 | 3699 | 3442 | 3489 | 7432 | 11298 | 11848 | 8579 | 5511 | 4470 | 4002 | 4045 | 3998 |
| 1980 | 3530 | 3246 | 4238 | 7271 | 11501 | 13385 | 8403 | 6246 | 4586 | 3995 | 4013 | 3896 |
| 1981 | 3724 | 3652 | 3638 | 5327 | 6948 | 6091 | 5585 | 5247 | 4639 | 4448 | 4519 | 4334 |
| 1982 | 3862 | 4521 | 5530 | 8255 | 12881 | 10471 | 12842 | 10101 | 6077 | 4266 | 4025 | 3781 |
| 1983 | 3437 | 4373 | 5524 | 7555 | 13200 | 16008 | 16438 | 9966 | 5806 | 4274 | 4102 | 3929 |
| 1984 | 3656 | 3903 | 5238 | 8640 | 6664 | 5899 | 5215 | 4141 | 3943 | 3832 | 3911 | 3838 |
| 1985 | 3489 | 4823 | 5564 | 5481 | 5693 | 5866 | 6439 | 6127 | 4974 | 4533 | 4535 | 4428 |
| 1986 | 4092 | 4106 | 4829 | 6587 | 9208 | 13337 | 11778 | 7199 | 4801 | 4096 | 4002 | 3854 |
| 1987 | 3652 | 3517 | 3467 | 4353 | 5397 | 6227 | 7551 | 7514 | 6660 | 6004 | 5799 | 5756 |
| 1988 | 5573 | 5167 | 4984 | 6024 | 8488 | 9235 | 7619 | 5747 | 4891 | 4671 | 4761 | 4742 |
| 1989 | 4453 | 4103 | 3923 | 4567 | 5533 | 5772 | 5734 | 5001 | 4589 | 4416 | 4511 | 4265 |
| 1990 | 3817 | 3558 | 3699 | 4668 | 6054 | 6908 | 6846 | 5496 | 4784 | 4687 | 4748 | 4752 |
| Average | 4057 | 4119 | 4473 | 6194 | 8392 | 9093 | 8488 | 6532 | 5095 | 4555 | 4539 | 4426 |

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**North Bay Aqueduct, 406**
**Cumulative Impact**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 175 | 175 | 178 | 199 | 214 | 218 | 226 | 213 | 199 | 194 | 194 | 191 |
| 1977 | 193 | 193 | 191 | 204 | 236 | 246 | 255 | 265 | 249 | 233 | 222 | 222 |
| 1978 | 223 | 227 | 224 | 265 | 370 | 495 | 527 | 355 | 231 | 195 | 186 | 184 |
| 1979 | 186 | 185 | 185 | 271 | 415 | 470 | 368 | 255 | 208 | 189 | 185 | 186 |
| 1980 | 182 | 179 | 200 | 280 | 429 | 527 | 361 | 285 | 214 | 191 | 186 | 185 |
| 1981 | 186 | 189 | 188 | 223 | 282 | 251 | 245 | 236 | 207 | 196 | 194 | 192 |
| 1982 | 187 | 202 | 227 | 298 | 462 | 402 | 533 | 427 | 270 | 202 | 187 | 184 |
| 1983 | 181 | 204 | 242 | 290 | 487 | 610 | 672 | 428 | 257 | 199 | 187 | 186 |
| 1984 | 185 | 193 | 225 | 335 | 276 | 246 | 238 | 204 | 190 | 184 | 182 | 182 |
| 1985 | 180 | 210 | 239 | 236 | 246 | 245 | 277 | 269 | 218 | 198 | 193 | 193 |
| 1986 | 191 | 195 | 212 | 259 | 345 | 527 | 502 | 326 | 225 | 195 | 186 | 184 |
| 1987 | 185 | 186 | 185 | 200 | 232 | 255 | 294 | 294 | 258 | 227 | 214 | 213 |
| 1988 | 215 | 213 | 212 | 235 | 299 | 343 | 306 | 248 | 212 | 199 | 197 | 199 |
| 1989 | 198 | 195 | 193 | 205 | 231 | 244 | 250 | 224 | 201 | 193 | 191 | 189 |
| 1990 | 185 | 183 | 187 | 206 | 250 | 287 | 287 | 241 | 209 | 199 | 196 | 198 |
| Average | 190 | 195 | 206 | 247 | 318 | 358 | 356 | 285 | 223 | 200 | 193 | 193 |

**North Bay Aqueduct, 406**
**Cumulative Impact**
**Bromide**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 53 | 51 | 50 | 55 | 59 | 63 | 73 | 76 | 75 | 70 | 65 | 65 |
| 1977 | 69 | 70 | 63 | 63 | 71 | 75 | 82 | 97 | 102 | 100 | 91 | 88 |
| 1978 | 93 | 101 | 97 | 111 | 148 | 192 | 217 | 141 | 85 | 63 | 56 | 58 |
| 1979 | 62 | 60 | 55 | 87 | 147 | 177 | 136 | 92 | 74 | 61 | 56 | 60 |
| 1980 | 58 | 55 | 63 | 96 | 156 | 205 | 134 | 105 | 76 | 61 | 56 | 58 |
| 1981 | 62 | 63 | 58 | 67 | 89 | 78 | 82 | 86 | 76 | 68 | 64 | 64 |
| 1982 | 63 | 73 | 85 | 108 | 175 | 149 | 230 | 190 | 107 | 67 | 57 | 57 |
| 1983 | 57 | 73 | 96 | 103 | 186 | 246 | 292 | 183 | 99 | 65 | 57 | 59 |
| 1984 | 60 | 65 | 81 | 135 | 97 | 81 | 81 | 69 | 65 | 58 | 54 | 57 |
| 1985 | 57 | 78 | 94 | 81 | 78 | 77 | 102 | 107 | 84 | 70 | 64 | 66 |
| 1986 | 67 | 69 | 74 | 90 | 122 | 208 | 208 | 128 | 82 | 64 | 56 | 58 |
| 1987 | 61 | 61 | 56 | 57 | 68 | 80 | 104 | 117 | 109 | 94 | 80 | 81 |
| 1988 | 87 | 88 | 81 | 85 | 105 | 122 | 110 | 91 | 79 | 71 | 67 | 70 |
| 1989 | 73 | 70 | 63 | 62 | 69 | 75 | 86 | 82 | 75 | 67 | 63 | 62 |
| 1990 | 61 | 59 | 58 | 62 | 76 | 94 | 102 | 88 | 78 | 71 | 66 | 69 |
| Average | 66 | 69 | 72 | 84 | 110 | 128 | 136 | 110 | 84 | 70 | 63 | 65 |

**North Bay Aqueduct, 406**
**Cumulative Impact**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3241 | 3165 | 3374 | 4493 | 4804 | 5069 | 5287 | 4773 | 4582 | 4558 | 4664 | 4469 |
| 1977 | 4269 | 4012 | 3831 | 4502 | 5695 | 5871 | 6275 | 6791 | 6610 | 6444 | 6447 | 6505 |
| 1978 | 6358 | 6194 | 5773 | 7752 | 12510 | 14414 | 12722 | 8124 | 5039 | 4096 | 4008 | 3849 |
| 1979 | 3699 | 3442 | 3489 | 7432 | 11298 | 11848 | 8579 | 5511 | 4470 | 4002 | 4045 | 3998 |
| 1980 | 3530 | 3246 | 4238 | 7271 | 11501 | 13385 | 8403 | 6246 | 4586 | 3995 | 4013 | 3896 |
| 1981 | 3724 | 3652 | 3838 | 5327 | 6948 | 6091 | 5585 | 5247 | 4639 | 4448 | 4519 | 4334 |
| 1982 | 3862 | 4521 | 5530 | 8255 | 12881 | 10471 | 12842 | 10101 | 6077 | 4266 | 4025 | 3781 |
| 1983 | 3437 | 4373 | 5524 | 7555 | 13200 | 16008 | 16438 | 9966 | 5806 | 4274 | 4102 | 3929 |
| 1984 | 3656 | 3903 | 5238 | 8640 | 6664 | 5899 | 5215 | 4141 | 3943 | 3832 | 3911 | 3838 |
| 1985 | 3489 | 4823 | 5564 | 5481 | 5693 | 5866 | 6439 | 6127 | 4974 | 4533 | 4535 | 4428 |
| 1986 | 4092 | 4106 | 4829 | 6587 | 9208 | 13337 | 11778 | 7199 | 4801 | 4098 | 4002 | 3854 |
| 1987 | 3652 | 3517 | 3467 | 4353 | 5397 | 6227 | 7551 | 7514 | 6660 | 6004 | 5799 | 5756 |
| 1988 | 5573 | 5167 | 4984 | 6024 | 8488 | 9235 | 7619 | 5747 | 4891 | 4671 | 4761 | 4742 |
| 1989 | 4453 | 4103 | 3923 | 4567 | 5533 | 5772 | 5734 | 5001 | 4569 | 4416 | 4511 | 4265 |
| 1990 | 3817 | 3558 | 3699 | 4668 | 6054 | 6908 | 6846 | 5496 | 4784 | 4687 | 4748 | 4752 |
| Average | 4057 | 4119 | 4473 | 6194 | 8392 | 9093 | 8488 | 6532 | 5095 | 4555 | 4539 | 4426 |

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**North Bay Aqueduct, 406**
**Cumulative Impact**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 175 | 175 | 178 | 199 | 214 | 218 | 226 | 213 | 199 | 194 | 194 | 191 |
| 1977 | 193 | 193 | 191 | 204 | 236 | 246 | 255 | 265 | 249 | 233 | 222 | 222 |
| 1978 | 223 | 227 | 224 | 265 | 370 | 495 | 527 | 355 | 231 | 195 | 186 | 184 |
| 1979 | 186 | 185 | 185 | 271 | 415 | 470 | 368 | 255 | 208 | 189 | 185 | 186 |
| 1980 | 182 | 179 | 200 | 280 | 429 | 527 | 361 | 285 | 214 | 191 | 186 | 185 |
| 1981 | 186 | 189 | 188 | 223 | 282 | 251 | 245 | 236 | 207 | 196 | 194 | 192 |
| 1982 | 187 | 202 | 227 | 298 | 462 | 402 | 533 | 427 | 270 | 202 | 187 | 184 |
| 1983 | 181 | 204 | 242 | 290 | 487 | 610 | 672 | 428 | 257 | 199 | 187 | 186 |
| 1984 | 185 | 193 | 225 | 335 | 276 | 246 | 238 | 204 | 190 | 184 | 182 | 182 |
| 1985 | 180 | 210 | 239 | 236 | 246 | 245 | 277 | 269 | 218 | 198 | 193 | 193 |
| 1986 | 191 | 195 | 212 | 259 | 345 | 527 | 502 | 326 | 225 | 195 | 186 | 184 |
| 1987 | 185 | 186 | 185 | 200 | 232 | 255 | 294 | 294 | 258 | 227 | 214 | 213 |
| 1988 | 215 | 213 | 212 | 235 | 299 | 343 | 306 | 248 | 212 | 199 | 197 | 199 |
| 1989 | 198 | 195 | 193 | 205 | 231 | 244 | 250 | 224 | 201 | 193 | 191 | 189 |
| 1990 | 185 | 183 | 187 | 206 | 250 | 287 | 287 | 241 | 209 | 199 | 196 | 198 |
| Average | 190 | 195 | 206 | 247 | 318 | 358 | 356 | 285 | 223 | 200 | 193 | 193 |

**North Bay Aqueduct, 406**
**Cumulative Impact**
**Bromide**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 53 | 51 | 50 | 55 | 59 | 63 | 73 | 76 | 75 | 70 | 65 | 65 |
| 1977 | 69 | 70 | 63 | 63 | 71 | 75 | 82 | 97 | 102 | 100 | 91 | 88 |
| 1978 | 93 | 101 | 97 | 111 | 148 | 192 | 217 | 141 | 85 | 63 | 58 | 58 |
| 1979 | 62 | 60 | 55 | 87 | 147 | 177 | 136 | 92 | 74 | 61 | 56 | 60 |
| 1980 | 58 | 55 | 63 | 96 | 156 | 205 | 134 | 105 | 76 | 61 | 56 | 58 |
| 1981 | 62 | 63 | 58 | 67 | 89 | 78 | 82 | 86 | 76 | 68 | 64 | 64 |
| 1982 | 63 | 73 | 85 | 108 | 175 | 149 | 230 | 190 | 107 | 67 | 57 | 57 |
| 1983 | 57 | 73 | 96 | 103 | 186 | 246 | 292 | 183 | 99 | 65 | 57 | 59 |
| 1984 | 60 | 65 | 81 | 135 | 97 | 81 | 81 | 69 | 65 | 58 | 54 | 57 |
| 1985 | 57 | 78 | 94 | 81 | 78 | 77 | 102 | 107 | 84 | 70 | 64 | 66 |
| 1986 | 67 | 69 | 74 | 90 | 122 | 208 | 208 | 128 | 82 | 64 | 58 | 58 |
| 1987 | 61 | 61 | 56 | 57 | 68 | 80 | 104 | 117 | 109 | 94 | 80 | 81 |
| 1988 | 87 | 88 | 81 | 85 | 105 | 122 | 110 | 91 | 79 | 71 | 67 | 70 |
| 1989 | 73 | 70 | 63 | 62 | 69 | 75 | 86 | 82 | 75 | 67 | 63 | 62 |
| 1990 | 61 | 59 | 58 | 62 | 76 | 94 | 102 | 88 | 78 | 71 | 66 | 69 |
| Average | 66 | 69 | 72 | 84 | 110 | 128 | 136 | 110 | 84 | 70 | 63 | 65 |

**North Bay Aqueduct, 406**
**Cumulative Impact**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3241 | 3165 | 3374 | 4493 | 4804 | 5069 | 5287 | 4773 | 4582 | 4558 | 4664 | 4469 |
| 1977 | 4269 | 4012 | 3831 | 4502 | 5695 | 5871 | 6275 | 8791 | 6610 | 6444 | 6447 | 6505 |
| 1978 | 6358 | 6194 | 5773 | 7752 | 12510 | 14414 | 12722 | 8124 | 5039 | 4096 | 4008 | 3849 |
| 1979 | 3699 | 3442 | 3489 | 7432 | 11298 | 11848 | 8579 | 5511 | 4470 | 4002 | 4045 | 3998 |
| 1980 | 3530 | 3246 | 4238 | 7271 | 11501 | 13385 | 8403 | 6246 | 4586 | 3995 | 4013 | 3896 |
| 1981 | 3724 | 3652 | 3638 | 5327 | 6948 | 6091 | 5585 | 5247 | 4639 | 4448 | 4519 | 4334 |
| 1982 | 3862 | 4521 | 5530 | 8255 | 12881 | 10471 | 12842 | 10101 | 6077 | 4266 | 4025 | 3781 |
| 1983 | 3437 | 4373 | 5524 | 7555 | 13200 | 16008 | 16438 | 9966 | 5806 | 4274 | 4102 | 3929 |
| 1984 | 3656 | 3903 | 5238 | 8640 | 6664 | 5899 | 5215 | 4141 | 3943 | 3832 | 3911 | 3838 |
| 1985 | 3489 | 4823 | 5564 | 5481 | 5693 | 5866 | 6439 | 6127 | 4974 | 4533 | 4535 | 4428 |
| 1986 | 4092 | 4106 | 4829 | 6587 | 9208 | 13337 | 11778 | 7199 | 4801 | 4098 | 4002 | 3854 |
| 1987 | 3652 | 3517 | 3467 | 4353 | 5397 | 6227 | 7551 | 7514 | 6660 | 6004 | 5799 | 5756 |
| 1988 | 5573 | 5167 | 4984 | 6024 | 8488 | 9235 | 7619 | 5747 | 4891 | 4671 | 4761 | 4742 |
| 1989 | 4453 | 4103 | 3923 | 4567 | 5533 | 5772 | 5734 | 5001 | 4569 | 4416 | 4511 | 4265 |
| 1990 | 3817 | 3558 | 3699 | 4868 | 6054 | 6906 | 6846 | 5496 | 4784 | 4687 | 4748 | 4752 |
| Average | 4057 | 4119 | 4473 | 6194 | 8392 | 9093 | 8488 | 6532 | 5095 | 4555 | 4539 | 4426 |

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**North Bay Aqueduct, 406**
**Cumulative Impact**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 175 | 175 | 178 | 199 | 214 | 218 | 226 | 213 | 199 | 194 | 194 | 191 |
| 1977 | 193 | 193 | 191 | 204 | 236 | 246 | 255 | 265 | 249 | 233 | 222 | 222 |
| 1978 | 223 | 227 | 224 | 265 | 370 | 495 | 527 | 355 | 231 | 195 | 186 | 184 |
| 1979 | 186 | 185 | 185 | 271 | 415 | 470 | 368 | 255 | 208 | 189 | 185 | 186 |
| 1980 | 182 | 179 | 200 | 280 | 429 | 527 | 361 | 285 | 214 | 191 | 186 | 185 |
| 1981 | 186 | 189 | 188 | 223 | 282 | 251 | 245 | 236 | 207 | 196 | 194 | 192 |
| 1982 | 187 | 202 | 227 | 298 | 462 | 402 | 533 | 427 | 270 | 202 | 187 | 184 |
| 1983 | 181 | 204 | 242 | 290 | 487 | 610 | 672 | 428 | 257 | 199 | 187 | 186 |
| 1984 | 185 | 193 | 225 | 335 | 276 | 246 | 238 | 204 | 190 | 184 | 182 | 182 |
| 1985 | 180 | 210 | 239 | 236 | 246 | 245 | 277 | 269 | 218 | 198 | 193 | 193 |
| 1986 | 191 | 195 | 212 | 259 | 345 | 527 | 502 | 326 | 225 | 195 | 186 | 184 |
| 1987 | 185 | 186 | 185 | 200 | 232 | 255 | 294 | 294 | 258 | 227 | 214 | 213 |
| 1988 | 215 | 213 | 212 | 235 | 299 | 343 | 306 | 248 | 212 | 199 | 197 | 199 |
| 1989 | 198 | 195 | 193 | 205 | 231 | 244 | 250 | 224 | 201 | 193 | 191 | 189 |
| 1990 | 185 | 183 | 187 | 206 | 250 | 287 | 287 | 241 | 209 | 199 | 196 | 198 |
| Average | 190 | 195 | 206 | 247 | 318 | 358 | 356 | 285 | 223 | 200 | 193 | 193 |

**North Bay Aqueduct, 406**
**Cumulative Impact**
**Bromide**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 53 | 51 | 50 | 55 | 59 | 63 | 73 | 76 | 75 | 70 | 65 | 65 |
| 1977 | 69 | 70 | 63 | 63 | 71 | 75 | 82 | 97 | 102 | 100 | 91 | 88 |
| 1978 | 93 | 101 | 97 | 111 | 148 | 192 | 217 | 141 | 85 | 63 | 58 | 58 |
| 1979 | 62 | 60 | 55 | 87 | 147 | 177 | 136 | 92 | 74 | 61 | 56 | 60 |
| 1980 | 58 | 55 | 63 | 98 | 156 | 205 | 134 | 105 | 76 | 61 | 56 | 58 |
| 1981 | 62 | 63 | 58 | 67 | 89 | 78 | 82 | 86 | 76 | 68 | 64 | 64 |
| 1982 | 63 | 73 | 85 | 108 | 175 | 149 | 230 | 190 | 107 | 67 | 57 | 57 |
| 1983 | 57 | 73 | 96 | 103 | 186 | 246 | 292 | 183 | 99 | 65 | 57 | 59 |
| 1984 | 60 | 65 | 81 | 135 | 97 | 81 | 81 | 69 | 65 | 58 | 54 | 57 |
| 1985 | 57 | 78 | 94 | 81 | 78 | 77 | 102 | 107 | 84 | 70 | 64 | 66 |
| 1986 | 67 | 69 | 74 | 90 | 122 | 208 | 208 | 128 | 82 | 64 | 56 | 58 |
| 1987 | 61 | 61 | 56 | 57 | 68 | 80 | 104 | 117 | 109 | 94 | 80 | 81 |
| 1988 | 87 | 88 | 81 | 85 | 105 | 122 | 110 | 91 | 79 | 71 | 67 | 70 |
| 1989 | 73 | 70 | 63 | 62 | 69 | 75 | 86 | 82 | 75 | 67 | 63 | 62 |
| 1990 | 61 | 59 | 58 | 62 | 76 | 94 | 102 | 88 | 78 | 71 | 66 | 69 |
| Average | 66 | 69 | 72 | 84 | 110 | 128 | 136 | 110 | 84 | 70 | 63 | 65 |

**North Bay Aqueduct, 406**
**Cumulative Impact**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3241 | 3165 | 3374 | 4493 | 4804 | 5069 | 5287 | 4773 | 4582 | 4556 | 4664 | 4469 |
| 1977 | 4269 | 4012 | 3831 | 4502 | 5695 | 5871 | 6275 | 6791 | 6610 | 6444 | 6447 | 6505 |
| 1978 | 6358 | 6194 | 5773 | 7752 | 12510 | 14414 | 12722 | 8124 | 5039 | 4096 | 4008 | 3849 |
| 1979 | 3699 | 3442 | 3489 | 7432 | 11298 | 11848 | 8579 | 5511 | 4470 | 4002 | 4045 | 3998 |
| 1980 | 3530 | 3246 | 4238 | 7271 | 11501 | 13385 | 8403 | 6246 | 4586 | 3995 | 4013 | 3896 |
| 1981 | 3724 | 3852 | 3638 | 5327 | 6948 | 6091 | 5585 | 5247 | 4639 | 4448 | 4519 | 4334 |
| 1982 | 3862 | 4521 | 5530 | 8255 | 12881 | 10471 | 12842 | 10101 | 6077 | 4266 | 4025 | 3781 |
| 1983 | 3437 | 4373 | 5524 | 7555 | 13200 | 16008 | 16438 | 9966 | 5806 | 4274 | 4102 | 3929 |
| 1984 | 3656 | 3903 | 5238 | 8640 | 6664 | 5899 | 5215 | 4141 | 3943 | 3832 | 3911 | 3838 |
| 1985 | 3489 | 4823 | 5564 | 5481 | 5893 | 5866 | 6439 | 6127 | 4974 | 4533 | 4535 | 4428 |
| 1986 | 4092 | 4106 | 4829 | 6587 | 9208 | 13337 | 11778 | 7199 | 4801 | 4098 | 4002 | 3854 |
| 1987 | 3652 | 3517 | 3467 | 4353 | 5397 | 6227 | 7551 | 7514 | 6660 | 6004 | 5799 | 5756 |
| 1988 | 5573 | 5167 | 4984 | 6024 | 8488 | 9235 | 7619 | 5747 | 4891 | 4671 | 4761 | 4742 |
| 1989 | 4453 | 4103 | 3923 | 4567 | 5533 | 5772 | 5734 | 5001 | 4569 | 4416 | 4511 | 4265 |
| 1990 | 3817 | 3558 | 3699 | 4668 | 6054 | 6908 | 6846 | 5496 | 4764 | 4687 | 4748 | 4752 |
| Average | 4057 | 4119 | 4473 | 6194 | 8392 | 9093 | 8488 | 6532 | 5095 | 4555 | 4539 | 4426 |

**North Bay Aqueduct, 406**
**Cumulative Impact**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 175 | 175 | 178 | 199 | 214 | 218 | 226 | 213 | 199 | 194 | 194 | 191 |
| 1977 | 193 | 193 | 191 | 204 | 236 | 246 | 255 | 265 | 249 | 233 | 222 | 222 |
| 1978 | 223 | 227 | 224 | 265 | 370 | 495 | 527 | 355 | 231 | 195 | 188 | 184 |
| 1979 | 186 | 185 | 185 | 271 | 415 | 470 | 368 | 255 | 208 | 189 | 185 | 186 |
| 1980 | 182 | 179 | 200 | 280 | 429 | 527 | 381 | 285 | 214 | 191 | 186 | 185 |
| 1981 | 186 | 189 | 188 | 223 | 282 | 251 | 245 | 236 | 207 | 196 | 194 | 192 |
| 1982 | 187 | 202 | 227 | 298 | 462 | 402 | 533 | 427 | 270 | 202 | 187 | 184 |
| 1983 | 181 | 204 | 242 | 290 | 487 | 610 | 672 | 428 | 257 | 199 | 187 | 186 |
| 1984 | 185 | 193 | 225 | 335 | 276 | 246 | 238 | 204 | 190 | 184 | 182 | 182 |
| 1985 | 180 | 210 | 239 | 236 | 246 | 245 | 277 | 269 | 218 | 198 | 193 | 193 |
| 1986 | 191 | 195 | 212 | 259 | 345 | 527 | 502 | 326 | 225 | 195 | 186 | 184 |
| 1987 | 185 | 186 | 185 | 200 | 232 | 255 | 294 | 294 | 258 | 227 | 214 | 213 |
| 1988 | 215 | 213 | 212 | 235 | 299 | 343 | 306 | 248 | 212 | 199 | 197 | 199 |
| 1989 | 198 | 195 | 193 | 205 | 231 | 244 | 250 | 224 | 201 | 193 | 191 | 189 |
| 1990 | 185 | 183 | 187 | 206 | 250 | 287 | 287 | 241 | 209 | 199 | 196 | 198 |
| Average | 190 | 195 | 206 | 247 | 318 | 358 | 356 | 285 | 223 | 200 | 193 | 193 |

**North Bay Aqueduct, 406**
**Cumulative Impact**
**Bromide**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 53 | 51 | 50 | 55 | 59 | 63 | 73 | 76 | 75 | 70 | 65 | 65 |
| 1977 | 69 | 70 | 63 | 63 | 71 | 75 | 82 | 97 | 102 | 100 | 91 | 88 |
| 1978 | 93 | 101 | 97 | 111 | 148 | 192 | 217 | 141 | 85 | 63 | 56 | 58 |
| 1979 | 62 | 60 | 55 | 87 | 147 | 177 | 136 | 92 | 74 | 61 | 56 | 60 |
| 1980 | 58 | 55 | 63 | 96 | 156 | 205 | 134 | 105 | 76 | 61 | 58 | 58 |
| 1981 | 62 | 63 | 58 | 67 | 89 | 78 | 82 | 86 | 76 | 68 | 64 | 64 |
| 1982 | 63 | 73 | 85 | 108 | 175 | 149 | 230 | 190 | 107 | 67 | 57 | 57 |
| 1983 | 57 | 73 | 96 | 103 | 186 | 246 | 292 | 183 | 99 | 65 | 57 | 59 |
| 1984 | 60 | 65 | 81 | 135 | 97 | 81 | 81 | 69 | 65 | 58 | 54 | 57 |
| 1985 | 57 | 78 | 94 | 81 | 78 | 77 | 102 | 107 | 84 | 70 | 64 | 66 |
| 1986 | 67 | 69 | 74 | 90 | 122 | 208 | 208 | 128 | 82 | 64 | 56 | 58 |
| 1987 | 61 | 61 | 56 | 57 | 68 | 80 | 104 | 117 | 109 | 94 | 80 | 81 |
| 1988 | 87 | 88 | 81 | 85 | 105 | 122 | 110 | 91 | 79 | 71 | 67 | 70 |
| 1989 | 73 | 70 | 63 | 62 | 69 | 75 | 86 | 82 | 75 | 67 | 63 | 62 |
| 1990 | 61 | 59 | 58 | 62 | 78 | 94 | 102 | 88 | 78 | 71 | 66 | 69 |
| Average | 66 | 69 | 72 | 84 | 110 | 128 | 136 | 110 | 84 | 70 | 63 | 65 |

**North Bay Aqueduct, 406**
**Cumulative Impact**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3241 | 3165 | 3374 | 4493 | 4804 | 5069 | 5267 | 4773 | 4582 | 4558 | 4664 | 4469 |
| 1977 | 4269 | 4012 | 3831 | 4502 | 5695 | 5871 | 6275 | 6791 | 6610 | 6444 | 6447 | 6505 |
| 1978 | 6358 | 6194 | 5773 | 7752 | 12510 | 14414 | 12722 | 8124 | 5039 | 4096 | 4008 | 3849 |
| 1979 | 3699 | 3442 | 3489 | 7432 | 11298 | 11848 | 8579 | 5511 | 4470 | 4002 | 4045 | 3996 |
| 1980 | 3530 | 3246 | 4238 | 7271 | 11501 | 13385 | 8403 | 6246 | 4586 | 3995 | 4013 | 3896 |
| 1981 | 3724 | 3652 | 3638 | 5327 | 6948 | 6091 | 5585 | 5247 | 4639 | 4448 | 4519 | 4334 |
| 1982 | 3862 | 4521 | 5530 | 8255 | 12881 | 10471 | 12842 | 10101 | 6077 | 4266 | 4025 | 3781 |
| 1983 | 3437 | 4373 | 5524 | 7555 | 13200 | 16008 | 16438 | 9966 | 5806 | 4274 | 4102 | 3929 |
| 1984 | 3856 | 3903 | 5238 | 8640 | 6664 | 5899 | 5215 | 4141 | 3943 | 3832 | 3911 | 3838 |
| 1985 | 3489 | 4823 | 5564 | 5481 | 5693 | 5866 | 6439 | 6127 | 4974 | 4533 | 4535 | 4428 |
| 1986 | 4092 | 4106 | 4829 | 6587 | 9208 | 13337 | 11778 | 7199 | 4801 | 4098 | 4002 | 3854 |
| 1987 | 3652 | 3517 | 3467 | 4353 | 5397 | 6227 | 7551 | 7514 | 6660 | 6004 | 5799 | 5756 |
| 1988 | 5573 | 5167 | 4984 | 6024 | 8488 | 9235 | 7619 | 5747 | 4891 | 4671 | 4761 | 4742 |
| 1989 | 4453 | 4103 | 3923 | 4567 | 5533 | 5772 | 5734 | 5001 | 4569 | 4416 | 4511 | 4265 |
| 1990 | 3817 | 3558 | 3699 | 4868 | 6054 | 6908 | 6846 | 5496 | 4784 | 4687 | 4748 | 4752 |
| Average | 4057 | 4119 | 4473 | 6194 | 8392 | 9093 | 8488 | 6532 | 5095 | 4555 | 4539 | 4426 |

Main TOC

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**North Bay Aqueduct, 406**
**Cumulative Impact**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 175 | 175 | 178 | 199 | 214 | 218 | 226 | 213 | 199 | 194 | 194 | 191 |
| 1977 | 193 | 193 | 191 | 204 | 236 | 246 | 255 | 265 | 249 | 233 | 222 | 222 |
| 1978 | 223 | 227 | 224 | 265 | 370 | 495 | 527 | 355 | 231 | 195 | 186 | 184 |
| 1979 | 186 | 185 | 185 | 271 | 415 | 470 | 368 | 255 | 208 | 189 | 185 | 186 |
| 1980 | 182 | 179 | 200 | 280 | 429 | 527 | 361 | 285 | 214 | 191 | 188 | 185 |
| 1981 | 186 | 189 | 188 | 223 | 282 | 251 | 245 | 236 | 207 | 196 | 194 | 192 |
| 1982 | 187 | 202 | 227 | 298 | 462 | 402 | 533 | 427 | 270 | 202 | 187 | 184 |
| 1983 | 181 | 204 | 242 | 290 | 487 | 610 | 672 | 428 | 257 | 199 | 187 | 186 |
| 1984 | 185 | 193 | 225 | 335 | 276 | 246 | 238 | 204 | 190 | 184 | 182 | 182 |
| 1985 | 180 | 210 | 239 | 236 | 246 | 245 | 277 | 269 | 218 | 198 | 193 | 193 |
| 1986 | 191 | 195 | 212 | 259 | 345 | 527 | 502 | 326 | 225 | 195 | 186 | 184 |
| 1987 | 185 | 186 | 185 | 200 | 232 | 255 | 294 | 294 | 258 | 227 | 214 | 213 |
| 1988 | 215 | 213 | 212 | 235 | 299 | 343 | 306 | 248 | 212 | 199 | 197 | 199 |
| 1989 | 198 | 195 | 193 | 205 | 231 | 244 | 250 | 224 | 201 | 193 | 191 | 189 |
| 1990 | 185 | 183 | 187 | 206 | 250 | 287 | 287 | 241 | 209 | 199 | 196 | 198 |
| Average | 190 | 195 | 206 | 247 | 318 | 358 | 356 | 285 | 223 | 200 | 193 | 193 |

**North Bay Aqueduct, 406**
**Cumulative Impact**
**Bromide**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 53 | 51 | 50 | 55 | 59 | 63 | 73 | 78 | 75 | 70 | 65 | 65 |
| 1977 | 69 | 70 | 63 | 63 | 71 | 75 | 82 | 97 | 102 | 100 | 91 | 88 |
| 1978 | 93 | 101 | 97 | 111 | 148 | 192 | 217 | 141 | 85 | 63 | 56 | 58 |
| 1979 | 62 | 60 | 55 | 87 | 147 | 177 | 136 | 92 | 74 | 61 | 56 | 60 |
| 1980 | 58 | 55 | 63 | 96 | 156 | 205 | 134 | 105 | 76 | 61 | 56 | 58 |
| 1981 | 62 | 63 | 58 | 67 | 89 | 78 | 82 | 86 | 76 | 68 | 64 | 64 |
| 1982 | 63 | 73 | 85 | 108 | 175 | 149 | 230 | 190 | 107 | 67 | 57 | 57 |
| 1983 | 57 | 73 | 96 | 103 | 186 | 246 | 292 | 183 | 99 | 65 | 57 | 59 |
| 1984 | 60 | 65 | 81 | 135 | 97 | 81 | 81 | 69 | 65 | 58 | 54 | 57 |
| 1985 | 57 | 78 | 94 | 81 | 78 | 77 | 102 | 107 | 84 | 70 | 64 | 66 |
| 1986 | 67 | 69 | 74 | 90 | 122 | 208 | 208 | 128 | 82 | 64 | 56 | 58 |
| 1987 | 61 | 61 | 56 | 57 | 68 | 80 | 104 | 117 | 109 | 94 | 80 | 81 |
| 1988 | 87 | 88 | 81 | 85 | 105 | 122 | 110 | 91 | 79 | 71 | 67 | 70 |
| 1989 | 73 | 70 | 63 | 62 | 69 | 75 | 86 | 82 | 75 | 67 | 63 | 62 |
| 1990 | 61 | 59 | 58 | 62 | 76 | 94 | 102 | 88 | 78 | 71 | 66 | 69 |
| Average | 66 | 69 | 72 | 84 | 110 | 128 | 136 | 110 | 84 | 70 | 63 | 65 |

**North Bay Aqueduct, 406**
**Cumulative Impact**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3241 | 3165 | 3374 | 4493 | 4804 | 5069 | 5287 | 4773 | 4582 | 4558 | 4664 | 4469 |
| 1977 | 4269 | 4012 | 3831 | 4502 | 5695 | 5871 | 6275 | 6791 | 6610 | 6444 | 6447 | 6505 |
| 1978 | 6358 | 6194 | 5773 | 7752 | 12510 | 14414 | 12722 | 8124 | 5039 | 4096 | 4008 | 3849 |
| 1979 | 3699 | 3442 | 3489 | 7432 | 11298 | 11848 | 8579 | 5511 | 4470 | 4002 | 4045 | 3998 |
| 1980 | 3530 | 3246 | 4238 | 7271 | 11501 | 13385 | 8403 | 6246 | 4586 | 3995 | 4013 | 3896 |
| 1981 | 3724 | 3652 | 3638 | 5327 | 6948 | 6091 | 5585 | 5247 | 4639 | 4448 | 4519 | 4334 |
| 1982 | 3862 | 4521 | 5530 | 8255 | 12881 | 10471 | 12842 | 10101 | 6077 | 4266 | 4025 | 3781 |
| 1983 | 3437 | 4373 | 5524 | 7555 | 13200 | 16008 | 16438 | 9966 | 5806 | 4274 | 4102 | 3929 |
| 1984 | 3656 | 3903 | 5238 | 8640 | 6664 | 5899 | 5215 | 4141 | 3943 | 3832 | 3911 | 3838 |
| 1985 | 3489 | 4823 | 5564 | 5481 | 5893 | 5866 | 6439 | 6127 | 4974 | 4533 | 4535 | 4428 |
| 1986 | 4092 | 4106 | 4829 | 6587 | 9208 | 13337 | 11778 | 7199 | 4801 | 4098 | 4002 | 3854 |
| 1987 | 3652 | 3517 | 3467 | 4353 | 5397 | 6227 | 7551 | 7514 | 6660 | 6004 | 5799 | 5756 |
| 1988 | 5573 | 5167 | 4984 | 6024 | 8488 | 9235 | 7819 | 5747 | 4891 | 4671 | 4761 | 4742 |
| 1989 | 4453 | 4103 | 3923 | 4567 | 5533 | 5772 | 5734 | 5001 | 4569 | 4416 | 4511 | 4265 |
| 1990 | 3817 | 3558 | 3699 | 4668 | 6054 | 6908 | 6846 | 5496 | 4784 | 4687 | 4748 | 4752 |
| Average | 4057 | 4119 | 4473 | 6194 | 8392 | 9093 | 8488 | 6532 | 5095 | 4555 | 4539 | 4426 |


Main TOC


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**Emmaton (434)**
**Existing Conditions**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 293 | 295 | 485 | 578 | 674 | 548 | 767 | 990 | 1244 | 1602 | 1668 | 1731 | 10,875 |
| 1977 | 3172 | 3826 | 3222 | 1755 | 969 | 876 | 1264 | 1590 | 2580 | 3040 | 3453 | 3642 | 29,389 |
| 1978 | 3075 | 2767 | 1391 | 202 | 167 | 164 | 163 | 164 | 241 | 448 | 682 | 574 | 10,038 |
| 1979 | 1714 | 2375 | 2314 | 298 | 182 | 167 | 185 | 253 | 281 | 517 | 696 | 1196 | 10,180 |
| 1980 | 1958 | 1111 | 470 | 165 | 162 | 158 | 163 | 176 | 279 | 412 | 542 | 894 | 8,490 |
| 1981 | 1767 | 2359 | 754 | 179 | 165 | 161 | 195 | 542 | 978 | 772 | 1052 | 1270 | 10,194 |
| 1982 | 2130 | 322 | 156 | 165 | 158 | 164 | 154 | 156 | 161 | 205 | 254 | 187 | 4,210 |
| 1983 | 158 | 161 | 155 | 164 | 158 | 156 | 156 | 153 | 154 | 158 | 164 | 155 | 1,892 |
| 1984 | 161 | 155 | 155 | 156 | 159 | 158 | 171 | 332 | 439 | 425 | 479 | 959 | 3,749 |
| 1985 | 1694 | 290 | 182 | 411 | 379 | 237 | 450 | 467 | 771 | 734 | 1186 | 1360 | 8,141 |
| 1986 | 2119 | 1988 | 937 | 350 | 162 | 155 | 163 | 180 | 294 | 485 | 849 | 1131 | 8,613 |
| 1987 | 2333 | 3343 | 1604 | 820 | 477 | 231 | 251 | 562 | 975 | 1083 | 1736 | 1866 | 15,281 |
| 1988 | 2018 | 2295 | 1199 | 314 | 254 | 561 | 860 | 903 | 1170 | 1627 | 2748 | 2600 | 16,749 |
| 1989 | 3002 | 2740 | 2610 | 1495 | 1240 | 213 | 169 | 250 | 716 | 894 | 1541 | 1464 | 16,334 |
| 1990 | 2524 | 3410 | 2942 | 1018 | 594 | 561 | 455 | 674 | 1052 | 1431 | 2367 | 2600 | 19,628 |
| 76 - 90 AVG | 1,875 | 1,829 | 1,238 | 538 | 393 | 301 | 371 | 493 | 756 | 922 | 1,280 | 1,455 | 11,451 |

**Emmaton (434)**
**Existing Conditions**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 201 | 202 | 429 | 534 | 649 | 500 | 764 | 1034 | 1339 | 1773 | 1857 | 1937 | 11,219 |
| 1977 | 3681 | 4465 | 3730 | 1956 | 1007 | 896 | 1363 | 1757 | 2951 | 3505 | 4007 | 4241 | 33,559 |
| 1978 | 3557 | 3174 | 1504 | 73 | 38 | 37 | 37 | 39 | 130 | 381 | 664 | 537 | 10,171 |
| 1979 | 1917 | 2717 | 2641 | 185 | 48 | 39 | 62 | 147 | 181 | 485 | 685 | 1290 | 10,375 |
| 1980 | 2213 | 1189 | 408 | 41 | 35 | 34 | 37 | 53 | 176 | 338 | 496 | 923 | 5,943 |
| 1981 | 1981 | 2697 | 754 | 54 | 37 | 35 | 75 | 494 | 1021 | 774 | 1114 | 1380 | 10,416 |
| 1982 | 2421 | 235 | 35 | 37 | 33 | 37 | 32 | 34 | 38 | 90 | 150 | 71 | 3,213 |
| 1983 | 37 | 38 | 33 | 37 | 34 | 33 | 33 | 32 | 33 | 35 | 40 | 34 | 419 |
| 1984 | 40 | 34 | 33 | 33 | 34 | 34 | 49 | 243 | 372 | 355 | 422 | 1003 | 2,652 |
| 1985 | 1895 | 196 | 61 | 334 | 294 | 120 | 378 | 404 | 772 | 729 | 1252 | 1488 | 7,923 |
| 1986 | 2408 | 2246 | 970 | 251 | 37 | 33 | 37 | 56 | 191 | 421 | 622 | 1210 | 8,482 |
| 1987 | 2667 | 3888 | 1782 | 830 | 411 | 116 | 139 | 515 | 1017 | 1150 | 1940 | 2099 | 16,554 |
| 1988 | 2285 | 2616 | 1287 | 213 | 139 | 511 | 875 | 932 | 1254 | 1806 | 3163 | 3228 | 18,309 |
| 1989 | 3473 | 3151 | 2995 | 1643 | 1329 | 100 | 48 | 146 | 708 | 923 | 1705 | 1615 | 17,836 |
| 1990 | 2899 | 3968 | 3396 | 1068 | 548 | 509 | 389 | 656 | 1113 | 1570 | 2703 | 2987 | 21,806 |
| 76 - 90 AVG | 2,112 | 2,054 | 1,337 | 486 | 311 | 202 | 288 | 436 | 753 | 954 | 1,388 | 1,603 | 11,925 |

**Emmaton (434)**
**Existing Conditions**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2343 | 2422 | 2793 | 3123 | 3583 | 3130 | 2700 | 2725 | 2940 | 2965 | 2834 | 2641 | 34,199 |
| 1977 | 2481 | 2475 | 2700 | 3053 | 3573 | 3229 | 2803 | 2778 | 2950 | 3083 | 3151 | 2962 | 35,238 |
| 1978 | 2832 | 2800 | 3202 | 3231 | 3870 | 2870 | 2405 | 2655 | 2672 | 2817 | 2876 | 2658 | 34,888 |
| 1979 | 2487 | 2395 | 2628 | 3342 | 4098 | 3035 | 2549 | 2577 | 2617 | 2789 | 2806 | 2653 | 33,976 |
| 1980 | 2473 | 2436 | 2954 | 2864 | 3817 | 2839 | 2502 | 2628 | 2694 | 2798 | 2821 | 2681 | 33,505 |
| 1981 | 2514 | 2445 | 2838 | 2960 | 3721 | 2890 | 2534 | 2656 | 2731 | 2756 | 2758 | 2808 | 33,411 |
| 1982 | 2468 | 2432 | 2871 | 2981 | 3684 | 2878 | 2139 | 2555 | 2438 | 2899 | 2712 | 2535 | 32,392 |
| 1983 | 2320 | 2525 | 2913 | 2991 | 3776 | 2653 | 2261 | 2491 | 2289 | 2722 | 2727 | 2448 | 32,116 |
| 1984 | 2391 | 2397 | 2892 | 2810 | 3690 | 2822 | 2397 | 2559 | 2681 | 2795 | 2778 | 2641 | 32,853 |
| 1985 | 2411 | 2454 | 3006 | 3096 | 3662 | 3204 | 2770 | 2668 | 2732 | 2758 | 2766 | 2625 | 34,154 |
| 1986 | 2502 | 2540 | 3026 | 3260 | 3736 | 2669 | 2490 | 2694 | 2804 | 2944 | 2959 | 2705 | 34,329 |
| 1987 | 2461 | 2356 | 2745 | 2980 | 3680 | 3036 | 2658 | 2749 | 2773 | 2763 | 2785 | 2657 | 33,643 |
| 1988 | 2515 | 2493 | 2891 | 3099 | 3716 | 3379 | 2733 | 2621 | 2729 | 2802 | 2820 | 2709 | 34,507 |
| 1989 | 2608 | 2584 | 2713 | 3045 | 3567 | 2773 | 2295 | 2513 | 2618 | 2716 | 2762 | 2610 | 32,802 |
| 1990 | 2412 | 2369 | 2666 | 2961 | 3674 | 3395 | 2530 | 2536 | 2669 | 2754 | 2789 | 2674 | 33,429 |
| 76 - 90 AVG | 2,481 | 2,475 | 2,856 | 3,053 | 3,723 | 2,987 | 2,518 | 2,627 | 2,689 | 2,811 | 2,823 | 2,654 | 33,696 |

**Emmaton (434)**
**No-Action Alternative**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 315 | 445 | 988 | 983 | 899 | 579 | 763 | 1067 | 1299 | 1123 | 1828 | 1982 | 10,875 |
| 1,977 | 3371 | 4112 | 3812 | 1894 | 1000 | 894 | 1319 | 1788 | 2896 | 3152 | 3549 | 3837 | 29,389 |
| 1,978 | 3328 | 2658 | 1244 | 199 | 169 | 165 | 161 | 162 | 235 | 446 | 450 | 997 | 10,038 |
| 1,979 | 2463 | 2495 | 1394 | 321 | 185 | 166 | 162 | 284 | 281 | 409 | 610 | 875 | 10,160 |
| 1,980 | 1707 | 969 | 384 | 166 | 162 | 157 | 161 | 176 | 306 | 443 | 536 | 1145 | 6,490 |
| 1,981 | 2300 | 2913 | 1409 | 279 | 176 | 162 | 264 | 680 | 1029 | 1126 | 1518 | 1535 | 10,194 |
| 1,982 | 2251 | 303 | 156 | 165 | 156 | 164 | 153 | 155 | 161 | 231 | 298 | 198 | 4,210 |
| 1,983 | 159 | 161 | 156 | 164 | 158 | 155 | 153 | 152 | 154 | 157 | 164 | 156 | 1,892 |
| 1,984 | 161 | 156 | 155 | 156 | 158 | 157 | 169 | 320 | 394 | 379 | 450 | 809 | 3,749 |
| 1,985 | 1568 | 319 | 181 | 380 | 541 | 353 | 436 | 450 | 796 | 961 | 1861 | 1869 | 8,141 |
| 1,986 | 2297 | 1940 | 909 | 333 | 162 | 155 | 161 | 178 | 292 | 431 | 410 | 832 | 8,613 |
| 1,987 | 2195 | 3335 | 1549 | 784 | 468 | 227 | 246 | 582 | 1018 | 1368 | 2173 | 3027 | 15,281 |
| 1,988 | 2985 | 2758 | 1335 | 332 | 275 | 556 | 929 | 1182 | 1323 | 1602 | 2762 | 3243 | 16,749 |
| 1,989 | 3453 | 2741 | 2509 | 1498 | 1276 | 210 | 168 | 256 | 546 | 878 | 1495 | 1579 | 16,334 |
| 1,990 | 2621 | 3557 | 3123 | 941 | 534 | 530 | 449 | 607 | 1017 | 1308 | 2086 | 2702 | 19,628 |
| 76 - 90 AVG | 2,080 | 1,924 | 1,287 | 573 | 421 | 309 | 381 | 536 | 783 | 934 | 1,346 | 1,652 | 11,451 |

**Emmaton (434)**
**No-Action Alternative**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 227 | 383 | 1038 | 1025 | 910 | 538 | 759 | 1128 | 1407 | 1195 | 2050 | 2240 | 11,219 |
| 1,977 | 3922 | 4810 | 4442 | 2123 | 1044 | 917 | 1430 | 1996 | 3334 | 3841 | 4121 | 4474 | 33,559 |
| 1,978 | 3858 | 3032 | 1325 | 70 | 39 | 38 | 36 | 38 | 124 | 377 | 386 | 1049 | 10,171 |
| 1,979 | 2823 | 2861 | 1529 | 211 | 50 | 38 | 60 | 186 | 183 | 337 | 581 | 903 | 10,375 |
| 1,980 | 1910 | 1017 | 305 | 40 | 35 | 34 | 38 | 55 | 209 | 375 | 489 | 1227 | 5,943 |
| 1,981 | 2626 | 3367 | 1546 | 176 | 51 | 38 | 159 | 663 | 1084 | 1201 | 1677 | 1700 | 10,416 |
| 1,982 | 2567 | 212 | 35 | 37 | 33 | 37 | 32 | 34 | 38 | 122 | 204 | 85 | 3,213 |
| 1,983 | 39 | 38 | 34 | 37 | 34 | 33 | 33 | 32 | 33 | 35 | 42 | 35 | 419 |
| 1,984 | 41 | 34 | 33 | 33 | 34 | 33 | 46 | 228 | 317 | 301 | 387 | 822 | 2,652 |
| 1,985 | 1767 | 231 | 62 | 298 | 489 | 257 | 362 | 385 | 804 | 1003 | 2091 | 2104 | 7,923 |
| 1,986 | 2621 | 2186 | 935 | 232 | 37 | 33 | 37 | 56 | 190 | 356 | 337 | 849 | 8,482 |
| 1,987 | 2500 | 3879 | 1716 | 787 | 401 | 112 | 135 | 541 | 1069 | 1492 | 2467 | 3502 | 16,554 |
| 1,988 | 3451 | 3169 | 1452 | 235 | 161 | 503 | 957 | 1266 | 1437 | 1773 | 3179 | 3764 | 18,309 |
| 1,989 | 4019 | 3155 | 2874 | 1647 | 1372 | 96 | 47 | 153 | 503 | 904 | 1650 | 1754 | 17,836 |
| 1,990 | 3016 | 4147 | 3618 | 975 | 477 | 472 | 383 | 577 | 1072 | 1422 | 2363 | 3110 | 21,806 |
| 76 - 90 AVG | 2,359 | 2,168 | 1,396 | 528 | 344 | 212 | 301 | 489 | 787 | 969 | 1,468 | 1,841 | 11,925 |

**Emmaton (434)**
**No-Action Alternative**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 2341 | 2400 | 2719 | 3055 | 3543 | 3123 | 2684 | 2699 | 2918 | 2932 | 2821 | 2645 | 34,199 |
| 1,977 | 2471 | 2443 | 2639 | 3041 | 3566 | 3223 | 2815 | 2766 | 2911 | 3100 | 3202 | 3035 | 35,238 |
| 1,978 | 2935 | 2929 | 3218 | 3210 | 3901 | 2877 | 2367 | 2623 | 2668 | 2850 | 2611 | 2650 | 34,888 |
| 1,979 | 2484 | 2420 | 2734 | 3388 | 4093 | 2997 | 2494 | 2571 | 2516 | 2685 | 2702 | 2579 | 33,976 |
| 1,980 | 2433 | 2429 | 2956 | 2892 | 3798 | 2805 | 2440 | 2596 | 2696 | 2815 | 2817 | 2666 | 33,505 |
| 1,981 | 2481 | 2400 | 2764 | 2936 | 3869 | 2856 | 2493 | 2591 | 2710 | 2778 | 2802 | 2631 | 33,411 |
| 1,982 | 2480 | 2419 | 2869 | 2981 | 3682 | 2866 | 2133 | 2550 | 2452 | 2709 | 2726 | 2544 | 32,392 |
| 1,983 | 2313 | 2511 | 2909 | 2986 | 3769 | 2650 | 2254 | 2490 | 2291 | 2719 | 2734 | 2449 | 32,116 |
| 1,984 | 2380 | 2392 | 2890 | 2806 | 3680 | 2607 | 2389 | 2577 | 2632 | 2722 | 2711 | 2600 | 32,853 |
| 1,985 | 2394 | 2478 | 2951 | 3004 | 3608 | 3351 | 2724 | 2595 | 2651 | 2748 | 2808 | 2677 | 34,154 |
| 1,986 | 2548 | 2577 | 3028 | 3232 | 3731 | 2663 | 2484 | 2694 | 2817 | 2920 | 2807 | 2624 | 34,329 |
| 1,987 | 2433 | 2345 | 2746 | 2948 | 3667 | 3030 | 2602 | 2697 | 2771 | 2800 | 2875 | 2737 | 33,643 |
| 1,988 | 2634 | 2593 | 2897 | 3099 | 3753 | 3443 | 2823 | 2694 | 2842 | 2908 | 2874 | 2723 | 34,507 |
| 1,989 | 2600 | 2585 | 2899 | 3031 | 3560 | 2762 | 2289 | 2532 | 2617 | 2704 | 2753 | 2607 | 32,802 |
| 1,990 | 2407 | 2349 | 2844 | 2951 | 3665 | 3342 | 2492 | 2508 | 2616 | 2723 | 2775 | 2660 | 33,429 |
| 76 - 90 AVG | 2,489 | 2,483 | 2,844 | 3,037 | 3,712 | 2,986 | 2,499 | 2,612 | 2,674 | 2,808 | 2,815 | 2,655 | 33,698 |

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**Emmaton (434)**
**State Permit**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 290 | 428 | 959 | 961 | 875 | 571 | 728 | 963 | 1217 | 947 | 1938 | 2081 | 11,958 |
| 1977 | 3547 | 4304 | 3877 | 2237 | 1021 | 887 | 1269 | 1692 | 2821 | 3142 | 3559 | 3847 | 32,203 |
| 1978 | 3231 | 2899 | 1389 | 198 | 168 | 164 | 162 | 163 | 239 | 419 | 440 | 999 | 10,471 |
| 1979 | 2372 | 2473 | 1512 | 325 | 185 | 166 | 182 | 256 | 268 | 454 | 622 | 875 | 9,690 |
| 1980 | 1505 | 892 | 336 | 163 | 161 | 158 | 162 | 177 | 289 | 433 | 569 | 1173 | 6,018 |
| 1981 | 1817 | 2404 | 1277 | 266 | 174 | 162 | 269 | 689 | 1044 | 1293 | 1659 | 1509 | 12,563 |
| 1982 | 2186 | 285 | 155 | 164 | 155 | 163 | 153 | 155 | 160 | 231 | 293 | 191 | 4,291 |
| 1983 | 158 | 160 | 155 | 164 | 158 | 156 | 156 | 153 | 154 | 158 | 165 | 156 | 1,893 |
| 1984 | 161 | 154 | 155 | 156 | 159 | 157 | 169 | 321 | 395 | 380 | 449 | 811 | 3,467 |
| 1985 | 1317 | 298 | 179 | 393 | 535 | 308 | 427 | 456 | 743 | 968 | 1924 | 1765 | 9,313 |
| 1986 | 2326 | 2006 | 868 | 329 | 161 | 155 | 163 | 182 | 282 | 447 | 416 | 820 | 8,155 |
| 1987 | 2153 | 3284 | 1530 | 774 | 461 | 225 | 243 | 570 | 1002 | 1353 | 2164 | 2996 | 16,755 |
| 1988 | 3260 | 3210 | 1425 | 329 | 270 | 551 | 888 | 1185 | 1200 | 1226 | 2486 | 2881 | 18,911 |
| 1989 | 3276 | 2768 | 2493 | 1478 | 1197 | 213 | 169 | 254 | 603 | 993 | 1937 | 1658 | 17,039 |
| 1990 | 2495 | 3416 | 3155 | 903 | 513 | 513 | 443 | 643 | 959 | 1091 | 2128 | 2585 | 18,844 |
| 76 - 90 AVG | 2,006 | 1,932 | 1,298 | 589 | 413 | 303 | 372 | 524 | 758 | 902 | 1,383 | 1,623 | 12,105 |

**Emmaton (434)**
**State Permit**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 197 | 363 | 1004 | 998 | 893 | 528 | 717 | 1002 | 1309 | 984 | 2184 | 2380 | 12,539 |
| 1977 | 4135 | 5047 | 4524 | 2537 | 1069 | 909 | 1369 | 1882 | 3245 | 3630 | 4134 | 4487 | 36,968 |
| 1978 | 3743 | 3330 | 1505 | 70 | 38 | 37 | 36 | 38 | 129 | 345 | 373 | 1051 | 10,695 |
| 1979 | 2714 | 2835 | 1671 | 216 | 49 | 38 | 59 | 152 | 167 | 391 | 595 | 903 | 9,790 |
| 1980 | 1666 | 924 | 247 | 38 | 35 | 34 | 38 | 55 | 188 | 363 | 529 | 1261 | 5,378 |
| 1981 | 2042 | 2752 | 1387 | 160 | 49 | 37 | 165 | 674 | 1102 | 1403 | 1846 | 1668 | 13,285 |
| 1982 | 2489 | 191 | 34 | 37 | 33 | 37 | 32 | 34 | 38 | 122 | 197 | 76 | 3,320 |
| 1983 | 38 | 37 | 33 | 37 | 34 | 33 | 33 | 32 | 33 | 35 | 42 | 34 | 421 |
| 1984 | 41 | 33 | 33 | 33 | 34 | 34 | 46 | 229 | 318 | 301 | 386 | 825 | 2,313 |
| 1985 | 1440 | 205 | 59 | 312 | 481 | 204 | 351 | 392 | 739 | 1012 | 2167 | 1977 | 9,339 |
| 1986 | 2657 | 2267 | 866 | 227 | 37 | 33 | 37 | 57 | 176 | 375 | 343 | 835 | 7,930 |
| 1987 | 2449 | 3817 | 1693 | 774 | 393 | 110 | 131 | 527 | 1050 | 1475 | 2456 | 3465 | 18,340 |
| 1988 | 3785 | 3721 | 1561 | 231 | 155 | 496 | 908 | 1270 | 1290 | 1322 | 2847 | 3326 | 20,912 |
| 1989 | 3805 | 3189 | 2856 | 1623 | 1278 | 101 | 48 | 151 | 571 | 1042 | 2184 | 1848 | 18,696 |
| 1990 | 2864 | 3977 | 3655 | 929 | 451 | 452 | 375 | 619 | 1002 | 1161 | 2415 | 2969 | 20,869 |
| 76 - 90 AVG | 2,271 | 2,179 | 1,410 | 548 | 335 | 206 | 290 | 474 | 757 | 931 | 1,513 | 1,806 | 12,720 |

**Emmaton (434)**
**State Permit**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2339 | 2400 | 2722 | 3055 | 3543 | 3124 | 2659 | 2679 | 2865 | 2868 | 2794 | 2648 | 33,696 |
| 1977 | 2444 | 2390 | 2606 | 3073 | 3601 | 3229 | 2798 | 2742 | 2886 | 3074 | 3183 | 3023 | 35,049 |
| 1978 | 2897 | 2830 | 3185 | 3177 | 3899 | 2868 | 2389 | 2623 | 2865 | 2830 | 2792 | 2646 | 34,781 |
| 1979 | 2473 | 2406 | 2719 | 3399 | 4066 | 2998 | 2495 | 2563 | 2514 | 2692 | 2708 | 2580 | 33,631 |
| 1980 | 2422 | 2422 | 2957 | 2878 | 3799 | 2807 | 2444 | 2598 | 2697 | 2807 | 2812 | 2664 | 33,307 |
| 1981 | 2466 | 2404 | 2772 | 2924 | 3668 | 2858 | 2507 | 2594 | 2723 | 2801 | 2839 | 2650 | 33,206 |
| 1982 | 2492 | 2410 | 2868 | 2966 | 3671 | 2867 | 2131 | 2532 | 2431 | 2701 | 2720 | 2529 | 32,318 |
| 1983 | 2305 | 2512 | 2909 | 2987 | 3772 | 2649 | 2254 | 2490 | 2291 | 2719 | 2734 | 2446 | 32,068 |
| 1984 | 2378 | 2392 | 2890 | 2806 | 3679 | 2805 | 2389 | 2578 | 2632 | 2722 | 2710 | 2600 | 32,581 |
| 1985 | 2380 | 2472 | 2950 | 3034 | 3622 | 3262 | 2711 | 2615 | 2675 | 2756 | 2810 | 2672 | 33,959 |
| 1986 | 2534 | 2565 | 3028 | 3238 | 3730 | 2861 | 2491 | 2706 | 2821 | 2944 | 2824 | 2629 | 34,171 |
| 1987 | 2437 | 2349 | 2747 | 2949 | 3668 | 3031 | 2593 | 2687 | 2757 | 2788 | 2861 | 2726 | 33,593 |
| 1988 | 2589 | 2524 | 2878 | 3068 | 3754 | 3448 | 2788 | 2671 | 2764 | 2801 | 2817 | 2718 | 34,840 |
| 1989 | 2583 | 2541 | 2695 | 3031 | 3561 | 2759 | 2291 | 2535 | 2633 | 2712 | 2768 | 2625 | 32,734 |
| 1990 | 2412 | 2346 | 2625 | 2949 | 3669 | 3351 | 2518 | 2529 | 2609 | 2707 | 2761 | 2661 | 33,137 |
| 76 - 90 AVG | 2,477 | 2,464 | 2,837 | 3,037 | 3,715 | 2,981 | 2,496 | 2,609 | 2,664 | 2,795 | 2,809 | 2,654 | 33,538 |

**Emmaton (434)**
**Percent Inflow**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 284 | 439 | 1027 | 1012 | 889 | 572 | 750 | 1006 | 1255 | 1094 | 1888 | 2092 | 12,308 |
| 1977 | 3409 | 4077 | 3794 | 1905 | 991 | 879 | 1262 | 1763 | 2886 | 3168 | 3587 | 3842 | 31,543 |
| 1978 | 3335 | 2659 | 1241 | 199 | 168 | 164 | 182 | 163 | 234 | 454 | 447 | 994 | 10,220 |
| 1979 | 2443 | 2465 | 1313 | 345 | 187 | 166 | 181 | 284 | 281 | 416 | 612 | 874 | 9,567 |
| 1980 | 1739 | 974 | 385 | 164 | 162 | 158 | 162 | 177 | 292 | 488 | 493 | 1104 | 6,298 |
| 1981 | 2386 | 3155 | 1473 | 327 | 186 | 164 | 259 | 683 | 1009 | 1120 | 1523 | 1413 | 13,698 |
| 1982 | 2107 | 298 | 156 | 165 | 156 | 164 | 153 | 156 | 163 | 250 | 339 | 213 | 4,320 |
| 1983 | 160 | 160 | 155 | 164 | 158 | 156 | 156 | 153 | 154 | 158 | 165 | 156 | 1,895 |
| 1984 | 161 | 154 | 155 | 156 | 159 | 157 | 169 | 321 | 394 | 380 | 449 | 808 | 3,463 |
| 1985 | 1620 | 349 | 192 | 374 | 540 | 355 | 429 | 444 | 780 | 1070 | 1969 | 1878 | 10,000 |
| 1986 | 2334 | 1994 | 914 | 293 | 160 | 155 | 163 | 181 | 282 | 437 | 415 | 819 | 8,147 |
| 1987 | 2161 | 3298 | 1531 | 774 | 462 | 225 | 249 | 587 | 1032 | 1410 | 2235 | 2926 | 16,890 |
| 1988 | 2892 | 2445 | 1234 | 315 | 267 | 552 | 948 | 1163 | 1316 | 1613 | 2788 | 3231 | 18,564 |
| 1989 | 3464 | 2771 | 2509 | 1486 | 1265 | 209 | 168 | 254 | 552 | 885 | 1501 | 1575 | 16,639 |
| 1990 | 2608 | 3508 | 3078 | 935 | 527 | 525 | 443 | 656 | 1040 | 1452 | 2402 | 2921 | 20,095 |
| 76 - 90 AVG | 2,060 | 1,916 | 1,277 | 574 | 418 | 307 | 377 | 533 | 778 | 960 | 1,386 | 1,656 | 12,243 |

**Emmaton (434)**
**Percent Inflow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 190 | 377 | 1086 | 1060 | 910 | 530 | 744 | 1054 | 1352 | 1159 | 2123 | 2373 | 12,958 |
| 1977 | 3967 | 4769 | 4421 | 2136 | 1033 | 900 | 1381 | 1968 | 3323 | 3661 | 4143 | 4481 | 36,163 |
| 1978 | 3867 | 3034 | 1322 | 70 | 38 | 37 | 36 | 39 | 123 | 386 | 381 | 1045 | 10,378 |
| 1979 | 2798 | 2825 | 1432 | 239 | 51 | 38 | 58 | 186 | 183 | 346 | 583 | 901 | 9,640 |
| 1980 | 1949 | 1023 | 305 | 39 | 36 | 34 | 38 | 55 | 193 | 428 | 437 | 1178 | 5,715 |
| 1981 | 2730 | 3662 | 1624 | 233 | 63 | 40 | 153 | 666 | 1059 | 1193 | 1682 | 1552 | 14,657 |
| 1982 | 2393 | 206 | 35 | 37 | 33 | 37 | 32 | 34 | 40 | 143 | 253 | 103 | 3,346 |
| 1983 | 40 | 37 | 33 | 37 | 34 | 33 | 33 | 32 | 33 | 35 | 42 | 34 | 423 |
| 1984 | 41 | 33 | 33 | 33 | 34 | 34 | 47 | 229 | 318 | 301 | 387 | 821 | 2,311 |
| 1985 | 1806 | 267 | 73 | 290 | 488 | 260 | 353 | 378 | 785 | 1134 | 2221 | 2114 | 10,169 |
| 1986 | 2667 | 2252 | 942 | 185 | 36 | 33 | 37 | 57 | 176 | 363 | 343 | 834 | 7,925 |
| 1987 | 2459 | 3834 | 1694 | 775 | 394 | 110 | 136 | 546 | 1083 | 1542 | 2541 | 3379 | 18,493 |
| 1988 | 3096 | 2789 | 1327 | 214 | 152 | 497 | 979 | 1243 | 1427 | 1786 | 3209 | 3748 | 20,467 |
| 1989 | 4032 | 3191 | 2874 | 1633 | 1359 | 95 | 47 | 150 | 509 | 912 | 1657 | 1749 | 18,208 |
| 1990 | 3001 | 4088 | 3561 | 967 | 469 | 467 | 375 | 635 | 1099 | 1596 | 2745 | 3376 | 22,379 |
| 76 - 90 AVG | 2,336 | 2,159 | 1,384 | 530 | 342 | 210 | 295 | 485 | 780 | 999 | 1,516 | 1,846 | 12,882 |

**Emmaton (434)**
**Percent Inflow**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2337 | 2400 | 2713 | 3070 | 3551 | 3124 | 2686 | 2708 | 2939 | 2943 | 2825 | 2650 | 33,946 |
| 1977 | 2477 | 2450 | 2643 | 3046 | 3569 | 3224 | 2788 | 2735 | 2892 | 3085 | 3193 | 3029 | 35,131 |
| 1978 | 2932 | 2929 | 3216 | 3208 | 3901 | 2881 | 2367 | 2629 | 2671 | 2866 | 2824 | 2653 | 35,077 |
| 1979 | 2486 | 2423 | 2742 | 3433 | 4109 | 2998 | 2489 | 2571 | 2517 | 2684 | 2702 | 2579 | 33,733 |
| 1980 | 2434 | 2430 | 2956 | 2893 | 3810 | 2805 | 2441 | 2596 | 2697 | 2856 | 2843 | 2669 | 33,430 |
| 1981 | 2468 | 2372 | 2757 | 2955 | 3668 | 2863 | 2500 | 2604 | 2729 | 2783 | 2804 | 2632 | 33,135 |
| 1982 | 2476 | 2417 | 2870 | 2982 | 3682 | 2874 | 2135 | 2550 | 2488 | 2728 | 2746 | 2553 | 32,501 |
| 1983 | 2320 | 2515 | 2909 | 2994 | 3774 | 2650 | 2258 | 2490 | 2291 | 2719 | 2734 | 2447 | 32,101 |
| 1984 | 2378 | 2393 | 2890 | 2811 | 3680 | 2815 | 2391 | 2578 | 2631 | 2721 | 2711 | 2600 | 32,599 |
| 1985 | 2397 | 2494 | 3019 | 3030 | 3610 | 3362 | 2726 | 2601 | 2659 | 2751 | 2815 | 2683 | 34,147 |
| 1986 | 2552 | 2581 | 3030 | 3187 | 3729 | 2663 | 2484 | 2694 | 2819 | 2929 | 2812 | 2627 | 34,107 |
| 1987 | 2436 | 2349 | 2747 | 2949 | 3668 | 3031 | 2653 | 2761 | 2845 | 2854 | 2933 | 2789 | 34,015 |
| 1988 | 2685 | 2660 | 2922 | 3091 | 3756 | 3457 | 2872 | 2736 | 2880 | 2941 | 2899 | 2739 | 35,638 |
| 1989 | 2613 | 2580 | 2708 | 3035 | 3563 | 2763 | 2289 | 2532 | 2617 | 2703 | 2753 | 2608 | 32,764 |
| 1990 | 2410 | 2358 | 2652 | 2954 | 3664 | 3339 | 2492 | 2515 | 2648 | 2742 | 2783 | 2667 | 33,224 |
| 76 - 90 AVG | 2,493 | 2,490 | 2,852 | 3,043 | 3,716 | 2,990 | 2,505 | 2,620 | 2,688 | 2,820 | 2,825 | 2,662 | 33,703 |

Main TOC
Next Page

**Emmaton (434)**
**Flow Study**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 340 | 442 | 974 | 971 | 878 | 568 | 764 | 1094 | 1297 | 1117 | 1999 | 2024 | 12,468 |
| 1977 | 3085 | 3494 | 2620 | 1571 | 945 | 867 | 1309 | 1730 | 2806 | 3126 | 3565 | 3915 | 29,033 |
| 1978 | 3333 | 2829 | 1337 | 203 | 168 | 164 | 162 | 163 | 230 | 448 | 455 | 1013 | 10,505 |
| 1979 | 2401 | 2469 | 1315 | 345 | 188 | 166 | 180 | 283 | 280 | 471 | 611 | 864 | 9,573 |
| 1980 | 1833 | 1015 | 390 | 164 | 162 | 157 | 162 | 176 | 305 | 471 | 490 | 1112 | 6,437 |
| 1981 | 2364 | 3162 | 1475 | 337 | 188 | 164 | 258 | 681 | 1111 | 1353 | 1479 | 1428 | 14,000 |
| 1982 | 2173 | 289 | 156 | 165 | 156 | 163 | 153 | 156 | 163 | 247 | 336 | 213 | 4,370 |
| 1983 | 164 | 160 | 155 | 164 | 158 | 156 | 156 | 153 | 154 | 158 | 165 | 156 | 1,899 |
| 1984 | 162 | 154 | 155 | 156 | 159 | 157 | 169 | 321 | 401 | 383 | 448 | 806 | 3,471 |
| 1985 | 1554 | 346 | 194 | 383 | 542 | 359 | 430 | 450 | 776 | 1313 | 1830 | 1791 | 9,968 |
| 1986 | 2052 | 1674 | 849 | 357 | 162 | 155 | 163 | 181 | 294 | 447 | 415 | 837 | 7,586 |
| 1987 | 2164 | 3283 | 1529 | 774 | 461 | 225 | 252 | 602 | 1047 | 1461 | 2101 | 2981 | 16,880 |
| 1988 | 2647 | 2756 | 1371 | 333 | 275 | 588 | 918 | 1215 | 1242 | 1364 | 2562 | 2989 | 18,260 |
| 1989 | 3246 | 2723 | 2512 | 1489 | 1196 | 214 | 169 | 252 | 704 | 1337 | 1927 | 1657 | 17,426 |
| 1990 | 2535 | 3477 | 3020 | 905 | 523 | 517 | 452 | 573 | 1029 | 1066 | 1695 | 2293 | 18,285 |
| 76 - 90 AVG | 2,004 | 1,885 | 1,203 | 554 | 411 | 308 | 380 | 535 | 789 | 984 | 1,352 | 1,605 | 12,011 |

**Emmaton (434)**
**Flow Study**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 258 | 380 | 1022 | 1010 | 696 | 524 | 761 | 1160 | 1403 | 1187 | 2257 | 2291 | 13,149 |
| 1977 | 3573 | 4059 | 2999 | 1733 | 978 | 885 | 1418 | 1927 | 3225 | 3609 | 4141 | 4569 | 33,116 |
| 1978 | 3863 | 3240 | 1437 | 73 | 38 | 37 | 36 | 39 | 117 | 379 | 391 | 1088 | 10,718 |
| 1979 | 2748 | 2830 | 1434 | 239 | 51 | 38 | 57 | 184 | 183 | 411 | 581 | 889 | 9,645 |
| 1980 | 2082 | 1073 | 312 | 39 | 35 | 34 | 38 | 55 | 209 | 407 | 433 | 1187 | 5,884 |
| 1981 | 2704 | 3670 | 1627 | 245 | 66 | 40 | 152 | 663 | 1181 | 1473 | 1627 | 1570 | 15,018 |
| 1982 | 2473 | 196 | 34 | 37 | 33 | 37 | 32 | 34 | 40 | 141 | 249 | 102 | 3,408 |
| 1983 | 45 | 37 | 33 | 37 | 34 | 33 | 33 | 32 | 33 | 35 | 42 | 35 | 429 |
| 1984 | 42 | 33 | 33 | 33 | 34 | 34 | 46 | 229 | 326 | 305 | 385 | 819 | 2,319 |
| 1985 | 1726 | 263 | 76 | 300 | 490 | 264 | 353 | 385 | 779 | 1427 | 2052 | 2008 | 10,123 |
| 1986 | 2325 | 1866 | 864 | 261 | 38 | 33 | 37 | 57 | 191 | 375 | 342 | 856 | 7,245 |
| 1987 | 2463 | 3816 | 1692 | 775 | 393 | 110 | 140 | 562 | 1100 | 1601 | 2377 | 3446 | 18,475 |
| 1988 | 3043 | 3171 | 1496 | 236 | 160 | 538 | 940 | 1303 | 1335 | 1485 | 2938 | 3456 | 20,101 |
| 1989 | 3769 | 3134 | 2878 | 1637 | 1277 | 101 | 47 | 149 | 693 | 1456 | 2170 | 1847 | 19,158 |
| 1990 | 2912 | 4050 | 3492 | 932 | 464 | 457 | 384 | 535 | 1086 | 1130 | 2133 | 2616 | 20,191 |
| 76 - 90 AVG | 2,267 | 2,121 | 1,295 | 506 | 332 | 211 | 298 | 488 | 793 | 1,028 | 1,475 | 1,784 | 12,599 |

**Emmaton (434)**
**Flow Study**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2343 | 2401 | 2720 | 3057 | 3545 | 3121 | 2702 | 2727 | 2970 | 2969 | 2835 | 2657 | 34,047 |
| 1977 | 2522 | 2555 | 2779 | 3056 | 3571 | 3224 | 2828 | 2783 | 2931 | 3107 | 3201 | 3045 | 35,602 |
| 1978 | 2949 | 2921 | 3228 | 3239 | 3900 | 2883 | 2367 | 2629 | 2670 | 2866 | 2823 | 2650 | 35,125 |
| 1979 | 2480 | 2413 | 2740 | 3433 | 4114 | 2995 | 2481 | 2568 | 2517 | 2695 | 2713 | 2581 | 33,730 |
| 1980 | 2435 | 2432 | 2957 | 2878 | 3807 | 2792 | 2428 | 2584 | 2686 | 2838 | 2823 | 2656 | 33,316 |
| 1981 | 2452 | 2357 | 2748 | 2964 | 3671 | 2862 | 2497 | 2602 | 2799 | 2891 | 2879 | 2657 | 33,379 |
| 1982 | 2493 | 2413 | 2869 | 2981 | 3682 | 2866 | 2134 | 2550 | 2488 | 2731 | 2749 | 2553 | 32,509 |
| 1983 | 2348 | 2516 | 2908 | 2969 | 3773 | 2649 | 2255 | 2490 | 2292 | 2719 | 2734 | 2450 | 32,123 |
| 1984 | 2382 | 2392 | 2890 | 2806 | 3680 | 2807 | 2389 | 2577 | 2631 | 2721 | 2711 | 2600 | 32,586 |
| 1985 | 2395 | 2495 | 3022 | 3040 | 3613 | 3370 | 2728 | 2617 | 2692 | 2790 | 2881 | 2683 | 34,306 |
| 1986 | 2548 | 2566 | 3021 | 3258 | 3732 | 2664 | 2486 | 2699 | 2818 | 2946 | 2826 | 2628 | 34,192 |
| 1987 | 2435 | 2349 | 2747 | 2949 | 3668 | 3031 | 2681 | 2812 | 2910 | 2916 | 2967 | 2756 | 34,221 |
| 1988 | 2633 | 2549 | 2879 | 3096 | 3758 | 3588 | 2977 | 2811 | 2919 | 2903 | 2854 | 2716 | 35,683 |
| 1989 | 2586 | 2545 | 2695 | 3033 | 3562 | 2761 | 2289 | 2524 | 2639 | 2747 | 2847 | 2653 | 32,861 |
| 1990 | 2423 | 2353 | 2648 | 2951 | 3668 | 3352 | 2593 | 2563 | 2666 | 2756 | 2782 | 2663 | 33,418 |
| 76 - 90 AVG | 2,495 | 2,484 | 2,857 | 3,049 | 3,716 | 2,998 | 2,522 | 2,636 | 2,709 | 2,840 | 2,840 | 2,663 | 33,608 |

**Emmaton (434)**
**Maximum Flow**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 713 | 720 | 1065 | 848 | 842 | 646 | 791 | 1117 | 1246 | 1638 | 2711 | 2505 | 14,842 |
| 1977 | 2993 | 3163 | 2679 | 1643 | 954 | 1039 | 1276 | 1657 | 2736 | 3088 | 3538 | 3854 | 28,620 |
| 1978 | 3308 | 2766 | 1310 | 203 | 173 | 165 | 162 | 164 | 229 | 445 | 499 | 1038 | 10,462 |
| 1979 | 2466 | 2574 | 1595 | 327 | 186 | 166 | 160 | 335 | 305 | 485 | 650 | 1108 | 10,377 |
| 1980 | 2043 | 1157 | 444 | 165 | 162 | 158 | 162 | 179 | 311 | 506 | 537 | 1128 | 6,952 |
| 1981 | 2255 | 2950 | 1389 | 358 | 194 | 164 | 257 | 731 | 1174 | 1404 | 1876 | 1600 | 14,352 |
| 1982 | 2215 | 290 | 156 | 165 | 156 | 164 | 153 | 156 | 163 | 282 | 416 | 231 | 4,547 |
| 1983 | 172 | 160 | 155 | 164 | 158 | 156 | 156 | 153 | 154 | 160 | 169 | 168 | 1,925 |
| 1984 | 180 | 155 | 155 | 156 | 159 | 157 | 169 | 321 | 394 | 385 | 449 | 800 | 3,480 |
| 1985 | 2021 | 397 | 203 | 385 | 550 | 376 | 438 | 463 | 859 | 1311 | 2056 | 2012 | 11,071 |
| 1986 | 2337 | 1882 | 889 | 358 | 162 | 155 | 163 | 181 | 293 | 473 | 421 | 829 | 8,143 |
| 1987 | 2163 | 3278 | 1528 | 773 | 462 | 225 | 260 | 613 | 1191 | 1532 | 2418 | 3247 | 17,690 |
| 1988 | 2752 | 2140 | 1105 | 317 | 275 | 640 | 867 | 1217 | 1312 | 1685 | 2936 | 3300 | 18,546 |
| 1989 | 3116 | 2505 | 2474 | 1505 | 1255 | 210 | 167 | 265 | 770 | 1291 | 1999 | 1675 | 17,232 |
| 1990 | 2522 | 3478 | 3066 | 909 | 522 | 516 | 457 | 795 | 1097 | 1547 | 2599 | 2830 | 20,338 |
| 76 - 90 AVG | 2,084 | 1,841 | 1,214 | 552 | 414 | 329 | 377 | 556 | 816 | 1,082 | 1,552 | 1,755 | 12,572 |

**Emmaton (434)**
**Maximum Flow**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 708 | 716 | 1132 | 863 | 854 | 618 | 792 | 1186 | 1340 | 1815 | 3116 | 2871 | 16,011 |
| 1977 | 3462 | 3658 | 3069 | 1818 | 988 | 1092 | 1378 | 1838 | 3141 | 3563 | 4108 | 4498 | 32,611 |
| 1978 | 3834 | 3166 | 1407 | 73 | 40 | 37 | 36 | 39 | 116 | 375 | 443 | 1098 | 10,664 |
| 1979 | 2826 | 2956 | 1770 | 218 | 50 | 38 | 58 | 247 | 211 | 428 | 628 | 1184 | 10,614 |
| 1980 | 2316 | 1244 | 377 | 40 | 36 | 34 | 37 | 57 | 215 | 448 | 488 | 1207 | 6,499 |
| 1981 | 2571 | 3412 | 1522 | 268 | 72 | 40 | 150 | 723 | 1253 | 1529 | 2105 | 1778 | 15,423 |
| 1982 | 2523 | 196 | 34 | 37 | 33 | 37 | 32 | 34 | 40 | 182 | 345 | 125 | 3,618 |
| 1983 | 54 | 38 | 33 | 37 | 34 | 33 | 33 | 32 | 33 | 37 | 48 | 47 | 457 |
| 1984 | 63 | 34 | 33 | 33 | 34 | 34 | 47 | 229 | 317 | 308 | 386 | 811 | 2,329 |
| 1985 | 2291 | 325 | 86 | 303 | 499 | 284 | 362 | 399 | 875 | 1420 | 2324 | 2275 | 11,443 |
| 1986 | 2689 | 2112 | 911 | 262 | 38 | 33 | 37 | 57 | 189 | 405 | 349 | 846 | 7,908 |
| 1987 | 2462 | 3810 | 1691 | 774 | 394 | 109 | 148 | 571 | 1266 | 1677 | 2752 | 3761 | 19,415 |
| 1988 | 3161 | 2404 | 1165 | 216 | 160 | 598 | 876 | 1305 | 1419 | 1870 | 3386 | 3830 | 20,390 |
| 1989 | 3610 | 2869 | 2832 | 1656 | 1347 | 97 | 46 | 162 | 769 | 1399 | 2256 | 1868 | 18,911 |
| 1990 | 2896 | 4051 | 3547 | 936 | 462 | 456 | 390 | 800 | 1165 | 1710 | 2983 | 3264 | 22,660 |
| 76 - 90 AVG | 2,363 | 2,066 | 1,307 | 502 | 338 | 236 | 295 | 512 | 823 | 1,144 | 1,714 | 1,964 | 13,264 |

**Emmaton (434)**
**Maximum Flow**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2385 | 2402 | 2718 | 3004 | 3513 | 3168 | 2725 | 2755 | 2974 | 3004 | 2910 | 2707 | 34,265 |
| 1977 | 2574 | 2594 | 2779 | 3090 | 3585 | 3311 | 2825 | 2760 | 2929 | 3107 | 3201 | 3032 | 35,787 |
| 1978 | 2924 | 2896 | 3208 | 3264 | 3979 | 2894 | 2367 | 2634 | 2674 | 2868 | 2865 | 2669 | 35,242 |
| 1979 | 2490 | 2429 | 2724 | 3401 | 4101 | 2994 | 2483 | 2580 | 2541 | 2716 | 2749 | 2622 | 33,830 |
| 1980 | 2464 | 2437 | 2956 | 2891 | 3811 | 2807 | 2442 | 2606 | 2717 | 2885 | 2886 | 2682 | 33,584 |
| 1981 | 2503 | 2424 | 2780 | 2999 | 3679 | 2866 | 2485 | 2612 | 2935 | 3062 | 2984 | 2697 | 34,026 |
| 1982 | 2507 | 2413 | 2871 | 2986 | 3686 | 2878 | 2138 | 2553 | 2490 | 2752 | 2790 | 2562 | 32,626 |
| 1983 | 2372 | 2519 | 2907 | 3003 | 3778 | 2653 | 2259 | 2496 | 2297 | 2766 | 2735 | 2566 | 32,351 |
| 1984 | 2443 | 2399 | 2894 | 2814 | 3680 | 2815 | 2391 | 2578 | 2631 | 2721 | 2711 | 2601 | 32,678 |
| 1985 | 2406 | 2505 | 3027 | 3032 | 3609 | 3400 | 2777 | 2680 | 2899 | 2974 | 2938 | 2724 | 34,971 |
| 1986 | 2604 | 2648 | 3049 | 3264 | 3735 | 2664 | 2487 | 2700 | 2818 | 2957 | 2836 | 2630 | 34,392 |
| 1987 | 2436 | 2349 | 2747 | 2949 | 3668 | 3032 | 2755 | 2909 | 3140 | 3207 | 3231 | 3023 | 35,446 |
| 1988 | 2886 | 2869 | 2995 | 3109 | 3766 | 3764 | 3048 | 2806 | 2955 | 3011 | 2985 | 2819 | 37,013 |
| 1989 | 2665 | 2587 | 2704 | 3040 | 3568 | 2768 | 2286 | 2563 | 2836 | 2905 | 2885 | 2662 | 33,469 |
| 1990 | 2425 | 2352 | 2643 | 2952 | 3669 | 3355 | 2632 | 2617 | 2736 | 2779 | 2800 | 2681 | 33,641 |
| 76 - 90 AVG | 2,539 | 2,522 | 2,867 | 3,053 | 3,722 | 3,025 | 2,540 | 2,657 | 2,771 | 2,914 | 2,900 | 2,712 | 34,221 |

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**Emmaton, 434**
**Cumulative Impact**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 536 | 538 | 731 | 746 | 790 | 453 | 634 | 811 | 1182 | 1895 | 1431 | 1791 |
| 1977 | 2753 | 3234 | 3308 | 1974 | 1153 | 643 | 1078 | 1735 | 2013 | 2633 | 3321 | 3747 |
| 1978 | 3249 | 2887 | 1248 | 200 | 170 | 164 | 163 | 167 | 226 | 356 | 460 | 908 |
| 1979 | 2324 | 2353 | 1076 | 397 | 196 | 167 | 166 | 185 | 217 | 431 | 792 | 1153 |
| 1980 | 1739 | 1277 | 469 | 171 | 162 | 158 | 162 | 170 | 224 | 361 | 426 | 1138 |
| 1981 | 2268 | 3110 | 1204 | 499 | 217 | 172 | 175 | 288 | 811 | 1452 | 1378 | 1474 |
| 1982 | 2165 | 315 | 156 | 165 | 156 | 164 | 154 | 157 | 165 | 272 | 484 | 303 |
| 1983 | 170 | 160 | 155 | 164 | 158 | 156 | 156 | 153 | 154 | 158 | 177 | 159 |
| 1984 | 161 | 154 | 155 | 156 | 158 | 158 | 164 | 176 | 251 | 321 | 434 | 798 |
| 1985 | 1505 | 353 | 191 | 394 | 448 | 289 | 309 | 305 | 695 | 1361 | 1690 | 1710 |
| 1986 | 2367 | 1899 | 635 | 333 | 161 | 156 | 164 | 176 | 249 | 299 | 432 | 854 |
| 1987 | 1986 | 3060 | 1253 | 845 | 452 | 221 | 263 | 548 | 1131 | 1510 | 2343 | 3090 |
| 1988 | 2505 | 2525 | 941 | 332 | 261 | 310 | 568 | 855 | 1219 | 1885 | 2853 | 2751 |
| 1989 | 2654 | 2374 | 2254 | 1394 | 1156 | 220 | 164 | 255 | 725 | 1324 | 2083 | 1679 |
| 1990 | 2040 | 2726 | 2528 | 738 | 439 | 328 | 355 | 547 | 1007 | 1848 | 2430 | 2578 |
| Average | 1895 | 1798 | 1087 | 567 | 405 | 251 | 312 | 435 | 685 | 1074 | 1382 | 1609 |

**Emmaton, 434**
**Cumulative Impact**
**Bromide**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 495 | 497 | 730 | 741 | 792 | 387 | 603 | 817 | 1260 | 2118 | 1566 | 2009 |
| 1977 | 3171 | 3741 | 3824 | 2212 | 1224 | 613 | 1139 | 1934 | 2269 | 3020 | 3851 | 4369 |
| 1978 | 3767 | 3318 | 1338 | 70 | 39 | 37 | 37 | 39 | 107 | 272 | 399 | 942 |
| 1979 | 2656 | 2690 | 1147 | 304 | 58 | 38 | 39 | 58 | 101 | 362 | 800 | 1238 |
| 1980 | 1948 | 1390 | 409 | 47 | 36 | 34 | 38 | 42 | 105 | 275 | 358 | 1220 |
| 1981 | 2588 | 3607 | 1302 | 439 | 101 | 48 | 52 | 186 | 810 | 1580 | 1500 | 1624 |
| 1982 | 2462 | 227 | 35 | 37 | 33 | 38 | 32 | 34 | 41 | 170 | 428 | 211 |
| 1983 | 51 | 37 | 33 | 36 | 34 | 33 | 33 | 32 | 33 | 35 | 57 | 38 |
| 1984 | 40 | 33 | 33 | 33 | 34 | 34 | 40 | 52 | 142 | 231 | 368 | 810 |
| 1985 | 1666 | 272 | 74 | 315 | 378 | 182 | 206 | 205 | 674 | 1480 | 1881 | 1910 |
| 1986 | 2705 | 2137 | 608 | 233 | 37 | 33 | 38 | 45 | 129 | 201 | 365 | 877 |
| 1987 | 2248 | 3547 | 1361 | 862 | 382 | 105 | 150 | 489 | 1190 | 1651 | 2663 | 3574 |
| 1988 | 2668 | 2885 | 977 | 234 | 146 | 203 | 511 | 865 | 1304 | 2108 | 3283 | 3166 |
| 1989 | 3051 | 2708 | 2565 | 1522 | 1229 | 108 | 42 | 151 | 717 | 1440 | 2359 | 1874 |
| 1990 | 2313 | 3142 | 2900 | 731 | 363 | 232 | 266 | 499 | 1054 | 2071 | 2776 | 2960 |
| Average | 2135 | 2015 | 1156 | 521 | 326 | 142 | 215 | 383 | 662 | 1134 | 1510 | 1788 |

**Emmaton, 434**
**Cumulative Impact**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2354 | 2365 | 2736 | 2963 | 3500 | 3034 | 2682 | 2756 | 3024 | 3154 | 2969 | 2677 |
| 1977 | 2573 | 2602 | 2759 | 3140 | 3610 | 3221 | 2797 | 2725 | 2803 | 2846 | 3017 | 2902 |
| 1978 | 2823 | 2783 | 3164 | 3254 | 3929 | 2871 | 2430 | 2719 | 2723 | 2752 | 2710 | 2603 |
| 1979 | 2448 | 2405 | 2742 | 3366 | 4205 | 3040 | 2481 | 2722 | 2606 | 2700 | 2744 | 2622 |
| 1980 | 2450 | 2424 | 2913 | 2888 | 3814 | 2819 | 2466 | 2687 | 2741 | 2786 | 2735 | 2636 |
| 1981 | 2450 | 2355 | 2752 | 2982 | 3675 | 2927 | 2450 | 2672 | 2985 | 3159 | 3054 | 2697 |
| 1982 | 2489 | 2425 | 2869 | 2987 | 3676 | 2897 | 2147 | 2568 | 2508 | 2714 | 2745 | 2563 |
| 1983 | 2367 | 2515 | 2905 | 2981 | 3770 | 2652 | 2257 | 2493 | 2282 | 2696 | 2728 | 2455 |
| 1984 | 2393 | 2385 | 2890 | 2812 | 3689 | 2847 | 2421 | 2629 | 2660 | 2711 | 2703 | 2593 |
| 1985 | 2386 | 2494 | 2955 | 3012 | 3822 | 3268 | 2809 | 2748 | 2878 | 2926 | 2939 | 2704 |
| 1986 | 2550 | 2570 | 2967 | 3202 | 3730 | 2672 | 2532 | 2833 | 2895 | 2786 | 2713 | 2603 |
| 1987 | 2426 | 2341 | 2737 | 2930 | 3668 | 3017 | 2803 | 2936 | 3118 | 3172 | 3163 | 2925 |
| 1988 | 2755 | 2650 | 2883 | 3073 | 3732 | 3546 | 3058 | 2832 | 2974 | 3077 | 3073 | 2825 |
| 1989 | 2647 | 2577 | 2721 | 3039 | 3563 | 2773 | 2275 | 2558 | 2717 | 2789 | 2859 | 2663 |
| 1990 | 2419 | 2357 | 2648 | 2940 | 3662 | 3169 | 2659 | 2686 | 2812 | 2857 | 2903 | 2714 |
| Average | 2502 | 2483 | 2843 | 3038 | 3723 | 2984 | 2551 | 2704 | 2782 | 2875 | 2870 | 2679 |

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**SJR @ Jersey Point (49)**
**Existing Conditions**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 324 | 212 | 297 | 889 | 1169 | 996 | 645 | 722 | 572 | 844 | 1321 | 1379 | 9,370 |
| 1977 | 1507 | 1674 | 1553 | 2311 | 2187 | 1259 | 875 | 885 | 1086 | 1325 | 1623 | 1932 | 18,217 |
| 1978 | 1503 | 1234 | 992 | 329 | 222 | 224 | 209 | 190 | 198 | 244 | 496 | 553 | 6,394 |
| 1979 | 999 | 1549 | 1362 | 612 | 256 | 208 | 196 | 281 | 227 | 291 | 689 | 1013 | 7,683 |
| 1980 | 1371 | 1284 | 656 | 207 | 198 | 186 | 180 | 187 | 200 | 260 | 442 | 690 | 5,861 |
| 1981 | 1006 | 1237 | 714 | 240 | 197 | 185 | 195 | 369 | 587 | 869 | 1059 | 1313 | 7,971 |
| 1982 | 1313 | 916 | 205 | 213 | 182 | 198 | 172 | 171 | 173 | 198 | 277 | 193 | 4,211 |
| 1983 | 163 | 185 | 179 | 211 | 192 | 184 | 171 | 163 | 170 | 182 | 177 | 168 | 2,145 |
| 1984 | 168 | 177 | 176 | 182 | 187 | 182 | 187 | 336 | 305 | 299 | 492 | 851 | 3,542 |
| 1985 | 1581 | 1048 | 232 | 703 | 877 | 378 | 384 | 457 | 454 | 831 | 1053 | 1348 | 9,346 |
| 1986 | 1303 | 1202 | 988 | 789 | 226 | 182 | 180 | 188 | 202 | 243 | 445 | 894 | 6,842 |
| 1987 | 1605 | 1890 | 1752 | 2070 | 1328 | 507 | 256 | 398 | 605 | 860 | 1215 | 1543 | 14,029 |
| 1988 | 1170 | 920 | 1041 | 876 | 343 | 563 | 839 | 1011 | 680 | 871 | 1555 | 1891 | 11,760 |
| 1989 | 1385 | 1351 | 1288 | 2240 | 1515 | 530 | 213 | 374 | 507 | 814 | 1098 | 1318 | 12,633 |
| 1990 | 1433 | 1620 | 1558 | 2623 | 1217 | 673 | 795 | 640 | 564 | 878 | 1459 | 1833 | 15,293 |
| 76 - 90 AVG | 1,122 | 1,100 | 866 | 966 | 686 | 430 | 366 | 425 | 435 | 601 | 893 | 1,128 | 9,020 |

**SJR @ Jersey Point (49)**
**Existing Conditions**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 235 | 98 | 197 | 904 | 1236 | 1030 | 607 | 698 | 517 | 849 | 1431 | 1507 | 9,309 |
| 1977 | 1659 | 1850 | 1699 | 2619 | 2468 | 1348 | 883 | 891 | 1131 | 1421 | 1786 | 2167 | 19,922 |
| 1978 | 1647 | 1302 | 1009 | 190 | 63 | 64 | 59 | 52 | 70 | 128 | 433 | 507 | 5,524 |
| 1979 | 1048 | 1714 | 1484 | 548 | 88 | 59 | 61 | 172 | 112 | 186 | 668 | 1065 | 7,205 |
| 1980 | 1500 | 1396 | 631 | 73 | 55 | 47 | 45 | 54 | 75 | 149 | 369 | 673 | 5,067 |
| 1981 | 1056 | 1334 | 700 | 117 | 53 | 46 | 62 | 274 | 541 | 886 | 1117 | 1428 | 7,814 |
| 1982 | 1428 | 948 | 86 | 62 | 48 | 57 | 43 | 42 | 45 | 75 | 172 | 76 | 3,082 |
| 1983 | 41 | 54 | 51 | 64 | 52 | 50 | 42 | 38 | 42 | 48 | 47 | 43 | 572 |
| 1984 | 44 | 48 | 49 | 47 | 47 | 46 | 57 | 240 | 204 | 197 | 432 | 869 | 2,260 |
| 1985 | 1755 | 1108 | 116 | 682 | 884 | 275 | 286 | 381 | 380 | 839 | 1110 | 1469 | 9,285 |
| 1986 | 1416 | 1289 | 1025 | 774 | 88 | 49 | 47 | 53 | 73 | 120 | 369 | 919 | 6,222 |
| 1987 | 1783 | 2125 | 1956 | 2337 | 1427 | 431 | 131 | 304 | 560 | 874 | 1305 | 1705 | 14,938 |
| 1988 | 1256 | 945 | 1089 | 885 | 234 | 501 | 840 | 1053 | 655 | 886 | 1714 | 2124 | 12,182 |
| 1989 | 1511 | 1481 | 1389 | 2538 | 1650 | 466 | 92 | 288 | 450 | 820 | 1165 | 1434 | 13,264 |
| 1990 | 1575 | 1795 | 1714 | 3004 | 1294 | 631 | 788 | 608 | 518 | 896 | 1600 | 2054 | 16,477 |
| 76 - 91 AVG | 1,197 | 1,164 | 880 | 990 | 646 | 340 | 270 | 343 | 358 | 558 | 915 | 1,203 | 8,863 |

**SJR @ Jersey Point (49)**
**Existing Conditions**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2481 | 2496 | 2855 | 3313 | 3634 | 3548 | 3074 | 3033 | 3257 | 3234 | 3046 | 2798 | 36,769 |
| 1977 | 2742 | 2806 | 2979 | 3209 | 3508 | 3583 | 3194 | 3152 | 3371 | 3495 | 3550 | 3292 | 38,881 |
| 1978 | 3111 | 3076 | 3401 | 4476 | 4838 | 4533 | 3749 | 3184 | 2915 | 2996 | 3089 | 2827 | 42,195 |
| 1979 | 2664 | 2555 | 2782 | 3854 | 5280 | 4173 | 3077 | 2787 | 2817 | 2968 | 3007 | 2807 | 38,771 |
| 1980 | 2628 | 2518 | 2951 | 3757 | 5088 | 4265 | 3250 | 2903 | 2878 | 2965 | 3017 | 2839 | 39,059 |
| 1981 | 2695 | 2633 | 2905 | 3367 | 4002 | 3618 | 3026 | 2928 | 2985 | 2927 | 2921 | 2751 | 36,758 |
| 1982 | 2637 | 2602 | 3082 | 4281 | 4328 | 4323 | 3275 | 2975 | 2708 | 2856 | 2908 | 2668 | 38,643 |
| 1983 | 2481 | 3024 | 3566 | 4665 | 5295 | 4325 | 3754 | 3067 | 3183 | 3358 | 3030 | 2712 | 42,440 |
| 1984 | 2573 | 2829 | 3671 | 3865 | 4203 | 3585 | 2817 | 2712 | 2884 | 2974 | 2977 | 2790 | 37,880 |
| 1985 | 2550 | 2627 | 3141 | 3310 | 3673 | 3759 | 3223 | 2945 | 2976 | 2928 | 2933 | 2773 | 36,838 |
| 1986 | 2679 | 2710 | 3109 | 3539 | 4902 | 4115 | 3269 | 3004 | 2998 | 3165 | 3199 | 2873 | 39,562 |
| 1987 | 2639 | 2572 | 2783 | 3049 | 3635 | 3672 | 3169 | 3102 | 3051 | 2940 | 2976 | 2826 | 36,414 |
| 1988 | 2703 | 2719 | 2993 | 3319 | 3789 | 3800 | 3146 | 2846 | 2959 | 3027 | 3087 | 2934 | 37,322 |
| 1989 | 2879 | 2843 | 2936 | 3171 | 3691 | 3392 | 2680 | 2622 | 2804 | 2863 | 2938 | 2755 | 35,574 |
| 1990 | 2605 | 2631 | 2897 | 2992 | 3608 | 3830 | 3009 | 2698 | 2874 | 2948 | 3018 | 2879 | 35,989 |
| 76 - 90 AVG | 2,670 | 2,709 | 3,070 | 3,611 | 4,232 | 3,901 | 3,181 | 2,931 | 2,977 | 3,043 | 3,046 | 2,835 | 38,206 |

**SJR @ Jersey Point (49)**
**No-Action Alternative**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 362 | 333 | 842 | 1874 | 1636 | 1079 | 672 | 821 | 617 | 766 | 1203 | 1536 | 9,370 |
| 1,977 | 1645 | 1872 | 1755 | 2560 | 2281 | 1296 | 878 | 1032 | 1237 | 1379 | 1622 | 1951 | 18,217 |
| 1,978 | 1570 | 1238 | 986 | 329 | 241 | 240 | 198 | 181 | 192 | 231 | 514 | 793 | 6,394 |
| 1,979 | 1356 | 1639 | 1541 | 788 | 268 | 202 | 192 | 293 | 286 | 427 | 854 | 1114 | 7,683 |
| 1,980 | 1251 | 1146 | 529 | 232 | 204 | 177 | 172 | 182 | 204 | 258 | 484 | 893 | 5,861 |
| 1,981 | 1414 | 1684 | 1684 | 808 | 259 | 196 | 265 | 502 | 610 | 847 | 1209 | 1490 | 7,971 |
| 1,982 | 1387 | 867 | 201 | 220 | 192 | 198 | 168 | 166 | 171 | 216 | 322 | 205 | 4,211 |
| 1,983 | 162 | 184 | 183 | 211 | 177 | 157 | 144 | 159 | 168 | 176 | 174 | 168 | 2,145 |
| 1,984 | 165 | 197 | 185 | 179 | 180 | 175 | 180 | 278 | 315 | 407 | 593 | 878 | 3,542 |
| 1,985 | 1491 | 1110 | 291 | 823 | 1102 | 528 | 505 | 658 | 559 | 825 | 1157 | 1532 | 9,346 |
| 1,986 | 1300 | 1159 | 1012 | 777 | 280 | 183 | 171 | 181 | 201 | 243 | 471 | 807 | 6,842 |
| 1,987 | 1483 | 1828 | 1826 | 2212 | 1332 | 493 | 264 | 404 | 590 | 732 | 1127 | 1772 | 14,029 |
| 1,988 | 1422 | 1166 | 1331 | 969 | 323 | 548 | 719 | 894 | 647 | 799 | 1482 | 2040 | 11,760 |
| 1,989 | 1674 | 1486 | 1324 | 2293 | 1504 | 509 | 211 | 296 | 422 | 753 | 1136 | 1328 | 12,633 |
| 1,990 | 1514 | 1728 | 1657 | 2512 | 1162 | 680 | 860 | 758 | 638 | 899 | 1367 | 1802 | 15,293 |
| 76 - 90 AVG | 1,213 | 1,176 | 1,023 | 1,119 | 743 | 444 | 373 | 454 | 457 | 597 | 914 | 1,221 | 9,020 |

**SJR @ Jersey Point (49)**
**No-Action Alternative**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 282 | 246 | 858 | 2097 | 1802 | 1130 | 639 | 819 | 573 | 756 | 1290 | 1697 | 9,309 |
| 1,977 | 1825 | 2086 | 1942 | 2919 | 2582 | 1393 | 887 | 1070 | 1317 | 1486 | 1782 | 2188 | 19,922 |
| 1,978 | 1719 | 1293 | 999 | 190 | 73 | 73 | 54 | 48 | 85 | 112 | 456 | 797 | 5,524 |
| 1,979 | 1478 | 1821 | 1703 | 764 | 108 | 55 | 60 | 187 | 184 | 353 | 870 | 1188 | 7,205 |
| 1,980 | 1356 | 1229 | 477 | 81 | 57 | 46 | 43 | 53 | 80 | 145 | 420 | 919 | 5,067 |
| 1,981 | 1550 | 1876 | 1876 | 807 | 137 | 66 | 151 | 439 | 570 | 858 | 1298 | 1642 | 7,614 |
| 1,982 | 1518 | 889 | 82 | 65 | 52 | 56 | 43 | 40 | 44 | 98 | 227 | 90 | 3,082 |
| 1,983 | 40 | 53 | 52 | 64 | 53 | 50 | 42 | 38 | 42 | 46 | 46 | 44 | 572 |
| 1,984 | 43 | 59 | 52 | 47 | 44 | 42 | 51 | 169 | 216 | 327 | 555 | 902 | 2,280 |
| 1,985 | 1647 | 1183 | 188 | 829 | 1156 | 455 | 431 | 627 | 511 | 833 | 1234 | 1691 | 9,285 |
| 1,986 | 1411 | 1235 | 1054 | 761 | 115 | 54 | 45 | 51 | 71 | 122 | 403 | 816 | 6,222 |
| 1,987 | 1636 | 2050 | 2046 | 2511 | 1433 | 414 | 141 | 315 | 543 | 718 | 1196 | 1978 | 14,938 |
| 1,988 | 1554 | 1237 | 1439 | 997 | 206 | 479 | 691 | 908 | 611 | 795 | 1624 | 2304 | 12,182 |
| 1,989 | 1860 | 1629 | 1434 | 2803 | 1636 | 441 | 90 | 193 | 346 | 747 | 1211 | 1447 | 13,264 |
| 1,990 | 1673 | 1927 | 1834 | 2869 | 1228 | 642 | 869 | 752 | 608 | 922 | 1489 | 2017 | 16,477 |
| 76 - 90 AVG | 1,306 | 1,254 | 1,069 | 1,174 | 712 | 360 | 282 | 381 | 385 | 555 | 940 | 1,315 | 8,863 |

**SJR @ Jersey Point (49)**
**No-Action Alternative**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 2484 | 2469 | 2755 | 3149 | 3547 | 3536 | 3063 | 2993 | 3234 | 3182 | 3027 | 2813 | 36,769 |
| 1,977 | 2739 | 2780 | 2963 | 3194 | 3491 | 3574 | 3207 | 3138 | 3342 | 3530 | 3627 | 3395 | 38,881 |
| 1,978 | 3252 | 3214 | 3410 | 4463 | 5140 | 4559 | 3547 | 3064 | 2901 | 3046 | 3058 | 2802 | 42,195 |
| 1,979 | 2702 | 2598 | 2757 | 3774 | 4985 | 4024 | 2966 | 2765 | 2739 | 2811 | 2855 | 2704 | 38,771 |
| 1,980 | 2572 | 2507 | 2962 | 3815 | 4912 | 3985 | 3048 | 2828 | 2883 | 2989 | 3023 | 2824 | 39,059 |
| 1,981 | 2675 | 2589 | 2789 | 3201 | 3701 | 3421 | 2860 | 2800 | 2954 | 2971 | 2995 | 2789 | 36,758 |
| 1,982 | 2655 | 2609 | 3074 | 4295 | 4313 | 4233 | 3237 | 2948 | 2721 | 2868 | 2917 | 2679 | 38,643 |
| 1,983 | 2431 | 2920 | 3534 | 4654 | 5289 | 4310 | 3732 | 3061 | 3185 | 3325 | 3026 | 2699 | 42,440 |
| 1,984 | 2533 | 2804 | 3664 | 3837 | 4151 | 3506 | 2781 | 2755 | 2858 | 2878 | 2885 | 2734 | 37,880 |
| 1,985 | 2527 | 2623 | 3037 | 3173 | 3558 | 3845 | 3247 | 2818 | 2863 | 2919 | 3020 | 2859 | 36,838 |
| 1,986 | 2744 | 2753 | 3108 | 3513 | 4845 | 4083 | 3255 | 3007 | 3017 | 3133 | 3056 | 2767 | 39,562 |
| 1,987 | 2603 | 2566 | 2769 | 2993 | 3601 | 3667 | 3106 | 3000 | 3041 | 3011 | 3129 | 2993 | 36,414 |
| 1,988 | 2906 | 2862 | 2991 | 3308 | 3906 | 3945 | 3253 | 2986 | 3117 | 3160 | 3155 | 2975 | 37,322 |
| 1,989 | 2893 | 2810 | 2902 | 3145 | 3694 | 3392 | 2674 | 2665 | 2822 | 2848 | 2924 | 2751 | 35,574 |
| 1,990 | 2602 | 2613 | 2885 | 2996 | 3574 | 3769 | 2958 | 2635 | 2803 | 2898 | 2984 | 2871 | 35,989 |
| 76 - 90 AVG | 2,688 | 2,715 | 3,040 | 3,567 | 4,180 | 3,857 | 3,129 | 2,898 | 2,965 | 3,038 | 3,045 | 2,844 | 38,206 |

**SJR @ Jersey Point (49)**
**State Permit**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 328 | 321 | 827 | 1851 | 1609 | 1060 | 695 | 815 | 612 | 758 | 1177 | 1568 | 11,621 |
| 1977 | 1892 | 2144 | 1831 | 2297 | 2269 | 1296 | 893 | 1027 | 1212 | 1374 | 1628 | 1967 | 19,828 |
| 1978 | 1578 | 1343 | 1105 | 333 | 236 | 226 | 199 | 184 | 194 | 237 | 503 | 792 | 6,930 |
| 1979 | 1418 | 1662 | 1449 | 778 | 266 | 200 | 191 | 286 | 272 | 411 | 870 | 1120 | 8,923 |
| 1980 | 1248 | 1068 | 467 | 198 | 196 | 181 | 175 | 185 | 202 | 261 | 508 | 928 | 5,615 |
| 1981 | 1423 | 1361 | 1463 | 762 | 249 | 191 | 276 | 518 | 594 | 791 | 1194 | 1435 | 10,257 |
| 1982 | 1328 | 812 | 196 | 213 | 182 | 197 | 172 | 170 | 173 | 215 | 317 | 200 | 4,175 |
| 1983 | 161 | 177 | 175 | 211 | 192 | 184 | 171 | 162 | 169 | 180 | 177 | 169 | 2,128 |
| 1984 | 165 | 175 | 176 | 182 | 185 | 179 | 181 | 279 | 316 | 407 | 594 | 881 | 3,720 |
| 1985 | 1506 | 1036 | 280 | 756 | 1074 | 521 | 468 | 553 | 496 | 804 | 1183 | 1547 | 10,224 |
| 1986 | 1341 | 1231 | 987 | 752 | 224 | 183 | 181 | 190 | 202 | 239 | 474 | 801 | 6,805 |
| 1987 | 1471 | 1816 | 1805 | 2178 | 1310 | 485 | 264 | 409 | 598 | 750 | 1146 | 1781 | 14,013 |
| 1988 | 1638 | 1484 | 1522 | 970 | 314 | 542 | 773 | 905 | 672 | 784 | 1312 | 1841 | 12,757 |
| 1989 | 1588 | 1518 | 1398 | 2275 | 1623 | 557 | 215 | 287 | 424 | 784 | 1222 | 1432 | 13,263 |
| 1990 | 1515 | 1759 | 1652 | 2418 | 1054 | 648 | 777 | 668 | 657 | 895 | 1316 | 1813 | 15,172 |
| 76 - 90 AVG | 1,240 | 1,194 | 1,018 | 1,078 | 732 | 443 | 375 | 443 | 453 | 593 | 908 | 1,218 | 9,695 |

**SJR @ Jersey Point (49)**
**State Permit**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 240 | 231 | 841 | 2070 | 1770 | 1107 | 667 | 813 | 568 | 749 | 1259 | 1735 | 12,050 |
| 1977 | 2127 | 2424 | 2038 | 2600 | 2565 | 1393 | 904 | 1066 | 1288 | 1481 | 1788 | 2207 | 21,881 |
| 1978 | 1732 | 1431 | 1149 | 196 | 70 | 66 | 54 | 49 | 67 | 120 | 443 | 797 | 6,174 |
| 1979 | 1554 | 1850 | 1591 | 752 | 108 | 55 | 60 | 179 | 167 | 333 | 889 | 1196 | 8,734 |
| 1980 | 1352 | 1136 | 403 | 62 | 54 | 46 | 44 | 54 | 78 | 149 | 449 | 958 | 4,785 |
| 1981 | 1562 | 1486 | 1607 | 752 | 125 | 59 | 163 | 458 | 551 | 789 | 1278 | 1575 | 10,405 |
| 1982 | 1446 | 822 | 76 | 62 | 48 | 56 | 43 | 41 | 45 | 96 | 221 | 85 | 3,041 |
| 1983 | 40 | 50 | 49 | 64 | 52 | 50 | 42 | 38 | 42 | 48 | 47 | 44 | 566 |
| 1984 | 43 | 47 | 49 | 47 | 46 | 44 | 52 | 169 | 216 | 328 | 556 | 906 | 2,503 |
| 1985 | 1666 | 1093 | 175 | 747 | 1122 | 447 | 387 | 499 | 434 | 807 | 1266 | 1709 | 10,352 |
| 1986 | 1481 | 1323 | 1025 | 730 | 85 | 50 | 47 | 54 | 71 | 116 | 406 | 809 | 6,177 |
| 1987 | 1621 | 2036 | 2021 | 2469 | 1406 | 404 | 142 | 320 | 554 | 739 | 1219 | 1990 | 14,921 |
| 1988 | 1815 | 1624 | 1673 | 1000 | 195 | 472 | 757 | 923 | 644 | 781 | 1421 | 2063 | 13,368 |
| 1989 | 1758 | 1669 | 1452 | 2582 | 1782 | 501 | 95 | 182 | 348 | 784 | 1314 | 1572 | 14,039 |
| 1990 | 1674 | 1967 | 1830 | 2757 | 1097 | 603 | 768 | 643 | 631 | 918 | 1427 | 2031 | 16,346 |
| 76 - 90 AVG | 1,339 | 1,279 | 1,065 | 1,126 | 702 | 357 | 282 | 366 | 380 | 549 | 932 | 1,312 | 9,689 |

**SJR @ Jersey Point (49)**
**State Permit**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2481 | 2469 | 2755 | 3149 | 3547 | 3539 | 3040 | 2951 | 3159 | 3091 | 3002 | 2622 | 36,005 |
| 1977 | 2704 | 2708 | 2924 | 3281 | 3569 | 3590 | 3187 | 3093 | 3303 | 3499 | 3606 | 3384 | 38,848 |
| 1978 | 3196 | 3109 | 3371 | 4449 | 5133 | 4557 | 3547 | 3063 | 2901 | 3015 | 3022 | 2797 | 42,160 |
| 1979 | 2679 | 2576 | 2767 | 3786 | 4986 | 4020 | 2966 | 2757 | 2732 | 2625 | 2868 | 2705 | 37,667 |
| 1980 | 2552 | 2494 | 2965 | 3794 | 4908 | 4004 | 3062 | 2834 | 2884 | 2980 | 3013 | 2822 | 38,312 |
| 1981 | 2633 | 2582 | 2802 | 3197 | 3697 | 3448 | 2899 | 2803 | 2968 | 3015 | 3052 | 2816 | 35,912 |
| 1982 | 2667 | 2611 | 3070 | 4297 | 4316 | 4290 | 3243 | 2941 | 2708 | 2862 | 2913 | 2668 | 38,586 |
| 1983 | 2425 | 2920 | 3531 | 4659 | 5286 | 4310 | 3730 | 3061 | 3185 | 3325 | 3026 | 2697 | 42,155 |
| 1984 | 2531 | 2804 | 3664 | 3838 | 4150 | 3505 | 2782 | 2756 | 2859 | 2876 | 2885 | 2734 | 37,382 |
| 1985 | 2502 | 2612 | 3036 | 3212 | 3591 | 3785 | 3199 | 2849 | 2899 | 2930 | 3028 | 2652 | 36,495 |
| 1986 | 2728 | 2740 | 3106 | 3518 | 4843 | 4061 | 3282 | 3033 | 3020 | 3161 | 3087 | 2773 | 39,372 |
| 1987 | 2605 | 2566 | 2770 | 2997 | 3603 | 3667 | 3096 | 2979 | 3021 | 2994 | 3109 | 2977 | 36,384 |
| 1988 | 2866 | 2798 | 2954 | 3298 | 3911 | 3955 | 3220 | 2946 | 3015 | 2997 | 3073 | 2955 | 37,968 |
| 1989 | 2862 | 2780 | 2894 | 3144 | 3644 | 3355 | 2673 | 2671 | 2841 | 2867 | 2968 | 2781 | 35,480 |
| 1990 | 2597 | 2589 | 2867 | 3002 | 3596 | 3788 | 2988 | 2682 | 2804 | 2859 | 2972 | 2865 | 35,609 |
| 76 - 90 AVG | 2,669 | 2,691 | 3,032 | 3,575 | 4,185 | 3,860 | 3,128 | 2,895 | 2,953 | 3,020 | 3,042 | 2,843 | 37,890 |

**SJR @ Jersey Point (49)**
**Percent Inflow**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 324 | 323 | 795 | 1819 | 1628 | 1067 | 662 | 759 | 579 | 761 | 1208 | 1573 | 11,498 |
| 1977 | 1669 | 1856 | 1745 | 2524 | 2254 | 1278 | 903 | 1035 | 1233 | 1389 | 1634 | 1964 | 19,484 |
| 1978 | 1577 | 1237 | 993 | 330 | 236 | 226 | 199 | 184 | 193 | 230 | 514 | 791 | 6,710 |
| 1979 | 1348 | 1621 | 1562 | 828 | 275 | 201 | 191 | 290 | 286 | 436 | 859 | 1111 | 9,008 |
| 1980 | 1251 | 1164 | 531 | 203 | 196 | 180 | 175 | 185 | 203 | 241 | 484 | 862 | 5,675 |
| 1981 | 1564 | 1929 | 1793 | 1007 | 311 | 204 | 281 | 454 | 581 | 841 | 1199 | 1422 | 11,566 |
| 1982 | 1327 | 860 | 201 | 213 | 182 | 195 | 171 | 170 | 174 | 220 | 358 | 220 | 4,291 |
| 1983 | 162 | 177 | 175 | 211 | 193 | 184 | 171 | 162 | 169 | 180 | 177 | 169 | 2,130 |
| 1984 | 165 | 175 | 176 | 182 | 185 | 179 | 181 | 280 | 316 | 407 | 593 | 876 | 3,715 |
| 1985 | 1489 | 1182 | 257 | 815 | 1092 | 523 | 500 | 614 | 536 | 842 | 1211 | 1547 | 10,608 |
| 1986 | 1313 | 1187 | 1022 | 694 | 217 | 183 | 180 | 189 | 202 | 241 | 475 | 800 | 6,703 |
| 1987 | 1483 | 1808 | 1804 | 2180 | 1311 | 485 | 252 | 368 | 537 | 675 | 1061 | 1682 | 13,626 |
| 1988 | 1242 | 960 | 1185 | 901 | 305 | 537 | 655 | 829 | 620 | 778 | 1451 | 2027 | 11,490 |
| 1989 | 1655 | 1483 | 1326 | 2265 | 1478 | 501 | 211 | 293 | 421 | 758 | 1143 | 1327 | 12,861 |
| 1990 | 1496 | 1686 | 1621 | 2485 | 1170 | 679 | 847 | 702 | 590 | 886 | 1482 | 1939 | 15,583 |
| 76 - 90 AVG | 1,203 | 1,177 | 1,012 | 1,110 | 736 | 441 | 371 | 434 | 443 | 592 | 923 | 1,221 | 9,663 |

**SJR @ Jersey Point (49)**
**Percent Inflow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 236 | 234 | 802 | 2031 | 1792 | 1115 | 627 | 743 | 527 | 749 | 1296 | 1742 | 11,894 |
| 1977 | 1855 | 2071 | 1931 | 2875 | 2549 | 1371 | 917 | 1076 | 1313 | 1500 | 1797 | 2203 | 21,458 |
| 1978 | 1727 | 1294 | 1008 | 192 | 70 | 66 | 54 | 50 | 65 | 109 | 455 | 795 | 5,885 |
| 1979 | 1468 | 1798 | 1728 | 812 | 117 | 55 | 59 | 183 | 183 | 364 | 877 | 1185 | 8,829 |
| 1980 | 1356 | 1251 | 480 | 67 | 54 | 46 | 44 | 54 | 78 | 123 | 418 | 881 | 4,852 |
| 1981 | 1733 | 2173 | 2007 | 1048 | 201 | 78 | 145 | 380 | 534 | 851 | 1285 | 1559 | 11,992 |
| 1982 | 1446 | 881 | 81 | 62 | 48 | 55 | 43 | 41 | 46 | 100 | 270 | 108 | 3,181 |
| 1983 | 41 | 50 | 49 | 64 | 53 | 50 | 42 | 38 | 42 | 48 | 47 | 44 | 568 |
| 1984 | 43 | 47 | 49 | 47 | 46 | 44 | 52 | 170 | 217 | 328 | 555 | 900 | 2,498 |
| 1985 | 1645 | 1270 | 146 | 818 | 1144 | 448 | 425 | 573 | 483 | 852 | 1299 | 1709 | 10,812 |
| 1986 | 1425 | 1268 | 1066 | 662 | 78 | 50 | 47 | 54 | 71 | 119 | 408 | 807 | 6,055 |
| 1987 | 1612 | 2027 | 2020 | 2471 | 1407 | 404 | 127 | 267 | 476 | 647 | 1115 | 1869 | 14,442 |
| 1988 | 1333 | 978 | 1260 | 916 | 184 | 464 | 613 | 827 | 577 | 769 | 1587 | 2287 | 11,795 |
| 1989 | 1837 | 1624 | 1436 | 2569 | 1604 | 431 | 89 | 189 | 345 | 753 | 1219 | 1445 | 13,541 |
| 1990 | 1651 | 1876 | 1791 | 2838 | 1238 | 640 | 853 | 685 | 549 | 906 | 1627 | 2182 | 16,836 |
| 76 - 90 AVG | 1,294 | 1,256 | 1,057 | 1,165 | 706 | 354 | 276 | 355 | 367 | 548 | 950 | 1,314 | 9,643 |

**SJR @ Jersey Point (49)**
**Percent Inflow**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2480 | 2469 | 2763 | 3172 | 3564 | 3541 | 3065 | 3006 | 3261 | 3198 | 3033 | 2824 | 36,376 |
| 1977 | 2746 | 2785 | 2967 | 3205 | 3501 | 3577 | 3176 | 3087 | 3317 | 3515 | 3618 | 3390 | 38,884 |
| 1978 | 3251 | 3214 | 3408 | 4481 | 5139 | 4561 | 3547 | 3067 | 2904 | 3070 | 3084 | 2806 | 42,512 |
| 1979 | 2703 | 2600 | 2753 | 3796 | 5008 | 4023 | 2958 | 2763 | 2740 | 2810 | 2855 | 2704 | 37,713 |
| 1980 | 2574 | 2508 | 2962 | 3817 | 4913 | 3986 | 3048 | 2828 | 2883 | 3047 | 3080 | 2828 | 38,474 |
| 1981 | 2658 | 2570 | 2776 | 3162 | 3672 | 3432 | 2878 | 2824 | 2981 | 2977 | 2998 | 2788 | 35,716 |
| 1982 | 2644 | 2601 | 3075 | 4296 | 4314 | 4235 | 3238 | 2948 | 2744 | 2893 | 2938 | 2689 | 38,615 |
| 1983 | 2438 | 2924 | 3514 | 4661 | 5292 | 4310 | 3734 | 3061 | 3185 | 3325 | 3026 | 2697 | 42,167 |
| 1984 | 2531 | 2805 | 3664 | 3841 | 4152 | 3513 | 2784 | 2756 | 2858 | 2876 | 2885 | 2734 | 37,399 |
| 1985 | 2531 | 2626 | 3157 | 3238 | 3564 | 3855 | 3253 | 2829 | 2875 | 2930 | 3037 | 2869 | 36,764 |
| 1986 | 2751 | 2762 | 3112 | 3491 | 4838 | 4082 | 3255 | 3006 | 3019 | 3142 | 3064 | 2769 | 39,291 |
| 1987 | 2605 | 2568 | 2771 | 2997 | 3603 | 3668 | 3163 | 3115 | 3137 | 3084 | 3209 | 3051 | 36,971 |
| 1988 | 2950 | 2928 | 3029 | 3314 | 3916 | 3966 | 3302 | 3054 | 3165 | 3201 | 3189 | 2995 | 39,009 |
| 1989 | 2908 | 2831 | 2912 | 3153 | 3702 | 3397 | 2674 | 2685 | 2822 | 2848 | 2923 | 2751 | 35,586 |
| 1990 | 2606 | 2621 | 2892 | 3001 | 3587 | 3761 | 2957 | 2655 | 2846 | 2936 | 3015 | 2889 | 35,746 |
| 76 - 90 AVG | 2,692 | 2,721 | 3,050 | 3,574 | 4,183 | 3,860 | 3,135 | 2,911 | 2,982 | 3,057 | 3,064 | 2,852 | 38,082 |

**SJR @ Jersey Point (49)**
**Flow Study**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 400 | 334 | 830 | 1848 | 1611 | 1061 | 640 | 759 | 586 | 783 | 1251 | 1568 | 11,651 |
| 1977 | 1377 | 1422 | 1330 | 2104 | 2129 | 1252 | 852 | 986 | 1197 | 1365 | 1627 | 1952 | 17,593 |
| 1978 | 1587 | 1287 | 1049 | 339 | 235 | 225 | 199 | 184 | 192 | 228 | 524 | 810 | 6,859 |
| 1979 | 1390 | 1644 | 1565 | 828 | 275 | 200 | 190 | 288 | 285 | 401 | 850 | 1099 | 9,015 |
| 1980 | 1276 | 1191 | 538 | 203 | 196 | 180 | 175 | 184 | 204 | 245 | 479 | 869 | 5,740 |
| 1981 | 1603 | 1952 | 1797 | 1033 | 325 | 206 | 261 | 456 | 513 | 696 | 1096 | 1340 | 11,278 |
| 1982 | 1310 | 819 | 198 | 213 | 182 | 195 | 171 | 170 | 174 | 215 | 351 | 220 | 4,218 |
| 1983 | 163 | 178 | 174 | 212 | 192 | 184 | 171 | 162 | 169 | 180 | 177 | 169 | 2,131 |
| 1984 | 165 | 175 | 176 | 182 | 185 | 179 | 181 | 279 | 318 | 412 | 592 | 875 | 3,719 |
| 1985 | 1482 | 1168 | 259 | 814 | 1093 | 523 | 501 | 540 | 484 | 709 | 1163 | 1499 | 10,235 |
| 1986 | 1229 | 1046 | 943 | 812 | 229 | 183 | 181 | 189 | 203 | 240 | 471 | 815 | 6,541 |
| 1987 | 1484 | 1816 | 1805 | 2179 | 1311 | 484 | 250 | 345 | 508 | 615 | 1087 | 1759 | 13,643 |
| 1988 | 1329 | 1190 | 1461 | 978 | 320 | 424 | 568 | 712 | 577 | 773 | 1397 | 1947 | 11,676 |
| 1989 | 1596 | 1470 | 1325 | 2262 | 1626 | 560 | 214 | 319 | 461 | 660 | 1127 | 1363 | 12,983 |
| 1990 | 1496 | 1724 | 1635 | 2429 | 1088 | 653 | 606 | 606 | 571 | 821 | 1228 | 1671 | 14,528 |
| 76 - 90 AVG | 1,192 | 1,161 | 1,006 | 1,096 | 733 | 434 | 344 | 412 | 429 | 555 | 895 | 1,197 | 9,454 |

**SJR @ Jersey Point (49)**
**Flow Study**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 328 | 247 | 845 | 2066 | 1772 | 1108 | 600 | 742 | 533 | 750 | 1347 | 1736 | 12,074 |
| 1977 | 1499 | 1538 | 1426 | 2370 | 2398 | 1340 | 854 | 1014 | 1268 | 1469 | 1789 | 2188 | 19,153 |
| 1978 | 1739 | 1354 | 1074 | 201 | 70 | 65 | 54 | 50 | 64 | 107 | 467 | 818 | 6,063 |
| 1979 | 1520 | 1827 | 1733 | 812 | 117 | 54 | 59 | 182 | 192 | 321 | 866 | 1170 | 8,843 |
| 1980 | 1385 | 1283 | 488 | 67 | 54 | 45 | 44 | 54 | 80 | 129 | 413 | 889 | 4,931 |
| 1981 | 1779 | 2202 | 2012 | 1080 | 217 | 78 | 146 | 382 | 451 | 672 | 1158 | 1460 | 11,637 |
| 1982 | 1424 | 831 | 78 | 62 | 48 | 55 | 43 | 41 | 46 | 94 | 262 | 107 | 3,091 |
| 1983 | 42 | 50 | 48 | 64 | 52 | 50 | 42 | 38 | 42 | 48 | 47 | 45 | 568 |
| 1984 | 43 | 47 | 49 | 47 | 46 | 44 | 52 | 169 | 219 | 334 | 553 | 898 | 2,501 |
| 1985 | 1637 | 1253 | 148 | 816 | 1145 | 448 | 425 | 484 | 420 | 890 | 1240 | 1651 | 10,357 |
| 1986 | 1325 | 1100 | 972 | 803 | 91 | 50 | 47 | 54 | 73 | 117 | 402 | 825 | 5,859 |
| 1987 | 1636 | 2036 | 2021 | 2470 | 1407 | 403 | 122 | 237 | 438 | 573 | 1146 | 1963 | 14,452 |
| 1988 | 1441 | 1266 | 1599 | 1009 | 202 | 324 | 503 | 681 | 522 | 763 | 1522 | 2191 | 12,023 |
| 1989 | 1767 | 1611 | 1436 | 2586 | 1785 | 504 | 93 | 222 | 393 | 633 | 1197 | 1487 | 13,684 |
| 1990 | 1652 | 1923 | 1809 | 2770 | 1138 | 609 | 560 | 567 | 525 | 827 | 1321 | 1859 | 15,560 |
| 76 - 90 AVG | 1,281 | 1,238 | 1,049 | 1,147 | 703 | 345 | 243 | 328 | 350 | 502 | 915 | 1,286 | 9,387 |

**SJR @ Jersey Point (49)**
**Flow Study**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2485 | 2470 | 2756 | 3152 | 3550 | 3537 | 3080 | 3041 | 3305 | 3233 | 3052 | 2831 | 36,492 |
| 1977 | 2792 | 2891 | 3018 | 3213 | 3505 | 3577 | 3217 | 3181 | 3361 | 3536 | 3627 | 3415 | 39,313 |
| 1978 | 3270 | 3213 | 3428 | 4480 | 5117 | 4551 | 3548 | 3068 | 2905 | 3071 | 3083 | 2804 | 42,538 |
| 1979 | 2689 | 2586 | 2750 | 3795 | 5010 | 4012 | 2944 | 2758 | 2739 | 2832 | 2878 | 2707 | 37,700 |
| 1980 | 2579 | 2513 | 2962 | 3817 | 4907 | 3981 | 3041 | 2819 | 2876 | 3024 | 3055 | 2816 | 38,390 |
| 1981 | 2641 | 2554 | 2767 | 3160 | 3679 | 3431 | 2874 | 2820 | 3066 | 3137 | 3102 | 2824 | 36,055 |
| 1982 | 2667 | 2611 | 3073 | 4295 | 4314 | 4235 | 3238 | 2948 | 2744 | 2898 | 2943 | 2690 | 38,656 |
| 1983 | 2456 | 2928 | 3505 | 4664 | 5281 | 4310 | 3732 | 3062 | 3185 | 3325 | 3026 | 2699 | 42,173 |
| 1984 | 2534 | 2804 | 3664 | 3837 | 4152 | 3507 | 2781 | 2755 | 2858 | 2876 | 2885 | 2734 | 37,387 |
| 1985 | 2526 | 2623 | 3158 | 3250 | 3573 | 3863 | 3259 | 2856 | 2918 | 3006 | 3091 | 2864 | 36,987 |
| 1986 | 2729 | 2724 | 3096 | 3523 | 4848 | 4084 | 3265 | 3018 | 3019 | 3164 | 3090 | 2772 | 39,332 |
| 1987 | 2603 | 2566 | 2770 | 2997 | 3603 | 3668 | 3197 | 3204 | 3219 | 3164 | 3238 | 3007 | 37,236 |
| 1988 | 2880 | 2805 | 2953 | 3300 | 3919 | 4096 | 3471 | 3177 | 3217 | 3135 | 3114 | 2952 | 39,019 |
| 1989 | 2861 | 2784 | 2898 | 3150 | 3646 | 3356 | 2672 | 2647 | 2837 | 2952 | 3077 | 2818 | 35,698 |
| 1990 | 2615 | 2606 | 2875 | 3000 | 3592 | 3788 | 3062 | 2751 | 2871 | 2928 | 2983 | 2853 | 35,924 |
| 76 - 90 AVG | 2,688 | 2,712 | 3,045 | 3,576 | 4,180 | 3,866 | 3,159 | 2,939 | 3,008 | 3,065 | 3,083 | 2,852 | 38,193 |

**SJR @ Jersey Point (49)**
**Maximum Flow**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 716 | 575 | 957 | 2064 | 1584 | 1059 | 658 | 702 | 589 | 771 | 1472 | 1797 | 12,924 |
| 1977 | 1348 | 1273 | 1190 | 1963 | 2107 | 1222 | 922 | 954 | 1140 | 1345 | 1612 | 1956 | 17,032 |
| 1978 | 1575 | 1280 | 1035 | 339 | 241 | 228 | 199 | 185 | 192 | 228 | 479 | 812 | 6,793 |
| 1979 | 1366 | 1515 | 1346 | 770 | 267 | 200 | 190 | 297 | 287 | 346 | 763 | 1032 | 8,379 |
| 1980 | 1338 | 1316 | 619 | 206 | 196 | 181 | 175 | 185 | 207 | 244 | 468 | 877 | 6,012 |
| 1981 | 1270 | 1495 | 1623 | 1012 | 351 | 207 | 275 | 405 | 452 | 634 | 1120 | 1480 | 10,324 |
| 1982 | 1346 | 820 | 198 | 213 | 182 | 196 | 172 | 171 | 175 | 214 | 390 | 238 | 4,315 |
| 1983 | 165 | 178 | 172 | 211 | 192 | 184 | 171 | 162 | 169 | 176 | 175 | 167 | 2,122 |
| 1984 | 167 | 175 | 176 | 182 | 185 | 179 | 182 | 279 | 316 | 412 | 598 | 865 | 3,716 |
| 1985 | 1500 | 1315 | 278 | 851 | 1102 | 523 | 460 | 398 | 361 | 650 | 1175 | 1568 | 10,179 |
| 1986 | 1202 | 1033 | 969 | 811 | 229 | 183 | 181 | 189 | 203 | 241 | 479 | 806 | 6,526 |
| 1987 | 1482 | 1818 | 1805 | 2177 | 1310 | 483 | 248 | 344 | 456 | 589 | 961 | 1608 | 13,281 |
| 1988 | 1195 | 800 | 1006 | 889 | 313 | 353 | 587 | 754 | 580 | 730 | 1363 | 1971 | 10,541 |
| 1989 | 1515 | 1322 | 1267 | 2225 | 1485 | 511 | 208 | 225 | 322 | 622 | 1160 | 1406 | 12,268 |
| 1990 | 1502 | 1726 | 1638 | 2428 | 1084 | 646 | 545 | 516 | 551 | 879 | 1535 | 1964 | 15,014 |
| 76 - 90 AVG | 1,179 | 1,109 | 952 | 1,089 | 722 | 424 | 345 | 384 | 399 | 539 | 917 | 1,236 | 9,295 |

**SJR @ Jersey Point (49)**
**Maximum Flow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 709 | 538 | 998 | 2330 | 1741 | 1106 | 621 | 672 | 512 | 758 | 1611 | 2010 | 13,606 |
| 1977 | 1462 | 1356 | 1256 | 2196 | 2370 | 1301 | 937 | 977 | 1199 | 1445 | 1770 | 2193 | 18,462 |
| 1978 | 1726 | 1349 | 1061 | 201 | 72 | 66 | 54 | 50 | 64 | 106 | 412 | 820 | 5,981 |
| 1979 | 1490 | 1669 | 1485 | 742 | 108 | 54 | 59 | 192 | 184 | 254 | 759 | 1088 | 8,064 |
| 1980 | 1460 | 1434 | 586 | 71 | 54 | 46 | 43 | 54 | 83 | 125 | 398 | 898 | 5,252 |
| 1981 | 1375 | 1645 | 1800 | 1053 | 248 | 78 | 163 | 320 | 371 | 590 | 1184 | 1627 | 10,454 |
| 1982 | 1467 | 832 | 78 | 62 | 48 | 56 | 43 | 41 | 46 | 93 | 307 | 129 | 3,202 |
| 1983 | 44 | 51 | 47 | 64 | 52 | 50 | 42 | 38 | 42 | 46 | 46 | 43 | 565 |
| 1984 | 45 | 48 | 49 | 47 | 46 | 44 | 52 | 170 | 216 | 334 | 560 | 886 | 2,497 |
| 1985 | 1658 | 1431 | 171 | 861 | 1156 | 447 | 375 | 309 | 264 | 613 | 1252 | 1731 | 10,268 |
| 1986 | 1289 | 1077 | 1000 | 801 | 91 | 50 | 47 | 54 | 72 | 118 | 411 | 814 | 5,824 |
| 1987 | 1634 | 2039 | 2021 | 2468 | 1406 | 402 | 117 | 226 | 364 | 529 | 983 | 1772 | 13,961 |
| 1988 | 1265 | 763 | 1030 | 899 | 193 | 234 | 520 | 731 | 525 | 707 | 1477 | 2217 | 10,561 |
| 1989 | 1667 | 1431 | 1366 | 2521 | 1612 | 443 | 86 | 106 | 220 | 583 | 1236 | 1539 | 12,810 |
| 1990 | 1658 | 1926 | 1812 | 2769 | 1133 | 600 | 485 | 455 | 498 | 896 | 1691 | 2213 | 16,136 |
| 76 - 90 AVG | 1,263 | 1,173 | 983 | 1,139 | 689 | 332 | 243 | 293 | 311 | 480 | 940 | 1,332 | 9,176 |

**SJR @ Jersey Point (49)**
**Maximum Flow**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2521 | 2481 | 2752 | 3067 | 3481 | 3580 | 3120 | 3090 | 3307 | 3289 | 3193 | 2915 | 36,776 |
| 1977 | 2843 | 2911 | 3042 | 3274 | 3540 | 3659 | 3249 | 3124 | 3356 | 3535 | 3625 | 3394 | 39,552 |
| 1978 | 3236 | 3180 | 3399 | 4494 | 5220 | 4594 | 3548 | 3071 | 2907 | 3072 | 3116 | 2828 | 42,665 |
| 1979 | 2708 | 2623 | 2799 | 3795 | 4991 | 4008 | 2945 | 2773 | 2764 | 2866 | 2928 | 2765 | 37,965 |
| 1980 | 2624 | 2523 | 2960 | 3817 | 4912 | 3996 | 3059 | 2843 | 2903 | 3085 | 3130 | 2847 | 38,699 |
| 1981 | 2702 | 2847 | 2817 | 3209 | 3713 | 3446 | 2870 | 2844 | 3248 | 3358 | 3245 | 2886 | 36,985 |
| 1982 | 2684 | 2616 | 3078 | 4305 | 4323 | 4263 | 3276 | 2970 | 2749 | 2926 | 2991 | 2704 | 38,885 |
| 1983 | 2473 | 2934 | 3465 | 4651 | 5285 | 4312 | 3735 | 3066 | 3189 | 3216 | 2960 | 2703 | 41,989 |
| 1984 | 2556 | 2816 | 3663 | 3844 | 4152 | 3513 | 2785 | 2756 | 2858 | 2876 | 2885 | 2735 | 37,439 |
| 1985 | 2561 | 2640 | 3163 | 3240 | 3565 | 3887 | 3317 | 2960 | 3179 | 3239 | 3194 | 2925 | 37,870 |
| 1986 | 2814 | 2842 | 3143 | 3538 | 4859 | 4087 | 3269 | 3020 | 3018 | 3181 | 3109 | 2776 | 39,656 |
| 1987 | 2604 | 2566 | 2770 | 2997 | 3603 | 3671 | 3291 | 3375 | 3508 | 3524 | 3581 | 3353 | 38,843 |
| 1988 | 3186 | 3153 | 3141 | 3341 | 3939 | 4280 | 3638 | 3170 | 3262 | 3293 | 3313 | 3100 | 40,816 |
| 1989 | 2945 | 2824 | 2910 | 3164 | 3706 | 3399 | 2675 | 2728 | 3088 | 3142 | 3123 | 2831 | 36,535 |
| 1990 | 2615 | 2805 | 2877 | 3003 | 3594 | 3792 | 3100 | 2859 | 2976 | 2989 | 3049 | 2898 | 36,357 |
| 76 - 90 AVG | 2,738 | 2,757 | 3,065 | 3,583 | 4,192 | 3,898 | 3,192 | 2,977 | 3,087 | 3,173 | 3,163 | 2,911 | 38,735 |

**SJR @ Jersey Point, 49**
**Cumulative Impact**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 685 | 1124 | 1999 | 2077 | 1532 | 995 | 518 | 552 | 496 | 714 | 1222 | 1290 |
| 1977 | 1160 | 1255 | 1301 | 1992 | 1895 | 980 | 739 | 1016 | 1129 | 1129 | 1532 | 1924 |
| 1978 | 1578 | 1349 | 1086 | 335 | 230 | 223 | 210 | 204 | 204 | 337 | 638 | 885 |
| 1979 | 1407 | 1658 | 2812 | 1221 | 295 | 202 | 186 | 205 | 216 | 423 | 832 | 1143 |
| 1980 | 1321 | 1267 | 1226 | 276 | 197 | 184 | 181 | 203 | 201 | 258 | 546 | 868 |
| 1981 | 1655 | 1943 | 3213 | 1631 | 485 | 232 | 193 | 225 | 326 | 531 | 1000 | 1332 |
| 1982 | 1428 | 930 | 205 | 213 | 184 | 201 | 172 | 175 | 177 | 253 | 530 | 336 |
| 1983 | 169 | 177 | 171 | 208 | 195 | 183 | 173 | 165 | 170 | 177 | 182 | 181 |
| 1984 | 167 | 170 | 176 | 179 | 184 | 179 | 177 | 194 | 214 | 380 | 579 | 902 |
| 1985 | 1517 | 1215 | 334 | 846 | 1079 | 466 | 274 | 257 | 333 | 587 | 1067 | 1408 |
| 1986 | 1342 | 1221 | 1541 | 817 | 224 | 184 | 191 | 211 | 210 | 343 | 572 | 868 |
| 1987 | 1477 | 1857 | 3224 | 2447 | 1318 | 473 | 247 | 383 | 451 | 589 | 996 | 1657 |
| 1988 | 1177 | 1008 | 2192 | 1063 | 332 | 260 | 356 | 585 | 509 | 712 | 1383 | 1822 |
| 1989 | 1266 | 1204 | 1164 | 2135 | 1636 | 592 | 201 | 233 | 389 | 648 | 1149 | 1403 |
| 1990 | 1486 | 1610 | 1489 | 2068 | 958 | 547 | 333 | 347 | 448 | 769 | 1412 | 1814 |
| Average | 1189 | 1199 | 1476 | 1167 | 716 | 393 | 277 | 328 | 365 | 523 | 909 | 1189 |

**SJR @ Jersey Point, 49**
**Cumulative Impact**
**Bromide**
Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 672 | 1205 | 2263 | 2348 | 1680 | 1030 | 453 | 489 | 419 | 681 | 1305 | 1398 |
| 1977 | 1233 | 1332 | 1380 | 2220 | 2106 | 1006 | 717 | 1052 | 1191 | 1194 | 1680 | 2158 |
| 1978 | 1734 | 1442 | 1129 | 198 | 67 | 64 | 58 | 56 | 67 | 241 | 609 | 911 |
| 1979 | 1542 | 1845 | 3244 | 1290 | 139 | 55 | 50 | 62 | 87 | 346 | 843 | 1222 |
| 1980 | 1440 | 1375 | 1322 | 155 | 54 | 47 | 46 | 59 | 65 | 145 | 497 | 887 |
| 1981 | 1843 | 2191 | 3729 | 1804 | 410 | 108 | 62 | 95 | 212 | 459 | 1034 | 1447 |
| 1982 | 1567 | 965 | 86 | 62 | 48 | 58 | 42 | 43 | 47 | 141 | 477 | 248 |
| 1983 | 49 | 50 | 47 | 62 | 54 | 49 | 42 | 38 | 42 | 47 | 55 | 60 |
| 1984 | 44 | 44 | 50 | 47 | 46 | 43 | 45 | 57 | 86 | 294 | 538 | 932 |
| 1985 | 1679 | 1310 | 241 | 857 | 1129 | 382 | 149 | 132 | 226 | 537 | 1122 | 1541 |
| 1986 | 1461 | 1310 | 1696 | 812 | 86 | 50 | 51 | 62 | 70 | 245 | 529 | 890 |
| 1987 | 1629 | 2088 | 3743 | 2796 | 1417 | 390 | 113 | 240 | 356 | 528 | 1028 | 1834 |
| 1988 | 1252 | 1037 | 2483 | 1112 | 218 | 125 | 233 | 498 | 436 | 682 | 1497 | 2037 |
| 1989 | 1365 | 1285 | 1241 | 2412 | 1797 | 542 | 77 | 116 | 304 | 617 | 1224 | 1535 |
| 1990 | 1640 | 1788 | 1637 | 2335 | 982 | 484 | 230 | 246 | 370 | 760 | 1539 | 2030 |
| Average | 1277 | 1284 | 1620 | 1234 | 682 | 296 | 158 | 216 | 265 | 481 | 932 | 1275 |

**SJR @ Jersey Point, 49**
**Cumulative Impact**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2501 | 2376 | 2569 | 2995 | 3443 | 3452 | 3037 | 3091 | 3372 | 3511 | 3255 | 2845 |
| 1977 | 2840 | 2938 | 3097 | 3383 | 3680 | 3665 | 3202 | 3071 | 3124 | 3174 | 3401 | 3241 |
| 1978 | 3121 | 3060 | 3335 | 4473 | 5007 | 4494 | 3876 | 3436 | 3015 | 2919 | 2889 | 2736 |
| 1979 | 2642 | 2565 | 2575 | 3698 | 5122 | 4073 | 3058 | 3136 | 2926 | 2838 | 2902 | 2764 |
| 1980 | 2593 | 2611 | 2836 | 3768 | 4851 | 4101 | 3244 | 3154 | 2987 | 2954 | 2932 | 2783 |
| 1981 | 2626 | 2544 | 2578 | 3093 | 3688 | 3478 | 2919 | 2982 | 3289 | 3485 | 3350 | 2880 |
| 1982 | 2657 | 2596 | 3073 | 4293 | 4207 | 4326 | 3363 | 3069 | 2774 | 2868 | 2919 | 2698 |
| 1983 | 2487 | 2947 | 3486 | 4596 | 5318 | 4344 | 3742 | 3070 | 3110 | 3218 | 2994 | 2695 |
| 1984 | 2575 | 2787 | 3666 | 3880 | 4249 | 3591 | 2843 | 2939 | 2937 | 2869 | 2871 | 2724 |
| 1985 | 2510 | 2609 | 3033 | 3180 | 3554 | 3771 | 3335 | 3128 | 3162 | 3179 | 3186 | 2888 |
| 1986 | 2746 | 2738 | 2964 | 3445 | 4693 | 4090 | 3550 | 3414 | 3135 | 3002 | 2893 | 2731 |
| 1987 | 2581 | 2530 | 2560 | 2937 | 3599 | 3649 | 3346 | 3444 | 3469 | 3479 | 3491 | 3220 |
| 1988 | 3014 | 2914 | 2854 | 3250 | 3838 | 4100 | 3670 | 3224 | 3286 | 3402 | 3415 | 3074 |
| 1989 | 2897 | 2809 | 2914 | 3162 | 3633 | 3357 | 2682 | 2726 | 2940 | 2999 | 3100 | 2834 |
| 1990 | 2582 | 2543 | 2823 | 3006 | 3561 | 3646 | 3078 | 2980 | 3071 | 3120 | 3173 | 2928 |
| Average | 2691 | 2698 | 2956 | 3544 | 4163 | 3876 | 3263 | 3124 | 3106 | 3134 | 3118 | 2869 |



Main TOC

Next Page

**Terminous (344)**
**Existing Conditions**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 149 | 155 | 158 | 229 | 245 | 218 | 215 | 204 | 174 | 165 | 159 | 160 | 2,231 |
| 1977 | 166 | 165 | 164 | 222 | 242 | 226 | 224 | 214 | 184 | 173 | 167 | 163 | 2,310 |
| 1978 | 168 | 170 | 172 | 247 | 225 | 226 | 185 | 159 | 158 | 164 | 159 | 157 | 2,180 |
| 1979 | 153 | 157 | 162 | 250 | 285 | 187 | 166 | 153 | 158 | 164 | 159 | 158 | 2,132 |
| 1980 | 151 | 156 | 160 | 180 | 190 | 172 | 167 | 151 | 155 | 161 | 159 | 157 | 1,959 |
| 1981 | 151 | 160 | 157 | 211 | 228 | 212 | 193 | 182 | 165 | 161 | 159 | 158 | 2,137 |
| 1982 | 160 | 173 | 171 | 205 | 162 | 193 | 146 | 141 | 154 | 160 | 158 | 153 | 1,976 |
| 1983 | 147 | 177 | 164 | 228 | 198 | 188 | 160 | 140 | 146 | 163 | 157 | 153 | 2,021 |
| 1984 | 148 | 152 | 178 | 170 | 165 | 158 | 167 | 170 | 160 | 162 | 158 | 156 | 1,944 |
| 1985 | 150 | 178 | 169 | 211 | 229 | 231 | 193 | 178 | 165 | 161 | 159 | 158 | 2,182 |
| 1986 | 162 | 164 | 164 | 239 | 204 | 176 | 173 | 151 | 158 | 167 | 160 | 156 | 2,074 |
| 1987 | 151 | 160 | 157 | 218 | 268 | 263 | 221 | 199 | 165 | 161 | 161 | 160 | 2,284 |
| 1988 | 162 | 164 | 168 | 252 | 253 | 222 | 210 | 167 | 170 | 165 | 163 | 162 | 2,278 |
| 1989 | 167 | 164 | 165 | 223 | 278 | 189 | 179 | 175 | 163 | 161 | 161 | 157 | 2,182 |
| 1990 | 161 | 163 | 165 | 209 | 268 | 222 | 186 | 183 | 165 | 164 | 162 | 161 | 2,209 |
| 76 - 90 AVG | 156 | 164 | 165 | 220 | 228 | 206 | 186 | 172 | 163 | 163 | 160 | 158 | 2,141 |

**Terminous (344)**
**Existing Conditions**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 38 | 36 | 35 | 65 | 75 | 67 | 75 | 82 | 55 | 42 | 37 | 39 | 644 |
| 1977 | 46 | 44 | 39 | 64 | 75 | 72 | 81 | 88 | 64 | 48 | 44 | 42 | 707 |
| 1978 | 49 | 47 | 44 | 75 | 68 | 75 | 63 | 54 | 42 | 41 | 38 | 37 | 633 |
| 1979 | 39 | 38 | 38 | 76 | 88 | 57 | 53 | 49 | 43 | 40 | 37 | 38 | 596 |
| 1980 | 38 | 38 | 38 | 48 | 54 | 49 | 53 | 49 | 41 | 39 | 37 | 38 | 518 |
| 1981 | 39 | 40 | 35 | 58 | 68 | 68 | 65 | 68 | 46 | 38 | 37 | 37 | 599 |
| 1982 | 41 | 53 | 48 | 58 | 42 | 60 | 37 | 39 | 40 | 38 | 36 | 36 | 528 |
| 1983 | 35 | 62 | 46 | 70 | 58 | 58 | 48 | 37 | 41 | 50 | 37 | 43 | 585 |
| 1984 | 38 | 42 | 53 | 45 | 44 | 42 | 51 | 61 | 44 | 39 | 37 | 38 | 534 |
| 1985 | 37 | 57 | 43 | 58 | 70 | 78 | 67 | 65 | 47 | 38 | 37 | 37 | 634 |
| 1986 | 43 | 42 | 39 | 72 | 62 | 51 | 55 | 49 | 44 | 43 | 38 | 37 | 575 |
| 1987 | 38 | 40 | 35 | 61 | 87 | 92 | 77 | 75 | 46 | 39 | 39 | 39 | 668 |
| 1988 | 43 | 43 | 41 | 76 | 78 | 69 | 71 | 65 | 50 | 42 | 40 | 41 | 659 |
| 1989 | 47 | 42 | 39 | 64 | 92 | 56 | 56 | 59 | 44 | 38 | 38 | 37 | 612 |
| 1990 | 42 | 42 | 39 | 58 | 88 | 71 | 59 | 67 | 46 | 40 | 40 | 41 | 633 |
| 76 - 90 AVG | 41 | 44 | 41 | 63 | 70 | 64 | 61 | 60 | 46 | 41 | 38 | 39 | 608 |

**Terminous (344)**
**Existing Conditions**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2335 | 2573 | 3077 | 5770 | 6141 | 4749 | 4367 | 4634 | 3359 | 3335 | 2851 | 2728 | 45,919 |
| 1977 | 2788 | 2929 | 3268 | 5420 | 6043 | 5011 | 4643 | 4718 | 3730 | 3769 | 3327 | 2908 | 48,554 |
| 1978 | 2901 | 3066 | 3505 | 6357 | 5569 | 4985 | 3501 | 3060 | 2674 | 3328 | 2906 | 2653 | 44,505 |
| 1979 | 2466 | 2636 | 3193 | 6344 | 6900 | 3895 | 2932 | 2812 | 2692 | 3274 | 2860 | 2694 | 42,698 |
| 1980 | 2414 | 2558 | 3084 | 3921 | 4613 | 3487 | 2984 | 2773 | 2592 | 3139 | 2864 | 2667 | 37,096 |
| 1981 | 2456 | 2756 | 3053 | 4973 | 5695 | 4584 | 3717 | 3818 | 2910 | 3103 | 2886 | 2658 | 42,609 |
| 1982 | 2588 | 3245 | 3662 | 4876 | 3640 | 4136 | 2176 | 2393 | 2533 | 3072 | 2814 | 2522 | 37,657 |
| 1983 | 2295 | 3702 | 3503 | 5873 | 4814 | 4018 | 2722 | 2330 | 2510 | 3650 | 2777 | 2732 | 40,924 |
| 1984 | 2379 | 2652 | 4027 | 3542 | 3635 | 3035 | 2947 | 3441 | 2764 | 3182 | 2849 | 2648 | 37,101 |
| 1985 | 2380 | 3473 | 3524 | 4992 | 5617 | 5260 | 3758 | 3691 | 2921 | 3115 | 2895 | 2660 | 44,286 |
| 1986 | 2637 | 2799 | 3265 | 5940 | 4900 | 3536 | 3145 | 2786 | 2741 | 3454 | 2929 | 2627 | 40,759 |
| 1987 | 2445 | 2755 | 3055 | 5215 | 6802 | 6074 | 4526 | 4349 | 2909 | 3135 | 2960 | 2738 | 46,963 |
| 1988 | 2643 | 2869 | 3385 | 6385 | 6428 | 4986 | 4195 | 3843 | 3048 | 3323 | 3087 | 2826 | 47,018 |
| 1989 | 2827 | 2819 | 3276 | 5473 | 7119 | 3855 | 3216 | 3484 | 2798 | 3093 | 2944 | 2662 | 43,556 |
| 1990 | 2620 | 2846 | 3290 | 4821 | 6796 | 4859 | 3465 | 3704 | 2859 | 3239 | 3040 | 2811 | 44,350 |
| 76 - 90 AVG | 2,545 | 2,912 | 3,344 | 5,327 | 5,647 | 4,431 | 3,486 | 3,456 | 2,869 | 3,281 | 2,933 | 2,702 | 42,933 |

**Terminous (344)**
**No-Action Alternative**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 150 | 155 | 158 | 228 | 246 | 219 | 214 | 202 | 174 | 162 | 160 | 160 | 2,231 |
| 1,977 | 166 | 165 | 166 | 222 | 242 | 226 | 226 | 214 | 186 | 174 | 170 | 165 | 2,310 |
| 1,978 | 173 | 169 | 171 | 246 | 229 | 226 | 183 | 159 | 160 | 167 | 158 | 159 | 2,190 |
| 1,979 | 161 | 159 | 157 | 251 | 264 | 186 | 168 | 154 | 158 | 160 | 158 | 158 | 2,132 |
| 1,980 | 151 | 156 | 160 | 182 | 189 | 171 | 166 | 152 | 156 | 162 | 159 | 157 | 1,959 |
| 1,981 | 152 | 160 | 157 | 206 | 219 | 207 | 190 | 182 | 165 | 162 | 160 | 158 | 2,137 |
| 1,982 | 161 | 173 | 176 | 206 | 162 | 193 | 146 | 141 | 155 | 160 | 158 | 153 | 1,976 |
| 1,983 | 147 | 177 | 164 | 227 | 197 | 187 | 160 | 141 | 146 | 163 | 157 | 153 | 2,021 |
| 1,984 | 149 | 152 | 178 | 169 | 164 | 158 | 168 | 172 | 160 | 160 | 158 | 156 | 1,944 |
| 1,985 | 151 | 181 | 203 | 219 | 233 | 239 | 190 | 174 | 164 | 162 | 163 | 159 | 2,182 |
| 1,986 | 163 | 164 | 163 | 242 | 205 | 176 | 172 | 152 | 159 | 165 | 158 | 156 | 2,074 |
| 1,987 | 152 | 160 | 157 | 215 | 266 | 264 | 216 | 198 | 166 | 165 | 163 | 162 | 2,284 |
| 1,988 | 165 | 164 | 168 | 253 | 270 | 226 | 215 | 193 | 172 | 166 | 163 | 162 | 2,278 |
| 1,989 | 166 | 164 | 165 | 223 | 260 | 189 | 179 | 177 | 163 | 161 | 160 | 158 | 2,182 |
| 1,990 | 162 | 164 | 165 | 209 | 271 | 232 | 187 | 184 | 166 | 163 | 162 | 162 | 2,209 |
| 76 - 90 AVG | 158 | 164 | 167 | 220 | 229 | 207 | 185 | 173 | 163 | 163 | 160 | 159 | 2,141 |

**Terminous (344)**
**No-Action Alternative**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 36 | 36 | 35 | 65 | 77 | 68 | 74 | 81 | 55 | 39 | 38 | 39 | 644 |
| 1,977 | 46 | 43 | 40 | 64 | 76 | 72 | 82 | 89 | 66 | 49 | 46 | 43 | 707 |
| 1,978 | 53 | 46 | 43 | 75 | 71 | 76 | 62 | 53 | 43 | 43 | 37 | 38 | 633 |
| 1,979 | 44 | 38 | 35 | 76 | 87 | 56 | 53 | 50 | 41 | 38 | 36 | 37 | 596 |
| 1,980 | 38 | 36 | 36 | 49 | 54 | 48 | 52 | 49 | 42 | 40 | 37 | 38 | 518 |
| 1,981 | 39 | 40 | 35 | 56 | 64 | 65 | 63 | 68 | 47 | 39 | 38 | 38 | 599 |
| 1,982 | 41 | 53 | 50 | 59 | 42 | 60 | 37 | 39 | 41 | 38 | 37 | 36 | 528 |
| 1,983 | 35 | 61 | 46 | 69 | 58 | 58 | 48 | 37 | 41 | 50 | 37 | 43 | 585 |
| 1,984 | 38 | 42 | 53 | 44 | 44 | 42 | 52 | 63 | 43 | 38 | 36 | 37 | 534 |
| 1,985 | 37 | 60 | 66 | 65 | 72 | 83 | 64 | 61 | 46 | 39 | 40 | 38 | 634 |
| 1,986 | 43 | 42 | 39 | 73 | 62 | 51 | 55 | 50 | 45 | 42 | 37 | 36 | 575 |
| 1,987 | 39 | 40 | 35 | 61 | 86 | 92 | 74 | 75 | 47 | 41 | 40 | 41 | 668 |
| 1,988 | 46 | 43 | 41 | 76 | 86 | 71 | 75 | 70 | 52 | 42 | 41 | 41 | 659 |
| 1,989 | 46 | 41 | 39 | 64 | 93 | 56 | 55 | 58 | 43 | 38 | 38 | 37 | 612 |
| 1,990 | 42 | 42 | 39 | 58 | 88 | 75 | 58 | 63 | 46 | 40 | 39 | 41 | 633 |
| 76 - 90 AVG | 42 | 44 | 42 | 64 | 71 | 65 | 60 | 60 | 47 | 41 | 38 | 39 | 608 |

**Terminous (344)**
**No-Action Alternative**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 2337 | 2563 | 3065 | 5666 | 6145 | 4765 | 4309 | 4576 | 3357 | 3182 | 2914 | 2735 | 45,919 |
| 1,977 | 2786 | 2916 | 3322 | 5401 | 6026 | 5004 | 4698 | 4686 | 3811 | 3843 | 3447 | 2977 | 48,554 |
| 1,978 | 3085 | 3030 | 3450 | 6333 | 5721 | 5006 | 3438 | 3041 | 2730 | 3432 | 2832 | 2701 | 44,505 |
| 1,979 | 2658 | 2667 | 3057 | 6387 | 6857 | 3842 | 2943 | 2856 | 2612 | 3082 | 2821 | 2661 | 42,698 |
| 1,980 | 2415 | 2557 | 3084 | 4021 | 4569 | 3416 | 2929 | 2807 | 2612 | 3197 | 2852 | 2692 | 37,096 |
| 1,981 | 2464 | 2755 | 3047 | 4735 | 5431 | 4431 | 3608 | 3801 | 2930 | 3211 | 2944 | 2678 | 42,609 |
| 1,982 | 2592 | 3214 | 3804 | 4937 | 3838 | 4118 | 2174 | 2394 | 2553 | 3088 | 2822 | 2529 | 37,657 |
| 1,983 | 2290 | 3674 | 3503 | 5839 | 4797 | 3987 | 2718 | 2331 | 2522 | 3636 | 2780 | 2733 | 40,924 |
| 1,984 | 2383 | 2653 | 4023 | 3504 | 3605 | 3015 | 2970 | 3542 | 2713 | 3084 | 2824 | 2631 | 37,101 |
| 1,985 | 2381 | 3586 | 4804 | 5207 | 5722 | 5550 | 3637 | 3513 | 2889 | 3171 | 3040 | 2702 | 44,286 |
| 1,986 | 2673 | 2800 | 3257 | 6027 | 4940 | 3525 | 3133 | 2823 | 2773 | 3348 | 2841 | 2608 | 40,759 |
| 1,987 | 2449 | 2757 | 3047 | 5094 | 6754 | 6083 | 4342 | 4310 | 2946 | 3309 | 3079 | 2862 | 46,963 |
| 1,988 | 2777 | 2869 | 3369 | 6400 | 6928 | 5089 | 4412 | 4079 | 3174 | 3348 | 3098 | 2852 | 47,018 |
| 1,989 | 2803 | 2806 | 3271 | 5453 | 7174 | 3846 | 3211 | 3599 | 2765 | 3103 | 2917 | 2662 | 43,556 |
| 1,990 | 2615 | 2861 | 3300 | 4817 | 6904 | 5129 | 3456 | 3666 | 2861 | 3196 | 3012 | 2838 | 44,350 |
| 76 - 90 AVG | 2,581 | 2,914 | 3,427 | 5,321 | 5,681 | 4,454 | 3,465 | 3,468 | 2,882 | 3,282 | 2,948 | 2,724 | 42,933 |

Main TOC
Next Page

**Terminous (344)**
**State Permit**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 150 | 155 | 158 | 227 | 246 | 219 | 212 | 200 | 172 | 161 | 161 | 160 | 2,221 |
| 1977 | 165 | 164 | 166 | 229 | 244 | 226 | 224 | 211 | 185 | 174 | 170 | 165 | 2,323 |
| 1978 | 170 | 170 | 171 | 245 | 229 | 226 | 183 | 159 | 160 | 165 | 158 | 159 | 2,195 |
| 1979 | 160 | 159 | 158 | 252 | 264 | 186 | 166 | 154 | 158 | 161 | 158 | 158 | 2,134 |
| 1980 | 151 | 156 | 159 | 161 | 189 | 171 | 166 | 152 | 156 | 162 | 159 | 157 | 1,959 |
| 1981 | 151 | 160 | 157 | 205 | 219 | 209 | 190 | 162 | 166 | 165 | 161 | 158 | 2,123 |
| 1982 | 161 | 172 | 176 | 206 | 162 | 193 | 146 | 141 | 155 | 160 | 158 | 153 | 1,983 |
| 1983 | 147 | 177 | 164 | 228 | 197 | 187 | 159 | 141 | 146 | 163 | 157 | 153 | 2,019 |
| 1984 | 148 | 152 | 178 | 169 | 164 | 158 | 168 | 172 | 160 | 160 | 158 | 156 | 1,943 |
| 1985 | 150 | 180 | 203 | 222 | 234 | 235 | 191 | 176 | 164 | 162 | 163 | 158 | 2,236 |
| 1986 | 163 | 163 | 163 | 242 | 205 | 176 | 172 | 152 | 159 | 166 | 159 | 156 | 2,076 |
| 1987 | 152 | 160 | 157 | 215 | 266 | 263 | 215 | 197 | 166 | 165 | 163 | 162 | 2,281 |
| 1988 | 164 | 164 | 168 | 252 | 271 | 228 | 212 | 193 | 169 | 163 | 164 | 162 | 2,308 |
| 1989 | 166 | 164 | 165 | 223 | 271 | 189 | 179 | 177 | 163 | 161 | 162 | 158 | 2,178 |
| 1990 | 161 | 163 | 165 | 209 | 273 | 232 | 188 | 186 | 164 | 161 | 163 | 162 | 2,227 |
| 76 - 90 AVG | 157 | 164 | 167 | 220 | 229 | 206 | 185 | 173 | 163 | 163 | 161 | 158 | 2,147 |

**Terminous (344)**
**State Permit**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 36 | 36 | 35 | 65 | 77 | 68 | 72 | 79 | 54 | 39 | 38 | 39 | 638 |
| 1977 | 45 | 43 | 40 | 68 | 77 | 72 | 81 | 86 | 65 | 48 | 46 | 44 | 715 |
| 1978 | 50 | 46 | 43 | 74 | 71 | 76 | 62 | 53 | 43 | 41 | 37 | 38 | 634 |
| 1979 | 43 | 38 | 35 | 77 | 87 | 58 | 53 | 50 | 41 | 38 | 36 | 37 | 591 |
| 1980 | 37 | 36 | 36 | 49 | 53 | 48 | 52 | 49 | 42 | 40 | 37 | 38 | 517 |
| 1981 | 36 | 40 | 35 | 55 | 63 | 66 | 63 | 68 | 47 | 41 | 39 | 38 | 593 |
| 1982 | 41 | 52 | 50 | 59 | 42 | 60 | 37 | 39 | 40 | 38 | 37 | 36 | 531 |
| 1983 | 35 | 61 | 46 | 70 | 58 | 58 | 47 | 37 | 41 | 50 | 37 | 43 | 583 |
| 1984 | 38 | 42 | 53 | 45 | 44 | 42 | 52 | 63 | 43 | 38 | 36 | 37 | 533 |
| 1985 | 37 | 60 | 66 | 66 | 73 | 80 | 64 | 63 | 46 | 39 | 40 | 38 | 672 |
| 1986 | 43 | 42 | 39 | 73 | 63 | 51 | 55 | 50 | 45 | 42 | 37 | 36 | 576 |
| 1987 | 39 | 40 | 35 | 61 | 86 | 92 | 73 | 74 | 47 | 41 | 40 | 41 | 669 |
| 1988 | 45 | 42 | 41 | 76 | 87 | 71 | 73 | 70 | 50 | 40 | 41 | 41 | 677 |
| 1989 | 46 | 41 | 39 | 64 | 89 | 55 | 56 | 59 | 44 | 38 | 39 | 37 | 607 |
| 1990 | 42 | 41 | 39 | 58 | 89 | 75 | 59 | 64 | 45 | 39 | 40 | 41 | 632 |
| 76 - 90 AVG | 41 | 44 | 42 | 64 | 71 | 65 | 60 | 60 | 46 | 41 | 39 | 39 | 611 |

**Terminous (344)**
**State Permit**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2336 | 2562 | 3063 | 5657 | 6144 | 4787 | 4229 | 4491 | 3266 | 3127 | 2939 | 2740 | 45,321 |
| 1977 | 2748 | 2885 | 3324 | 5711 | 6119 | 5005 | 4622 | 4611 | 3772 | 3819 | 3444 | 2981 | 49,041 |
| 1978 | 2957 | 3034 | 3456 | 6277 | 5718 | 4997 | 3437 | 3041 | 2734 | 3332 | 2830 | 2701 | 44,514 |
| 1979 | 2618 | 2664 | 3073 | 6408 | 6834 | 3840 | 2943 | 2845 | 2614 | 3114 | 2821 | 2661 | 42,435 |
| 1980 | 2395 | 2556 | 3083 | 3992 | 4566 | 3422 | 2933 | 2808 | 2614 | 3174 | 2855 | 2695 | 37,093 |
| 1981 | 2434 | 2758 | 3048 | 4692 | 5419 | 4496 | 3603 | 3801 | 2956 | 3319 | 2980 | 2675 | 42,181 |
| 1982 | 2594 | 3173 | 3796 | 4936 | 3638 | 4136 | 2175 | 2395 | 2543 | 3089 | 2822 | 2528 | 37,825 |
| 1983 | 2290 | 3673 | 3502 | 5868 | 4804 | 3987 | 2700 | 2331 | 2522 | 3636 | 2780 | 2729 | 40,822 |
| 1984 | 2381 | 2653 | 4024 | 3508 | 3808 | 3015 | 2971 | 3543 | 2714 | 3085 | 2824 | 2631 | 36,957 |
| 1985 | 2366 | 3575 | 4801 | 5327 | 5738 | 5394 | 3645 | 3601 | 2868 | 3192 | 3047 | 2685 | 46,239 |
| 1986 | 2667 | 2793 | 3253 | 6039 | 4941 | 3523 | 3140 | 2820 | 2772 | 3407 | 2845 | 2608 | 40,808 |
| 1987 | 2449 | 2756 | 3047 | 5085 | 6751 | 6081 | 4319 | 4283 | 2931 | 3289 | 3068 | 2659 | 46,928 |
| 1988 | 2749 | 2854 | 3361 | 6368 | 6965 | 5093 | 4301 | 4057 | 3039 | 3206 | 3111 | 2844 | 47,950 |
| 1989 | 2775 | 2805 | 3269 | 5450 | 6918 | 3830 | 3216 | 3815 | 2791 | 3126 | 3003 | 2658 | 43,456 |
| 1990 | 2603 | 2828 | 3301 | 4807 | 6989 | 5140 | 3505 | 3756 | 2807 | 3125 | 3038 | 2821 | 44,720 |
| 76 - 90 AVG | 2,557 | 2,905 | 3,427 | 5,342 | 5,677 | 4,448 | 3,449 | 3,467 | 2,863 | 3,269 | 2,960 | 2,721 | 43,086 |

**Terminous (344)**
**Percent Inflow**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 150 | 155 | 158 | 229 | 247 | 219 | 214 | 203 | 174 | 162 | 160 | 160 | 2,231 |
| 1977 | 166 | 165 | 166 | 222 | 242 | 226 | 223 | 212 | 186 | 174 | 170 | 165 | 2,317 |
| 1978 | 173 | 169 | 171 | 246 | 229 | 227 | 184 | 159 | 160 | 167 | 158 | 159 | 2,202 |
| 1979 | 161 | 159 | 157 | 254 | 266 | 186 | 166 | 154 | 158 | 160 | 158 | 158 | 2,137 |
| 1980 | 151 | 156 | 160 | 182 | 189 | 171 | 166 | 152 | 156 | 165 | 158 | 157 | 1,963 |
| 1981 | 152 | 160 | 157 | 206 | 220 | 209 | 190 | 184 | 165 | 162 | 160 | 158 | 2,123 |
| 1982 | 160 | 172 | 176 | 206 | 162 | 193 | 146 | 141 | 155 | 161 | 158 | 153 | 1,983 |
| 1983 | 147 | 177 | 164 | 228 | 197 | 187 | 160 | 141 | 146 | 163 | 157 | 153 | 2,020 |
| 1984 | 149 | 152 | 178 | 169 | 164 | 158 | 168 | 172 | 160 | 160 | 158 | 156 | 1,944 |
| 1985 | 151 | 182 | 170 | 206 | 233 | 240 | 190 | 175 | 164 | 162 | 163 | 159 | 2,195 |
| 1986 | 163 | 164 | 163 | 239 | 205 | 176 | 172 | 152 | 159 | 165 | 158 | 156 | 2,072 |
| 1987 | 152 | 160 | 157 | 215 | 266 | 264 | 219 | 202 | 188 | 166 | 164 | 162 | 2,295 |
| 1988 | 166 | 165 | 168 | 252 | 271 | 226 | 219 | 195 | 172 | 168 | 164 | 162 | 2,326 |
| 1989 | 167 | 164 | 165 | 223 | 280 | 189 | 179 | 177 | 163 | 161 | 160 | 158 | 2,186 |
| 1990 | 162 | 164 | 165 | 209 | 269 | 231 | 187 | 185 | 166 | 164 | 163 | 162 | 2,227 |
| 76 - 90 AVG | 158 | 164 | 165 | 219 | 229 | 207 | 186 | 174 | 163 | 164 | 161 | 159 | 2,148 |

**Terminous (344)**
**Percent Inflow**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 36 | 36 | 35 | 66 | 77 | 68 | 74 | 81 | 56 | 39 | 38 | 39 | 645 |
| 1977 | 46 | 43 | 40 | 64 | 76 | 72 | 80 | 87 | 66 | 49 | 46 | 44 | 713 |
| 1978 | 53 | 46 | 43 | 75 | 71 | 76 | 62 | 53 | 43 | 43 | 37 | 38 | 640 |
| 1979 | 44 | 38 | 35 | 78 | 88 | 56 | 53 | 50 | 41 | 38 | 36 | 37 | 594 |
| 1980 | 38 | 36 | 36 | 49 | 54 | 48 | 52 | 49 | 42 | 43 | 37 | 38 | 522 |
| 1981 | 39 | 40 | 35 | 56 | 64 | 66 | 63 | 70 | 47 | 39 | 38 | 37 | 594 |
| 1982 | 41 | 52 | 50 | 59 | 42 | 60 | 38 | 39 | 41 | 39 | 37 | 36 | 534 |
| 1983 | 35 | 62 | 46 | 70 | 58 | 58 | 48 | 37 | 41 | 50 | 37 | 43 | 585 |
| 1984 | 38 | 42 | 53 | 45 | 44 | 42 | 52 | 63 | 43 | 38 | 36 | 37 | 533 |
| 1985 | 37 | 61 | 43 | 56 | 72 | 83 | 64 | 61 | 46 | 39 | 40 | 38 | 640 |
| 1986 | 44 | 43 | 39 | 72 | 62 | 51 | 55 | 50 | 45 | 42 | 37 | 36 | 576 |
| 1987 | 39 | 40 | 35 | 61 | 86 | 92 | 76 | 78 | 49 | 42 | 41 | 41 | 680 |
| 1988 | 46 | 43 | 41 | 76 | 87 | 71 | 77 | 71 | 52 | 42 | 41 | 41 | 688 |
| 1989 | 47 | 42 | 39 | 64 | 93 | 56 | 55 | 58 | 43 | 38 | 38 | 37 | 610 |
| 1990 | 42 | 42 | 39 | 58 | 87 | 75 | 58 | 64 | 47 | 40 | 40 | 41 | 633 |
| 76 - 90 AVG | 42 | 44 | 41 | 63 | 71 | 65 | 60 | 61 | 47 | 41 | 39 | 39 | 612 |

**Terminous (344)**
**Percent Inflow**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2339 | 2583 | 3075 | 5723 | 6163 | 4786 | 4311 | 4594 | 3391 | 3174 | 2926 | 2745 | 45,770 |
| 1977 | 2786 | 2917 | 3328 | 5423 | 6035 | 5001 | 4593 | 4640 | 3805 | 3848 | 3448 | 2984 | 48,808 |
| 1978 | 3086 | 3030 | 3456 | 6330 | 5720 | 5015 | 3442 | 3048 | 2732 | 3484 | 2832 | 2700 | 44,875 |
| 1979 | 2658 | 2666 | 3050 | 6490 | 6892 | 3840 | 2940 | 2857 | 2613 | 3082 | 2821 | 2661 | 42,570 |
| 1980 | 2418 | 2557 | 3084 | 4025 | 4573 | 3416 | 2929 | 2808 | 2613 | 3368 | 2850 | 2692 | 37,333 |
| 1981 | 2457 | 2751 | 3047 | 4740 | 5453 | 4469 | 3615 | 3868 | 2935 | 3211 | 2939 | 2665 | 42,150 |
| 1982 | 2583 | 3211 | 3806 | 4938 | 3638 | 4117 | 2177 | 2396 | 2582 | 3112 | 2829 | 2531 | 37,920 |
| 1983 | 2295 | 3686 | 3498 | 5868 | 4800 | 3986 | 2721 | 2331 | 2522 | 3636 | 2780 | 2730 | 40,853 |
| 1984 | 2381 | 2655 | 4023 | 3517 | 3607 | 3022 | 2973 | 3543 | 2713 | 3085 | 2824 | 2631 | 36,974 |
| 1985 | 2386 | 3641 | 3540 | 4787 | 5708 | 5564 | 3635 | 3536 | 2872 | 3210 | 3054 | 2701 | 44,634 |
| 1986 | 2688 | 2810 | 3256 | 5923 | 4935 | 3524 | 3134 | 2825 | 2772 | 3357 | 2842 | 2608 | 40,674 |
| 1987 | 2448 | 2757 | 3047 | 5095 | 6755 | 6085 | 4485 | 4445 | 3017 | 3369 | 3132 | 2863 | 47,498 |
| 1988 | 2809 | 2893 | 3368 | 6364 | 6974 | 5110 | 4547 | 4148 | 3198 | 3369 | 3111 | 2853 | 48,744 |
| 1989 | 2826 | 2812 | 3272 | 5457 | 7196 | 3848 | 3212 | 3599 | 2765 | 3103 | 2917 | 2662 | 43,669 |
| 1990 | 2617 | 2865 | 3301 | 4819 | 6864 | 5123 | 3457 | 3738 | 2912 | 3244 | 3043 | 2841 | 44,824 |
| 76 - 90 AVG | 2,585 | 2,921 | 3,343 | 5,300 | 5,688 | 4,459 | 3,478 | 3,492 | 2,896 | 3,310 | 2,957 | 2,724 | 43,153 |

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**Terminous (344)**
**Percent Inflow**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 150 | 155 | 158 | 229 | 247 | 219 | 214 | 203 | 174 | 162 | 160 | 160 | 2,231 |
| 1977 | 166 | 165 | 166 | 222 | 242 | 226 | 223 | 212 | 186 | 174 | 170 | 165 | 2,317 |
| 1978 | 173 | 169 | 171 | 246 | 229 | 227 | 184 | 159 | 160 | 167 | 158 | 159 | 2,202 |
| 1979 | 161 | 159 | 157 | 254 | 266 | 186 | 166 | 154 | 158 | 160 | 158 | 158 | 2,137 |
| 1980 | 151 | 156 | 160 | 182 | 189 | 171 | 166 | 152 | 156 | 165 | 158 | 157 | 1,963 |
| 1981 | 152 | 160 | 157 | 206 | 220 | 209 | 190 | 184 | 165 | 162 | 160 | 158 | 2,123 |
| 1982 | 160 | 172 | 176 | 206 | 162 | 193 | 146 | 141 | 155 | 161 | 158 | 153 | 1,983 |
| 1983 | 147 | 177 | 164 | 228 | 197 | 187 | 160 | 141 | 148 | 163 | 157 | 153 | 2,020 |
| 1984 | 149 | 152 | 178 | 169 | 164 | 158 | 168 | 172 | 160 | 160 | 158 | 156 | 1,944 |
| 1985 | 151 | 182 | 170 | 206 | 233 | 240 | 190 | 175 | 164 | 162 | 163 | 159 | 2,195 |
| 1986 | 163 | 164 | 163 | 239 | 205 | 176 | 172 | 152 | 159 | 165 | 158 | 158 | 2,072 |
| 1987 | 152 | 160 | 157 | 215 | 266 | 264 | 219 | 202 | 168 | 188 | 164 | 162 | 2,295 |
| 1988 | 166 | 165 | 168 | 252 | 271 | 226 | 219 | 195 | 172 | 166 | 164 | 162 | 2,326 |
| 1989 | 167 | 164 | 165 | 223 | 280 | 189 | 179 | 177 | 163 | 161 | 160 | 158 | 2,186 |
| 1990 | 162 | 164 | 165 | 209 | 269 | 231 | 187 | 185 | 166 | 164 | 163 | 162 | 2,227 |
| 76 - 90 AVG | 158 | 164 | 165 | 219 | 229 | 207 | 186 | 174 | 163 | 164 | 161 | 159 | 2,148 |

**Terminous (344)**
**Percent Inflow**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 36 | 36 | 35 | 66 | 77 | 68 | 74 | 81 | 56 | 39 | 38 | 39 | 645 |
| 1977 | 46 | 43 | 40 | 64 | 76 | 72 | 80 | 87 | 66 | 49 | 46 | 44 | 713 |
| 1978 | 53 | 46 | 43 | 75 | 71 | 76 | 62 | 53 | 43 | 43 | 37 | 38 | 640 |
| 1979 | 44 | 38 | 35 | 78 | 88 | 56 | 53 | 50 | 41 | 38 | 36 | 37 | 594 |
| 1980 | 38 | 36 | 36 | 49 | 54 | 48 | 52 | 49 | 42 | 43 | 37 | 38 | 522 |
| 1981 | 39 | 40 | 35 | 56 | 64 | 66 | 63 | 70 | 47 | 39 | 38 | 37 | 594 |
| 1982 | 41 | 52 | 50 | 59 | 42 | 60 | 38 | 39 | 41 | 39 | 37 | 36 | 534 |
| 1983 | 35 | 62 | 46 | 70 | 58 | 58 | 48 | 37 | 41 | 50 | 37 | 43 | 585 |
| 1984 | 38 | 42 | 53 | 45 | 44 | 42 | 52 | 63 | 43 | 38 | 36 | 37 | 533 |
| 1985 | 37 | 61 | 43 | 56 | 72 | 83 | 64 | 61 | 46 | 39 | 40 | 38 | 640 |
| 1986 | 44 | 43 | 39 | 72 | 62 | 51 | 55 | 50 | 45 | 42 | 37 | 36 | 576 |
| 1987 | 39 | 40 | 35 | 61 | 86 | 92 | 76 | 78 | 49 | 42 | 41 | 41 | 680 |
| 1988 | 46 | 43 | 41 | 76 | 87 | 71 | 77 | 71 | 52 | 42 | 41 | 41 | 688 |
| 1989 | 47 | 42 | 39 | 64 | 93 | 56 | 55 | 58 | 43 | 38 | 38 | 37 | 610 |
| 1990 | 42 | 42 | 39 | 58 | 87 | 75 | 58 | 64 | 47 | 40 | 40 | 41 | 633 |
| 76 - 90 AVG | 42 | 44 | 41 | 63 | 71 | 65 | 60 | 61 | 47 | 41 | 39 | 39 | 612 |

**Terminous (344)**
**Percent Inflow**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2339 | 2563 | 3075 | 5723 | 6163 | 4766 | 4311 | 4594 | 3391 | 3174 | 2926 | 2745 | 45,770 |
| 1977 | 2786 | 2917 | 3328 | 5423 | 6035 | 5001 | 4593 | 4640 | 3805 | 3848 | 3448 | 2984 | 48,808 |
| 1978 | 3086 | 3030 | 3456 | 6330 | 5720 | 5015 | 3442 | 3048 | 2732 | 3484 | 2832 | 2700 | 44,875 |
| 1979 | 2658 | 2666 | 3050 | 6490 | 6892 | 3840 | 2940 | 2857 | 2613 | 3082 | 2821 | 2661 | 42,570 |
| 1980 | 2418 | 2557 | 3084 | 4025 | 4573 | 3416 | 2929 | 2808 | 2613 | 3388 | 2850 | 2692 | 37,333 |
| 1981 | 2457 | 2751 | 3047 | 4740 | 5453 | 4469 | 3615 | 3868 | 2935 | 3211 | 2939 | 2665 | 42,150 |
| 1982 | 2583 | 3211 | 3806 | 4938 | 3638 | 4117 | 2177 | 2396 | 2582 | 3112 | 2829 | 2531 | 37,920 |
| 1983 | 2295 | 3686 | 3498 | 5868 | 4800 | 3986 | 2721 | 2331 | 2522 | 3636 | 2780 | 2730 | 40,853 |
| 1984 | 2381 | 2655 | 4023 | 3517 | 3607 | 3022 | 2973 | 3543 | 2713 | 3085 | 2824 | 2631 | 36,974 |
| 1985 | 2386 | 3641 | 3540 | 4787 | 5708 | 5564 | 3635 | 3536 | 2872 | 3210 | 3054 | 2701 | 44,634 |
| 1986 | 2688 | 2810 | 3256 | 5923 | 4935 | 3524 | 3134 | 2825 | 2772 | 3357 | 2842 | 2608 | 40,674 |
| 1987 | 2448 | 2757 | 3047 | 5095 | 6755 | 6085 | 4485 | 4445 | 3017 | 3369 | 3132 | 2863 | 47,498 |
| 1988 | 2809 | 2893 | 3368 | 6364 | 6974 | 5110 | 4547 | 4148 | 3198 | 3369 | 3111 | 2853 | 48,744 |
| 1989 | 2828 | 2812 | 3272 | 5457 | 7196 | 3848 | 3212 | 3599 | 2765 | 3103 | 2917 | 2662 | 43,669 |
| 1990 | 2617 | 2865 | 3301 | 4819 | 6864 | 5123 | 3457 | 3738 | 2912 | 3244 | 3043 | 2841 | 44,824 |
| 76 - 90 AVG | 2,585 | 2,921 | 3,343 | 5,300 | 5,688 | 4,459 | 3,478 | 3,492 | 2,896 | 3,310 | 2,957 | 2,724 | 43,153 |

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**Terminous (344)**
**Maximum Flow**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 150 | 155 | 158 | 223 | 244 | 221 | 217 | 208 | 174 | 166 | 162 | 161 | 2,239 |
| 1977 | 167 | 186 | 164 | 223 | 242 | 233 | 225 | 212 | 186 | 174 | 170 | 165 | 2,327 |
| 1978 | 172 | 170 | 171 | 248 | 238 | 228 | 184 | 159 | 160 | 167 | 159 | 159 | 2,215 |
| 1979 | 161 | 160 | 158 | 252 | 265 | 185 | 188 | 154 | 158 | 162 | 158 | 159 | 2,138 |
| 1980 | 152 | 156 | 160 | 182 | 189 | 171 | 166 | 152 | 156 | 166 | 159 | 157 | 1,966 |
| 1981 | 152 | 160 | 157 | 211 | 221 | 209 | 189 | 187 | 172 | 168 | 162 | 158 | 2,146 |
| 1982 | 161 | 172 | 176 | 207 | 162 | 193 | 146 | 141 | 155 | 162 | 159 | 153 | 1,987 |
| 1983 | 147 | 177 | 163 | 230 | 198 | 187 | 160 | 140 | 146 | 155 | 157 | 152 | 2,012 |
| 1984 | 149 | 152 | 178 | 169 | 164 | 158 | 168 | 172 | 160 | 160 | 158 | 156 | 1,944 |
| 1985 | 151 | 183 | 170 | 206 | 233 | 242 | 192 | 180 | 170 | 166 | 163 | 159 | 2,215 |
| 1986 | 164 | 164 | 163 | 243 | 205 | 176 | 173 | 152 | 159 | 166 | 159 | 156 | 2,060 |
| 1987 | 152 | 160 | 157 | 216 | 266 | 264 | 228 | 209 | 174 | 170 | 168 | 164 | 2,328 |
| 1988 | 170 | 169 | 168 | 254 | 274 | 251 | 222 | 196 | 173 | 167 | 165 | 162 | 2,371 |
| 1989 | 165 | 164 | 165 | 223 | 279 | 190 | 178 | 181 | 169 | 165 | 162 | 158 | 2,199 |
| 1990 | 161 | 164 | 165 | 209 | 273 | 233 | 193 | 192 | 168 | 165 | 163 | 162 | 2,248 |
| 76 - 90 AVG | 158 | 165 | 165 | 220 | 230 | 209 | 187 | 176 | 165 | 165 | 162 | 159 | 2,161 |

**Terminous (344)**
**Maximum Flow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 37 | 36 | 35 | 63 | 76 | 69 | 76 | 86 | 55 | 42 | 39 | 40 | 654 |
| 1977 | 48 | 44 | 39 | 64 | 75 | 76 | 81 | 87 | 66 | 49 | 46 | 44 | 719 |
| 1978 | 52 | 47 | 43 | 76 | 75 | 76 | 62 | 54 | 43 | 43 | 37 | 38 | 646 |
| 1979 | 44 | 39 | 36 | 77 | 88 | 56 | 53 | 51 | 41 | 39 | 37 | 38 | 599 |
| 1980 | 38 | 38 | 36 | 49 | 54 | 48 | 52 | 49 | 42 | 44 | 37 | 38 | 523 |
| 1981 | 39 | 41 | 35 | 58 | 65 | 66 | 62 | 73 | 55 | 43 | 40 | 38 | 615 |
| 1982 | 41 | 52 | 50 | 59 | 42 | 60 | 38 | 39 | 41 | 39 | 37 | 36 | 534 |
| 1983 | 36 | 62 | 46 | 71 | 58 | 58 | 48 | 37 | 42 | 39 | 37 | 36 | 570 |
| 1984 | 38 | 42 | 53 | 45 | 44 | 42 | 52 | 63 | 43 | 38 | 36 | 37 | 533 |
| 1985 | 38 | 62 | 43 | 56 | 72 | 84 | 66 | 67 | 52 | 43 | 40 | 39 | 662 |
| 1986 | 45 | 43 | 39 | 74 | 63 | 51 | 56 | 50 | 45 | 43 | 37 | 36 | 582 |
| 1987 | 39 | 40 | 35 | 61 | 86 | 92 | 81 | 83 | 55 | 45 | 44 | 43 | 704 |
| 1988 | 51 | 46 | 41 | 76 | 88 | 83 | 78 | 73 | 54 | 43 | 42 | 42 | 717 |
| 1989 | 45 | 41 | 39 | 64 | 93 | 56 | 55 | 62 | 50 | 42 | 40 | 37 | 624 |
| 1990 | 42 | 42 | 39 | 58 | 89 | 76 | 62 | 69 | 49 | 41 | 40 | 41 | 648 |
| 76 - 90 AVG | 42 | 45 | 41 | 63 | 71 | 66 | 61 | 63 | 49 | 42 | 39 | 39 | 622 |

**Terminous (344)**
**Maximum Flow**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2359 | 2568 | 3084 | 5418 | 6062 | 4867 | 4416 | 4796 | 3353 | 3398 | 3008 | 2779 | 46,088 |
| 1977 | 2853 | 2939 | 3270 | 5496 | 6074 | 5229 | 4634 | 4657 | 3609 | 3846 | 3445 | 2981 | 49,233 |
| 1978 | 3041 | 3039 | 3455 | 6416 | 5969 | 5040 | 3443 | 3054 | 2734 | 3485 | 2858 | 2702 | 45,234 |
| 1979 | 2658 | 2710 | 3090 | 6407 | 6877 | 3829 | 2937 | 2875 | 2626 | 3186 | 2839 | 2706 | 42,740 |
| 1980 | 2440 | 2581 | 3085 | 4031 | 4575 | 3419 | 2935 | 2813 | 2631 | 3428 | 2868 | 2692 | 37,478 |
| 1981 | 2481 | 2775 | 3047 | 4907 | 5492 | 4486 | 3571 | 4020 | 3331 | 3478 | 3043 | 2683 | 43,314 |
| 1982 | 2593 | 3186 | 3808 | 4948 | 3644 | 4138 | 2178 | 2396 | 2562 | 3179 | 2853 | 2532 | 38,037 |
| 1983 | 2320 | 3688 | 3482 | 5966 | 4817 | 3981 | 2723 | 2330 | 2527 | 2957 | 2779 | 2517 | 40,087 |
| 1984 | 2401 | 2660 | 4028 | 3519 | 3607 | 3022 | 2973 | 3543 | 2713 | 3085 | 2824 | 2631 | 37,006 |
| 1985 | 2431 | 3670 | 3549 | 4788 | 5717 | 5632 | 3707 | 3778 | 3193 | 3410 | 3067 | 2718 | 45,660 |
| 1986 | 2749 | 2825 | 3260 | 6090 | 4945 | 3529 | 3147 | 2823 | 2774 | 3448 | 2848 | 2809 | 41,047 |
| 1987 | 2449 | 2755 | 3047 | 5098 | 6758 | 6095 | 4808 | 4717 | 3351 | 3613 | 3342 | 2973 | 49,006 |
| 1988 | 2985 | 3030 | 3378 | 6428 | 7047 | 5993 | 4635 | 4218 | 3252 | 3452 | 3204 | 2872 | 50,494 |
| 1989 | 2774 | 2804 | 3272 | 5484 | 7175 | 3863 | 3202 | 3796 | 3108 | 3330 | 3026 | 2662 | 44,496 |
| 1990 | 2606 | 2846 | 3298 | 4818 | 6990 | 5187 | 3734 | 4019 | 2965 | 3286 | 3058 | 2825 | 45,612 |
| 76 - 90 AVG | 2,609 | 2,937 | 3,342 | 5,321 | 5,717 | 4,553 | 3,536 | 3,589 | 2,997 | 3,372 | 3,004 | 2,725 | 43,702 |

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**Terminous, 344**
**Cumulative Impact**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 149 | 165 | 176 | 226 | 234 | 206 | 209 | 196 | 177 | 172 | 159 | 161 |
| 1977 | 168 | 169 | 171 | 228 | 254 | 229 | 218 | 209 | 173 | 172 | 167 | 164 |
| 1978 | 189 | 167 | 169 | 246 | 227 | 223 | 184 | 162 | 159 | 161 | 158 | 158 |
| 1979 | 162 | 159 | 175 | 256 | 266 | 185 | 167 | 155 | 157 | 160 | 159 | 157 |
| 1980 | 151 | 156 | 176 | 181 | 188 | 172 | 165 | 153 | 155 | 160 | 158 | 157 |
| 1981 | 151 | 160 | 175 | 214 | 215 | 206 | 189 | 184 | 173 | 173 | 161 | 158 |
| 1982 | 160 | 173 | 173 | 205 | 161 | 195 | 147 | 141 | 155 | 160 | 158 | 153 |
| 1983 | 146 | 176 | 163 | 225 | 196 | 189 | 159 | 140 | 146 | 161 | 157 | 153 |
| 1984 | 148 | 152 | 178 | 170 | 165 | 158 | 164 | 170 | 160 | 160 | 158 | 156 |
| 1985 | 150 | 181 | 204 | 217 | 218 | 226 | 192 | 181 | 169 | 168 | 162 | 159 |
| 1986 | 162 | 162 | 185 | 247 | 203 | 177 | 177 | 152 | 159 | 160 | 158 | 155 |
| 1987 | 151 | 160 | 176 | 224 | 255 | 251 | 224 | 194 | 174 | 169 | 165 | 163 |
| 1988 | 165 | 165 | 205 | 276 | 259 | 238 | 220 | 194 | 174 | 172 | 164 | 162 |
| 1989 | 165 | 163 | 165 | 223 | 269 | 189 | 177 | 179 | 165 | 166 | 162 | 158 |
| 1990 | 160 | 163 | 164 | 208 | 266 | 221 | 196 | 191 | 167 | 168 | 163 | 161 |
| Average | 157 | 165 | 177 | 223 | 225 | 204 | 186 | 173 | 164 | 165 | 161 | 158 |

**Terminous, 344**
**Cumulative Impact**
**Bromide**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 36 | 47 | 51 | 68 | 72 | 62 | 71 | 74 | 58 | 47 | 37 | 40 |
| 1977 | 49 | 46 | 43 | 67 | 81 | 72 | 75 | 84 | 53 | 47 | 44 | 43 |
| 1978 | 50 | 45 | 42 | 75 | 70 | 74 | 64 | 58 | 43 | 38 | 36 | 37 |
| 1979 | 43 | 38 | 48 | 81 | 89 | 56 | 53 | 53 | 41 | 38 | 37 | 38 |
| 1980 | 37 | 36 | 47 | 49 | 53 | 49 | 52 | 51 | 42 | 39 | 36 | 39 |
| 1981 | 38 | 40 | 49 | 63 | 63 | 65 | 63 | 67 | 55 | 47 | 38 | 38 |
| 1982 | 41 | 53 | 49 | 59 | 41 | 62 | 38 | 39 | 41 | 38 | 37 | 36 |
| 1983 | 36 | 60 | 46 | 69 | 58 | 59 | 48 | 37 | 41 | 48 | 37 | 43 |
| 1984 | 38 | 41 | 53 | 45 | 44 | 42 | 51 | 62 | 43 | 38 | 37 | 37 |
| 1985 | 37 | 61 | 67 | 65 | 66 | 77 | 67 | 66 | 50 | 43 | 39 | 38 |
| 1986 | 43 | 41 | 54 | 77 | 61 | 51 | 59 | 51 | 45 | 38 | 36 | 36 |
| 1987 | 38 | 40 | 50 | 69 | 82 | 86 | 80 | 69 | 54 | 45 | 42 | 42 |
| 1988 | 46 | 43 | 64 | 90 | 81 | 77 | 77 | 70 | 54 | 46 | 42 | 41 |
| 1989 | 46 | 41 | 39 | 64 | 88 | 56 | 55 | 63 | 47 | 42 | 40 | 37 |
| 1990 | 40 | 41 | 39 | 57 | 85 | 70 | 66 | 71 | 49 | 44 | 40 | 41 |
| Average | 41 | 45 | 49 | 67 | 69 | 64 | 61 | 61 | 48 | 43 | 39 | 39 |

**Terminous, 344**
**Cumulative Impact**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2332 | 3019 | 3647 | 5429 | 5711 | 4369 | 4222 | 4437 | 3535 | 3742 | 2848 | 2765 |
| 1977 | 2899 | 3035 | 3500 | 5707 | 6455 | 5139 | 4488 | 4595 | 3203 | 3745 | 3321 | 2939 |
| 1978 | 2955 | 2959 | 3408 | 6315 | 5629 | 4916 | 3504 | 3253 | 2700 | 3101 | 2812 | 2660 |
| 1979 | 2639 | 2651 | 3509 | 6482 | 6928 | 3818 | 2978 | 2960 | 2609 | 3097 | 2859 | 2671 |
| 1980 | 2397 | 2587 | 3635 | 3969 | 4541 | 3464 | 2919 | 2879 | 2597 | 3094 | 2806 | 2687 |
| 1981 | 2436 | 2750 | 3507 | 4949 | 5263 | 4403 | 3613 | 3889 | 3350 | 3781 | 2970 | 2683 |
| 1982 | 2578 | 3253 | 3711 | 4897 | 3606 | 4212 | 2192 | 2395 | 2582 | 3073 | 2835 | 2523 |
| 1983 | 2326 | 3626 | 3477 | 5769 | 4770 | 4069 | 2717 | 2329 | 2499 | 3510 | 2764 | 2720 |
| 1984 | 2395 | 2619 | 4014 | 3555 | 3641 | 3038 | 2894 | 3505 | 2712 | 3063 | 2821 | 2618 |
| 1985 | 2374 | 3614 | 4831 | 5142 | 5272 | 5147 | 3779 | 3832 | 3085 | 3492 | 3009 | 2700 |
| 1986 | 2669 | 2757 | 4040 | 6202 | 4884 | 3556 | 3311 | 2871 | 2762 | 3062 | 2820 | 2596 |
| 1987 | 2431 | 2741 | 3511 | 5269 | 6383 | 5718 | 4779 | 4260 | 3361 | 3579 | 3218 | 2906 |
| 1988 | 2784 | 2893 | 4587 | 7072 | 6587 | 5565 | 4624 | 4178 | 3296 | 3692 | 3169 | 2830 |
| 1989 | 2777 | 2805 | 3271 | 5452 | 6838 | 3841 | 3156 | 3706 | 2894 | 3337 | 3041 | 2661 |
| 1990 | 2545 | 2789 | 3274 | 4782 | 6749 | 4796 | 3900 | 4017 | 2974 | 3492 | 3060 | 2814 |
| Average | 2569 | 2940 | 3728 | 5399 | 5550 | 4403 | 3538 | 3540 | 2944 | 3391 | 2957 | 2718 |

Main TOC
Next Page

**SJR @ San Andreas Landing (45)**
**Existing Conditions**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 183 | 167 | 174 | 331 | 491 | 452 | 353 | 326 | 293 | 331 | 451 | 478 | 4,030 |
| 1977 | 579 | 695 | 640 | 868 | 968 | 637 | 453 | 434 | 493 | 619 | 747 | 870 | 8,003 |
| 1978 | 738 | 620 | 440 | 271 | 219 | 220 | 202 | 188 | 175 | 181 | 212 | 230 | 3,694 |
| 1979 | 301 | 482 | 468 | 359 | 253 | 203 | 183 | 183 | 177 | 186 | 248 | 341 | 3,384 |
| 1980 | 452 | 422 | 274 | 189 | 183 | 175 | 178 | 180 | 173 | 181 | 202 | 251 | 2,860 |
| 1981 | 318 | 412 | 284 | 203 | 197 | 186 | 182 | 203 | 247 | 300 | 383 | 429 | 3,324 |
| 1982 | 500 | 448 | 189 | 209 | 171 | 188 | 160 | 167 | 165 | 169 | 174 | 163 | 2,703 |
| 1983 | 157 | 167 | 167 | 194 | 179 | 173 | 164 | 157 | 165 | 185 | 168 | 166 | 2,062 |
| 1984 | 160 | 172 | 171 | 177 | 185 | 178 | 173 | 195 | 196 | 187 | 211 | 287 | 2,292 |
| 1985 | 453 | 461 | 190 | 279 | 430 | 287 | 223 | 239 | 225 | 287 | 383 | 440 | 3,857 |
| 1986 | 497 | 475 | 358 | 392 | 197 | 170 | 179 | 184 | 180 | 188 | 208 | 296 | 3,324 |
| 1987 | 468 | 648 | 538 | 847 | 698 | 337 | 219 | 219 | 252 | 305 | 420 | 521 | 5,472 |
| 1988 | 449 | 383 | 349 | 429 | 261 | 255 | 345 | 406 | 324 | 335 | 582 | 714 | 4,832 |
| 1989 | 609 | 528 | 493 | 814 | 786 | 310 | 185 | 204 | 237 | 287 | 385 | 444 | 5,282 |
| 1990 | 499 | 629 | 595 | 1107 | 727 | 355 | 345 | 316 | 264 | 319 | 523 | 667 | 6,346 |
| 76 - 90 AVG | 424 | 449 | 355 | 445 | 396 | 274 | 236 | 240 | 238 | 271 | 350 | 420 | 4,098 |

**SJR @ San Andreas Landing (45)**
**Existing Conditions**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 68 | 44 | 51 | 225 | 415 | 373 | 254 | 221 | 184 | 232 | 383 | 420 | 2,870 |
| 1977 | 536 | 666 | 599 | 872 | 992 | 596 | 373 | 346 | 418 | 570 | 730 | 886 | 7,584 |
| 1978 | 720 | 561 | 350 | 114 | 62 | 65 | 57 | 53 | 49 | 56 | 95 | 120 | 2,302 |
| 1979 | 208 | 424 | 404 | 237 | 84 | 59 | 49 | 58 | 56 | 62 | 139 | 254 | 2,034 |
| 1980 | 391 | 354 | 170 | 55 | 50 | 43 | 46 | 50 | 49 | 56 | 83 | 145 | 1,492 |
| 1981 | 228 | 337 | 183 | 70 | 52 | 47 | 47 | 75 | 134 | 200 | 278 | 361 | 2,012 |
| 1982 | 446 | 382 | 67 | 61 | 44 | 54 | 38 | 42 | 42 | 44 | 52 | 42 | 1,314 |
| 1983 | 38 | 57 | 45 | 58 | 48 | 46 | 39 | 38 | 40 | 51 | 42 | 42 | 540 |
| 1984 | 40 | 46 | 48 | 45 | 48 | 45 | 43 | 71 | 77 | 64 | 95 | 190 | 812 |
| 1985 | 392 | 398 | 88 | 165 | 340 | 138 | 92 | 119 | 107 | 185 | 278 | 374 | 2,656 |
| 1986 | 443 | 412 | 268 | 293 | 64 | 45 | 48 | 53 | 53 | 60 | 88 | 199 | 2,026 |
| 1987 | 409 | 622 | 490 | 854 | 662 | 226 | 87 | 90 | 139 | 205 | 346 | 471 | 4,601 |
| 1988 | 384 | 296 | 254 | 343 | 133 | 130 | 243 | 322 | 228 | 240 | 539 | 702 | 3,814 |
| 1989 | 572 | 489 | 430 | 809 | 764 | 203 | 59 | 84 | 126 | 185 | 305 | 379 | 4,385 |
| 1990 | 446 | 596 | 553 | 1167 | 699 | 248 | 246 | 217 | 158 | 222 | 469 | 646 | 5,666 |
| 76 - 90 AVG | 355 | 378 | 265 | 358 | 297 | 155 | 115 | 122 | 124 | 162 | 261 | 349 | 2,941 |

**SJR @ San Andreas Landing (45)**
**Existing Conditions**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2356 | 2493 | 2915 | 3481 | 3812 | 3531 | 3051 | 3088 | 3191 | 3173 | 2958 | 2748 | 36,797 |
| 1977 | 2755 | 2865 | 3076 | 3454 | 3770 | 3600 | 3188 | 3234 | 3379 | 3501 | 3507 | 3212 | 39,541 |
| 1978 | 3030 | 3044 | 3411 | 4852 | 4911 | 4567 | 3665 | 3163 | 2742 | 2674 | 2962 | 2701 | 42,022 |
| 1979 | 2594 | 2592 | 2915 | 4185 | 5669 | 4077 | 3018 | 2759 | 2676 | 2950 | 2899 | 2744 | 39,078 |
| 1980 | 2565 | 2526 | 3020 | 3819 | 4952 | 4016 | 3181 | 2884 | 2705 | 2926 | 2894 | 2746 | 38,234 |
| 1981 | 2603 | 2655 | 2949 | 3503 | 4122 | 3648 | 3012 | 2934 | 2874 | 2904 | 2874 | 2694 | 36,772 |
| 1982 | 2609 | 2650 | 3203 | 4340 | 4211 | 4160 | 3008 | 2816 | 2535 | 2827 | 2782 | 2545 | 37,686 |
| 1983 | 2347 | 3202 | 3469 | 4427 | 5053 | 4045 | 3596 | 2888 | 3194 | 3449 | 2856 | 2698 | 41,224 |
| 1984 | 2423 | 2798 | 3693 | 3814 | 4187 | 3469 | 2746 | 2734 | 2761 | 2929 | 2857 | 2717 | 37,128 |
| 1985 | 2516 | 2700 | 3152 | 3405 | 3869 | 3811 | 3170 | 2937 | 2860 | 2907 | 2888 | 2716 | 36,931 |
| 1986 | 2648 | 2713 | 3138 | 3666 | 4755 | 3873 | 3242 | 3002 | 2837 | 3113 | 3031 | 2770 | 38,786 |
| 1987 | 2591 | 2645 | 2921 | 3272 | 3877 | 3657 | 3183 | 3109 | 2911 | 2928 | 2946 | 2782 | 36,822 |
| 1988 | 2638 | 2740 | 3099 | 3451 | 3915 | 3770 | 3105 | 2889 | 2887 | 3030 | 3094 | 2896 | 37,514 |
| 1989 | 2841 | 2822 | 3024 | 3414 | 3934 | 3324 | 2623 | 2665 | 2733 | 2873 | 2913 | 2706 | 35,872 |
| 1990 | 2599 | 2702 | 3022 | 3228 | 3825 | 3810 | 2922 | 2751 | 2793 | 2960 | 3015 | 2850 | 38,477 |
| 76 - 90 AVG | 2,608 | 2,743 | 3,134 | 3,754 | 4,324 | 3,824 | 3,114 | 2,924 | 2,872 | 3,030 | 2,985 | 2,768 | 38,059 |

**SJR @ San Andreas Landing (45)**
**No-Action Alternative**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 190 | 176 | 256 | 682 | 744 | 509 | 362 | 348 | 309 | 296 | 422 | 528 | 4,030 |
| 1,977 | 632 | 771 | 751 | 992 | 1024 | 655 | 462 | 470 | 559 | 659 | 772 | 907 | 8,003 |
| 1,978 | 803 | 641 | 421 | 269 | 240 | 234 | 193 | 180 | 173 | 182 | 214 | 283 | 3,694 |
| 1,979 | 439 | 530 | 454 | 400 | 262 | 200 | 178 | 183 | 182 | 200 | 293 | 370 | 3,384 |
| 1,980 | 426 | 362 | 244 | 220 | 186 | 168 | 170 | 175 | 173 | 182 | 208 | 297 | 2,860 |
| 1,981 | 426 | 550 | 498 | 399 | 223 | 184 | 182 | 233 | 260 | 304 | 407 | 487 | 3,324 |
| 1,982 | 535 | 427 | 187 | 217 | 182 | 190 | 156 | 162 | 164 | 171 | 182 | 165 | 2,703 |
| 1,983 | 155 | 189 | 172 | 192 | 163 | 149 | 140 | 155 | 163 | 176 | 166 | 164 | 2,062 |
| 1,984 | 158 | 193 | 176 | 173 | 176 | 173 | 171 | 187 | 191 | 199 | 236 | 298 | 2,292 |
| 1,985 | 433 | 489 | 231 | 341 | 523 | 326 | 253 | 291 | 257 | 292 | 418 | 518 | 3,857 |
| 1,986 | 520 | 466 | 361 | 394 | 248 | 163 | 168 | 179 | 180 | 186 | 207 | 279 | 3,324 |
| 1,987 | 433 | 625 | 549 | 946 | 723 | 333 | 215 | 217 | 251 | 296 | 429 | 667 | 5,472 |
| 1,988 | 625 | 488 | 421 | 472 | 275 | 254 | 324 | 369 | 319 | 326 | 559 | 785 | 4,832 |
| 1,989 | 736 | 589 | 490 | 830 | 796 | 303 | 183 | 189 | 209 | 269 | 387 | 449 | 5,282 |
| 1,990 | 521 | 665 | 638 | 1081 | 681 | 355 | 366 | 356 | 286 | 321 | 482 | 658 | 6,346 |
| 76 - 90 AVG | 489 | 477 | 390 | 507 | 430 | 280 | 235 | 246 | 245 | 271 | 359 | 457 | 4,098 |

**SJR @ San Andreas Landing (45)**
**No-Action Alternative**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 77 | 56 | 151 | 651 | 722 | 442 | 264 | 248 | 205 | 191 | 348 | 479 | 2,870 |
| 1,977 | 599 | 756 | 731 | 1020 | 1060 | 618 | 383 | 390 | 499 | 618 | 758 | 928 | 7,584 |
| 1,978 | 788 | 575 | 326 | 112 | 74 | 72 | 53 | 49 | 48 | 56 | 97 | 183 | 2,302 |
| 1,979 | 371 | 480 | 390 | 288 | 94 | 57 | 47 | 59 | 61 | 81 | 195 | 290 | 2,034 |
| 1,980 | 360 | 306 | 134 | 70 | 50 | 43 | 42 | 48 | 50 | 57 | 90 | 200 | 1,492 |
| 1,981 | 359 | 505 | 442 | 311 | 93 | 51 | 52 | 115 | 150 | 203 | 330 | 430 | 2,012 |
| 1,982 | 488 | 357 | 64 | 66 | 49 | 54 | 38 | 39 | 42 | 46 | 61 | 45 | 1,314 |
| 1,983 | 36 | 58 | 47 | 56 | 48 | 46 | 39 | 36 | 40 | 48 | 41 | 40 | 540 |
| 1,984 | 39 | 58 | 49 | 44 | 44 | 42 | 42 | 60 | 70 | 80 | 126 | 203 | 812 |
| 1,985 | 368 | 432 | 115 | 242 | 453 | 207 | 127 | 186 | 149 | 190 | 342 | 467 | 2,656 |
| 1,986 | 468 | 399 | 270 | 296 | 91 | 46 | 45 | 51 | 53 | 58 | 89 | 180 | 2,026 |
| 1,987 | 369 | 594 | 503 | 975 | 693 | 220 | 84 | 90 | 138 | 193 | 354 | 645 | 4,601 |
| 1,988 | 590 | 417 | 343 | 394 | 145 | 124 | 215 | 274 | 218 | 227 | 510 | 788 | 3,814 |
| 1,989 | 726 | 522 | 428 | 829 | 776 | 195 | 57 | 65 | 91 | 164 | 307 | 385 | 4,385 |
| 1,990 | 472 | 641 | 604 | 1136 | 644 | 249 | 273 | 267 | 184 | 224 | 420 | 636 | 5,666 |
| 76 - 90 AVG | 407 | 410 | 306 | 433 | 336 | 164 | 117 | 132 | 133 | 162 | 271 | 393 | 2,941 |

**SJR @ San Andreas Landing (45)**
**No-Action Alternative**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 2359 | 2476 | 2881 | 3394 | 3758 | 3527 | 3036 | 3051 | 3178 | 3098 | 2961 | 2770 | 36,797 |
| 1,977 | 2757 | 2850 | 3085 | 3453 | 3758 | 3593 | 3205 | 3218 | 3371 | 3541 | 3589 | 3312 | 39,541 |
| 1,978 | 3197 | 3148 | 3397 | 4841 | 5256 | 4575 | 3565 | 3080 | 2749 | 3030 | 2899 | 2728 | 42,022 |
| 1,979 | 2667 | 2628 | 2893 | 4075 | 5468 | 4016 | 2924 | 2750 | 2595 | 2817 | 2796 | 2655 | 39,078 |
| 1,980 | 2523 | 2516 | 3017 | 3838 | 4855 | 3838 | 3012 | 2827 | 2719 | 2952 | 2893 | 2757 | 38,234 |
| 1,981 | 2615 | 2648 | 2922 | 3286 | 3816 | 3382 | 2817 | 2828 | 2861 | 2967 | 2954 | 2731 | 36,772 |
| 1,982 | 2624 | 2649 | 3200 | 4367 | 4197 | 4126 | 2980 | 2804 | 2558 | 2841 | 2797 | 2557 | 37,696 |
| 1,983 | 2313 | 3118 | 3467 | 4413 | 5042 | 4031 | 3575 | 2876 | 3205 | 3421 | 2863 | 2662 | 41,224 |
| 1,984 | 2397 | 2781 | 3687 | 3778 | 4124 | 3405 | 2731 | 2780 | 2721 | 2848 | 2794 | 2670 | 37,128 |
| 1,985 | 2498 | 2710 | 3148 | 3310 | 3795 | 3955 | 3163 | 2814 | 2779 | 2925 | 2998 | 2796 | 36,931 |
| 1,986 | 2703 | 2740 | 3134 | 3636 | 4719 | 3840 | 3229 | 3013 | 2863 | 3066 | 2891 | 2687 | 38,786 |
| 1,987 | 2568 | 2644 | 2914 | 3219 | 3845 | 3654 | 3082 | 3012 | 2915 | 3002 | 3099 | 2968 | 38,822 |
| 1,988 | 2852 | 2853 | 3093 | 3444 | 4064 | 3904 | 3218 | 3025 | 3043 | 3125 | 3139 | 2953 | 37,514 |
| 1,989 | 2859 | 2784 | 2994 | 3395 | 3940 | 3321 | 2617 | 2701 | 2720 | 2864 | 2901 | 2710 | 35,872 |
| 1,990 | 2595 | 2693 | 3019 | 3221 | 3788 | 3753 | 2879 | 2696 | 2741 | 2922 | 2975 | 2860 | 36,477 |
| 76 - 90 AVG | 2,635 | 2,749 | 3,123 | 3,711 | 4,295 | 3,795 | 3,069 | 2,898 | 2,868 | 3,028 | 2,970 | 2,788 | 38,059 |

**SJR @ San Andreas Landing (45)**
**State Permit**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 184 | 174 | 254 | 677 | 735 | 503 | 361 | 347 | 302 | 286 | 422 | 545 | 4,790 |
| 1977 | 691 | 867 | 790 | 925 | 977 | 656 | 461 | 463 | 545 | 652 | 772 | 914 | 8,713 |
| 1978 | 789 | 664 | 484 | 271 | 233 | 220 | 197 | 183 | 174 | 181 | 211 | 282 | 3,869 |
| 1979 | 444 | 536 | 443 | 392 | 260 | 199 | 178 | 183 | 180 | 198 | 294 | 373 | 3,680 |
| 1980 | 414 | 361 | 229 | 188 | 182 | 173 | 173 | 177 | 174 | 182 | 212 | 306 | 2,771 |
| 1981 | 409 | 458 | 430 | 378 | 218 | 184 | 183 | 239 | 259 | 302 | 409 | 471 | 3,940 |
| 1982 | 513 | 400 | 184 | 209 | 172 | 187 | 159 | 166 | 165 | 171 | 181 | 164 | 2,671 |
| 1983 | 155 | 180 | 166 | 194 | 179 | 172 | 163 | 158 | 164 | 182 | 168 | 164 | 2,043 |
| 1984 | 158 | 170 | 171 | 176 | 182 | 175 | 172 | 187 | 192 | 199 | 236 | 298 | 2,316 |
| 1985 | 429 | 467 | 225 | 311 | 494 | 321 | 244 | 266 | 235 | 288 | 425 | 516 | 4,221 |
| 1986 | 530 | 490 | 356 | 383 | 196 | 170 | 181 | 186 | 182 | 187 | 208 | 279 | 3,348 |
| 1987 | 431 | 620 | 544 | 934 | 713 | 329 | 214 | 217 | 252 | 298 | 432 | 668 | 5,652 |
| 1988 | 690 | 596 | 481 | 479 | 271 | 252 | 333 | 380 | 313 | 297 | 495 | 695 | 5,282 |
| 1989 | 673 | 572 | 497 | 826 | 811 | 318 | 185 | 189 | 208 | 278 | 434 | 489 | 5,480 |
| 1990 | 514 | 658 | 638 | 1051 | 639 | 338 | 340 | 323 | 277 | 312 | 474 | 651 | 6,215 |
| 76 - 90 AVG | 468 | 481 | 391 | 493 | 417 | 280 | 236 | 244 | 241 | 268 | 358 | 454 | 4,333 |

**SJR @ San Andreas Landing (45)**
**State Permit**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 69 | 54 | 148 | 645 | 712 | 434 | 265 | 248 | 197 | 181 | 348 | 500 | 3,801 |
| 1977 | 673 | 879 | 782 | 937 | 1001 | 619 | 383 | 384 | 484 | 611 | 759 | 936 | 8,448 |
| 1978 | 777 | 614 | 382 | 115 | 70 | 65 | 56 | 51 | 48 | 55 | 95 | 181 | 2,509 |
| 1979 | 378 | 488 | 376 | 279 | 93 | 56 | 47 | 59 | 59 | 78 | 196 | 293 | 2,402 |
| 1980 | 346 | 281 | 117 | 53 | 49 | 43 | 43 | 49 | 50 | 57 | 95 | 210 | 1,393 |
| 1981 | 338 | 393 | 360 | 286 | 87 | 50 | 53 | 122 | 149 | 200 | 331 | 411 | 2,780 |
| 1982 | 461 | 323 | 60 | 62 | 44 | 54 | 38 | 41 | 42 | 46 | 60 | 44 | 1,275 |
| 1983 | 36 | 54 | 45 | 56 | 48 | 46 | 39 | 36 | 40 | 51 | 42 | 41 | 534 |
| 1984 | 39 | 45 | 48 | 44 | 47 | 43 | 42 | 60 | 70 | 80 | 126 | 204 | 648 |
| 1985 | 384 | 405 | 108 | 206 | 418 | 202 | 118 | 154 | 122 | 184 | 350 | 465 | 3,096 |
| 1986 | 480 | 429 | 265 | 282 | 63 | 45 | 49 | 53 | 54 | 59 | 90 | 179 | 2,048 |
| 1987 | 365 | 588 | 497 | 960 | 682 | 216 | 83 | 91 | 140 | 196 | 358 | 646 | 4,822 |
| 1988 | 671 | 552 | 416 | 403 | 141 | 122 | 226 | 288 | 213 | 195 | 434 | 679 | 4,340 |
| 1989 | 652 | 528 | 436 | 825 | 796 | 214 | 60 | 64 | 90 | 173 | 362 | 434 | 4,634 |
| 1990 | 465 | 633 | 605 | 1100 | 591 | 229 | 240 | 226 | 173 | 215 | 410 | 627 | 5,514 |
| 76 - 90 AVG | 408 | 418 | 310 | 417 | 323 | 163 | 116 | 128 | 129 | 159 | 270 | 390 | 3,230 |

**SJR @ San Andreas Landing (45)**
**State Permit**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2356 | 2476 | 2881 | 3391 | 3756 | 3528 | 3005 | 3008 | 3090 | 3020 | 2960 | 2781 | 36,252 |
| 1977 | 2727 | 2791 | 3059 | 3539 | 3832 | 3604 | 3179 | 3169 | 3333 | 3516 | 3574 | 3308 | 39,629 |
| 1978 | 3110 | 3067 | 3382 | 4811 | 5250 | 4571 | 3565 | 3079 | 2752 | 2989 | 2876 | 2726 | 42,178 |
| 1979 | 2644 | 2611 | 2900 | 4088 | 5461 | 4011 | 2923 | 2740 | 2592 | 2834 | 2805 | 2655 | 38,264 |
| 1980 | 2495 | 2505 | 3011 | 3828 | 4852 | 3853 | 3026 | 2832 | 2721 | 2941 | 2891 | 2758 | 37,713 |
| 1981 | 2559 | 2623 | 2925 | 3280 | 3812 | 3449 | 2849 | 2829 | 2875 | 3012 | 3002 | 2743 | 35,958 |
| 1982 | 2632 | 2645 | 3197 | 4366 | 4200 | 4147 | 2982 | 2801 | 2551 | 2838 | 2795 | 2549 | 37,703 |
| 1983 | 2311 | 3117 | 3465 | 4423 | 5045 | 4032 | 3573 | 2876 | 3204 | 3422 | 2963 | 2660 | 40,991 |
| 1984 | 2396 | 2781 | 3687 | 3777 | 4124 | 3405 | 2732 | 2781 | 2722 | 2848 | 2794 | 2670 | 36,717 |
| 1985 | 2464 | 2698 | 3146 | 3347 | 3824 | 3873 | 3123 | 2845 | 2799 | 2936 | 3011 | 2784 | 36,850 |
| 1986 | 2692 | 2733 | 3129 | 3640 | 4720 | 3839 | 3267 | 3035 | 2864 | 3097 | 2911 | 2690 | 38,617 |
| 1987 | 2569 | 2642 | 2914 | 3220 | 3845 | 3654 | 3067 | 2992 | 2899 | 2988 | 3080 | 2956 | 36,826 |
| 1988 | 2826 | 2813 | 3073 | 3433 | 4073 | 3913 | 3175 | 2988 | 2910 | 2977 | 3077 | 2926 | 38,184 |
| 1989 | 2825 | 2766 | 2991 | 3392 | 3889 | 3295 | 2617 | 2707 | 2741 | 2883 | 2959 | 2728 | 35,793 |
| 1990 | 2583 | 2667 | 3009 | 3221 | 3804 | 3770 | 2907 | 2737 | 2733 | 2881 | 2978 | 2847 | 36,137 |
| 76 - 90 AVG | 2,613 | 2,729 | 3,118 | 3,717 | 4,299 | 3,796 | 3,066 | 2,895 | 2,852 | 3,012 | 2,972 | 2,765 | 37,854 |

**SJR @ San Andreas Landing (45)**
**Percent Inflow**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 183 | 174 | 250 | 653 | 734 | 506 | 359 | 335 | 298 | 293 | 427 | 545 | 4,757 |
| 1977 | 644 | 767 | 752 | 984 | 1011 | 647 | 460 | 469 | 557 | 663 | 778 | 914 | 8,646 |
| 1978 | 806 | 639 | 422 | 269 | 233 | 220 | 197 | 183 | 174 | 184 | 215 | 282 | 3,824 |
| 1979 | 438 | 525 | 457 | 415 | 265 | 199 | 178 | 184 | 182 | 202 | 295 | 370 | 3,710 |
| 1980 | 427 | 388 | 245 | 189 | 182 | 173 | 173 | 177 | 174 | 184 | 210 | 291 | 2,813 |
| 1981 | 456 | 628 | 537 | 491 | 252 | 189 | 182 | 226 | 252 | 302 | 403 | 465 | 4,383 |
| 1982 | 504 | 420 | 187 | 209 | 172 | 167 | 159 | 167 | 166 | 173 | 187 | 168 | 2,699 |
| 1983 | 155 | 180 | 165 | 193 | 178 | 172 | 163 | 156 | 164 | 182 | 168 | 164 | 2,040 |
| 1984 | 158 | 170 | 171 | 176 | 182 | 175 | 172 | 187 | 192 | 199 | 236 | 298 | 2,316 |
| 1985 | 436 | 520 | 201 | 331 | 524 | 325 | 252 | 281 | 249 | 298 | 439 | 526 | 4,382 |
| 1986 | 529 | 480 | 364 | 368 | 194 | 170 | 179 | 185 | 182 | 186 | 206 | 279 | 3,324 |
| 1987 | 429 | 618 | 544 | 934 | 714 | 329 | 216 | 216 | 244 | 289 | 421 | 639 | 5,593 |
| 1988 | 562 | 426 | 381 | 444 | 265 | 250 | 313 | 350 | 309 | 324 | 554 | 781 | 4,959 |
| 1989 | 733 | 578 | 494 | 822 | 786 | 301 | 183 | 189 | 208 | 270 | 389 | 449 | 5,400 |
| 1990 | 519 | 654 | 627 | 1071 | 681 | 356 | 363 | 345 | 274 | 322 | 531 | 720 | 6,463 |
| 76 - 90 AVG | 465 | 478 | 386 | 503 | 425 | 280 | 237 | 243 | 242 | 271 | 364 | 459 | 4,354 |

**SJR @ San Andreas Landing (45)**
**Percent Inflow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 68 | 54 | 143 | 615 | 709 | 438 | 261 | 232 | 191 | 187 | 354 | 501 | 3,753 |
| 1977 | 615 | 754 | 733 | 1010 | 1043 | 609 | 381 | 391 | 497 | 624 | 766 | 936 | 8,359 |
| 1978 | 793 | 575 | 328 | 112 | 70 | 65 | 56 | 51 | 48 | 57 | 98 | 182 | 2,435 |
| 1979 | 369 | 474 | 393 | 306 | 98 | 56 | 47 | 59 | 61 | 83 | 198 | 290 | 2,434 |
| 1980 | 361 | 313 | 135 | 54 | 49 | 43 | 43 | 49 | 50 | 58 | 92 | 193 | 1,440 |
| 1981 | 394 | 599 | 489 | 423 | 129 | 57 | 52 | 105 | 140 | 200 | 325 | 404 | 3,317 |
| 1982 | 451 | 348 | 64 | 62 | 44 | 54 | 38 | 41 | 43 | 47 | 67 | 49 | 1,308 |
| 1983 | 36 | 54 | 45 | 56 | 48 | 46 | 39 | 36 | 40 | 51 | 42 | 41 | 534 |
| 1984 | 39 | 45 | 48 | 44 | 47 | 44 | 43 | 60 | 70 | 80 | 126 | 203 | 849 |
| 1985 | 372 | 469 | 81 | 230 | 454 | 205 | 127 | 174 | 139 | 197 | 368 | 477 | 3,293 |
| 1986 | 479 | 416 | 275 | 265 | 61 | 45 | 48 | 53 | 54 | 58 | 90 | 179 | 2,023 |
| 1987 | 363 | 586 | 497 | 960 | 682 | 216 | 84 | 85 | 128 | 183 | 343 | 610 | 4,737 |
| 1988 | 511 | 336 | 293 | 360 | 134 | 120 | 200 | 249 | 206 | 223 | 504 | 782 | 3,918 |
| 1989 | 723 | 530 | 433 | 820 | 764 | 192 | 57 | 65 | 90 | 164 | 310 | 385 | 4,533 |
| 1990 | 470 | 628 | 590 | 1123 | 644 | 251 | 269 | 253 | 170 | 226 | 479 | 711 | 5,814 |
| 76 - 90 AVG | 403 | 412 | 303 | 429 | 332 | 163 | 116 | 127 | 128 | 163 | 277 | 396 | 3,250 |

**SJR @ San Andreas Landing (45)**
**Percent Inflow**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2355 | 2476 | 2886 | 3418 | 3773 | 3530 | 3037 | 3061 | 3211 | 3107 | 2971 | 2781 | 36,606 |
| 1977 | 2762 | 2853 | 3090 | 3462 | 3764 | 3594 | 3165 | 3167 | 3351 | 3533 | 3584 | 3311 | 39,636 |
| 1978 | 3197 | 3148 | 3399 | 4840 | 5254 | 4580 | 3565 | 3084 | 2751 | 3064 | 2916 | 2729 | 42,527 |
| 1979 | 2668 | 2628 | 2890 | 4105 | 5494 | 4015 | 2916 | 2748 | 2596 | 2817 | 2798 | 2655 | 38,326 |
| 1980 | 2526 | 2518 | 3017 | 3839 | 4858 | 3839 | 3012 | 2827 | 2720 | 3021 | 2923 | 2755 | 37,853 |
| 1981 | 2608 | 2635 | 2917 | 3259 | 3799 | 3405 | 2832 | 2852 | 2879 | 2970 | 2954 | 2721 | 35,831 |
| 1982 | 2610 | 2643 | 3201 | 4367 | 4197 | 4128 | 2981 | 2804 | 2579 | 2863 | 2817 | 2585 | 37,755 |
| 1983 | 2318 | 3123 | 3462 | 4417 | 5043 | 4032 | 3577 | 2876 | 3204 | 3421 | 2883 | 2660 | 40,996 |
| 1984 | 2396 | 2782 | 3687 | 3783 | 4126 | 3413 | 2734 | 2781 | 2721 | 2848 | 2794 | 2670 | 36,735 |
| 1985 | 2504 | 2720 | 3166 | 3335 | 3799 | 3966 | 3167 | 2823 | 2786 | 2944 | 3022 | 2802 | 37,034 |
| 1986 | 2714 | 2751 | 3136 | 3600 | 4714 | 3840 | 3230 | 3014 | 2884 | 3074 | 2896 | 2688 | 38,521 |
| 1987 | 2568 | 2643 | 2915 | 3220 | 3846 | 3655 | 3169 | 3127 | 2992 | 3065 | 3172 | 3005 | 37,377 |
| 1988 | 2888 | 2900 | 3110 | 3442 | 4080 | 3924 | 3276 | 3088 | 3081 | 3158 | 3168 | 2966 | 39,079 |
| 1989 | 2674 | 2804 | 3001 | 3399 | 3946 | 3324 | 2617 | 2701 | 2720 | 2864 | 2900 | 2710 | 35,860 |
| 1990 | 2598 | 2699 | 3024 | 3224 | 3782 | 3746 | 2878 | 2716 | 2778 | 2954 | 3018 | 2879 | 36,296 |
| 76 - 90 AVG | 2,639 | 2,755 | 3,127 | 3,714 | 4,298 | 3,799 | 3,077 | 2,911 | 2,882 | 3,047 | 2,986 | 2,793 | 38,029 |

**SJR @ San Andreas Landing (45)**
**Flow Study**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 198 | 176 | 255 | 674 | 735 | 503 | 356 | 336 | 302 | 295 | 445 | 546 | 4,821 |
| 1977 | 562 | 610 | 531 | 762 | 933 | 629 | 452 | 458 | 543 | 651 | 773 | 924 | 7,826 |
| 1978 | 812 | 666 | 449 | 273 | 231 | 220 | 197 | 183 | 174 | 184 | 216 | 287 | 3,892 |
| 1979 | 443 | 531 | 458 | 415 | 265 | 199 | 178 | 183 | 182 | 197 | 289 | 366 | 3,706 |
| 1980 | 438 | 396 | 246 | 189 | 182 | 173 | 173 | 177 | 174 | 184 | 208 | 292 | 2,832 |
| 1981 | 462 | 636 | 538 | 501 | 259 | 190 | 182 | 226 | 249 | 290 | 375 | 439 | 4,347 |
| 1982 | 501 | 403 | 185 | 209 | 172 | 187 | 159 | 167 | 166 | 173 | 186 | 168 | 2,676 |
| 1983 | 155 | 180 | 165 | 195 | 178 | 172 | 163 | 156 | 164 | 182 | 168 | 164 | 2,042 |
| 1984 | 158 | 170 | 171 | 176 | 182 | 175 | 172 | 187 | 192 | 200 | 236 | 297 | 2,316 |
| 1985 | 430 | 515 | 202 | 328 | 520 | 325 | 252 | 266 | 235 | 284 | 407 | 504 | 4,268 |
| 1986 | 485 | 413 | 338 | 401 | 197 | 170 | 180 | 186 | 182 | 188 | 207 | 281 | 3,228 |
| 1987 | 435 | 621 | 543 | 934 | 714 | 329 | 218 | 218 | 241 | 284 | 412 | 654 | 5,603 |
| 1988 | 577 | 470 | 452 | 480 | 275 | 239 | 280 | 325 | 291 | 302 | 519 | 733 | 4,943 |
| 1989 | 684 | 557 | 493 | 821 | 809 | 319 | 185 | 193 | 221 | 276 | 406 | 468 | 5,432 |
| 1990 | 510 | 654 | 623 | 1048 | 653 | 342 | 298 | 280 | 266 | 295 | 434 | 584 | 5,987 |
| 76 - 90 AVG | 457 | 467 | 377 | 494 | 420 | 278 | 230 | 236 | 239 | 266 | 352 | 447 | 4,261 |

**SJR @ San Andreas Landing (45)**
**Flow Study**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 86 | 57 | 149 | 642 | 711 | 435 | 257 | 232 | 194 | 190 | 375 | 501 | 3,829 |
| 1977 | 513 | 556 | 467 | 745 | 949 | 586 | 371 | 373 | 479 | 610 | 759 | 947 | 7,355 |
| 1978 | 800 | 606 | 360 | 117 | 70 | 65 | 56 | 51 | 48 | 56 | 99 | 188 | 2,516 |
| 1979 | 376 | 482 | 395 | 306 | 98 | 56 | 46 | 58 | 61 | 77 | 190 | 265 | 2,430 |
| 1980 | 374 | 323 | 137 | 54 | 49 | 43 | 43 | 49 | 50 | 58 | 90 | 194 | 1,464 |
| 1981 | 402 | 609 | 491 | 435 | 137 | 58 | 52 | 106 | 136 | 183 | 290 | 372 | 3,271 |
| 1982 | 447 | 328 | 61 | 62 | 44 | 54 | 38 | 41 | 43 | 47 | 65 | 48 | 1,278 |
| 1983 | 37 | 54 | 45 | 56 | 48 | 46 | 39 | 36 | 40 | 51 | 42 | 41 | 535 |
| 1984 | 39 | 45 | 48 | 44 | 47 | 43 | 42 | 60 | 70 | 81 | 126 | 202 | 847 |
| 1985 | 365 | 483 | 82 | 226 | 449 | 205 | 127 | 155 | 121 | 178 | 329 | 449 | 3,149 |
| 1986 | 427 | 336 | 243 | 303 | 65 | 45 | 48 | 53 | 54 | 59 | 89 | 182 | 1,904 |
| 1987 | 370 | 590 | 496 | 959 | 682 | 216 | 84 | 84 | 122 | 176 | 332 | 628 | 4,739 |
| 1988 | 533 | 399 | 382 | 405 | 145 | 103 | 156 | 214 | 181 | 198 | 463 | 725 | 3,904 |
| 1989 | 665 | 509 | 432 | 819 | 794 | 215 | 60 | 70 | 105 | 170 | 328 | 408 | 4,575 |
| 1990 | 460 | 629 | 587 | 1096 | 609 | 234 | 188 | 173 | 160 | 193 | 362 | 546 | 5,237 |
| 76 - 90 AVG | 393 | 399 | 292 | 418 | 326 | 160 | 107 | 117 | 124 | 155 | 263 | 381 | 3,136 |

**SJR @ San Andreas Landing (45)**
**Flow Study**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2361 | 2477 | 2882 | 3395 | 3759 | 3528 | 3057 | 3098 | 3250 | 3134 | 2994 | 2782 | 36,715 |
| 1977 | 2801 | 2930 | 3080 | 3441 | 3766 | 3594 | 3217 | 3240 | 3385 | 3547 | 3590 | 3340 | 39,931 |
| 1978 | 3196 | 3163 | 3418 | 4866 | 5231 | 4581 | 3566 | 3084 | 2755 | 3066 | 2915 | 2729 | 42,568 |
| 1979 | 2653 | 2617 | 2888 | 4105 | 5499 | 4002 | 2901 | 2745 | 2595 | 2844 | 2810 | 2656 | 38,315 |
| 1980 | 2535 | 2521 | 3017 | 3838 | 4855 | 3838 | 3008 | 2822 | 2717 | 2999 | 2907 | 2749 | 37,806 |
| 1981 | 2595 | 2625 | 2912 | 3262 | 3805 | 3402 | 2828 | 2848 | 2984 | 3105 | 3017 | 2742 | 36,125 |
| 1982 | 2629 | 2646 | 3199 | 4367 | 4197 | 4127 | 2981 | 2804 | 2579 | 2868 | 2820 | 2565 | 37,782 |
| 1983 | 2331 | 3125 | 3460 | 4433 | 5045 | 4032 | 3575 | 2876 | 3204 | 3421 | 2863 | 2662 | 41,027 |
| 1984 | 2398 | 2781 | 3687 | 3778 | 4126 | 3405 | 2731 | 2780 | 2722 | 2848 | 2794 | 2670 | 36,720 |
| 1985 | 2494 | 2717 | 3169 | 3347 | 3807 | 3975 | 3173 | 2848 | 2820 | 3017 | 3039 | 2794 | 37,200 |
| 1986 | 2670 | 2709 | 3125 | 3656 | 4719 | 3841 | 3245 | 3024 | 2863 | 3101 | 2913 | 2690 | 38,556 |
| 1987 | 2568 | 2642 | 2914 | 3220 | 3845 | 3655 | 3222 | 3217 | 3054 | 3144 | 3167 | 2967 | 37,615 |
| 1988 | 2802 | 2804 | 3072 | 3438 | 4084 | 4081 | 3432 | 3205 | 3093 | 3076 | 3101 | 2925 | 39,113 |
| 1989 | 2821 | 2769 | 2993 | 3397 | 3891 | 3297 | 2616 | 2686 | 2754 | 2975 | 3035 | 2750 | 35,984 |
| 1990 | 2596 | 2681 | 3009 | 3219 | 3802 | 3770 | 2992 | 2790 | 2800 | 2924 | 2964 | 2823 | 36,370 |
| 76 - 90 AVG | 2,630 | 2,747 | 3,122 | 3,717 | 4,295 | 3,808 | 3,103 | 2,938 | 2,905 | 3,071 | 2,995 | 2,790 | 38,122 |



Main TOC

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**SJR @ San Andreas Landing (45)**
**Maximum Flow**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 258 | 218 | 286 | 808 | 772 | 500 | 362 | 330 | 293 | 322 | 557 | 662 | 5,368 |
| 1977 | 574 | 547 | 499 | 714 | 906 | 630 | 460 | 450 | 519 | 641 | 765 | 908 | 7,613 |
| 1978 | 799 | 652 | 439 | 274 | 239 | 221 | 197 | 183 | 174 | 184 | 209 | 282 | 3,853 |
| 1979 | 444 | 516 | 423 | 387 | 261 | 199 | 178 | 185 | 183 | 191 | 265 | 349 | 3,581 |
| 1980 | 453 | 431 | 267 | 190 | 182 | 173 | 174 | 178 | 175 | 187 | 209 | 293 | 2,912 |
| 1981 | 400 | 510 | 483 | 476 | 268 | 192 | 184 | 224 | 248 | 290 | 400 | 488 | 4,163 |
| 1982 | 519 | 404 | 185 | 209 | 172 | 187 | 160 | 187 | 167 | 174 | 192 | 171 | 2,707 |
| 1983 | 156 | 180 | 165 | 195 | 179 | 172 | 164 | 156 | 164 | 171 | 166 | 160 | 2,028 |
| 1984 | 158 | 170 | 171 | 176 | 182 | 175 | 172 | 187 | 192 | 200 | 238 | 295 | 2,316 |
| 1985 | 456 | 572 | 209 | 344 | 530 | 327 | 247 | 237 | 220 | 276 | 425 | 538 | 4,381 |
| 1986 | 516 | 442 | 350 | 402 | 197 | 170 | 180 | 186 | 182 | 189 | 210 | 279 | 3,303 |
| 1987 | 434 | 620 | 544 | 933 | 713 | 329 | 222 | 228 | 251 | 298 | 426 | 674 | 5,670 |
| 1988 | 576 | 406 | 341 | 434 | 270 | 239 | 278 | 336 | 299 | 323 | 554 | 786 | 4,842 |
| 1989 | 674 | 504 | 471 | 804 | 778 | 304 | 183 | 182 | 201 | 265 | 416 | 483 | 5,265 |
| 1990 | 512 | 655 | 628 | 1048 | 650 | 341 | 286 | 262 | 258 | 323 | 560 | 724 | 6,247 |
| 76 - 90 AVG | 462 | 455 | 364 | 493 | 420 | 277 | 230 | 233 | 235 | 269 | 373 | 473 | 4,283 |

**SJR @ San Andreas Landing (45)**
**Maximum Flow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 158 | 108 | 188 | 806 | 758 | 430 | 263 | 222 | 183 | 220 | 508 | 640 | 4,484 |
| 1977 | 525 | 480 | 426 | 683 | 915 | 586 | 380 | 366 | 451 | 596 | 750 | 929 | 7,087 |
| 1978 | 786 | 593 | 349 | 117 | 73 | 66 | 56 | 51 | 48 | 56 | 91 | 182 | 2,468 |
| 1979 | 376 | 462 | 351 | 272 | 94 | 56 | 48 | 59 | 62 | 69 | 160 | 264 | 2,271 |
| 1980 | 392 | 365 | 162 | 55 | 49 | 43 | 44 | 49 | 51 | 60 | 89 | 194 | 1,553 |
| 1981 | 326 | 455 | 423 | 403 | 146 | 60 | 54 | 102 | 129 | 178 | 317 | 430 | 3,023 |
| 1982 | 468 | 329 | 62 | 62 | 44 | 54 | 38 | 42 | 43 | 48 | 72 | 52 | 1,314 |
| 1983 | 37 | 54 | 45 | 56 | 48 | 46 | 39 | 36 | 40 | 44 | 40 | 38 | 523 |
| 1984 | 39 | 45 | 48 | 44 | 47 | 44 | 43 | 60 | 70 | 80 | 128 | 200 | 848 |
| 1985 | 397 | 531 | 91 | 245 | 462 | 207 | 119 | 117 | 98 | 165 | 348 | 490 | 3,270 |
| 1986 | 460 | 366 | 256 | 304 | 65 | 45 | 48 | 53 | 54 | 60 | 91 | 180 | 1,982 |
| 1987 | 369 | 589 | 497 | 958 | 681 | 215 | 87 | 89 | 124 | 182 | 340 | 645 | 4,776 |
| 1988 | 515 | 290 | 236 | 346 | 138 | 96 | 148 | 228 | 190 | 219 | 501 | 787 | 3,894 |
| 1989 | 652 | 444 | 405 | 799 | 755 | 196 | 57 | 55 | 77 | 154 | 339 | 425 | 4,358 |
| 1990 | 482 | 630 | 593 | 1096 | 606 | 232 | 173 | 148 | 148 | 226 | 513 | 714 | 5,541 |
| 76 - 90 AVG | 397 | 383 | 275 | 416 | 325 | 158 | 106 | 112 | 118 | 157 | 286 | 411 | 3,148 |

**SJR @ San Andreas Landing (45)**
**Maximum Flow**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2409 | 2491 | 2883 | 3308 | 3693 | 3559 | 3098 | 3147 | 3223 | 3231 | 3149 | 2858 | 37,049 |
| 1977 | 2833 | 2929 | 3106 | 3498 | 3797 | 3687 | 3232 | 3199 | 3380 | 3545 | 3568 | 3313 | 40,107 |
| 1978 | 3169 | 3123 | 3395 | 4886 | 5384 | 4609 | 3565 | 3088 | 2753 | 3065 | 2948 | 2744 | 42,729 |
| 1979 | 2670 | 2643 | 2919 | 4094 | 5477 | 3999 | 2903 | 2762 | 2617 | 2874 | 2848 | 2710 | 38,514 |
| 1980 | 2573 | 2532 | 3021 | 3841 | 4854 | 3849 | 3027 | 2843 | 2744 | 3064 | 2963 | 2768 | 38,077 |
| 1981 | 2631 | 2687 | 2938 | 3314 | 3836 | 3424 | 2818 | 2881 | 3203 | 3284 | 3142 | 2787 | 36,945 |
| 1982 | 2639 | 2649 | 3203 | 4372 | 4201 | 4139 | 3008 | 2816 | 2580 | 2907 | 2867 | 2573 | 37,954 |
| 1983 | 2344 | 3129 | 3451 | 4436 | 5048 | 4031 | 3578 | 2879 | 3209 | 3086 | 2803 | 2566 | 40,560 |
| 1984 | 2412 | 2788 | 3684 | 3788 | 4126 | 3413 | 2735 | 2781 | 2721 | 2848 | 2794 | 2670 | 36,760 |
| 1985 | 2548 | 2739 | 3174 | 3339 | 3800 | 4007 | 3237 | 2957 | 3097 | 3178 | 3127 | 2840 | 38,043 |
| 1986 | 2776 | 2808 | 3155 | 3866 | 4724 | 3842 | 3250 | 3026 | 2864 | 3122 | 2925 | 2691 | 38,849 |
| 1987 | 2569 | 2641 | 2914 | 3220 | 3846 | 3658 | 3361 | 3389 | 3378 | 3438 | 3501 | 3268 | 39,183 |
| 1988 | 3097 | 3081 | 3168 | 3465 | 4107 | 4314 | 3567 | 3185 | 3163 | 3244 | 3289 | 3054 | 40,734 |
| 1989 | 2875 | 2786 | 3000 | 3409 | 3949 | 3329 | 2617 | 2774 | 3005 | 3095 | 3067 | 2757 | 36,663 |
| 1990 | 2594 | 2680 | 3011 | 3222 | 3803 | 3775 | 3039 | 2904 | 2872 | 2991 | 3051 | 2874 | 36,816 |
| 76 - 90 AVG | 2,676 | 2,780 | 3,135 | 3,724 | 4,310 | 3,842 | 3,136 | 2,975 | 2,987 | 3,131 | 3,071 | 2,831 | 38,599 |

**SJR @ San Andreas Landing, 45**
**Cumulative Impact**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 251 | 405 | 875 | 985 | 756 | 484 | 323 | 288 | 274 | 340 | 428 | 458 |
| 1977 | 489 | 538 | 584 | 779 | 823 | 521 | 366 | 446 | 453 | 505 | 690 | 865 |
| 1978 | 773 | 654 | 447 | 272 | 227 | 219 | 202 | 205 | 182 | 186 | 241 | 306 |
| 1979 | 453 | 533 | 1164 | 727 | 277 | 199 | 190 | 203 | 178 | 198 | 268 | 373 |
| 1980 | 433 | 423 | 577 | 221 | 183 | 174 | 183 | 205 | 181 | 179 | 219 | 301 |
| 1981 | 471 | 641 | 1367 | 918 | 343 | 203 | 184 | 194 | 216 | 276 | 356 | 436 |
| 1982 | 520 | 450 | 189 | 209 | 174 | 190 | 161 | 172 | 167 | 175 | 218 | 191 |
| 1983 | 158 | 179 | 165 | 190 | 179 | 172 | 166 | 158 | 166 | 179 | 167 | 165 |
| 1984 | 161 | 165 | 171 | 174 | 182 | 175 | 177 | 192 | 178 | 192 | 234 | 301 |
| 1985 | 437 | 543 | 251 | 352 | 519 | 308 | 220 | 205 | 206 | 264 | 378 | 471 |
| 1986 | 525 | 479 | 681 | 487 | 200 | 171 | 193 | 210 | 190 | 190 | 231 | 297 |
| 1987 | 429 | 620 | 1375 | 1239 | 721 | 325 | 228 | 239 | 252 | 294 | 423 | 657 |
| 1988 | 539 | 426 | 869 | 621 | 270 | 223 | 232 | 270 | 270 | 336 | 561 | 688 |
| 1989 | 551 | 452 | 435 | 763 | 795 | 331 | 186 | 180 | 203 | 270 | 420 | 485 |
| 1990 | 478 | 561 | 529 | 899 | 559 | 313 | 235 | 217 | 229 | 326 | 524 | 653 |
| Average | 445 | 471 | 645 | 589 | 414 | 267 | 216 | 226 | 223 | 261 | 359 | 443 |

**SJR @ San Andreas Landing, 45**
**Cumulative Impact**
**Bromide**
Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 151 | 334 | 902 | 1022 | 740 | 413 | 218 | 170 | 155 | 233 | 352 | 395 |
| 1977 | 419 | 467 | 519 | 753 | 808 | 452 | 267 | 362 | 378 | 440 | 664 | 681 |
| 1978 | 761 | 606 | 363 | 115 | 67 | 64 | 56 | 58 | 51 | 63 | 132 | 213 |
| 1979 | 389 | 485 | 1249 | 685 | 111 | 56 | 54 | 63 | 50 | 78 | 188 | 294 |
| 1980 | 369 | 355 | 535 | 92 | 50 | 44 | 49 | 63 | 52 | 54 | 106 | 206 |
| 1981 | 413 | 618 | 1494 | 939 | 238 | 73 | 51 | 58 | 84 | 155 | 261 | 367 |
| 1982 | 470 | 384 | 66 | 61 | 45 | 55 | 38 | 43 | 43 | 50 | 104 | 76 |
| 1983 | 39 | 53 | 45 | 54 | 48 | 46 | 40 | 37 | 40 | 49 | 42 | 42 |
| 1984 | 41 | 43 | 48 | 44 | 46 | 43 | 46 | 56 | 51 | 71 | 124 | 207 |
| 1985 | 374 | 496 | 139 | 255 | 451 | 188 | 85 | 70 | 78 | 151 | 292 | 410 |
| 1986 | 474 | 415 | 658 | 408 | 66 | 45 | 53 | 64 | 57 | 66 | 119 | 202 |
| 1987 | 364 | 591 | 1503 | 1330 | 692 | 211 | 89 | 94 | 123 | 178 | 339 | 628 |
| 1988 | 482 | 338 | 882 | 575 | 142 | 81 | 87 | 144 | 152 | 231 | 507 | 669 |
| 1989 | 501 | 379 | 361 | 749 | 778 | 230 | 60 | 52 | 83 | 162 | 344 | 427 |
| 1990 | 421 | 519 | 477 | 918 | 497 | 202 | 112 | 90 | 111 | 228 | 467 | 629 |
| Average | 378 | 405 | 616 | 533 | 319 | 147 | 87 | 95 | 101 | 147 | 269 | 376 |

**SJR @ San Andreas Landing, 45**
**Cumulative Impact**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2380 | 2456 | 2768 | 3220 | 3658 | 3434 | 3030 | 3154 | 3327 | 3481 | 3088 | 2778 |
| 1977 | 2841 | 2962 | 3186 | 3612 | 3913 | 3673 | 3172 | 3153 | 3047 | 3227 | 3402 | 3190 |
| 1978 | 3055 | 3024 | 3345 | 4858 | 5117 | 4540 | 3800 | 3373 | 2804 | 2871 | 2794 | 2675 |
| 1979 | 2619 | 2600 | 2793 | 4022 | 5649 | 4033 | 3114 | 3140 | 2687 | 2831 | 2844 | 2713 |
| 1980 | 2529 | 2534 | 2987 | 3790 | 4810 | 3923 | 3234 | 3153 | 2760 | 2902 | 2817 | 2734 |
| 1981 | 2580 | 2615 | 2816 | 3236 | 3822 | 3436 | 2938 | 3015 | 3220 | 3455 | 3185 | 2774 |
| 1982 | 2610 | 2642 | 3193 | 4351 | 4050 | 4189 | 3090 | 2885 | 2581 | 2844 | 2827 | 2574 |
| 1983 | 2376 | 3122 | 3455 | 4384 | 5035 | 4058 | 3582 | 2896 | 3130 | 3286 | 2841 | 2653 |
| 1984 | 2462 | 2755 | 3682 | 3826 | 4250 | 3467 | 2839 | 2989 | 2761 | 2831 | 2786 | 2661 |
| 1985 | 2482 | 2705 | 3148 | 3319 | 3780 | 3852 | 3327 | 3128 | 3021 | 3157 | 3095 | 2801 |
| 1986 | 2707 | 2727 | 3094 | 3597 | 4628 | 3879 | 3543 | 3321 | 2915 | 2904 | 2794 | 2670 |
| 1987 | 2545 | 2604 | 2800 | 3187 | 3842 | 3630 | 3478 | 3474 | 3342 | 3369 | 3405 | 3140 |
| 1988 | 2910 | 2890 | 3019 | 3399 | 3968 | 4182 | 3623 | 3227 | 3204 | 3379 | 3355 | 2984 |
| 1989 | 2825 | 2773 | 2999 | 3399 | 3878 | 3302 | 2642 | 2759 | 2841 | 3003 | 3064 | 2760 |
| 1990 | 2551 | 2608 | 2960 | 3202 | 3769 | 3611 | 3057 | 3023 | 2951 | 3132 | 3133 | 2879 |
| Average | 2631 | 2734 | 3083 | 3692 | 4278 | 3814 | 3231 | 3113 | 2973 | 3113 | 3029 | 2799 |



Main TOC

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**SJR @ Vernalis (1)**
**Existing Conditions**
**Electrical Conductivity**
Units are in mircosiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 525 | 424 | 676 | 746 | 666 | 809 | 700 | 751 | 764 | 847 | 1305 | 1262 | 9,475 |
| 1977 | 584 | 666 | 805 | 980 | 928 | 942 | 736 | 882 | 878 | 1176 | 1246 | 1350 | 11,173 |
| 1978 | 997 | 882 | 843 | 496 | 307 | 192 | 229 | 274 | 477 | 601 | 636 | 455 | 6,389 |
| 1979 | 598 | 515 | 794 | 394 | 294 | 272 | 394 | 476 | 592 | 663 | 691 | 950 | 6,633 |
| 1980 | 805 | 655 | 768 | 169 | 152 | 166 | 333 | 328 | 432 | 477 | 561 | 462 | 5,308 |
| 1981 | 490 | 496 | 681 | 552 | 648 | 624 | 596 | 714 | 790 | 927 | 951 | 1150 | 8,619 |
| 1982 | 800 | 774 | 831 | 269 | 163 | 155 | 174 | 205 | 284 | 393 | 492 | 373 | 4,713 |
| 1983 | 301 | 209 | 162 | 155 | 152 | 153 | 159 | 165 | 170 | 217 | 339 | 354 | 2,536 |
| 1984 | 368 | 182 | 153 | 169 | 262 | 344 | 453 | 615 | 596 | 618 | 694 | 887 | 5,341 |
| 1985 | 848 | 650 | 770 | 829 | 708 | 681 | 579 | 701 | 764 | 920 | 1148 | 1138 | 9,736 |
| 1986 | 805 | 768 | 784 | 691 | 154 | 152 | 262 | 304 | 351 | 601 | 629 | 781 | 6,282 |
| 1987 | 615 | 510 | 721 | 812 | 714 | 745 | 701 | 739 | 734 | 847 | 1263 | 1238 | 9,639 |
| 1988 | 979 | 904 | 999 | 1000 | 939 | 908 | 695 | 811 | 872 | 1163 | 1333 | 1270 | 11,873 |
| 1989 | 1059 | 953 | 962 | 989 | 962 | 784 | 664 | 816 | 823 | 978 | 1316 | 1284 | 11,590 |
| 1990 | 1049 | 936 | 1038 | 989 | 971 | 879 | 762 | 847 | 866 | 1162 | 1442 | 1344 | 12,285 |
| 76 - 90 AVG | 722 | 635 | 719 | 616 | 535 | 520 | 496 | 575 | 626 | 773 | 936 | 953 | 8,106 |

**SJR @ Vernalis (1)**
**Existing Conditions**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 214 | 160 | 294 | 331 | 289 | 364 | 307 | 338 | 348 | 394 | 642 | 611 | 4,292 |
| 1977 | 246 | 289 | 363 | 456 | 428 | 435 | 327 | 407 | 410 | 577 | 612 | 662 | 5,212 |
| 1978 | 467 | 404 | 383 | 199 | 98 | 37 | 57 | 81 | 191 | 259 | 277 | 178 | 2,631 |
| 1979 | 254 | 209 | 357 | 144 | 91 | 79 | 144 | 189 | 254 | 293 | 307 | 446 | 2,767 |
| 1980 | 363 | 283 | 343 | 31 | 31 | 30 | 112 | 110 | 187 | 191 | 236 | 182 | 2,079 |
| 1981 | 196 | 199 | 297 | 228 | 279 | 266 | 252 | 318 | 362 | 438 | 448 | 554 | 3,837 |
| 1982 | 360 | 347 | 271 | 78 | 30 | 32 | 30 | 44 | 87 | 146 | 199 | 133 | 1,757 |
| 1983 | 95 | 46 | 31 | 32 | 31 | 31 | 30 | 31 | 31 | 51 | 116 | 123 | 648 |
| 1984 | 131 | 32 | 32 | 30 | 74 | 118 | 176 | 264 | 255 | 268 | 308 | 412 | 2,100 |
| 1985 | 386 | 281 | 344 | 375 | 311 | 297 | 243 | 311 | 347 | 434 | 558 | 547 | 4,432 |
| 1986 | 364 | 343 | 352 | 302 | 32 | 31 | 74 | 97 | 123 | 259 | 273 | 353 | 2,603 |
| 1987 | 263 | 206 | 318 | 366 | 314 | 330 | 308 | 331 | 331 | 394 | 621 | 602 | 4,384 |
| 1988 | 456 | 416 | 466 | 466 | 434 | 417 | 305 | 370 | 407 | 570 | 660 | 620 | 5,587 |
| 1989 | 500 | 441 | 446 | 460 | 446 | 351 | 288 | 373 | 380 | 467 | 650 | 621 | 5,423 |
| 1990 | 493 | 432 | 487 | 460 | 451 | 402 | 341 | 387 | 404 | 570 | 720 | 661 | 5,808 |
| 76 - 90 AVG | 319 | 273 | 319 | 264 | 223 | 215 | 200 | 243 | 273 | 354 | 442 | 447 | 3,571 |

**SJR @ Vernalis (1)**
**Existing Conditions**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3706 | 2902 | 3701 | 4199 | 5792 | 4587 | 4311 | 3187 | 4155 | 3643 | 3733 | 4292 | 48,206 |
| 1977 | 3709 | 2905 | 3702 | 4200 | 5795 | 4586 | 4315 | 3165 | 4201 | 3639 | 3764 | 4350 | 48,531 |
| 1978 | 3737 | 2903 | 3706 | 4198 | 5795 | 4598 | 4301 | 3110 | 4065 | 3517 | 3498 | 4222 | 47,650 |
| 1979 | 3720 | 2904 | 3700 | 4199 | 5798 | 4599 | 4302 | 3131 | 4100 | 3540 | 3515 | 4294 | 47,802 |
| 1980 | 3708 | 2903 | 3703 | 4200 | 5797 | 4600 | 4302 | 3115 | 4056 | 3472 | 3477 | 4224 | 47,557 |
| 1981 | 3712 | 2900 | 3702 | 4199 | 5799 | 4599 | 4307 | 3173 | 4168 | 3667 | 3606 | 4329 | 48,161 |
| 1982 | 3707 | 2917 | 3706 | 4199 | 5799 | 4598 | 4300 | 3108 | 4024 | 3455 | 3461 | 4208 | 47,480 |
| 1983 | 3702 | 2906 | 3701 | 4199 | 5797 | 4598 | 4300 | 3104 | 4010 | 3419 | 3431 | 4212 | 47,379 |
| 1984 | 3706 | 2903 | 3703 | 4200 | 5799 | 4599 | 4304 | 3156 | 4096 | 3528 | 3516 | 4290 | 47,800 |
| 1985 | 3708 | 2917 | 3707 | 4200 | 5799 | 4599 | 4307 | 3170 | 4148 | 3661 | 3688 | 4321 | 48,225 |
| 1986 | 3720 | 2907 | 3704 | 4199 | 5794 | 4589 | 4300 | 3113 | 4038 | 3517 | 3496 | 4249 | 47,636 |
| 1987 | 3721 | 2906 | 3701 | 4200 | 5794 | 4592 | 4313 | 3180 | 4150 | 3641 | 3766 | 4351 | 48,315 |
| 1988 | 3726 | 2906 | 3706 | 4199 | 5797 | 4593 | 4309 | 3180 | 4196 | 3835 | 3823 | 4365 | 48,635 |
| 1989 | 3742 | 2904 | 3704 | 4200 | 5798 | 4599 | 4311 | 3199 | 4184 | 3717 | 3795 | 4256 | 48,409 |
| 1990 | 3709 | 2906 | 3700 | 4200 | 5797 | 4593 | 4314 | 3142 | 4202 | 3840 | 3688 | 4387 | 48,678 |
| 76 - 90 AVG | 3,716 | 2,906 | 3,703 | 4,199 | 5,797 | 4,596 | 4,306 | 3,149 | 4,120 | 3,619 | 3,630 | 4,290 | 48,031 |

**SJR @ Vernalis (1)**
**No-Action Alternative**
**Electrical Conductivity**
Units are in mircosiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 532 | 433 | 648 | 719 | 658 | 718 | 738 | 792 | 727 | 743 | 728 | 1030 | 9,475 |
| 1,977 | 579 | 632 | 800 | 953 | 928 | 856 | 889 | 870 | 916 | 996 | 1076 | 1048 | 11,173 |
| 1,978 | 951 | 817 | 774 | 471 | 301 | 187 | 228 | 270 | 464 | 593 | 636 | 443 | 6,389 |
| 1,979 | 592 | 492 | 688 | 376 | 288 | 266 | 400 | 476 | 584 | 658 | 695 | 781 | 6,633 |
| 1,980 | 753 | 651 | 656 | 177 | 136 | 164 | 330 | 327 | 428 | 480 | 527 | 462 | 5,308 |
| 1,981 | 501 | 486 | 663 | 528 | 619 | 606 | 705 | 718 | 727 | 701 | 717 | 894 | 8,619 |
| 1,982 | 800 | 739 | 650 | 266 | 166 | 153 | 173 | 204 | 276 | 405 | 473 | 372 | 4,713 |
| 1,983 | 306 | 204 | 160 | 131 | 103 | 90 | 158 | 165 | 168 | 220 | 326 | 349 | 2,536 |
| 1,984 | 358 | 181 | 151 | 169 | 266 | 335 | 407 | 477 | 598 | 608 | 619 | 752 | 5,341 |
| 1,985 | 854 | 625 | 667 | 762 | 673 | 633 | 703 | 714 | 709 | 698 | 742 | 887 | 9,736 |
| 1,986 | 805 | 758 | 739 | 737 | 135 | 122 | 262 | 301 | 338 | 608 | 612 | 748 | 6,282 |
| 1,987 | 609 | 517 | 692 | 763 | 682 | 675 | 728 | 771 | 734 | 743 | 754 | 950 | 9,639 |
| 1,988 | 987 | 861 | 980 | 973 | 953 | 879 | 800 | 853 | 916 | 1204 | 1120 | 1100 | 11,873 |
| 1,989 | 1249 | 927 | 945 | 971 | 935 | 763 | 770 | 889 | 982 | 863 | 1056 | 945 | 11,590 |
| 1,990 | 1146 | 919 | 1039 | 962 | 920 | 853 | 801 | 877 | 943 | 1080 | 1172 | 990 | 12,285 |
| 76 - 90 AVG | 735 | 616 | 683 | 597 | 518 | 487 | 539 | 580 | 634 | 707 | 750 | 783 | 8,106 |

**SJR @ Vernalis (1)**
**No-Action Alternative**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 263 | 192 | 222 | 298 | 296 | 298 | 322 | 346 | 344 | 333 | 330 | 406 | 4,292 |
| 1,977 | 364 | 257 | 316 | 401 | 435 | 410 | 399 | 403 | 417 | 454 | 497 | 509 | 5,212 |
| 1,978 | 470 | 405 | 358 | 266 | 138 | 64 | 44 | 68 | 134 | 221 | 265 | 223 | 2,631 |
| 1,979 | 211 | 223 | 248 | 218 | 110 | 82 | 112 | 170 | 222 | 270 | 298 | 331 | 2,767 |
| 1,980 | 343 | 308 | 283 | 157 | 31 | 30 | 71 | 110 | 138 | 179 | 205 | 199 | 2,079 |
| 1,981 | 191 | 197 | 240 | 251 | 239 | 261 | 285 | 316 | 324 | 320 | 317 | 369 | 3,837 |
| 1,982 | 386 | 345 | 305 | 178 | 52 | 32 | 30 | 37 | 64 | 119 | 171 | 159 | 1,757 |
| 1,983 | 115 | 71 | 37 | 32 | 31 | 31 | 30 | 31 | 31 | 42 | 82 | 115 | 648 |
| 1,984 | 123 | 78 | 32 | 30 | 52 | 93 | 133 | 172 | 225 | 260 | 264 | 304 | 2,100 |
| 1,985 | 362 | 329 | 279 | 314 | 316 | 282 | 292 | 314 | 318 | 314 | 323 | 373 | 4,432 |
| 1,986 | 386 | 351 | 333 | 328 | 179 | 31 | 52 | 85 | 107 | 193 | 262 | 299 | 2,603 |
| 1,987 | 297 | 234 | 256 | 321 | 319 | 296 | 309 | 336 | 340 | 335 | 338 | 394 | 4,384 |
| 1,988 | 452 | 426 | 425 | 454 | 440 | 416 | 381 | 377 | 413 | 514 | 569 | 538 | 5,587 |
| 1,989 | 565 | 515 | 433 | 443 | 441 | 386 | 345 | 380 | 441 | 435 | 455 | 474 | 5,423 |
| 1,990 | 492 | 484 | 455 | 467 | 435 | 406 | 375 | 381 | 427 | 486 | 547 | 522 | 5,808 |
| 76 - 90 AVG | 335 | 294 | 281 | 277 | 234 | 208 | 212 | 235 | 263 | 298 | 328 | 348 | 3,571 |

**SJR @ Vernalis (1)**
**No-Action Alternative**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 3706 | 2903 | 3701 | 4199 | 5792 | 4589 | 4312 | 3196 | 4141 | 3591 | 3516 | 4263 | 48,208 |
| 1,977 | 3709 | 2904 | 3702 | 4200 | 5795 | 4588 | 4321 | 3164 | 4218 | 3722 | 3677 | 4295 | 48,531 |
| 1,978 | 3733 | 2903 | 3705 | 4199 | 5795 | 4598 | 4301 | 3110 | 4062 | 3515 | 3498 | 4222 | 47,650 |
| 1,979 | 3719 | 2904 | 3700 | 4199 | 5798 | 4599 | 4302 | 3131 | 4098 | 3538 | 3514 | 4267 | 47,802 |
| 1,980 | 3707 | 2903 | 3702 | 4200 | 5797 | 4600 | 4302 | 3115 | 4055 | 3473 | 3469 | 4224 | 47,557 |
| 1,981 | 3712 | 2900 | 3702 | 4199 | 5799 | 4599 | 4309 | 3174 | 4144 | 3561 | 3523 | 4282 | 48,161 |
| 1,982 | 3707 | 2916 | 3708 | 4199 | 5799 | 4598 | 4300 | 3106 | 4023 | 3458 | 3457 | 4208 | 47,480 |
| 1,983 | 3702 | 2906 | 3701 | 4199 | 5797 | 4598 | 4300 | 3104 | 4010 | 3420 | 3429 | 4212 | 47,379 |
| 1,984 | 3705 | 2903 | 3703 | 4200 | 5799 | 4599 | 4304 | 3135 | 4097 | 3524 | 3495 | 4266 | 47,800 |
| 1,985 | 3708 | 2916 | 3705 | 4200 | 5799 | 4599 | 4311 | 3173 | 4130 | 3558 | 3529 | 4276 | 48,225 |
| 1,986 | 3719 | 2907 | 3704 | 4199 | 5793 | 4599 | 4300 | 3113 | 4036 | 3519 | 3492 | 4245 | 47,636 |
| 1,987 | 3721 | 2906 | 3700 | 4200 | 5794 | 4593 | 4314 | 3187 | 4150 | 3590 | 3543 | 4291 | 48,315 |
| 1,988 | 3724 | 2906 | 3706 | 4199 | 5797 | 4593 | 4312 | 3188 | 4215 | 3864 | 3707 | 4327 | 48,635 |
| 1,989 | 3751 | 2904 | 3704 | 4200 | 5798 | 4599 | 4314 | 3198 | 4254 | 3654 | 3663 | 4233 | 48,409 |
| 1,990 | 3711 | 2906 | 3700 | 4200 | 5797 | 4593 | 4316 | 3145 | 4236 | 3784 | 3731 | 4307 | 48,676 |
| 76 - 90 AVG | 3,716 | 2,906 | 3,703 | 4,199 | 5,797 | 4,596 | 4,308 | 3,149 | 4,125 | 3,585 | 3,550 | 4,261 | 48,031 |

**SJR @ Vernalis (1)**
**State Permit**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 533 | 433 | 648 | 719 | 642 | 718 | 738 | 792 | 726 | 743 | 728 | 1030 | 8,450 |
| 1977 | 579 | 632 | 800 | 953 | 928 | 855 | 889 | 870 | 916 | 995 | 1077 | 1048 | 10,542 |
| 1978 | 952 | 817 | 774 | 471 | 300 | 187 | 228 | 270 | 465 | 593 | 636 | 443 | 6,136 |
| 1979 | 592 | 492 | 688 | 376 | 288 | 266 | 400 | 476 | 584 | 657 | 894 | 781 | 6,294 |
| 1980 | 753 | 652 | 655 | 177 | 152 | 164 | 330 | 327 | 428 | 481 | 527 | 462 | 5,108 |
| 1981 | 501 | 486 | 662 | 529 | 620 | 606 | 705 | 717 | 726 | 701 | 717 | 894 | 7,864 |
| 1982 | 800 | 740 | 650 | 266 | 166 | 153 | 173 | 204 | 276 | 406 | 473 | 372 | 4,679 |
| 1983 | 306 | 204 | 160 | 155 | 152 | 153 | 158 | 165 | 168 | 220 | 327 | 349 | 2,517 |
| 1984 | 358 | 181 | 153 | 169 | 260 | 335 | 406 | 477 | 598 | 607 | 619 | 752 | 4,915 |
| 1985 | 855 | 624 | 667 | 763 | 673 | 633 | 703 | 714 | 709 | 698 | 743 | 888 | 8,670 |
| 1986 | 805 | 758 | 740 | 737 | 154 | 152 | 262 | 301 | 338 | 607 | 613 | 748 | 6,215 |
| 1987 | 609 | 517 | 692 | 763 | 682 | 675 | 728 | 771 | 734 | 743 | 754 | 950 | 8,618 |
| 1988 | 988 | 861 | 980 | 972 | 930 | 879 | 800 | 853 | 916 | 1203 | 1121 | 1101 | 11,604 |
| 1989 | 1249 | 927 | 945 | 970 | 936 | 763 | 770 | 811 | 982 | 863 | 1056 | 945 | 11,217 |
| 1990 | 1147 | 920 | 1038 | 962 | 920 | 852 | 802 | 876 | 944 | 1080 | 1172 | 991 | 11,704 |
| 76 - 90 AVG | 735 | 616 | 683 | 599 | 520 | 493 | 539 | 575 | 634 | 706 | 750 | 784 | 7,636 |

**SJR @ Vernalis (1)**
**State Permit**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 218 | 165 | 279 | 317 | 276 | 316 | 328 | 361 | 327 | 337 | 326 | 486 | 3,736 |
| 1977 | 243 | 271 | 360 | 441 | 428 | 389 | 409 | 400 | 431 | 476 | 518 | 498 | 4,864 |
| 1978 | 443 | 369 | 347 | 185 | 94 | 34 | 56 | 79 | 184 | 254 | 277 | 172 | 2,494 |
| 1979 | 251 | 196 | 300 | 135 | 88 | 76 | 147 | 189 | 249 | 290 | 308 | 354 | 2,583 |
| 1980 | 335 | 281 | 283 | 31 | 31 | 30 | 110 | 109 | 164 | 193 | 217 | 182 | 1,966 |
| 1981 | 202 | 193 | 287 | 216 | 264 | 257 | 310 | 320 | 327 | 314 | 321 | 415 | 3,426 |
| 1982 | 360 | 329 | 281 | 76 | 30 | 32 | 30 | 43 | 82 | 153 | 188 | 133 | 1,737 |
| 1983 | 98 | 43 | 31 | 32 | 31 | 31 | 30 | 31 | 31 | 53 | 110 | 121 | 642 |
| 1984 | 125 | 31 | 32 | 30 | 73 | 113 | 151 | 190 | 256 | 262 | 268 | 339 | 1,870 |
| 1985 | 389 | 269 | 290 | 340 | 292 | 271 | 309 | 318 | 317 | 312 | 335 | 411 | 3,852 |
| 1986 | 364 | 338 | 328 | 326 | 32 | 31 | 74 | 95 | 116 | 262 | 264 | 335 | 2,565 |
| 1987 | 260 | 210 | 302 | 340 | 297 | 293 | 323 | 349 | 331 | 337 | 341 | 446 | 3,829 |
| 1988 | 461 | 393 | 456 | 451 | 429 | 401 | 361 | 392 | 431 | 592 | 543 | 528 | 5,438 |
| 1989 | 602 | 428 | 437 | 450 | 432 | 340 | 345 | 371 | 468 | 403 | 506 | 439 | 5,221 |
| 1990 | 545 | 424 | 487 | 446 | 423 | 387 | 362 | 403 | 447 | 524 | 571 | 468 | 5,487 |
| 76 - 90 AVG | 326 | 283 | 300 | 254 | 215 | 200 | 223 | 243 | 277 | 317 | 340 | 355 | 3,314 |

**SJR @ Vernalis (1)**
**State Permit**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3706 | 2903 | 3701 | 4199 | 5792 | 4589 | 4312 | 3196 | 4141 | 3591 | 3516 | 4283 | 47,909 |
| 1977 | 3709 | 2904 | 3702 | 4200 | 5795 | 4588 | 4321 | 3164 | 4218 | 3722 | 3677 | 4295 | 48,295 |
| 1978 | 3733 | 2903 | 3705 | 4199 | 5795 | 4598 | 4301 | 3110 | 4062 | 3515 | 3498 | 4222 | 47,641 |
| 1979 | 3719 | 2904 | 3700 | 4199 | 5798 | 4599 | 4302 | 3131 | 4098 | 3538 | 3514 | 4267 | 47,769 |
| 1980 | 3707 | 2903 | 3702 | 4200 | 5797 | 4600 | 4302 | 3115 | 4055 | 3473 | 3469 | 4224 | 47,547 |
| 1981 | 3712 | 2900 | 3702 | 4199 | 5799 | 4599 | 4309 | 3174 | 4144 | 3561 | 3523 | 4281 | 47,903 |
| 1982 | 3707 | 2916 | 3706 | 4199 | 5799 | 4598 | 4300 | 3106 | 4023 | 3458 | 3457 | 4208 | 47,477 |
| 1983 | 3702 | 2906 | 3701 | 4199 | 5797 | 4598 | 4300 | 3104 | 4010 | 3420 | 3429 | 4212 | 47,378 |
| 1984 | 3705 | 2903 | 3703 | 4200 | 5799 | 4599 | 4304 | 3135 | 4097 | 3524 | 3495 | 4266 | 47,730 |
| 1985 | 3708 | 2916 | 3705 | 4200 | 5799 | 4599 | 4311 | 3173 | 4130 | 3558 | 3529 | 4276 | 47,904 |
| 1986 | 3719 | 2907 | 3704 | 4199 | 5793 | 4599 | 4300 | 3113 | 4036 | 3519 | 3492 | 4245 | 47,626 |
| 1987 | 3721 | 2906 | 3700 | 4200 | 5794 | 4593 | 4314 | 3187 | 4150 | 3591 | 3543 | 4291 | 47,990 |
| 1988 | 3724 | 2906 | 3706 | 4199 | 5797 | 4593 | 4312 | 3188 | 4215 | 3864 | 3707 | 4327 | 48,538 |
| 1989 | 3751 | 2904 | 3704 | 4200 | 5798 | 4599 | 4314 | 3198 | 4254 | 3654 | 3663 | 4233 | 48,272 |
| 1990 | 3711 | 2906 | 3700 | 4200 | 5797 | 4593 | 4316 | 3145 | 4236 | 3784 | 3731 | 4307 | 48,426 |
| 76 - 90 AVG | 3,716 | 2,906 | 3,703 | 4,199 | 5,797 | 4,596 | 4,308 | 3,149 | 4,125 | 3,585 | 3,550 | 4,261 | 47,894 |

**SJR @ Vernalis (1)**
**Percent Inflow**
**Electrical Conductivity**
Units are in mircosiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 533 | 433 | 648 | 719 | 642 | 718 | 738 | 792 | 726 | 743 | 728 | 1030 | 8,450 |
| 1977 | 579 | 632 | 800 | 953 | 928 | 855 | 889 | 870 | 916 | 995 | 1077 | 1048 | 10,542 |
| 1978 | 952 | 817 | 774 | 471 | 300 | 187 | 228 | 270 | 465 | 593 | 636 | 443 | 6,136 |
| 1979 | 592 | 492 | 688 | 376 | 288 | 266 | 400 | 476 | 584 | 657 | 694 | 781 | 6,294 |
| 1980 | 753 | 652 | 655 | 177 | 152 | 164 | 330 | 327 | 428 | 481 | 527 | 462 | 5,108 |
| 1981 | 501 | 486 | 662 | 529 | 620 | 606 | 705 | 717 | 726 | 701 | 717 | 894 | 7,864 |
| 1982 | 800 | 740 | 650 | 266 | 166 | 153 | 173 | 204 | 276 | 406 | 473 | 372 | 4,679 |
| 1983 | 306 | 204 | 160 | 155 | 152 | 153 | 158 | 165 | 168 | 220 | 327 | 349 | 2,517 |
| 1984 | 358 | 181 | 153 | 169 | 260 | 335 | 406 | 477 | 598 | 607 | 619 | 752 | 4,915 |
| 1985 | 855 | 624 | 867 | 763 | 673 | 633 | 703 | 714 | 709 | 698 | 743 | 888 | 8,670 |
| 1986 | 805 | 758 | 740 | 737 | 154 | 152 | 262 | 301 | 338 | 607 | 613 | 748 | 6,215 |
| 1987 | 609 | 517 | 692 | 763 | 682 | 675 | 728 | 771 | 734 | 743 | 754 | 950 | 8,618 |
| 1988 | 988 | 861 | 980 | 972 | 930 | 879 | 800 | 853 | 916 | 1203 | 1121 | 1101 | 11,604 |
| 1989 | 1249 | 927 | 945 | 970 | 936 | 763 | 770 | 811 | 982 | 863 | 1058 | 945 | 11,217 |
| 1990 | 1147 | 920 | 1038 | 962 | 920 | 852 | 802 | 876 | 944 | 1080 | 1172 | 991 | 11,704 |
| 76 - 90 AVG | 735 | 616 | 683 | 599 | 520 | 493 | 539 | 575 | 634 | 706 | 750 | 784 | 7,636 |

**SJR @ Vernalis (1)**
**Percent Inflow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 218 | 165 | 279 | 317 | 276 | 316 | 328 | 361 | 327 | 337 | 326 | 486 | 3,736 |
| 1977 | 243 | 271 | 360 | 441 | 428 | 389 | 409 | 400 | 431 | 476 | 518 | 498 | 4,864 |
| 1978 | 443 | 369 | 347 | 185 | 94 | 34 | 56 | 79 | 184 | 254 | 277 | 172 | 2,494 |
| 1979 | 251 | 196 | 300 | 135 | 88 | 76 | 147 | 189 | 249 | 290 | 308 | 354 | 2,583 |
| 1980 | 335 | 281 | 283 | 31 | 31 | 30 | 110 | 109 | 184 | 193 | 217 | 182 | 1,966 |
| 1981 | 202 | 193 | 287 | 216 | 264 | 257 | 310 | 320 | 327 | 314 | 321 | 415 | 3,426 |
| 1982 | 360 | 329 | 281 | 76 | 30 | 32 | 30 | 43 | 82 | 153 | 188 | 133 | 1,737 |
| 1983 | 98 | 43 | 31 | 32 | 31 | 31 | 30 | 31 | 31 | 53 | 110 | 121 | 642 |
| 1984 | 125 | 31 | 32 | 30 | 73 | 113 | 151 | 190 | 256 | 262 | 268 | 339 | 1,870 |
| 1985 | 389 | 268 | 290 | 340 | 292 | 271 | 309 | 318 | 317 | 312 | 335 | 411 | 3,852 |
| 1986 | 364 | 338 | 328 | 326 | 32 | 31 | 74 | 95 | 116 | 262 | 264 | 335 | 2,565 |
| 1987 | 260 | 210 | 302 | 340 | 297 | 293 | 323 | 349 | 331 | 337 | 341 | 446 | 3,829 |
| 1988 | 461 | 393 | 458 | 451 | 429 | 401 | 361 | 392 | 431 | 592 | 543 | 528 | 5,438 |
| 1989 | 602 | 428 | 437 | 450 | 432 | 340 | 345 | 371 | 488 | 403 | 506 | 439 | 5,221 |
| 1990 | 545 | 424 | 487 | 446 | 423 | 387 | 362 | 403 | 447 | 524 | 571 | 468 | 5,487 |
| 76 - 90 AVG | 326 | 263 | 300 | 254 | 215 | 200 | 223 | 243 | 277 | 317 | 340 | 355 | 3,314 |

**SJR @ Vernalis (1)**
**Percent Inflow**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3706 | 2903 | 3701 | 4199 | 5792 | 4589 | 4312 | 3196 | 4141 | 3591 | 3516 | 4263 | 47,909 |
| 1977 | 3709 | 2904 | 3702 | 4200 | 5795 | 4588 | 4321 | 3164 | 4218 | 3722 | 3677 | 4295 | 48,295 |
| 1978 | 3733 | 2903 | 3705 | 4199 | 5795 | 4598 | 4301 | 3110 | 4062 | 3515 | 3498 | 4222 | 47,641 |
| 1979 | 3719 | 2904 | 3700 | 4199 | 5798 | 4599 | 4302 | 3131 | 4098 | 3538 | 3514 | 4267 | 47,769 |
| 1980 | 3707 | 2903 | 3702 | 4200 | 5797 | 4600 | 4302 | 3115 | 4055 | 3473 | 3469 | 4224 | 47,547 |
| 1981 | 3712 | 2900 | 3702 | 4199 | 5799 | 4599 | 4309 | 3174 | 4144 | 3561 | 3523 | 4281 | 47,903 |
| 1982 | 3707 | 2916 | 3706 | 4199 | 5799 | 4598 | 4300 | 3106 | 4023 | 3458 | 3457 | 4208 | 47,477 |
| 1983 | 3702 | 2906 | 3701 | 4199 | 5797 | 4598 | 4300 | 3104 | 4010 | 3420 | 3429 | 4212 | 47,378 |
| 1984 | 3705 | 2903 | 3703 | 4200 | 5799 | 4599 | 4304 | 3135 | 4097 | 3524 | 3495 | 4266 | 47,730 |
| 1985 | 3708 | 2916 | 3705 | 4200 | 5799 | 4599 | 4311 | 3173 | 4130 | 3558 | 3529 | 4276 | 47,904 |
| 1986 | 3719 | 2907 | 3704 | 4199 | 5793 | 4599 | 4300 | 3113 | 4036 | 3519 | 3492 | 4245 | 47,626 |
| 1987 | 3721 | 2906 | 3700 | 4200 | 5794 | 4593 | 4314 | 3187 | 4150 | 3591 | 3543 | 4291 | 47,990 |
| 1988 | 3724 | 2906 | 3706 | 4199 | 5797 | 4593 | 4312 | 3188 | 4215 | 3864 | 3707 | 4327 | 48,538 |
| 1989 | 3751 | 2904 | 3704 | 4200 | 5798 | 4599 | 4314 | 3198 | 4254 | 3654 | 3663 | 4233 | 48,272 |
| 1990 | 3711 | 2906 | 3700 | 4200 | 5797 | 4593 | 4316 | 3145 | 4236 | 3784 | 3731 | 4307 | 48,426 |
| 76 - 90 AVG | 3,716 | 2,906 | 3,703 | 4,199 | 5,797 | 4,596 | 4,308 | 3,149 | 4,125 | 3,585 | 3,550 | 4,261 | 47,894 |

**SJR @ Vernalis (1)**
**Flow Study**
**Electrical Conductivity**

Units are in mircosiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 533 | 433 | 648 | 719 | 642 | 718 | 738 | 792 | 726 | 743 | 728 | 1030 | 8,450 |
| 1977 | 579 | 632 | 800 | 953 | 928 | 855 | 889 | 870 | 916 | 995 | 1077 | 1048 | 10,542 |
| 1978 | 952 | 817 | 774 | 471 | 300 | 187 | 228 | 270 | 465 | 593 | 636 | 443 | 6,136 |
| 1979 | 592 | 492 | 688 | 376 | 288 | 266 | 400 | 476 | 584 | 657 | 694 | 781 | 6,294 |
| 1980 | 753 | 852 | 655 | 177 | 152 | 164 | 330 | 327 | 428 | 481 | 527 | 462 | 5,108 |
| 1981 | 501 | 486 | 662 | 529 | 620 | 606 | 705 | 717 | 726 | 701 | 717 | 894 | 7,864 |
| 1982 | 800 | 740 | 650 | 266 | 168 | 153 | 173 | 204 | 276 | 406 | 473 | 372 | 4,879 |
| 1983 | 306 | 204 | 160 | 155 | 152 | 153 | 158 | 165 | 168 | 220 | 327 | 349 | 2,517 |
| 1984 | 358 | 181 | 153 | 169 | 260 | 335 | 406 | 477 | 598 | 607 | 619 | 752 | 4,915 |
| 1985 | 855 | 624 | 667 | 763 | 673 | 633 | 703 | 714 | 709 | 698 | 743 | 888 | 8,670 |
| 1986 | 805 | 758 | 740 | 737 | 154 | 152 | 262 | 301 | 338 | 607 | 613 | 748 | 6,215 |
| 1987 | 609 | 517 | 692 | 763 | 682 | 675 | 728 | 771 | 734 | 743 | 754 | 950 | 8,618 |
| 1988 | 988 | 861 | 980 | 972 | 930 | 879 | 800 | 853 | 916 | 1203 | 1121 | 1101 | 11,604 |
| 1989 | 1249 | 927 | 945 | 970 | 936 | 763 | 770 | 811 | 982 | 863 | 1056 | 945 | 11,217 |
| 1990 | 1147 | 920 | 1038 | 962 | 920 | 852 | 802 | 876 | 944 | 1080 | 1172 | 991 | 11,704 |
| 76 - 90 AVG | 735 | 616 | 683 | 599 | 520 | 493 | 539 | 575 | 634 | 706 | 750 | 784 | 7,636 |

**SJR @ Vernalis (1)**
**Flow Study**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 218 | 165 | 279 | 317 | 276 | 316 | 328 | 361 | 327 | 337 | 326 | 486 | 3,736 |
| 1977 | 243 | 271 | 360 | 441 | 428 | 389 | 409 | 400 | 431 | 476 | 518 | 498 | 4,864 |
| 1978 | 443 | 369 | 347 | 185 | 94 | 34 | 56 | 79 | 184 | 254 | 277 | 172 | 2,494 |
| 1979 | 251 | 196 | 300 | 135 | 88 | 76 | 147 | 189 | 249 | 290 | 308 | 354 | 2,583 |
| 1980 | 335 | 281 | 283 | 31 | 31 | 30 | 110 | 109 | 164 | 193 | 217 | 182 | 1,966 |
| 1981 | 202 | 193 | 287 | 216 | 264 | 257 | 310 | 320 | 327 | 314 | 321 | 415 | 3,426 |
| 1982 | 360 | 329 | 281 | 76 | 30 | 32 | 30 | 43 | 62 | 153 | 188 | 133 | 1,737 |
| 1983 | 98 | 43 | 31 | 32 | 31 | 31 | 30 | 31 | 31 | 53 | 110 | 121 | 642 |
| 1984 | 125 | 31 | 32 | 30 | 73 | 113 | 151 | 190 | 256 | 262 | 268 | 339 | 1,870 |
| 1985 | 389 | 268 | 290 | 340 | 292 | 271 | 309 | 318 | 317 | 312 | 335 | 411 | 3,852 |
| 1986 | 364 | 338 | 328 | 326 | 32 | 31 | 74 | 95 | 116 | 262 | 264 | 335 | 2,565 |
| 1987 | 260 | 210 | 302 | 340 | 297 | 293 | 323 | 349 | 331 | 337 | 341 | 446 | 3,829 |
| 1988 | 461 | 393 | 456 | 451 | 429 | 401 | 361 | 392 | 431 | 592 | 543 | 528 | 5,438 |
| 1989 | 602 | 428 | 437 | 450 | 432 | 340 | 345 | 371 | 468 | 403 | 506 | 439 | 5,221 |
| 1990 | 545 | 424 | 487 | 446 | 423 | 387 | 362 | 403 | 447 | 524 | 571 | 468 | 5,487 |
| 76 - 90 AVG | 326 | 263 | 300 | 254 | 215 | 200 | 223 | 243 | 277 | 317 | 340 | 355 | 3,314 |

**SJR @ Vernalis (1)**
**Flow Study**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3706 | 2903 | 3701 | 4199 | 5792 | 4589 | 4312 | 3196 | 4141 | 3591 | 3516 | 4263 | 47,909 |
| 1977 | 3709 | 2904 | 3702 | 4200 | 5795 | 4588 | 4321 | 3164 | 4218 | 3722 | 3677 | 4295 | 48,295 |
| 1978 | 3733 | 2903 | 3705 | 4199 | 5795 | 4598 | 4301 | 3110 | 4062 | 3515 | 3498 | 4222 | 47,641 |
| 1979 | 3719 | 2904 | 3700 | 4199 | 5798 | 4599 | 4302 | 3131 | 4098 | 3538 | 3514 | 4267 | 47,769 |
| 1980 | 3707 | 2903 | 3702 | 4200 | 5797 | 4600 | 4302 | 3115 | 4055 | 3473 | 3469 | 4224 | 47,547 |
| 1981 | 3712 | 2900 | 3702 | 4199 | 5799 | 4599 | 4309 | 3174 | 4144 | 3561 | 3523 | 4281 | 47,903 |
| 1982 | 3707 | 2916 | 3706 | 4199 | 5799 | 4598 | 4300 | 3106 | 4023 | 3458 | 3457 | 4208 | 47,477 |
| 1983 | 3702 | 2906 | 3701 | 4199 | 5797 | 4598 | 4300 | 3104 | 4010 | 3420 | 3429 | 4212 | 47,378 |
| 1984 | 3705 | 2903 | 3703 | 4200 | 5799 | 4599 | 4304 | 3135 | 4097 | 3524 | 3495 | 4266 | 47,730 |
| 1985 | 3708 | 2916 | 3705 | 4200 | 5799 | 4599 | 4311 | 3173 | 4130 | 3558 | 3529 | 4276 | 47,904 |
| 1986 | 3719 | 2907 | 3704 | 4199 | 5793 | 4599 | 4300 | 3113 | 4036 | 3519 | 3492 | 4245 | 47,626 |
| 1987 | 3721 | 2906 | 3700 | 4200 | 5794 | 4593 | 4314 | 3187 | 4150 | 3591 | 3543 | 4291 | 47,990 |
| 1988 | 3724 | 2906 | 3706 | 4199 | 5797 | 4593 | 4312 | 3188 | 4215 | 3864 | 3707 | 4327 | 48,538 |
| 1989 | 3751 | 2904 | 3704 | 4200 | 5798 | 4599 | 4314 | 3198 | 4254 | 3654 | 3663 | 4233 | 48,272 |
| 1990 | 3711 | 2906 | 3700 | 4200 | 5797 | 4593 | 4316 | 3145 | 4236 | 3784 | 3731 | 4307 | 48,426 |
| 76 - 90 AVG | 3,716 | 2,906 | 3,703 | 4,199 | 5,797 | 4,596 | 4,308 | 3,149 | 4,125 | 3,585 | 3,550 | 4,261 | 47,894 |

**SJR @ Vernalis (1)**
**Maximum Flow**
**Electrical Conductivity**
Units are in mircosiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 533 | 433 | 648 | 719 | 642 | 718 | 738 | 792 | 726 | 743 | 728 | 1030 | 8,450 |
| 1977 | 579 | 632 | 800 | 953 | 928 | 855 | 889 | 870 | 916 | 995 | 1077 | 1048 | 10,542 |
| 1978 | 952 | 817 | 774 | 471 | 300 | 187 | 228 | 270 | 465 | 593 | 636 | 443 | 6,136 |
| 1979 | 592 | 492 | 688 | 376 | 288 | 266 | 400 | 476 | 584 | 657 | 694 | 781 | 6,294 |
| 1980 | 753 | 652 | 855 | 177 | 152 | 164 | 330 | 327 | 428 | 481 | 527 | 462 | 5,108 |
| 1981 | 501 | 486 | 662 | 529 | 620 | 606 | 705 | 717 | 726 | 701 | 717 | 894 | 7,864 |
| 1982 | 800 | 740 | 650 | 266 | 166 | 153 | 173 | 204 | 276 | 406 | 473 | 372 | 4,679 |
| 1983 | 306 | 204 | 160 | 155 | 152 | 153 | 158 | 165 | 168 | 220 | 327 | 349 | 2,517 |
| 1984 | 358 | 181 | 153 | 169 | 260 | 335 | 406 | 477 | 598 | 607 | 619 | 752 | 4,915 |
| 1985 | 855 | 624 | 667 | 763 | 673 | 633 | 703 | 714 | 709 | 698 | 743 | 888 | 8,670 |
| 1986 | 805 | 758 | 740 | 737 | 154 | 152 | 262 | 301 | 338 | 607 | 613 | 748 | 6,215 |
| 1987 | 609 | 517 | 692 | 763 | 682 | 675 | 728 | 771 | 734 | 743 | 754 | 950 | 8,619 |
| 1988 | 988 | 861 | 980 | 972 | 930 | 879 | 800 | 853 | 916 | 1203 | 1121 | 1101 | 11,604 |
| 1989 | 1249 | 927 | 945 | 970 | 936 | 763 | 770 | 811 | 982 | 863 | 1056 | 945 | 11,217 |
| 1990 | 1147 | 920 | 1038 | 962 | 920 | 852 | 802 | 876 | 944 | 1060 | 1172 | 991 | 11,704 |
| 76 - 90 AVG | 735 | 616 | 683 | 599 | 520 | 493 | 539 | 575 | 634 | 706 | 750 | 784 | 7,636 |

**SJR @ Vernalis (1)**
**Maximum Flow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 218 | 165 | 279 | 317 | 276 | 316 | 328 | 361 | 327 | 337 | 326 | 486 | 3,736 |
| 1977 | 243 | 271 | 360 | 441 | 428 | 389 | 409 | 400 | 431 | 476 | 518 | 498 | 4,864 |
| 1978 | 443 | 369 | 347 | 185 | 94 | 34 | 56 | 79 | 184 | 254 | 277 | 172 | 2,494 |
| 1979 | 251 | 196 | 300 | 135 | 88 | 78 | 147 | 189 | 249 | 290 | 308 | 354 | 2,583 |
| 1980 | 335 | 281 | 283 | 31 | 31 | 30 | 110 | 109 | 164 | 193 | 217 | 182 | 1,966 |
| 1981 | 202 | 193 | 287 | 216 | 264 | 257 | 310 | 320 | 327 | 314 | 321 | 415 | 3,426 |
| 1982 | 360 | 329 | 281 | 76 | 30 | 32 | 30 | 43 | 82 | 153 | 188 | 133 | 1,737 |
| 1983 | 98 | 43 | 31 | 32 | 31 | 31 | 30 | 31 | 31 | 53 | 110 | 121 | 642 |
| 1984 | 125 | 31 | 32 | 30 | 73 | 113 | 151 | 190 | 256 | 262 | 268 | 339 | 1,870 |
| 1985 | 389 | 268 | 290 | 340 | 292 | 271 | 309 | 318 | 317 | 312 | 335 | 411 | 3,852 |
| 1986 | 364 | 338 | 328 | 326 | 32 | 31 | 74 | 95 | 116 | 262 | 264 | 335 | 2,565 |
| 1987 | 260 | 210 | 302 | 340 | 297 | 293 | 323 | 349 | 331 | 337 | 341 | 446 | 3,829 |
| 1988 | 461 | 393 | 456 | 451 | 429 | 401 | 361 | 392 | 431 | 592 | 543 | 528 | 5,438 |
| 1989 | 602 | 428 | 437 | 450 | 432 | 340 | 345 | 371 | 468 | 403 | 506 | 439 | 5,221 |
| 1990 | 545 | 424 | 487 | 446 | 423 | 387 | 382 | 403 | 447 | 524 | 571 | 469 | 5,487 |
| 76 - 90 AVG | 326 | 263 | 300 | 254 | 215 | 200 | 223 | 243 | 277 | 317 | 340 | 355 | 3,314 |

**SJR @ Vernalis (1)**
**Maximum Flow**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3706 | 2903 | 3701 | 4199 | 5792 | 4589 | 4312 | 3196 | 4141 | 3591 | 3518 | 4263 | 47,909 |
| 1977 | 3709 | 2904 | 3702 | 4200 | 5795 | 4588 | 4321 | 3164 | 4218 | 3722 | 3677 | 4295 | 48,295 |
| 1978 | 3733 | 2903 | 3705 | 4199 | 5795 | 4598 | 4301 | 3110 | 4062 | 3515 | 3498 | 4222 | 47,641 |
| 1979 | 3719 | 2904 | 3700 | 4199 | 5798 | 4599 | 4302 | 3131 | 4098 | 3538 | 3514 | 4267 | 47,769 |
| 1980 | 3707 | 2903 | 3702 | 4200 | 5797 | 4600 | 4302 | 3115 | 4055 | 3473 | 3489 | 4224 | 47,547 |
| 1981 | 3712 | 2900 | 3702 | 4199 | 5799 | 4599 | 4309 | 3174 | 4144 | 3561 | 3523 | 4281 | 47,903 |
| 1982 | 3707 | 2916 | 3706 | 4199 | 5799 | 4598 | 4300 | 3106 | 4023 | 3458 | 3457 | 4208 | 47,477 |
| 1983 | 3702 | 2906 | 3701 | 4199 | 5797 | 4598 | 4300 | 3104 | 4010 | 3420 | 3429 | 4212 | 47,378 |
| 1984 | 3705 | 2903 | 3703 | 4200 | 5799 | 4599 | 4304 | 3135 | 4097 | 3524 | 3495 | 4266 | 47,730 |
| 1985 | 3708 | 2916 | 3705 | 4200 | 5799 | 4599 | 4311 | 3173 | 4130 | 3558 | 3529 | 4276 | 47,904 |
| 1986 | 3719 | 2907 | 3704 | 4199 | 5793 | 4599 | 4300 | 3113 | 4036 | 3519 | 3492 | 4245 | 47,626 |
| 1987 | 3721 | 2906 | 3700 | 4200 | 5794 | 4593 | 4314 | 3187 | 4150 | 3591 | 3543 | 4291 | 47,990 |
| 1988 | 3724 | 2906 | 3706 | 4199 | 5797 | 4593 | 4312 | 3188 | 4215 | 3864 | 3707 | 4327 | 48,538 |
| 1989 | 3751 | 2904 | 3704 | 4200 | 5798 | 4599 | 4314 | 3198 | 4254 | 3654 | 3663 | 4233 | 48,272 |
| 1990 | 3711 | 2906 | 3700 | 4200 | 5797 | 4593 | 4316 | 3145 | 4236 | 3784 | 3731 | 4307 | 48,426 |
| 76 - 90 AVG | 3,716 | 2,906 | 3,703 | 4,199 | 5,797 | 4,596 | 4,308 | 3,149 | 4,125 | 3,585 | 3,550 | 4,261 | 47,894 |

**SJR @ Vernalis, 1**
**Cumulative Impact**
**Electrical Conductivity**
Units are in mircosiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 755 | 581 | 742 | 769 | 723 | 755 | 611 | 610 | 739 | 869 | 1025 | 1004 |
| 1977 | 526 | 659 | 767 | 932 | 959 | 952 | 760 | 758 | 925 | 1146 | 1224 | 1117 |
| 1978 | 861 | 868 | 810 | 484 | 305 | 190 | 213 | 246 | 436 | 587 | 661 | 613 |
| 1979 | 605 | 613 | 754 | 382 | 251 | 276 | 347 | 386 | 636 | 665 | 685 | 779 |
| 1980 | 684 | 739 | 714 | 202 | 152 | 187 | 312 | 298 | 375 | 629 | 651 | 532 |
| 1981 | 610 | 579 | 750 | 605 | 536 | 618 | 486 | 481 | 699 | 709 | 717 | 927 |
| 1982 | 698 | 733 | 732 | 267 | 197 | 153 | 172 | 209 | 281 | 578 | 596 | 440 |
| 1983 | 237 | 212 | 154 | 154 | 152 | 153 | 163 | 168 | 175 | 246 | 399 | 352 |
| 1984 | 232 | 184 | 152 | 159 | 231 | 373 | 411 | 406 | 534 | 613 | 623 | 734 |
| 1985 | 690 | 710 | 704 | 746 | 666 | 646 | 587 | 541 | 694 | 730 | 926 | 930 |
| 1986 | 711 | 747 | 736 | 761 | 168 | 152 | 256 | 287 | 328 | 606 | 617 | 728 |
| 1987 | 751 | 718 | 775 | 775 | 717 | 703 | 606 | 604 | 728 | 948 | 1005 | 993 |
| 1988 | 877 | 886 | 929 | 950 | 952 | 928 | 730 | 744 | 831 | 1128 | 1093 | 1036 |
| 1989 | 942 | 952 | 912 | 978 | 949 | 801 | 723 | 770 | 799 | 1027 | 1062 | 1034 |
| 1990 | 927 | 927 | 985 | 980 | 960 | 919 | 771 | 818 | 919 | 1082 | 1134 | 1080 |
| Average | 674 | 674 | 708 | 610 | 526 | 519 | 477 | 488 | 607 | 771 | 828 | 820 |

**SJR @ Vernalis, 1**
**Cumulative Impact**
**Bromide**
Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 337 | 244 | 329 | 343 | 319 | 336 | 260 | 262 | 334 | 407 | 488 | 472 |
| 1977 | 215 | 286 | 343 | 430 | 445 | 440 | 339 | 340 | 436 | 561 | 599 | 535 |
| 1978 | 394 | 396 | 366 | 192 | 97 | 35 | 48 | 66 | 169 | 251 | 290 | 263 |
| 1979 | 258 | 261 | 335 | 138 | 66 | 82 | 119 | 141 | 278 | 294 | 303 | 353 |
| 1980 | 299 | 328 | 315 | 42 | 31 | 30 | 101 | 94 | 136 | 274 | 285 | 219 |
| 1981 | 260 | 242 | 334 | 256 | 220 | 263 | 193 | 192 | 312 | 318 | 320 | 433 |
| 1982 | 306 | 326 | 325 | 77 | 39 | 32 | 30 | 46 | 85 | 247 | 255 | 169 |
| 1983 | 61 | 48 | 31 | 32 | 31 | 31 | 30 | 31 | 31 | 67 | 149 | 123 |
| 1984 | 58 | 33 | 32 | 30 | 58 | 133 | 154 | 152 | 222 | 265 | 270 | 329 |
| 1985 | 302 | 314 | 309 | 331 | 289 | 278 | 247 | 224 | 309 | 330 | 435 | 434 |
| 1986 | 314 | 332 | 326 | 339 | 33 | 31 | 71 | 88 | 111 | 261 | 267 | 323 |
| 1987 | 336 | 317 | 347 | 347 | 316 | 308 | 258 | 259 | 328 | 450 | 478 | 469 |
| 1988 | 402 | 406 | 429 | 440 | 441 | 428 | 323 | 334 | 384 | 550 | 527 | 494 |
| 1989 | 438 | 441 | 420 | 455 | 439 | 360 | 320 | 348 | 367 | 495 | 510 | 486 |
| 1990 | 428 | 428 | 458 | 455 | 445 | 423 | 345 | 371 | 433 | 525 | 550 | 517 |
| Average | 294 | 293 | 313 | 260 | 218 | 214 | 189 | 197 | 262 | 353 | 382 | 375 |

**SJR @ Vernalis, 1**
**Cumulative Impact**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3709 | 2904 | 3701 | 4199 | 5791 | 4588 | 4309 | 3160 | 4145 | 3654 | 3614 | 4260 |
| 1977 | 3707 | 2905 | 3702 | 4200 | 5795 | 4586 | 4316 | 3149 | 4221 | 3818 | 3752 | 4308 |
| 1978 | 3730 | 2903 | 3705 | 4198 | 5795 | 4598 | 4301 | 3109 | 4055 | 3513 | 3506 | 4237 |
| 1979 | 3720 | 2905 | 3700 | 4199 | 5796 | 4599 | 4301 | 3121 | 4114 | 3541 | 3513 | 4266 |
| 1980 | 3706 | 2904 | 3702 | 4200 | 5797 | 4600 | 4302 | 3113 | 4043 | 3519 | 3501 | 4231 |
| 1981 | 3716 | 2901 | 3702 | 4199 | 5799 | 4599 | 4305 | 3136 | 4134 | 3564 | 3523 | 4287 |
| 1982 | 3706 | 2918 | 3707 | 4199 | 5799 | 4598 | 4300 | 3107 | 4024 | 3509 | 3486 | 4210 |
| 1983 | 3702 | 2907 | 3701 | 4199 | 5797 | 4599 | 4300 | 3104 | 4011 | 3424 | 3441 | 4212 |
| 1984 | 3703 | 2903 | 3703 | 4200 | 5799 | 4599 | 4304 | 3126 | 4079 | 3525 | 3496 | 4264 |
| 1985 | 3706 | 2920 | 3706 | 4200 | 5799 | 4599 | 4308 | 3145 | 4124 | 3571 | 3594 | 4283 |
| 1986 | 3716 | 2907 | 3704 | 4199 | 5790 | 4599 | 4300 | 3111 | 4034 | 3518 | 3493 | 4242 |
| 1987 | 3728 | 2910 | 3701 | 4200 | 5793 | 4593 | 4310 | 3156 | 4148 | 3696 | 3641 | 4300 |
| 1988 | 3722 | 2906 | 3706 | 4199 | 5797 | 4593 | 4310 | 3169 | 4179 | 3811 | 3693 | 4315 |
| 1989 | 3735 | 2904 | 3704 | 4200 | 5798 | 4599 | 4313 | 3169 | 4174 | 3748 | 3667 | 4238 |
| 1990 | 3708 | 2906 | 3700 | 4200 | 5797 | 4592 | 4315 | 3139 | 4226 | 3785 | 3712 | 4325 |
| Average | 3714 | 2907 | 3703 | 4199 | 5796 | 4596 | 4306 | 3136 | 4114 | 3613 | 3575 | 4265 |



Main TOC

Next Page

**SJR @ Brandt Bridge (10)**
**Existing Conditions**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 535 | 427 | 646 | 755 | 692 | 803 | 715 | 749 | 764 | 817 | 576 | 1240 | 8,709 |
| 1977 | 613 | 662 | 791 | 939 | 989 | 953 | 761 | 866 | 874 | 1042 | 1109 | 1318 | 10,917 |
| 1978 | 1028 | 890 | 871 | 531 | 316 | 197 | 230 | 274 | 477 | 597 | 635 | 461 | 6,507 |
| 1979 | 593 | 519 | 761 | 414 | 299 | 273 | 394 | 477 | 589 | 659 | 681 | 933 | 6,592 |
| 1980 | 814 | 663 | 691 | 186 | 153 | 166 | 332 | 329 | 433 | 479 | 559 | 465 | 5,270 |
| 1981 | 490 | 497 | 654 | 565 | 646 | 633 | 602 | 707 | 777 | 599 | 378 | 1108 | 7,656 |
| 1982 | 822 | 775 | 671 | 285 | 165 | 157 | 174 | 206 | 285 | 393 | 490 | 378 | 4,801 |
| 1983 | 304 | 211 | 163 | 159 | 153 | 156 | 160 | 165 | 171 | 218 | 338 | 354 | 2,552 |
| 1984 | 368 | 188 | 153 | 170 | 262 | 345 | 453 | 606 | 601 | 620 | 862 | 874 | 5,302 |
| 1985 | 851 | 660 | 708 | 768 | 734 | 695 | 590 | 695 | 757 | 605 | 367 | 1104 | 8,534 |
| 1986 | 828 | 771 | 830 | 876 | 176 | 153 | 260 | 304 | 352 | 597 | 628 | 772 | 6,547 |
| 1987 | 822 | 514 | 581 | 718 | 755 | 836 | 716 | 739 | 737 | 726 | 473 | 1191 | 8,608 |
| 1988 | 1001 | 909 | 871 | 709 | 910 | 922 | 722 | 798 | 857 | 789 | 539 | 1242 | 10,249 |
| 1989 | 1076 | 961 | 962 | 1017 | 976 | 989 | 695 | 778 | 812 | 562 | 379 | 1229 | 10,436 |
| 1990 | 1069 | 945 | 1013 | 849 | 930 | 904 | 790 | 837 | 857 | 698 | 437 | 1299 | 10,828 |
| 76 - 90 AVG | 734 | 639 | 691 | 596 | 543 | 545 | 506 | 569 | 623 | 625 | 550 | 931 | 7,554 |

**SJR @ Brandt Bridge (10)**
**Existing Conditions**
**Bromide**

Units are in micograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 220 | 162 | 279 | 336 | 297 | 360 | 316 | 341 | 353 | 395 | 315 | 605 | 3,979 |
| 1977 | 262 | 288 | 356 | 435 | 460 | 440 | 341 | 401 | 414 | 523 | 570 | 651 | 5,141 |
| 1978 | 486 | 408 | 406 | 218 | 103 | 39 | 57 | 82 | 193 | 260 | 282 | 182 | 2,716 |
| 1979 | 252 | 211 | 341 | 155 | 93 | 80 | 144 | 191 | 255 | 296 | 326 | 440 | 2,784 |
| 1980 | 369 | 288 | 318 | 41 | 32 | 30 | 112 | 111 | 169 | 194 | 238 | 185 | 2,087 |
| 1981 | 197 | 199 | 284 | 235 | 277 | 271 | 255 | 317 | 365 | 321 | 214 | 537 | 3,472 |
| 1982 | 373 | 349 | 296 | 87 | 31 | 33 | 30 | 45 | 88 | 147 | 199 | 138 | 1,814 |
| 1983 | 97 | 48 | 31 | 35 | 32 | 33 | 30 | 31 | 32 | 52 | 117 | 124 | 662 |
| 1984 | 131 | 35 | 32 | 30 | 74 | 118 | 176 | 262 | 262 | 275 | 317 | 409 | 2,121 |
| 1985 | 389 | 288 | 334 | 375 | 326 | 304 | 249 | 311 | 352 | 323 | 205 | 535 | 3,991 |
| 1986 | 378 | 345 | 404 | 432 | 44 | 32 | 74 | 98 | 124 | 260 | 278 | 349 | 2,818 |
| 1987 | 268 | 209 | 252 | 335 | 337 | 374 | 316 | 335 | 341 | 380 | 269 | 585 | 4,001 |
| 1988 | 470 | 419 | 415 | 337 | 421 | 423 | 319 | 367 | 407 | 410 | 308 | 614 | 4,910 |
| 1989 | 512 | 447 | 449 | 482 | 453 | 456 | 305 | 363 | 395 | 311 | 215 | 599 | 4,987 |
| 1990 | 505 | 438 | 476 | 404 | 432 | 414 | 356 | 384 | 408 | 376 | 249 | 646 | 5,088 |
| 76 - 90 AVG | 327 | 276 | 312 | 262 | 227 | 227 | 205 | 243 | 277 | 302 | 273 | 440 | 3,371 |

**SJR @ Brandt Bridge (10)**
**Existing Conditions**
**Dissolved Organic Carbon**

Units are in micograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3736 | 2934 | 3694 | 4620 | 5766 | 5029 | 4409 | 3469 | 4216 | 4259 | 5714 | 4328 | 52,174 |
| 1977 | 3745 | 2951 | 3683 | 5191 | 6844 | 5127 | 4441 | 3421 | 4263 | 4500 | 4764 | 4376 | 53,306 |
| 1978 | 3819 | 2973 | 4111 | 4342 | 5756 | 4638 | 4308 | 3136 | 4102 | 3654 | 3681 | 4213 | 48,733 |
| 1979 | 3750 | 2942 | 3706 | 4238 | 5769 | 4632 | 4321 | 3209 | 4131 | 3750 | 4319 | 4327 | 49,094 |
| 1980 | 3758 | 2950 | 4470 | 4249 | 5782 | 4619 | 4315 | 3154 | 4076 | 3555 | 3581 | 4215 | 48,724 |
| 1981 | 3736 | 2933 | 3705 | 4255 | 5756 | 4810 | 4367 | 3409 | 4296 | 5434 | 5850 | 4350 | 52,901 |
| 1982 | 3759 | 2975 | 3840 | 4217 | 5780 | 4621 | 4306 | 3124 | 4024 | 3511 | 3525 | 4193 | 47,875 |
| 1983 | 3721 | 2931 | 3695 | 4213 | 5784 | 4616 | 4304 | 3117 | 4007 | 3435 | 3452 | 4205 | 47,480 |
| 1984 | 3731 | 2928 | 3698 | 4202 | 5787 | 4633 | 4334 | 3344 | 4128 | 3734 | 4364 | 4328 | 49,211 |
| 1985 | 3761 | 2973 | 5085 | 6387 | 6227 | 4937 | 4371 | 3389 | 4254 | 5423 | 5766 | 4381 | 58,954 |
| 1986 | 3777 | 2973 | 5857 | 9016 | 5900 | 4614 | 4309 | 3146 | 4044 | 3625 | 3657 | 4227 | 55,145 |
| 1987 | 3760 | 2944 | 3896 | 8230 | 7012 | 7533 | 4560 | 3441 | 4241 | 5423 | 5896 | 4453 | 61,389 |
| 1988 | 3804 | 2977 | 4491 | 8573 | 6547 | 5009 | 4414 | 3518 | 4287 | 5559 | 5975 | 4446 | 59,600 |
| 1989 | 3830 | 2984 | 3740 | 6538 | 6115 | 9044 | 4946 | 4163 | 4690 | 6017 | 5882 | 4350 | 62,299 |
| 1990 | 3775 | 2981 | 3778 | 6857 | 6313 | 5024 | 4552 | 3419 | 4314 | 5574 | 5916 | 4502 | 57,005 |
| 76 - 90 AVG | 3,764 | 2,957 | 4,097 | 5,809 | 6,076 | 5,259 | 4,417 | 3,384 | 4,205 | 4,497 | 4,823 | 4,326 | 53,593 |

**SJR @ Brandt Bridge (10)**
**No-Action Alternative**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 622 | 486 | 513 | 700 | 699 | 699 | 730 | 762 | 764 | 733 | 736 | 851 | 8,709 |
| 1,977 | 823 | 604 | 702 | 864 | 964 | 915 | 875 | 878 | 880 | 926 | 997 | 1067 | 10,917 |
| 1,978 | 1008 | 893 | 832 | 648 | 390 | 248 | 206 | 250 | 367 | 526 | 611 | 544 | 6,507 |
| 1,979 | 513 | 545 | 546 | 547 | 335 | 279 | 331 | 440 | 530 | 615 | 574 | 727 | 6,592 |
| 1,980 | 769 | 707 | 668 | 424 | 158 | 150 | 246 | 330 | 379 | 455 | 504 | 496 | 5,270 |
| 1,981 | 481 | 494 | 541 | 610 | 574 | 626 | 656 | 713 | 723 | 719 | 708 | 793 | 7,656 |
| 1,982 | 853 | 774 | 730 | 469 | 216 | 164 | 162 | 190 | 242 | 342 | 439 | 424 | 4,801 |
| 1,983 | 341 | 258 | 183 | 152 | 117 | 100 | 123 | 162 | 167 | 195 | 273 | 338 | 2,552 |
| 1,984 | 354 | 272 | 168 | 159 | 217 | 301 | 373 | 443 | 535 | 607 | 617 | 679 | 5,302 |
| 1,985 | 796 | 750 | 665 | 793 | 738 | 664 | 671 | 710 | 714 | 710 | 715 | 805 | 8,534 |
| 1,986 | 851 | 785 | 823 | 919 | 449 | 128 | 190 | 283 | 322 | 464 | 612 | 673 | 6,547 |
| 1,987 | 684 | 567 | 565 | 708 | 750 | 728 | 707 | 747 | 756 | 737 | 746 | 836 | 8,608 |
| 1,988 | 967 | 932 | 804 | 647 | 939 | 934 | 853 | 820 | 869 | 807 | 771 | 1109 | 10,249 |
| 1,989 | 1161 | 1111 | 941 | 997 | 966 | 985 | 802 | 815 | 788 | 559 | 431 | 990 | 10,436 |
| 1,990 | 1028 | 1047 | 960 | 828 | 892 | 907 | 850 | 828 | 868 | 635 | 452 | 1083 | 10,628 |
| 76 - 90 AVG | 750 | 682 | 643 | 631 | 560 | 522 | 518 | 558 | 594 | 602 | 612 | 761 | 7,554 |

**SJR @ Brandt Bridge (10)**
**No-Action Alternative**
**Bromide**
Units are in micograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 267 | 194 | 210 | 307 | 302 | 300 | 324 | 349 | 352 | 349 | 341 | 393 | 3,979 |
| 1,977 | 373 | 257 | 309 | 395 | 446 | 420 | 401 | 407 | 418 | 451 | 489 | 512 | 5,141 |
| 1,978 | 475 | 410 | 386 | 279 | 141 | 66 | 44 | 69 | 134 | 222 | 278 | 226 | 2,716 |
| 1,979 | 209 | 225 | 230 | 225 | 113 | 83 | 111 | 171 | 225 | 289 | 317 | 330 | 2,784 |
| 1,980 | 345 | 311 | 295 | 161 | 32 | 30 | 70 | 112 | 140 | 182 | 208 | 201 | 2,087 |
| 1,981 | 192 | 197 | 227 | 259 | 239 | 267 | 284 | 320 | 332 | 337 | 331 | 364 | 3,472 |
| 1,982 | 389 | 348 | 329 | 184 | 53 | 33 | 30 | 37 | 64 | 120 | 172 | 162 | 1,814 |
| 1,983 | 116 | 73 | 37 | 35 | 32 | 33 | 30 | 31 | 32 | 43 | 82 | 116 | 662 |
| 1,984 | 124 | 80 | 32 | 30 | 51 | 93 | 133 | 173 | 228 | 271 | 278 | 302 | 2,121 |
| 1,985 | 360 | 335 | 297 | 384 | 329 | 287 | 293 | 319 | 327 | 337 | 329 | 389 | 3,991 |
| 1,986 | 390 | 353 | 399 | 482 | 187 | 32 | 52 | 86 | 109 | 190 | 272 | 297 | 2,818 |
| 1,987 | 301 | 237 | 243 | 331 | 335 | 319 | 312 | 340 | 351 | 343 | 344 | 388 | 4,001 |
| 1,988 | 452 | 431 | 380 | 304 | 431 | 424 | 389 | 379 | 413 | 426 | 421 | 538 | 4,910 |
| 1,989 | 558 | 527 | 438 | 472 | 449 | 454 | 362 | 378 | 405 | 312 | 250 | 468 | 4,987 |
| 1,990 | 483 | 492 | 448 | 393 | 412 | 416 | 388 | 380 | 425 | 350 | 262 | 523 | 5,088 |
| 76 - 90 AVG | 336 | 298 | 284 | 281 | 237 | 217 | 215 | 237 | 264 | 281 | 291 | 346 | 3,371 |

**SJR @ Brandt Bridge (10)**
**No-Action Alternative**
**Dissolved Organic Carbon**
Units are in micograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 3735 | 2936 | 3727 | 4895 | 5783 | 4905 | 4420 | 3522 | 4198 | 4235 | 3819 | 4225 | 52,174 |
| 1,977 | 3742 | 2949 | 3692 | 5186 | 6907 | 5032 | 4497 | 3443 | 4281 | 4142 | 4084 | 4294 | 53,306 |
| 1,978 | 3802 | 2967 | 4188 | 4313 | 5757 | 4636 | 4308 | 3136 | 4096 | 3637 | 3893 | 4214 | 48,733 |
| 1,979 | 3748 | 2940 | 3830 | 4236 | 5769 | 4632 | 4321 | 3209 | 4146 | 4363 | 5767 | 4333 | 49,094 |
| 1,980 | 3751 | 2950 | 3826 | 4210 | 5782 | 4619 | 4315 | 3154 | 4074 | 3554 | 3553 | 4216 | 48,724 |
| 1,981 | 3736 | 2933 | 3782 | 4315 | 5781 | 4948 | 4432 | 3415 | 4231 | 4051 | 3990 | 4264 | 52,901 |
| 1,982 | 3752 | 2972 | 3923 | 4223 | 5780 | 4622 | 4306 | 3124 | 4023 | 3519 | 3513 | 4193 | 47,875 |
| 1,983 | 3722 | 2930 | 3695 | 4213 | 5784 | 4616 | 4304 | 3117 | 4007 | 3436 | 3448 | 4205 | 47,480 |
| 1,984 | 3730 | 2928 | 3698 | 4202 | 5787 | 4633 | 4327 | 3220 | 4138 | 3847 | 3852 | 4274 | 49,211 |
| 1,985 | 3758 | 2971 | 4117 | 8459 | 6186 | 4810 | 4435 | 3454 | 4207 | 4278 | 3832 | 4266 | 58,954 |
| 1,986 | 3768 | 2972 | 5754 | 10957 | 5975 | 4615 | 4309 | 3146 | 4041 | 3636 | 3761 | 4227 | 55,145 |
| 1,987 | 3759 | 2945 | 3896 | 8281 | 6647 | 5561 | 4459 | 3469 | 4241 | 3921 | 3773 | 4290 | 61,389 |
| 1,988 | 3791 | 2973 | 4434 | 8411 | 6233 | 4952 | 4447 | 3511 | 4289 | 5510 | 5751 | 4365 | 59,600 |
| 1,989 | 3854 | 2987 | 3751 | 6550 | 6066 | 8893 | 5427 | 3607 | 5362 | 6089 | 6206 | 4310 | 62,299 |
| 1,990 | 3782 | 2981 | 3771 | 6826 | 6366 | 4996 | 4696 | 3514 | 4503 | 5843 | 6173 | 4379 | 57,005 |
| 76 - 90 AVG | 3,762 | 2,956 | 4,006 | 5,952 | 6,040 | 5,098 | 4,467 | 3,336 | 4,256 | 4,271 | 4,361 | 4,270 | 53,593 |

**SJR @ Brandt Bridge (10)**
**State Permit**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 540 | 437 | 610 | 737 | 656 | 722 | 742 | 788 | 734 | 734 | 729 | 998 | 8,427 |
| 1977 | 598 | 631 | 785 | 938 | 975 | 878 | 890 | 873 | 903 | 964 | 1033 | 1047 | 10,515 |
| 1978 | 960 | 826 | 810 | 498 | 308 | 191 | 228 | 270 | 465 | 589 | 632 | 450 | 6,227 |
| 1979 | 588 | 496 | 649 | 393 | 292 | 268 | 398 | 478 | 581 | 649 | 616 | 771 | 6,179 |
| 1980 | 755 | 657 | 669 | 193 | 153 | 165 | 329 | 329 | 429 | 482 | 527 | 485 | 5,153 |
| 1981 | 500 | 487 | 598 | 545 | 619 | 616 | 701 | 720 | 728 | 706 | 715 | 880 | 7,815 |
| 1982 | 806 | 743 | 691 | 284 | 169 | 155 | 174 | 205 | 277 | 404 | 473 | 376 | 4,757 |
| 1983 | 309 | 207 | 162 | 159 | 153 | 156 | 158 | 166 | 169 | 221 | 326 | 350 | 2,536 |
| 1984 | 359 | 185 | 153 | 170 | 260 | 336 | 407 | 478 | 593 | 613 | 623 | 747 | 4,924 |
| 1985 | 848 | 636 | 676 | 803 | 699 | 645 | 702 | 716 | 713 | 705 | 736 | 877 | 8,756 |
| 1986 | 810 | 762 | 818 | 916 | 179 | 153 | 260 | 301 | 340 | 603 | 617 | 741 | 6,500 |
| 1987 | 616 | 521 | 587 | 710 | 712 | 721 | 732 | 769 | 741 | 742 | 752 | 935 | 8,538 |
| 1988 | 984 | 870 | 781 | 633 | 910 | 894 | 815 | 847 | 896 | 704 | 715 | 1091 | 10,140 |
| 1989 | 1230 | 953 | 944 | 1000 | 952 | 981 | 801 | 808 | 796 | 622 | 541 | 934 | 10,562 |
| 1990 | 1127 | 937 | 1014 | 853 | 885 | 873 | 821 | 866 | 868 | 560 | 455 | 988 | 10,245 |
| 76 - 90 AVG | 735 | 623 | 663 | 589 | 528 | 517 | 544 | 574 | 616 | 620 | 633 | 777 | 7,418 |

**SJR @ Brandt Bridge (10)**
**State Permit**
**Bromide**
Units are in micograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 223 | 168 | 261 | 327 | 284 | 318 | 330 | 363 | 336 | 360 | 337 | 471 | 3,778 |
| 1977 | 254 | 271 | 353 | 434 | 451 | 400 | 410 | 404 | 431 | 471 | 508 | 501 | 4,888 |
| 1978 | 449 | 375 | 373 | 200 | 98 | 37 | 56 | 79 | 186 | 256 | 266 | 176 | 2,571 |
| 1979 | 249 | 199 | 282 | 144 | 90 | 77 | 147 | 191 | 252 | 299 | 333 | 354 | 2,617 |
| 1980 | 337 | 284 | 295 | 40 | 32 | 30 | 110 | 111 | 167 | 196 | 221 | 184 | 2,007 |
| 1981 | 202 | 193 | 257 | 225 | 263 | 262 | 308 | 324 | 335 | 325 | 330 | 409 | 3,433 |
| 1982 | 364 | 332 | 308 | 86 | 31 | 33 | 30 | 44 | 83 | 154 | 190 | 136 | 1,791 |
| 1983 | 99 | 45 | 31 | 35 | 32 | 33 | 30 | 31 | 32 | 53 | 110 | 122 | 653 |
| 1984 | 126 | 34 | 32 | 30 | 73 | 113 | 151 | 192 | 258 | 274 | 280 | 337 | 1,900 |
| 1985 | 387 | 275 | 302 | 384 | 308 | 277 | 309 | 322 | 326 | 332 | 340 | 408 | 3,970 |
| 1986 | 368 | 341 | 396 | 460 | 48 | 32 | 74 | 96 | 118 | 264 | 274 | 332 | 2,801 |
| 1987 | 264 | 213 | 255 | 332 | 314 | 316 | 325 | 351 | 343 | 346 | 348 | 440 | 3,847 |
| 1988 | 461 | 398 | 369 | 297 | 420 | 409 | 369 | 393 | 430 | 379 | 386 | 528 | 4,839 |
| 1989 | 595 | 442 | 439 | 474 | 441 | 451 | 362 | 374 | 407 | 345 | 310 | 438 | 5,078 |
| 1990 | 535 | 433 | 476 | 405 | 408 | 398 | 373 | 400 | 432 | 309 | 262 | 471 | 4,902 |
| 76 - 90 AVG | 328 | 267 | 295 | 258 | 219 | 212 | 226 | 245 | 276 | 291 | 301 | 354 | 3,272 |

**SJR @ Brandt Bridge (10)**
**State Permit**
**Dissolved Organic Carbon**
Units are in micograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3735 | 2936 | 3730 | 4925 | 5785 | 4905 | 4425 | 3529 | 4201 | 4637 | 3830 | 4224 | 50,862 |
| 1977 | 3742 | 2949 | 3692 | 4668 | 6267 | 5016 | 4503 | 3447 | 4281 | 4146 | 4084 | 4294 | 51,089 |
| 1978 | 3802 | 2967 | 4133 | 4309 | 5757 | 4636 | 4308 | 3136 | 4095 | 3645 | 3882 | 4213 | 48,883 |
| 1979 | 3748 | 2940 | 3767 | 4234 | 5769 | 4632 | 4321 | 3210 | 4144 | 4057 | 5607 | 4335 | 50,764 |
| 1980 | 3751 | 2950 | 3825 | 4210 | 5782 | 4619 | 4315 | 3154 | 4074 | 3556 | 3552 | 4216 | 48,004 |
| 1981 | 3736 | 2934 | 3781 | 4315 | 5781 | 4854 | 4433 | 3415 | 4227 | 3868 | 3846 | 4264 | 49,454 |
| 1982 | 3752 | 2972 | 3919 | 4223 | 5780 | 4622 | 4306 | 3124 | 4023 | 3519 | 3513 | 4193 | 47,946 |
| 1983 | 3722 | 2930 | 3695 | 4213 | 5784 | 4816 | 4304 | 3117 | 4007 | 3436 | 3448 | 4205 | 47,477 |
| 1984 | 3730 | 2928 | 3698 | 4202 | 5787 | 4633 | 4327 | 3220 | 4138 | 3844 | 3838 | 4274 | 48,619 |
| 1985 | 3759 | 2971 | 4113 | 7808 | 6134 | 4833 | 4434 | 3427 | 4206 | 4159 | 3804 | 4268 | 53,914 |
| 1986 | 3768 | 2972 | 5695 | 10845 | 5972 | 4615 | 4309 | 3148 | 4041 | 3632 | 3755 | 4227 | 56,977 |
| 1987 | 3759 | 2945 | 3905 | 8326 | 6655 | 5560 | 4461 | 3473 | 4244 | 3936 | 3781 | 4290 | 55,335 |
| 1988 | 3791 | 2973 | 4455 | 8490 | 6228 | 4952 | 4455 | 3506 | 4324 | 5578 | 5619 | 4361 | 58,732 |
| 1989 | 3854 | 2987 | 3752 | 6559 | 6129 | 9108 | 5447 | 3591 | 5209 | 6020 | 6241 | 4307 | 63,204 |
| 1990 | 3782 | 2981 | 3758 | 6827 | 6234 | 4990 | 4595 | 3454 | 4634 | 5686 | 6079 | 4374 | 57,394 |
| 76 - 90 AVG | 3,762 | 2,956 | 3,995 | 5,877 | 5,990 | 5,106 | 4,463 | 3,330 | 4,257 | 4,248 | 4,325 | 4,270 | 52,577 |

**SJR @ Brandt Bridge (10)**
**Percent Inflow**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 540 | 437 | 617 | 733 | 656 | 722 | 742 | 789 | 734 | 738 | 730 | 998 | 8,436 |
| 1977 | 598 | 631 | 785 | 923 | 979 | 878 | 890 | 873 | 903 | 964 | 1033 | 1047 | 10,504 |
| 1978 | 960 | 826 | 813 | 499 | 308 | 191 | 228 | 270 | 465 | 590 | 631 | 450 | 6,231 |
| 1979 | 588 | 496 | 575 | 392 | 292 | 268 | 398 | 478 | 581 | 644 | 593 | 771 | 6,076 |
| 1980 | 755 | 657 | 669 | 193 | 153 | 165 | 329 | 329 | 429 | 482 | 527 | 465 | 5,153 |
| 1981 | 500 | 487 | 598 | 548 | 619 | 618 | 701 | 719 | 728 | 709 | 714 | 880 | 7,821 |
| 1982 | 806 | 743 | 692 | 284 | 169 | 155 | 174 | 205 | 277 | 404 | 473 | 376 | 4,758 |
| 1983 | 309 | 207 | 162 | 159 | 153 | 156 | 158 | 166 | 169 | 221 | 326 | 350 | 2,536 |
| 1984 | 359 | 185 | 153 | 170 | 260 | 336 | 407 | 478 | 593 | 613 | 623 | 747 | 4,924 |
| 1985 | 848 | 636 | 676 | 786 | 694 | 643 | 702 | 717 | 713 | 704 | 736 | 877 | 8,732 |
| 1986 | 810 | 762 | 819 | 917 | 179 | 153 | 260 | 301 | 340 | 603 | 617 | 741 | 6,502 |
| 1987 | 616 | 521 | 587 | 711 | 712 | 721 | 732 | 769 | 740 | 742 | 752 | 935 | 8,538 |
| 1988 | 984 | 870 | 792 | 642 | 911 | 894 | 814 | 847 | 901 | 850 | 812 | 1092 | 10,409 |
| 1989 | 1230 | 953 | 944 | 1000 | 950 | 977 | 802 | 808 | 777 | 562 | 434 | 927 | 10,364 |
| 1990 | 1127 | 937 | 1011 | 838 | 865 | 873 | 826 | 866 | 908 | 710 | 505 | 986 | 10,452 |
| 76 - 90 AVG | 735 | 623 | 660 | 586 | 527 | 517 | 544 | 574 | 617 | 636 | 634 | 776 | 7,429 |

**SJR @ Brandt Bridge (10)**
**Percent Inflow**
**Bromide**
Units are in micograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 223 | 168 | 264 | 325 | 283 | 318 | 330 | 363 | 336 | 353 | 336 | 471 | 3,770 |
| 1977 | 254 | 271 | 353 | 426 | 454 | 400 | 410 | 404 | 431 | 471 | 508 | 501 | 4,883 |
| 1978 | 449 | 375 | 376 | 200 | 98 | 37 | 56 | 79 | 186 | 256 | 287 | 176 | 2,575 |
| 1979 | 249 | 199 | 248 | 144 | 90 | 77 | 147 | 191 | 252 | 304 | 325 | 353 | 2,579 |
| 1980 | 337 | 284 | 295 | 40 | 32 | 30 | 110 | 111 | 167 | 196 | 220 | 184 | 2,006 |
| 1981 | 202 | 193 | 257 | 226 | 263 | 263 | 309 | 324 | 335 | 331 | 334 | 409 | 3,446 |
| 1982 | 364 | 332 | 308 | 86 | 31 | 33 | 30 | 44 | 83 | 154 | 190 | 136 | 1,791 |
| 1983 | 99 | 45 | 31 | 35 | 32 | 33 | 30 | 31 | 32 | 53 | 110 | 122 | 653 |
| 1984 | 126 | 34 | 32 | 30 | 73 | 113 | 151 | 192 | 258 | 274 | 281 | 337 | 1,901 |
| 1985 | 387 | 275 | 303 | 380 | 305 | 277 | 309 | 323 | 327 | 330 | 339 | 408 | 3,963 |
| 1986 | 368 | 341 | 397 | 461 | 46 | 32 | 74 | 96 | 118 | 264 | 274 | 332 | 2,803 |
| 1987 | 264 | 213 | 255 | 332 | 315 | 316 | 325 | 351 | 341 | 345 | 347 | 440 | 3,844 |
| 1988 | 461 | 398 | 374 | 302 | 420 | 409 | 368 | 393 | 430 | 447 | 438 | 529 | 4,969 |
| 1989 | 595 | 442 | 439 | 474 | 439 | 450 | 362 | 374 | 399 | 314 | 251 | 434 | 4,973 |
| 1990 | 535 | 433 | 475 | 398 | 398 | 398 | 376 | 400 | 442 | 388 | 291 | 471 | 5,005 |
| 76 - 90 AVG | 328 | 267 | 294 | 257 | 219 | 212 | 226 | 245 | 276 | 299 | 302 | 354 | 3,277 |

**SJR @ Brandt Bridge (10)**
**Percent Inflow**
**Dissolved Organic Carbon**
Units are in micograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3735 | 2936 | 3716 | 4767 | 5774 | 4906 | 4420 | 3515 | 4196 | 4279 | 3806 | 4224 | 50,274 |
| 1977 | 3742 | 2949 | 3692 | 5120 | 6833 | 5035 | 4506 | 3444 | 4281 | 4143 | 4085 | 4294 | 52,124 |
| 1978 | 3802 | 2967 | 4185 | 4313 | 5757 | 4636 | 4308 | 3136 | 4095 | 3634 | 3894 | 4214 | 48,941 |
| 1979 | 3748 | 2940 | 3904 | 4239 | 5769 | 4632 | 4321 | 3209 | 4145 | 4343 | 5737 | 4334 | 51,321 |
| 1980 | 3751 | 2950 | 3826 | 4210 | 5782 | 4619 | 4315 | 3154 | 4074 | 3549 | 3555 | 4216 | 48,001 |
| 1981 | 3736 | 2933 | 3783 | 4349 | 5784 | 4905 | 4431 | 3407 | 4230 | 4050 | 3988 | 4264 | 49,860 |
| 1982 | 3752 | 2972 | 3923 | 4223 | 5780 | 4622 | 4306 | 3124 | 4023 | 3519 | 3513 | 4193 | 47,950 |
| 1983 | 3722 | 2930 | 3695 | 4213 | 5784 | 4816 | 4304 | 3117 | 4007 | 3436 | 3448 | 4205 | 47,477 |
| 1984 | 3730 | 2928 | 3698 | 4202 | 5787 | 4633 | 4327 | 3220 | 4138 | 3844 | 3839 | 4274 | 48,620 |
| 1985 | 3758 | 2971 | 4119 | 8459 | 6174 | 4808 | 4436 | 3442 | 4207 | 4094 | 3793 | 4265 | 54,526 |
| 1986 | 3768 | 2972 | 5771 | 10976 | 5975 | 4615 | 4309 | 3146 | 4041 | 3635 | 3755 | 4227 | 57,190 |
| 1987 | 3759 | 2945 | 3904 | 8340 | 6656 | 5558 | 4453 | 3458 | 4233 | 3884 | 3753 | 4289 | 55,232 |
| 1988 | 3791 | 2973 | 4452 | 8456 | 6225 | 4950 | 4439 | 3504 | 4286 | 5475 | 5637 | 4361 | 58,549 |
| 1989 | 3854 | 2987 | 3750 | 6488 | 6055 | 8842 | 5417 | 3606 | 5350 | 6090 | 6207 | 4309 | 62,955 |
| 1990 | 3782 | 2981 | 3769 | 6823 | 6453 | 5000 | 4694 | 3465 | 4407 | 5758 | 6174 | 4378 | 57,684 |
| 76 - 90 AVG | 3,762 | 2,956 | 4,012 | 5,945 | 6,039 | 5,092 | 4,466 | 3,330 | 4,248 | 4,249 | 4,346 | 4,270 | 52,714 |

**SJR @ Brandt Bridge (10)**
**Flow Study**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 540 | 437 | 611 | 736 | 656 | 722 | 742 | 789 | 734 | 739 | 730 | 998 | 8,434 |
| 1977 | 598 | 631 | 781 | 923 | 979 | 878 | 890 | 873 | 903 | 964 | 1033 | 1047 | 10,500 |
| 1978 | 960 | 826 | 811 | 498 | 308 | 192 | 228 | 270 | 465 | 590 | 631 | 450 | 6,229 |
| 1979 | 588 | 496 | 575 | 392 | 292 | 268 | 398 | 478 | 581 | 651 | 632 | 772 | 6,123 |
| 1980 | 755 | 657 | 669 | 193 | 153 | 165 | 329 | 329 | 429 | 482 | 527 | 485 | 5,153 |
| 1981 | 500 | 487 | 598 | 548 | 619 | 618 | 701 | 719 | 727 | 706 | 714 | 880 | 7,817 |
| 1982 | 806 | 743 | 692 | 284 | 169 | 155 | 174 | 205 | 277 | 404 | 473 | 376 | 4,758 |
| 1983 | 309 | 207 | 162 | 159 | 153 | 156 | 158 | 166 | 169 | 221 | 326 | 350 | 2,536 |
| 1984 | 359 | 185 | 153 | 170 | 260 | 336 | 407 | 478 | 593 | 613 | 623 | 747 | 4,924 |
| 1985 | 848 | 636 | 676 | 796 | 696 | 643 | 702 | 716 | 713 | 701 | 734 | 877 | 8,738 |
| 1986 | 810 | 762 | 820 | 918 | 179 | 153 | 260 | 301 | 340 | 603 | 617 | 741 | 6,504 |
| 1987 | 816 | 521 | 587 | 711 | 712 | 720 | 732 | 769 | 740 | 742 | 752 | 935 | 8,537 |
| 1988 | 984 | 870 | 780 | 630 | 910 | 891 | 813 | 847 | 900 | 767 | 691 | 1090 | 10,173 |
| 1989 | 1230 | 953 | 944 | 1000 | 952 | 981 | 802 | 808 | 817 | 848 | 748 | 938 | 11,021 |
| 1990 | 1127 | 937 | 1008 | 834 | 882 | 873 | 816 | 865 | 912 | 646 | 441 | 984 | 10,325 |
| 76 - 90 AVG | 735 | 623 | 658 | 586 | 528 | 517 | 543 | 574 | 620 | 645 | 645 | 777 | 7,451 |

**SJR @ Brandt Bridge (10)**
**Flow Study**
**Bromide**
Units are in micograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 223 | 168 | 262 | 327 | 283 | 318 | 330 | 363 | 338 | 352 | 336 | 471 | 3,769 |
| 1977 | 254 | 271 | 351 | 426 | 454 | 400 | 410 | 404 | 431 | 471 | 508 | 501 | 4,881 |
| 1978 | 449 | 375 | 374 | 200 | 98 | 37 | 56 | 79 | 186 | 256 | 287 | 176 | 2,573 |
| 1979 | 249 | 199 | 248 | 144 | 90 | 77 | 147 | 191 | 252 | 297 | 336 | 354 | 2,584 |
| 1980 | 337 | 284 | 295 | 40 | 32 | 30 | 110 | 111 | 167 | 196 | 220 | 184 | 2,006 |
| 1981 | 202 | 193 | 257 | 226 | 263 | 263 | 309 | 324 | 333 | 323 | 331 | 409 | 3,433 |
| 1982 | 364 | 332 | 308 | 86 | 31 | 33 | 30 | 44 | 83 | 154 | 190 | 136 | 1,791 |
| 1983 | 99 | 45 | 31 | 35 | 32 | 33 | 30 | 31 | 32 | 53 | 110 | 122 | 653 |
| 1984 | 126 | 34 | 32 | 30 | 73 | 113 | 151 | 192 | 258 | 274 | 281 | 337 | 1,901 |
| 1985 | 387 | 275 | 303 | 385 | 306 | 277 | 309 | 322 | 326 | 322 | 340 | 408 | 3,960 |
| 1986 | 368 | 341 | 398 | 462 | 46 | 32 | 74 | 96 | 118 | 264 | 274 | 332 | 2,805 |
| 1987 | 264 | 213 | 255 | 332 | 315 | 315 | 325 | 352 | 341 | 344 | 348 | 440 | 3,844 |
| 1988 | 461 | 398 | 368 | 296 | 420 | 408 | 368 | 392 | 430 | 408 | 380 | 528 | 4,857 |
| 1989 | 595 | 442 | 439 | 473 | 441 | 452 | 362 | 375 | 417 | 417 | 406 | 440 | 5,259 |
| 1990 | 535 | 433 | 474 | 396 | 406 | 398 | 370 | 400 | 442 | 352 | 254 | 470 | 4,930 |
| 76 - 90 AVG | 328 | 267 | 293 | 257 | 219 | 212 | 225 | 245 | 277 | 299 | 307 | 354 | 3,283 |

**SJR @ Brandt Bridge (10)**
**Flow Study**
**Dissolved Organic Carbon**
Units are in micograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3735 | 2936 | 3727 | 4897 | 5783 | 4903 | 4417 | 3509 | 4198 | 4221 | 3780 | 4224 | 50,328 |
| 1977 | 3742 | 2949 | 3683 | 5138 | 6859 | 5038 | 4495 | 3441 | 4281 | 4143 | 4085 | 4294 | 52,148 |
| 1978 | 3802 | 2967 | 4142 | 4310 | 5757 | 4636 | 4308 | 3136 | 4095 | 3634 | 3895 | 4214 | 48,896 |
| 1979 | 3748 | 2940 | 3906 | 4239 | 5769 | 4632 | 4321 | 3209 | 4145 | 3929 | 5469 | 4334 | 50,641 |
| 1980 | 3751 | 2950 | 3825 | 4210 | 5782 | 4619 | 4315 | 3154 | 4074 | 3550 | 3555 | 4216 | 48,001 |
| 1981 | 3736 | 2933 | 3782 | 4348 | 5786 | 4906 | 4431 | 3408 | 4214 | 3830 | 3907 | 4264 | 49,545 |
| 1982 | 3752 | 2972 | 3923 | 4223 | 5780 | 4622 | 4306 | 3124 | 4023 | 3518 | 3513 | 4193 | 47,949 |
| 1983 | 3722 | 2930 | 3695 | 4213 | 5784 | 4616 | 4304 | 3117 | 4007 | 3436 | 3448 | 4205 | 47,477 |
| 1984 | 3730 | 2928 | 3698 | 4202 | 5787 | 4633 | 4327 | 3220 | 4138 | 3844 | 3839 | 4274 | 48,620 |
| 1985 | 3759 | 2971 | 4120 | 8483 | 6188 | 4807 | 4437 | 3417 | 4199 | 3840 | 3841 | 4267 | 54,329 |
| 1986 | 3768 | 2972 | 5797 | 11056 | 5977 | 4615 | 4309 | 3146 | 4041 | 3632 | 3754 | 4227 | 57,294 |
| 1987 | 3759 | 2945 | 3905 | 8354 | 6661 | 5541 | 4450 | 3448 | 4228 | 3851 | 3792 | 4291 | 55,225 |
| 1988 | 3791 | 2973 | 4436 | 8470 | 6226 | 4878 | 4435 | 3478 | 4293 | 5536 | 5825 | 4368 | 58,709 |
| 1989 | 3854 | 2987 | 3749 | 6463 | 6116 | 9098 | 5445 | 3681 | 5367 | 4398 | 5809 | 4309 | 61,276 |
| 1990 | 3782 | 2981 | 3778 | 6808 | 6250 | 4990 | 4501 | 3475 | 4389 | 5688 | 6130 | 4377 | 57,149 |
| 76 - 90 AVG | 3,762 | 2,956 | 4,011 | 5,961 | 6,034 | 5,102 | 4,453 | 3,331 | 4,246 | 4,070 | 4,309 | 4,270 | 52,506 |

**SJR @ Brandt Bridge (10)**
**Maximum Flow**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 540 | 437 | 610 | 765 | 662 | 721 | 742 | 789 | 734 | 741 | 730 | 998 | 8,469 |
| 1977 | 598 | 631 | 784 | 931 | 976 | 875 | 890 | 873 | 903 | 964 | 1033 | 1047 | 10,505 |
| 1978 | 960 | 826 | 811 | 498 | 308 | 191 | 228 | 270 | 465 | 590 | 633 | 450 | 6,230 |
| 1979 | 588 | 496 | 661 | 393 | 292 | 268 | 398 | 477 | 581 | 653 | 673 | 776 | 6,256 |
| 1980 | 755 | 657 | 669 | 193 | 153 | 165 | 329 | 329 | 429 | 482 | 527 | 465 | 5,153 |
| 1981 | 500 | 487 | 598 | 546 | 619 | 617 | 701 | 719 | 727 | 705 | 716 | 880 | 7,815 |
| 1982 | 806 | 743 | 691 | 284 | 169 | 155 | 174 | 205 | 277 | 404 | 473 | 376 | 4,757 |
| 1983 | 309 | 207 | 162 | 159 | 153 | 156 | 158 | 166 | 169 | 221 | 326 | 350 | 2,536 |
| 1984 | 359 | 185 | 153 | 170 | 260 | 338 | 407 | 478 | 593 | 613 | 623 | 747 | 4,924 |
| 1985 | 848 | 636 | 676 | 785 | 694 | 643 | 702 | 716 | 712 | 701 | 736 | 877 | 8,726 |
| 1986 | 810 | 762 | 819 | 921 | 179 | 153 | 260 | 301 | 340 | 603 | 617 | 741 | 6,506 |
| 1987 | 616 | 521 | 586 | 707 | 712 | 719 | 732 | 769 | 738 | 742 | 752 | 935 | 8,528 |
| 1988 | 984 | 870 | 798 | 648 | 911 | 890 | 814 | 847 | 901 | 917 | 995 | 1096 | 10,671 |
| 1989 | 1230 | 953 | 944 | 998 | 950 | 979 | 802 | 809 | 934 | 874 | 789 | 940 | 11,202 |
| 1990 | 1127 | 937 | 1010 | 843 | 883 | 873 | 814 | 867 | 913 | 757 | 551 | 987 | 10,562 |
| 76 - 90 AVG | 735 | 623 | 665 | 589 | 528 | 516 | 543 | 574 | 628 | 664 | 678 | 778 | 7,523 |

**SJR @ Brandt Bridge (10)**
**Maximum Flow**
**Bromide**

Units are in micograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 223 | 168 | 261 | 347 | 287 | 317 | 330 | 363 | 336 | 344 | 333 | 471 | 3,780 |
| 1977 | 254 | 271 | 352 | 430 | 452 | 398 | 410 | 404 | 431 | 471 | 508 | 501 | 4,882 |
| 1978 | 449 | 375 | 374 | 200 | 98 | 37 | 56 | 79 | 186 | 256 | 283 | 176 | 2,569 |
| 1979 | 249 | 199 | 288 | 144 | 90 | 77 | 147 | 191 | 252 | 295 | 333 | 355 | 2,620 |
| 1980 | 337 | 284 | 295 | 40 | 32 | 30 | 110 | 111 | 167 | 196 | 220 | 184 | 2,006 |
| 1981 | 202 | 193 | 257 | 226 | 263 | 263 | 308 | 323 | 333 | 323 | 328 | 409 | 3,428 |
| 1982 | 364 | 332 | 308 | 86 | 31 | 33 | 30 | 44 | 83 | 154 | 190 | 136 | 1,791 |
| 1983 | 99 | 45 | 31 | 35 | 32 | 33 | 30 | 31 | 32 | 53 | 110 | 122 | 653 |
| 1984 | 126 | 34 | 32 | 30 | 73 | 113 | 151 | 192 | 258 | 274 | 281 | 337 | 1,901 |
| 1985 | 387 | 275 | 303 | 380 | 305 | 276 | 309 | 322 | 324 | 321 | 339 | 408 | 3,949 |
| 1986 | 368 | 341 | 397 | 463 | 46 | 32 | 74 | 96 | 118 | 264 | 274 | 332 | 2,805 |
| 1987 | 264 | 213 | 254 | 330 | 314 | 314 | 325 | 351 | 339 | 343 | 346 | 440 | 3,833 |
| 1988 | 461 | 398 | 377 | 305 | 421 | 407 | 369 | 392 | 430 | 475 | 514 | 530 | 5,079 |
| 1989 | 595 | 442 | 439 | 472 | 440 | 451 | 363 | 373 | 453 | 427 | 427 | 441 | 5,323 |
| 1990 | 535 | 433 | 474 | 400 | 407 | 398 | 369 | 400 | 442 | 410 | 314 | 472 | 5,054 |
| 76 - 90 AVG | 328 | 267 | 296 | 259 | 219 | 212 | 225 | 245 | 279 | 307 | 320 | 354 | 3,312 |

**SJR @ Brandt Bridge (10)**
**Maximum Flow**
**Dissolved Organic Carbon**

Units are in micograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3735 | 2935 | 3730 | 6585 | 5979 | 4873 | 4415 | 3496 | 4194 | 3896 | 3705 | 4224 | 51,767 |
| 1977 | 3742 | 2949 | 3689 | 4902 | 6493 | 4961 | 4508 | 3437 | 4280 | 4143 | 4086 | 4294 | 51,484 |
| 1978 | 3802 | 2967 | 4154 | 4310 | 5757 | 4636 | 4308 | 3136 | 4095 | 3634 | 3738 | 4212 | 48,749 |
| 1979 | 3748 | 2940 | 3745 | 4233 | 5769 | 4632 | 4321 | 3208 | 4138 | 3821 | 4709 | 4314 | 49,578 |
| 1980 | 3751 | 2950 | 3826 | 4210 | 5782 | 4619 | 4315 | 3154 | 4074 | 3547 | 3551 | 4216 | 47,995 |
| 1981 | 3736 | 2934 | 3782 | 4327 | 5780 | 4882 | 4440 | 3394 | 4204 | 3804 | 3768 | 4264 | 49,315 |
| 1982 | 3752 | 2972 | 3919 | 4223 | 5780 | 4622 | 4306 | 3124 | 4023 | 3517 | 3512 | 4193 | 47,943 |
| 1983 | 3722 | 2930 | 3695 | 4213 | 5784 | 4616 | 4304 | 3117 | 4007 | 3436 | 3448 | 4205 | 47,477 |
| 1984 | 3730 | 2928 | 3698 | 4202 | 5787 | 4633 | 4327 | 3220 | 4138 | 3843 | 3839 | 4274 | 48,619 |
| 1985 | 3759 | 2971 | 4117 | 8431 | 6167 | 4800 | 4428 | 3390 | 4179 | 3827 | 3773 | 4265 | 54,107 |
| 1986 | 3768 | 2972 | 5716 | 10958 | 5975 | 4615 | 4309 | 3146 | 4041 | 3629 | 3754 | 4227 | 57,110 |
| 1987 | 3759 | 2945 | 3886 | 8211 | 6640 | 5487 | 4444 | 3445 | 4212 | 3830 | 3718 | 4288 | 54,865 |
| 1988 | 3792 | 2973 | 4422 | 8410 | 6216 | 4838 | 4443 | 3482 | 4283 | 5244 | 4925 | 4343 | 57,371 |
| 1989 | 3854 | 2987 | 3748 | 6295 | 6037 | 8840 | 5413 | 3501 | 4378 | 4276 | 5716 | 4303 | 59,348 |
| 1990 | 3782 | 2981 | 3771 | 6756 | 6255 | 5002 | 4481 | 3405 | 4368 | 5618 | 6097 | 4376 | 56,892 |
| 76 - 90 AVG | 3,762 | 2,956 | 3,993 | 6,018 | 6,013 | 5,070 | 4,451 | 3,310 | 4,174 | 4,004 | 4,156 | 4,267 | 52,175 |

**SJR @ BrandtBridge, 10**
**Cumulative Impact**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 754 | 589 | 624 | 710 | 738 | 768 | 626 | 614 | 729 | 847 | 694 | 997 |
| 1977 | 546 | 654 | 760 | 916 | 963 | 961 | 785 | 760 | 872 | 1042 | 1096 | 1122 |
| 1978 | 880 | 868 | 883 | 518 | 313 | 195 | 213 | 247 | 436 | 582 | 632 | 615 |
| 1979 | 606 | 614 | 640 | 400 | 255 | 278 | 347 | 387 | 614 | 664 | 679 | 774 |
| 1980 | 688 | 736 | 765 | 222 | 154 | 168 | 311 | 300 | 376 | 607 | 649 | 537 |
| 1981 | 608 | 580 | 611 | 630 | 547 | 621 | 497 | 484 | 686 | 709 | 716 | 909 |
| 1982 | 710 | 732 | 780 | 292 | 199 | 156 | 172 | 210 | 282 | 560 | 598 | 449 |
| 1983 | 244 | 214 | 155 | 159 | 153 | 155 | 164 | 188 | 176 | 247 | 396 | 354 |
| 1984 | 234 | 186 | 153 | 160 | 231 | 373 | 413 | 408 | 531 | 609 | 627 | 730 |
| 1985 | 692 | 710 | 752 | 832 | 697 | 658 | 595 | 546 | 684 | 727 | 760 | 924 |
| 1986 | 724 | 746 | 813 | 927 | 194 | 153 | 256 | 288 | 329 | 597 | 621 | 720 |
| 1987 | 750 | 720 | 725 | 730 | 761 | 788 | 619 | 608 | 719 | 900 | 970 | 990 |
| 1988 | 885 | 885 | 861 | 739 | 932 | 935 | 753 | 745 | 820 | 1019 | 1000 | 1038 |
| 1989 | 950 | 951 | 923 | 986 | 966 | 974 | 744 | 768 | 792 | 859 | 737 | 1020 |
| 1990 | 935 | 928 | 972 | 844 | 845 | 939 | 792 | 813 | 891 | 968 | 714 | 1065 |
| Average | 680 | 674 | 694 | 604 | 530 | 541 | 488 | 490 | 596 | 729 | 726 | 816 |

**SJR @ BrandtBridge, 10**
**Cumulative Impact**
**Bromide**
Units are in micograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 337 | 248 | 278 | 333 | 327 | 342 | 268 | 286 | 334 | 403 | 364 | 472 |
| 1977 | 226 | 283 | 339 | 422 | 446 | 444 | 354 | 343 | 420 | 523 | 561 | 543 |
| 1978 | 406 | 397 | 421 | 211 | 101 | 38 | 48 | 87 | 170 | 254 | 307 | 266 |
| 1979 | 259 | 262 | 287 | 147 | 70 | 82 | 119 | 142 | 272 | 315 | 324 | 353 |
| 1980 | 302 | 327 | 354 | 53 | 32 | 30 | 100 | 95 | 138 | 267 | 306 | 223 |
| 1981 | 260 | 244 | 272 | 272 | 225 | 264 | 199 | 195 | 309 | 324 | 331 | 426 |
| 1982 | 314 | 325 | 369 | 91 | 40 | 33 | 30 | 47 | 86 | 242 | 261 | 175 |
| 1983 | 64 | 49 | 31 | 34 | 31 | 33 | 30 | 31 | 32 | 68 | 149 | 125 |
| 1984 | 60 | 34 | 32 | 30 | 58 | 133 | 154 | 154 | 223 | 274 | 284 | 328 |
| 1985 | 304 | 314 | 351 | 409 | 307 | 283 | 252 | 229 | 308 | 335 | 383 | 434 |
| 1986 | 321 | 332 | 394 | 486 | 47 | 32 | 71 | 89 | 113 | 266 | 279 | 321 |
| 1987 | 336 | 319 | 334 | 346 | 343 | 350 | 265 | 263 | 328 | 435 | 474 | 471 |
| 1988 | 408 | 407 | 410 | 354 | 433 | 431 | 336 | 337 | 384 | 507 | 515 | 498 |
| 1989 | 444 | 441 | 428 | 466 | 448 | 449 | 332 | 351 | 374 | 440 | 405 | 484 |
| 1990 | 433 | 429 | 454 | 401 | 392 | 433 | 357 | 371 | 428 | 489 | 398 | 515 |
| Average | 298 | 294 | 317 | 269 | 220 | 225 | 194 | 199 | 261 | 343 | 356 | 376 |

**SJR @ BrandtBridge, 10**
**Cumulative Impact**
**Dissolved Organic Carbon**
Units are in micograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3749 | 2949 | 4128 | 8385 | 6362 | 5077 | 4379 | 3312 | 4199 | 3958 | 5201 | 4260 |
| 1977 | 3738 | 2949 | 3694 | 4651 | 5824 | 4973 | 4460 | 3360 | 4361 | 4479 | 4686 | 4329 |
| 1978 | 3792 | 2971 | 4791 | 4390 | 5758 | 4636 | 4308 | 3131 | 4083 | 3721 | 4550 | 4239 |
| 1979 | 3756 | 2948 | 4132 | 4254 | 5771 | 4629 | 4318 | 3172 | 4189 | 4331 | 4271 | 4281 |
| 1980 | 3744 | 2955 | 4264 | 4248 | 5779 | 4620 | 4314 | 3147 | 4054 | 3726 | 4240 | 4241 |
| 1981 | 3747 | 2941 | 4162 | 4722 | 5769 | 4979 | 4351 | 3220 | 4190 | 3774 | 3890 | 4267 |
| 1982 | 3745 | 2970 | 4891 | 4315 | 5779 | 4623 | 4306 | 3124 | 4024 | 3713 | 3864 | 4191 |
| 1983 | 3721 | 2931 | 3695 | 4212 | 5785 | 4615 | 4304 | 3119 | 4008 | 3443 | 3474 | 4205 |
| 1984 | 3718 | 2922 | 3698 | 4201 | 5788 | 4633 | 4327 | 3188 | 4103 | 3936 | 3890 | 4272 |
| 1985 | 3744 | 2978 | 4615 | 8725 | 6295 | 4845 | 4363 | 3257 | 4175 | 3827 | 4808 | 4307 |
| 1986 | 3761 | 2965 | 5746 | 11241 | 5978 | 4617 | 4309 | 3141 | 4039 | 3819 | 3840 | 4226 |
| 1987 | 3775 | 2965 | 4139 | 8127 | 7339 | 6559 | 4428 | 3301 | 4203 | 4078 | 4079 | 4304 |
| 1988 | 3781 | 2974 | 4549 | 8777 | 6410 | 4836 | 4405 | 3401 | 4236 | 4388 | 4892 | 4334 |
| 1989 | 3806 | 2979 | 3730 | 6671 | 6230 | 9302 | 4954 | 3493 | 4304 | 5023 | 5759 | 4297 |
| 1990 | 3762 | 2979 | 3780 | 6891 | 7428 | 5464 | 4456 | 3356 | 4330 | 4724 | 5870 | 4387 |
| Average | 3756 | 2958 | 4268 | 6254 | 6153 | 5227 | 4399 | 3248 | 4167 | 4063 | 4474 | 4276 |




**Old River @ Middle River (58)**
**Existing Conditions**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 383 | 385 | 670 | 750 | 673 | 808 | 709 | 749 | 764 | 839 | 1064 | 486 | 8,280 |
| 1977 | 519 | 578 | 801 | 973 | 935 | 945 | 750 | 873 | 876 | 1098 | 1206 | 972 | 10,526 |
| 1978 | 747 | 753 | 846 | 514 | 316 | 197 | 230 | 275 | 477 | 600 | 636 | 396 | 5,987 |
| 1979 | 406 | 443 | 783 | 408 | 298 | 274 | 394 | 477 | 590 | 661 | 690 | 418 | 5,842 |
| 1980 | 453 | 464 | 738 | 187 | 154 | 167 | 332 | 329 | 433 | 479 | 560 | 389 | 4,685 |
| 1981 | 409 | 435 | 676 | 560 | 648 | 628 | 600 | 711 | 786 | 880 | 892 | 426 | 7,651 |
| 1982 | 486 | 532 | 633 | 285 | 165 | 158 | 174 | 206 | 285 | 393 | 492 | 377 | 4,186 |
| 1983 | 303 | 211 | 164 | 159 | 153 | 156 | 160 | 166 | 171 | 218 | 338 | 355 | 2,554 |
| 1984 | 369 | 187 | 154 | 170 | 262 | 345 | 453 | 611 | 599 | 619 | 691 | 398 | 4,858 |
| 1985 | 430 | 512 | 746 | 817 | 716 | 686 | 585 | 697 | 762 | 875 | 978 | 450 | 8,254 |
| 1986 | 494 | 549 | 766 | 699 | 170 | 153 | 261 | 304 | 352 | 599 | 629 | 396 | 5,372 |
| 1987 | 443 | 479 | 708 | 808 | 723 | 759 | 707 | 739 | 735 | 835 | 1046 | 519 | 8,501 |
| 1988 | 515 | 577 | 953 | 931 | 942 | 913 | 707 | 806 | 865 | 1081 | 1184 | 872 | 10,146 |
| 1989 | 607 | 646 | 960 | 990 | 966 | 801 | 673 | 807 | 822 | 927 | 1041 | 466 | 9,706 |
| 1990 | 488 | 581 | 1023 | 960 | 973 | 889 | 772 | 842 | 862 | 1053 | 1128 | 620 | 10,191 |
| 76 - 90 AVG | 470 | 489 | 708 | 614 | 540 | 525 | 500 | 573 | 625 | 744 | 838 | 489 | 7,116 |

**Old River @ Middle River (58)**
**Existing Conditions**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 187 | 176 | 292 | 333 | 292 | 363 | 312 | 339 | 350 | 395 | 533 | 292 | 3,864 |
| 1977 | 321 | 347 | 366 | 452 | 433 | 437 | 335 | 403 | 413 | 544 | 600 | 550 | 5,201 |
| 1978 | 563 | 581 | 391 | 208 | 102 | 39 | 57 | 82 | 192 | 260 | 278 | 190 | 2,943 |
| 1979 | 204 | 233 | 355 | 152 | 93 | 81 | 144 | 191 | 255 | 294 | 308 | 220 | 2,530 |
| 1980 | 258 | 261 | 334 | 40 | 32 | 31 | 112 | 111 | 169 | 193 | 238 | 186 | 1,965 |
| 1981 | 209 | 224 | 296 | 233 | 279 | 268 | 254 | 317 | 383 | 424 | 428 | 249 | 3,544 |
| 1982 | 297 | 324 | 275 | 86 | 32 | 33 | 31 | 45 | 88 | 147 | 200 | 136 | 1,694 |
| 1983 | 97 | 48 | 31 | 35 | 32 | 33 | 30 | 31 | 32 | 52 | 117 | 125 | 663 |
| 1984 | 132 | 35 | 32 | 31 | 74 | 118 | 176 | 264 | 259 | 271 | 309 | 201 | 1,902 |
| 1985 | 241 | 312 | 340 | 371 | 316 | 300 | 248 | 310 | 349 | 420 | 483 | 283 | 3,951 |
| 1986 | 306 | 321 | 352 | 307 | 40 | 32 | 74 | 98 | 125 | 260 | 275 | 197 | 2,387 |
| 1987 | 245 | 272 | 317 | 371 | 318 | 340 | 311 | 333 | 335 | 393 | 525 | 313 | 4,073 |
| 1988 | 337 | 355 | 450 | 438 | 436 | 419 | 312 | 369 | 407 | 537 | 598 | 417 | 5,075 |
| 1989 | 462 | 422 | 449 | 462 | 448 | 369 | 294 | 371 | 383 | 450 | 525 | 271 | 4,906 |
| 1990 | 296 | 357 | 484 | 460 | 452 | 406 | 346 | 385 | 406 | 525 | 578 | 385 | 5,080 |
| 76 - 90 AVG | 277 | 285 | 318 | 265 | 225 | 218 | 202 | 243 | 275 | 344 | 400 | 266 | 3,319 |

**Old River @ Middle River (58)**
**Existing Conditions**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3949 | 3963 | 3739 | 4307 | 5773 | 4720 | 4369 | 3335 | 4186 | 3804 | 4347 | 4378 | 50,870 |
| 1977 | 4581 | 5049 | 3846 | 4326 | 5785 | 4737 | 4382 | 3306 | 4234 | 4178 | 4043 | 4853 | 53,320 |
| 1978 | 5234 | 5508 | 3847 | 4253 | 5775 | 4840 | 4311 | 3137 | 4093 | 3801 | 3562 | 4274 | 52,235 |
| 1979 | 4436 | 4138 | 3812 | 4262 | 5791 | 4638 | 4325 | 3189 | 4124 | 3643 | 3598 | 4168 | 50,124 |
| 1980 | 4205 | 3904 | 3811 | 4211 | 5794 | 4624 | 4319 | 3154 | 4077 | 3533 | 3528 | 4273 | 49,433 |
| 1981 | 4495 | 4359 | 3744 | 4259 | 5802 | 4697 | 4349 | 3286 | 4204 | 4013 | 3930 | 4241 | 51,379 |
| 1982 | 4387 | 4340 | 3768 | 4229 | 5792 | 4632 | 4307 | 3124 | 4029 | 3498 | 3501 | 4201 | 49,808 |
| 1983 | 3721 | 2930 | 3700 | 4227 | 5794 | 4620 | 4306 | 3118 | 4011 | 3437 | 3454 | 4213 | 47,531 |
| 1984 | 3730 | 2930 | 3704 | 4214 | 5801 | 4640 | 4334 | 3251 | 4119 | 3626 | 3600 | 4100 | 48,049 |
| 1985 | 4048 | 4482 | 3937 | 4581 | 5801 | 4716 | 4349 | 3280 | 4177 | 4000 | 4194 | 4321 | 51,886 |
| 1986 | 4503 | 4570 | 3961 | 4296 | 5770 | 4817 | 4313 | 3145 | 4052 | 3594 | 3559 | 4181 | 50,561 |
| 1987 | 4265 | 4267 | 3794 | 4630 | 5812 | 4920 | 4380 | 3316 | 4182 | 3833 | 4357 | 4554 | 52,310 |
| 1988 | 4714 | 5001 | 3898 | 5104 | 5809 | 4734 | 4355 | 3313 | 4232 | 4234 | 4342 | 4806 | 54,542 |
| 1989 | 4882 | 4977 | 3806 | 4400 | 5784 | 5238 | 4382 | 3375 | 4224 | 4089 | 4474 | 4205 | 53,836 |
| 1990 | 4318 | 4792 | 3849 | 4820 | 5780 | 4733 | 4381 | 3256 | 4238 | 4319 | 4624 | 4782 | 53,892 |
| 76 - 90 AVG | 4,365 | 4,347 | 3,814 | 4,408 | 5,791 | 4,727 | 4,344 | 3,239 | 4,145 | 3,827 | 3,941 | 4,370 | 51,318 |

**Old River @ Middle River (58)**
**Existing Conditions**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 383 | 385 | 670 | 750 | 673 | 808 | 709 | 749 | 764 | 839 | 1064 | 486 | 8,280 |
| 1977 | 519 | 578 | 801 | 973 | 935 | 945 | 750 | 873 | 876 | 1098 | 1206 | 972 | 10,526 |
| 1978 | 747 | 753 | 846 | 514 | 316 | 197 | 230 | 275 | 477 | 600 | 636 | 396 | 5,987 |
| 1979 | 406 | 443 | 783 | 408 | 298 | 274 | 394 | 477 | 590 | 661 | 690 | 418 | 5,842 |
| 1980 | 453 | 464 | 738 | 187 | 154 | 167 | 332 | 329 | 433 | 479 | 560 | 389 | 4,685 |
| 1981 | 409 | 435 | 676 | 560 | 648 | 628 | 600 | 711 | 786 | 880 | 892 | 426 | 7,651 |
| 1982 | 486 | 532 | 633 | 285 | 165 | 158 | 174 | 206 | 285 | 393 | 492 | 377 | 4,186 |
| 1983 | 303 | 211 | 164 | 159 | 153 | 156 | 160 | 166 | 171 | 218 | 338 | 355 | 2,554 |
| 1984 | 369 | 187 | 154 | 170 | 262 | 345 | 453 | 611 | 599 | 619 | 691 | 398 | 4,858 |
| 1985 | 430 | 512 | 748 | 817 | 716 | 686 | 585 | 697 | 762 | 875 | 978 | 450 | 8,254 |
| 1986 | 494 | 549 | 766 | 699 | 170 | 153 | 261 | 304 | 352 | 599 | 629 | 396 | 5,372 |
| 1987 | 443 | 479 | 708 | 808 | 723 | 759 | 707 | 739 | 735 | 835 | 1046 | 519 | 8,501 |
| 1988 | 515 | 577 | 953 | 931 | 942 | 913 | 707 | 806 | 865 | 1081 | 1184 | 672 | 10,146 |
| 1989 | 607 | 646 | 960 | 990 | 966 | 801 | 673 | 807 | 822 | 927 | 1041 | 488 | 9,706 |
| 1990 | 488 | 581 | 1023 | 960 | 973 | 889 | 772 | 842 | 862 | 1053 | 1128 | 620 | 10,191 |
| 76 - 90 AVG | 470 | 489 | 708 | 614 | 540 | 525 | 500 | 573 | 625 | 744 | 838 | 489 | 7,116 |

**Old River @ Middle River (58)**
**Existing Conditions**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 187 | 176 | 292 | 333 | 292 | 363 | 312 | 339 | 350 | 395 | 533 | 292 | 3,864 |
| 1977 | 321 | 347 | 366 | 452 | 433 | 437 | 335 | 403 | 413 | 544 | 600 | 550 | 5,201 |
| 1978 | 563 | 581 | 391 | 208 | 102 | 39 | 57 | 82 | 192 | 260 | 278 | 190 | 2,943 |
| 1979 | 204 | 233 | 355 | 152 | 93 | 81 | 144 | 191 | 255 | 294 | 308 | 220 | 2,530 |
| 1980 | 258 | 261 | 334 | 40 | 32 | 31 | 112 | 111 | 169 | 193 | 238 | 186 | 1,965 |
| 1981 | 209 | 224 | 296 | 233 | 279 | 268 | 254 | 317 | 363 | 424 | 428 | 249 | 3,544 |
| 1982 | 297 | 324 | 275 | 86 | 32 | 33 | 31 | 45 | 88 | 147 | 200 | 136 | 1,694 |
| 1983 | 97 | 48 | 31 | 35 | 32 | 33 | 30 | 31 | 32 | 52 | 117 | 125 | 663 |
| 1984 | 132 | 35 | 32 | 31 | 74 | 118 | 176 | 264 | 259 | 271 | 309 | 201 | 1,902 |
| 1985 | 241 | 312 | 340 | 371 | 316 | 300 | 246 | 310 | 349 | 420 | 483 | 263 | 3,951 |
| 1986 | 306 | 321 | 352 | 307 | 40 | 32 | 74 | 98 | 125 | 260 | 275 | 197 | 2,387 |
| 1987 | 245 | 272 | 317 | 371 | 318 | 340 | 311 | 333 | 335 | 393 | 525 | 313 | 4,073 |
| 1988 | 337 | 355 | 450 | 436 | 436 | 419 | 312 | 369 | 407 | 537 | 598 | 417 | 5,075 |
| 1989 | 462 | 422 | 449 | 462 | 448 | 369 | 294 | 371 | 383 | 450 | 525 | 271 | 4,906 |
| 1990 | 298 | 357 | 484 | 460 | 452 | 406 | 346 | 385 | 406 | 525 | 578 | 385 | 5,080 |
| 76 - 90 AVG | 277 | 285 | 318 | 265 | 225 | 218 | 202 | 243 | 275 | 344 | 400 | 268 | 3,319 |

**Old River @ Middle River (58)**
**Existing Conditions**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3949 | 3963 | 3739 | 4307 | 5773 | 4720 | 4369 | 3335 | 4186 | 3804 | 4347 | 4378 | 50,870 |
| 1977 | 4581 | 5049 | 3848 | 4326 | 5785 | 4737 | 4382 | 3306 | 4234 | 4178 | 4043 | 4853 | 53,320 |
| 1978 | 5234 | 5508 | 3847 | 4253 | 5775 | 4640 | 4311 | 3137 | 4093 | 3801 | 3562 | 4274 | 52,235 |
| 1979 | 4436 | 4138 | 3812 | 4262 | 5791 | 4638 | 4325 | 3189 | 4124 | 3643 | 3598 | 4168 | 50,124 |
| 1980 | 4205 | 3904 | 3811 | 4211 | 5794 | 4624 | 4319 | 3154 | 4077 | 3533 | 3528 | 4273 | 49,433 |
| 1981 | 4495 | 4359 | 3744 | 4259 | 5802 | 4697 | 4349 | 3288 | 4204 | 4013 | 3930 | 4241 | 51,379 |
| 1982 | 4387 | 4340 | 3768 | 4229 | 5792 | 4632 | 4307 | 3124 | 4029 | 3498 | 3501 | 4201 | 49,808 |
| 1983 | 3721 | 2930 | 3700 | 4227 | 5794 | 4620 | 4306 | 3118 | 4011 | 3437 | 3454 | 4213 | 47,531 |
| 1984 | 3730 | 2930 | 3704 | 4214 | 5801 | 4640 | 4334 | 3251 | 4119 | 3626 | 3600 | 4100 | 48,049 |
| 1985 | 4048 | 4482 | 3937 | 4581 | 5801 | 4716 | 4349 | 3280 | 4177 | 4000 | 4194 | 4321 | 51,886 |
| 1986 | 4503 | 4570 | 3961 | 4296 | 5770 | 4617 | 4313 | 3145 | 4052 | 3594 | 3559 | 4181 | 50,561 |
| 1987 | 4265 | 4267 | 3794 | 4630 | 5812 | 4920 | 4380 | 3316 | 4182 | 3833 | 4357 | 4554 | 52,310 |
| 1988 | 4714 | 5001 | 3898 | 5104 | 5809 | 4734 | 4355 | 3313 | 4232 | 4234 | 4342 | 4806 | 54,542 |
| 1989 | 4882 | 4977 | 3806 | 4400 | 5784 | 5238 | 4382 | 3375 | 4224 | 4089 | 4474 | 4205 | 53,836 |
| 1990 | 4318 | 4792 | 3849 | 4820 | 5780 | 4733 | 4381 | 3256 | 4238 | 4319 | 4624 | 4782 | 53,892 |
| 76 - 90 AVG | 4,365 | 4,347 | 3,814 | 4,408 | 5,791 | 4,727 | 4,344 | 3,239 | 4,145 | 3,827 | 3,941 | 4,370 | 51,318 |

**Old River @ Middle River (58)**
**State Permit**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 383 | 372 | 642 | 725 | 648 | 720 | 740 | 790 | 730 | 742 | 729 | 480 | 7,701 |
| 1977 | 524 | 569 | 794 | 948 | 934 | 864 | 890 | 871 | 909 | 977 | 1054 | 904 | 10,238 |
| 1978 | 758 | 763 | 779 | 486 | 308 | 192 | 229 | 271 | 464 | 592 | 635 | 391 | 5,868 |
| 1979 | 430 | 467 | 680 | 368 | 293 | 268 | 399 | 477 | 583 | 656 | 687 | 407 | 5,735 |
| 1980 | 438 | 443 | 653 | 191 | 154 | 165 | 330 | 329 | 429 | 482 | 527 | 387 | 4,528 |
| 1981 | 409 | 438 | 658 | 537 | 620 | 609 | 704 | 718 | 727 | 703 | 716 | 458 | 7,297 |
| 1982 | 499 | 522 | 650 | 282 | 169 | 156 | 174 | 205 | 277 | 406 | 474 | 376 | 4,190 |
| 1983 | 308 | 206 | 161 | 159 | 153 | 158 | 158 | 166 | 169 | 222 | 326 | 350 | 2,534 |
| 1984 | 359 | 185 | 154 | 171 | 260 | 336 | 407 | 477 | 596 | 609 | 620 | 390 | 4,564 |
| 1985 | 416 | 503 | 667 | 758 | 680 | 638 | 703 | 715 | 710 | 699 | 740 | 485 | 7,714 |
| 1986 | 516 | 556 | 736 | 744 | 173 | 153 | 261 | 302 | 340 | 805 | 614 | 379 | 5,379 |
| 1987 | 432 | 474 | 686 | 763 | 690 | 682 | 729 | 770 | 737 | 743 | 753 | 555 | 8,014 |
| 1988 | 583 | 634 | 918 | 910 | 933 | 885 | 807 | 850 | 907 | 1076 | 1102 | 655 | 10,260 |
| 1989 | 603 | 641 | 943 | 972 | 940 | 781 | 773 | 809 | 956 | 864 | 1008 | 506 | 9,796 |
| 1990 | 493 | 572 | 1022 | 943 | 924 | 860 | 808 | 872 | 933 | 991 | 1062 | 602 | 10,102 |
| 76 - 90 AVG | 477 | 490 | 676 | 598 | 525 | 498 | 541 | 575 | 631 | 691 | 738 | 488 | 6,928 |

**Old River @ Middle River (58)**
**State Permit**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 187 | 167 | 277 | 320 | 279 | 317 | 329 | 361 | 332 | 340 | 329 | 280 | 3,518 |
| 1977 | 322 | 348 | 362 | 439 | 432 | 393 | 410 | 403 | 431 | 473 | 512 | 506 | 5,031 |
| 1978 | 569 | 562 | 355 | 193 | 98 | 37 | 56 | 79 | 186 | 256 | 278 | 189 | 2,858 |
| 1979 | 228 | 256 | 301 | 141 | 90 | 77 | 147 | 191 | 251 | 291 | 309 | 221 | 2,503 |
| 1980 | 250 | 241 | 285 | 39 | 32 | 31 | 110 | 111 | 166 | 195 | 219 | 187 | 1,866 |
| 1981 | 215 | 233 | 286 | 220 | 264 | 258 | 310 | 322 | 330 | 319 | 323 | 266 | 3,346 |
| 1982 | 304 | 311 | 285 | 85 | 31 | 33 | 31 | 44 | 84 | 154 | 190 | 135 | 1,687 |
| 1983 | 99 | 45 | 31 | 35 | 32 | 33 | 30 | 31 | 32 | 54 | 110 | 122 | 654 |
| 1984 | 126 | 34 | 32 | 31 | 73 | 113 | 151 | 191 | 258 | 266 | 270 | 198 | 1,743 |
| 1985 | 231 | 305 | 293 | 340 | 296 | 274 | 309 | 320 | 321 | 316 | 336 | 284 | 3,625 |
| 1986 | 323 | 328 | 332 | 331 | 42 | 32 | 74 | 96 | 118 | 263 | 266 | 188 | 2,393 |
| 1987 | 236 | 266 | 302 | 345 | 301 | 297 | 324 | 350 | 336 | 341 | 344 | 317 | 3,759 |
| 1988 | 402 | 407 | 435 | 428 | 431 | 405 | 364 | 392 | 430 | 540 | 542 | 388 | 5,164 |
| 1989 | 438 | 417 | 440 | 452 | 434 | 355 | 347 | 372 | 459 | 411 | 489 | 294 | 4,908 |
| 1990 | 297 | 352 | 483 | 451 | 426 | 391 | 365 | 402 | 445 | 491 | 536 | 363 | 5,002 |
| 76 - 90 AVG | 282 | 285 | 300 | 257 | 217 | 203 | 224 | 244 | 279 | 314 | 337 | 263 | 3,204 |

**Old River @ Middle River (58)**
**State Permit**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3967 | 3833 | 3733 | 4320 | 5777 | 4707 | 4372 | 3357 | 4170 | 3729 | 3593 | 4297 | 49,855 |
| 1977 | 4495 | 4807 | 3840 | 4301 | 5784 | 4719 | 4407 | 3311 | 4254 | 3961 | 3881 | 4761 | 52,501 |
| 1978 | 5277 | 5574 | 3838 | 4251 | 5777 | 4639 | 4311 | 3136 | 4089 | 3596 | 3561 | 4232 | 52,281 |
| 1979 | 4606 | 4219 | 3777 | 4258 | 5791 | 4636 | 4325 | 3189 | 4121 | 3643 | 3640 | 4016 | 50,221 |
| 1980 | 4077 | 3888 | 3744 | 4208 | 5794 | 4623 | 4318 | 3153 | 4076 | 3535 | 3514 | 4253 | 49,183 |
| 1981 | 4343 | 4254 | 3740 | 4250 | 5801 | 4690 | 4357 | 3290 | 4175 | 3679 | 3602 | 4277 | 50,458 |
| 1982 | 4490 | 4340 | 3769 | 4229 | 5792 | 4632 | 4307 | 3124 | 4028 | 3503 | 3495 | 4201 | 49,910 |
| 1983 | 3721 | 2929 | 3700 | 4226 | 5794 | 4620 | 4306 | 3118 | 4011 | 3437 | 3451 | 4213 | 47,526 |
| 1984 | 3729 | 2929 | 3704 | 4214 | 5801 | 4639 | 4330 | 3204 | 4122 | 3615 | 3556 | 4031 | 47,873 |
| 1985 | 3935 | 4432 | 3798 | 4517 | 5800 | 4708 | 4362 | 3295 | 4157 | 3673 | 3612 | 4359 | 50,648 |
| 1986 | 4659 | 4610 | 3858 | 4375 | 5774 | 4618 | 4313 | 3144 | 4048 | 3597 | 3551 | 4029 | 50,576 |
| 1987 | 4230 | 4283 | 3768 | 4536 | 5810 | 4744 | 4380 | 3333 | 4180 | 3718 | 3632 | 4589 | 51,203 |
| 1988 | 5081 | 5043 | 3891 | 5015 | 5801 | 4726 | 4370 | 3342 | 4251 | 4390 | 3971 | 4695 | 54,576 |
| 1989 | 5028 | 4882 | 3806 | 4397 | 5788 | 5032 | 4399 | 3363 | 4324 | 3882 | 3919 | 4182 | 53,002 |
| 1990 | 4318 | 4634 | 3841 | 4789 | 5781 | 4728 | 4388 | 3267 | 4279 | 4254 | 4140 | 4638 | 53,057 |
| 76 - 90 AVG | 4,397 | 4,310 | 3,787 | 4,392 | 5,791 | 4,697 | 4,350 | 3,242 | 4,152 | 3,747 | 3,673 | 4,318 | 50,858 |

**Old River @ Middle River (58)**
**Percent Inflow**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 383 | 372 | 642 | 724 | 648 | 720 | 740 | 790 | 730 | 742 | 729 | 478 | 7,698 |
| 1977 | 529 | 573 | 794 | 948 | 934 | 864 | 890 | 871 | 909 | 977 | 1054 | 905 | 10,248 |
| 1978 | 758 | 774 | 779 | 486 | 308 | 192 | 229 | 271 | 464 | 592 | 635 | 392 | 5,880 |
| 1979 | 435 | 470 | 681 | 387 | 293 | 268 | 399 | 477 | 583 | 656 | 687 | 407 | 5,743 |
| 1980 | 445 | 453 | 654 | 191 | 154 | 165 | 330 | 329 | 429 | 482 | 527 | 385 | 4,544 |
| 1981 | 415 | 452 | 658 | 537 | 620 | 609 | 704 | 718 | 727 | 703 | 716 | 450 | 7,309 |
| 1982 | 492 | 522 | 650 | 282 | 169 | 156 | 174 | 205 | 277 | 406 | 474 | 376 | 4,183 |
| 1983 | 308 | 206 | 161 | 159 | 153 | 156 | 158 | 166 | 169 | 222 | 326 | 350 | 2,534 |
| 1984 | 359 | 185 | 154 | 171 | 260 | 336 | 407 | 477 | 596 | 609 | 620 | 389 | 4,563 |
| 1985 | 424 | 517 | 667 | 756 | 680 | 638 | 703 | 715 | 710 | 699 | 740 | 494 | 7,743 |
| 1986 | 524 | 562 | 736 | 744 | 173 | 153 | 261 | 302 | 340 | 605 | 614 | 379 | 5,393 |
| 1987 | 432 | 474 | 686 | 763 | 690 | 682 | 729 | 770 | 737 | 743 | 753 | 562 | 8,021 |
| 1988 | 571 | 643 | 924 | 910 | 933 | 885 | 807 | 850 | 907 | 1120 | 1109 | 674 | 10,333 |
| 1989 | 633 | 668 | 943 | 972 | 940 | 782 | 773 | 809 | 953 | 860 | 980 | 477 | 9,790 |
| 1990 | 492 | 578 | 1022 | 941 | 924 | 860 | 808 | 872 | 933 | 1026 | 1087 | 636 | 10,179 |
| 76 - 90 AVG | 480 | 497 | 677 | 598 | 525 | 498 | 541 | 575 | 631 | 696 | 737 | 490 | 6,944 |

**Old River @ Middle River (58)**
**Percent Inflow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 187 | 167 | 277 | 320 | 279 | 317 | 329 | 361 | 332 | 340 | 329 | 279 | 3,517 |
| 1977 | 329 | 345 | 362 | 439 | 433 | 393 | 410 | 403 | 431 | 473 | 512 | 507 | 5,037 |
| 1978 | 575 | 593 | 355 | 193 | 98 | 37 | 56 | 79 | 186 | 256 | 278 | 190 | 2,896 |
| 1979 | 231 | 256 | 300 | 141 | 90 | 77 | 147 | 191 | 251 | 291 | 309 | 221 | 2,505 |
| 1980 | 254 | 250 | 285 | 39 | 32 | 31 | 110 | 111 | 168 | 195 | 219 | 185 | 1,877 |
| 1981 | 219 | 249 | 286 | 220 | 264 | 258 | 310 | 322 | 330 | 319 | 323 | 262 | 3,362 |
| 1982 | 299 | 314 | 285 | 85 | 31 | 33 | 31 | 44 | 84 | 154 | 190 | 135 | 1,685 |
| 1983 | 99 | 45 | 31 | 35 | 32 | 33 | 30 | 31 | 32 | 54 | 110 | 122 | 654 |
| 1984 | 126 | 34 | 32 | 31 | 73 | 113 | 151 | 191 | 258 | 266 | 270 | 198 | 1,743 |
| 1985 | 236 | 317 | 294 | 338 | 296 | 274 | 309 | 320 | 321 | 316 | 336 | 290 | 3,647 |
| 1986 | 331 | 331 | 332 | 331 | 42 | 32 | 74 | 96 | 118 | 263 | 266 | 188 | 2,404 |
| 1987 | 236 | 265 | 302 | 345 | 301 | 297 | 324 | 350 | 336 | 341 | 344 | 318 | 3,759 |
| 1988 | 403 | 431 | 435 | 427 | 431 | 405 | 364 | 392 | 431 | 559 | 545 | 405 | 5,228 |
| 1989 | 480 | 447 | 440 | 452 | 434 | 354 | 347 | 372 | 459 | 409 | 477 | 271 | 4,942 |
| 1990 | 294 | 358 | 483 | 450 | 427 | 391 | 365 | 402 | 445 | 506 | 539 | 387 | 5,047 |
| 76 - 90 AVG | 287 | 293 | 300 | 256 | 218 | 203 | 224 | 244 | 279 | 316 | 336 | 264 | 3,220 |

**Old River @ Middle River (58)**
**Percent Inflow**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3968 | 3831 | 3733 | 4311 | 5776 | 4708 | 4374 | 3357 | 4171 | 3726 | 3593 | 4278 | 49,826 |
| 1977 | 4589 | 4964 | 3845 | 4323 | 5786 | 4720 | 4407 | 3311 | 4254 | 3962 | 3861 | 4763 | 52,785 |
| 1978 | 5231 | 5645 | 3846 | 4251 | 5777 | 4639 | 4311 | 3136 | 4089 | 3596 | 3561 | 4232 | 52,314 |
| 1979 | 4678 | 4267 | 3766 | 4259 | 5791 | 4636 | 4325 | 3190 | 4121 | 3645 | 3641 | 4020 | 50,339 |
| 1980 | 4153 | 3924 | 3744 | 4208 | 5794 | 4623 | 4318 | 3153 | 4076 | 3536 | 3514 | 4240 | 49,283 |
| 1981 | 4425 | 4240 | 3739 | 4249 | 5802 | 4689 | 4357 | 3291 | 4175 | 3681 | 3601 | 4237 | 50,486 |
| 1982 | 4425 | 4323 | 3769 | 4229 | 5792 | 4632 | 4307 | 3124 | 4028 | 3503 | 3495 | 4201 | 49,828 |
| 1983 | 3721 | 2929 | 3699 | 4226 | 5794 | 4620 | 4306 | 3118 | 4011 | 3437 | 3451 | 4213 | 47,525 |
| 1984 | 3729 | 2929 | 3704 | 4214 | 5801 | 4639 | 4330 | 3204 | 4122 | 3615 | 3555 | 4030 | 47,872 |
| 1985 | 4049 | 4486 | 3798 | 4530 | 5801 | 4709 | 4363 | 3299 | 4157 | 3673 | 3612 | 4398 | 50,875 |
| 1986 | 4739 | 4678 | 3860 | 4378 | 5774 | 4618 | 4313 | 3144 | 4048 | 3597 | 3551 | 4028 | 50,728 |
| 1987 | 4232 | 4287 | 3768 | 4523 | 5810 | 4744 | 4380 | 3334 | 4180 | 3719 | 3632 | 4655 | 51,264 |
| 1988 | 4915 | 5254 | 3896 | 5011 | 5801 | 4726 | 4369 | 3342 | 4252 | 4254 | 3962 | 4731 | 54,513 |
| 1989 | 4931 | 4931 | 3806 | 4395 | 5786 | 5027 | 4398 | 3363 | 4337 | 3913 | 4010 | 4157 | 53,054 |
| 1990 | 4375 | 4774 | 3848 | 4790 | 5787 | 4728 | 4388 | 3266 | 4276 | 4177 | 4146 | 4701 | 53,256 |
| 76 - 90 AVG | 4,411 | 4,364 | 3,788 | 4,393 | 5,791 | 4,697 | 4,350 | 3,242 | 4,153 | 3,736 | 3,679 | 4,326 | 50,930 |



Main TOC

Next Page

**Old River @ Middle River (58)**
**Flow Study**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 387 | 373 | 642 | 724 | 648 | 720 | 740 | 790 | 730 | 742 | 729 | 482 | 7,707 |
| 1977 | 532 | 583 | 794 | 948 | 933 | 864 | 890 | 871 | 909 | 977 | 1054 | 940 | 10,295 |
| 1978 | 770 | 782 | 780 | 486 | 308 | 192 | 229 | 271 | 464 | 592 | 635 | 392 | 5,901 |
| 1979 | 433 | 469 | 681 | 387 | 293 | 268 | 399 | 477 | 583 | 656 | 687 | 406 | 5,739 |
| 1980 | 447 | 457 | 654 | 191 | 154 | 165 | 330 | 329 | 429 | 482 | 527 | 385 | 4,550 |
| 1981 | 414 | 452 | 658 | 537 | 620 | 609 | 704 | 718 | 727 | 703 | 716 | 448 | 7,306 |
| 1982 | 492 | 521 | 650 | 282 | 169 | 156 | 174 | 205 | 277 | 406 | 474 | 376 | 4,182 |
| 1983 | 308 | 206 | 161 | 159 | 153 | 156 | 158 | 166 | 189 | 222 | 326 | 350 | 2,534 |
| 1984 | 359 | 185 | 154 | 171 | 260 | 336 | 407 | 477 | 596 | 609 | 620 | 389 | 4,563 |
| 1985 | 422 | 514 | 667 | 756 | 680 | 638 | 703 | 715 | 710 | 699 | 740 | 483 | 7,727 |
| 1986 | 516 | 537 | 735 | 744 | 173 | 153 | 261 | 302 | 340 | 605 | 614 | 379 | 5,359 |
| 1987 | 433 | 475 | 686 | 763 | 690 | 682 | 729 | 770 | 737 | 743 | 753 | 550 | 8,011 |
| 1988 | 576 | 617 | 913 | 910 | 933 | 885 | 807 | 850 | 907 | 1095 | 1101 | 649 | 10,243 |
| 1989 | 612 | 646 | 943 | 972 | 940 | 781 | 773 | 810 | 957 | 868 | 1017 | 507 | 9,826 |
| 1990 | 494 | 574 | 1022 | 941 | 924 | 860 | 808 | 872 | 933 | 1004 | 1064 | 565 | 10,061 |
| 76 - 90 AVG | 480 | 493 | 676 | 598 | 525 | 498 | 541 | 575 | 631 | 694 | 737 | 487 | 6,934 |

**Old River @ Middle River (58)**
**Flow Study**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 192 | 168 | 277 | 320 | 279 | 317 | 329 | 361 | 332 | 340 | 329 | 284 | 3,528 |
| 1977 | 337 | 357 | 362 | 439 | 432 | 393 | 410 | 403 | 431 | 473 | 512 | 516 | 5,065 |
| 1978 | 580 | 607 | 356 | 193 | 98 | 37 | 56 | 79 | 186 | 256 | 278 | 190 | 2,916 |
| 1979 | 230 | 256 | 300 | 141 | 90 | 77 | 147 | 191 | 251 | 291 | 309 | 220 | 2,503 |
| 1980 | 255 | 253 | 285 | 39 | 32 | 31 | 110 | 111 | 166 | 195 | 219 | 185 | 1,881 |
| 1981 | 219 | 250 | 286 | 220 | 264 | 258 | 310 | 322 | 330 | 319 | 323 | 254 | 3,355 |
| 1982 | 296 | 311 | 285 | 85 | 31 | 33 | 31 | 44 | 84 | 154 | 190 | 135 | 1,679 |
| 1983 | 99 | 45 | 31 | 35 | 32 | 33 | 30 | 31 | 32 | 54 | 110 | 122 | 654 |
| 1984 | 126 | 34 | 32 | 31 | 73 | 113 | 151 | 191 | 258 | 268 | 270 | 188 | 1,743 |
| 1985 | 234 | 314 | 294 | 338 | 296 | 274 | 309 | 320 | 321 | 316 | 336 | 279 | 3,631 |
| 1986 | 321 | 308 | 331 | 331 | 42 | 32 | 74 | 96 | 118 | 263 | 266 | 188 | 2,370 |
| 1987 | 237 | 266 | 302 | 345 | 301 | 297 | 324 | 350 | 336 | 341 | 344 | 312 | 3,755 |
| 1988 | 399 | 388 | 431 | 428 | 431 | 405 | 384 | 392 | 431 | 548 | 541 | 390 | 5,148 |
| 1989 | 452 | 422 | 440 | 452 | 434 | 355 | 347 | 372 | 460 | 412 | 493 | 290 | 4,929 |
| 1990 | 295 | 353 | 483 | 450 | 426 | 391 | 365 | 402 | 445 | 497 | 529 | 337 | 4,973 |
| 76 - 90 AVG | 285 | 289 | 300 | 256 | 217 | 203 | 224 | 244 | 279 | 315 | 337 | 260 | 3,209 |

**Old River @ Middle River (58)**
**Flow Study**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3973 | 3834 | 3733 | 4318 | 5776 | 4707 | 4376 | 3358 | 4170 | 3725 | 3593 | 4287 | 49,850 |
| 1977 | 4691 | 5181 | 3843 | 4323 | 5787 | 4721 | 4408 | 3312 | 4254 | 3962 | 3861 | 4650 | 52,993 |
| 1978 | 5240 | 5648 | 3844 | 4251 | 5777 | 4639 | 4311 | 3136 | 4089 | 3596 | 3561 | 4232 | 52,322 |
| 1979 | 4637 | 4242 | 3766 | 4259 | 5791 | 4638 | 4325 | 3190 | 4121 | 3641 | 3638 | 4017 | 50,263 |
| 1980 | 4171 | 3932 | 3744 | 4208 | 5794 | 4623 | 4318 | 3153 | 4076 | 3536 | 3514 | 4239 | 49,308 |
| 1981 | 4403 | 4227 | 3739 | 4249 | 5802 | 4689 | 4357 | 3291 | 4175 | 3682 | 3601 | 4262 | 50,477 |
| 1982 | 4485 | 4344 | 3770 | 4229 | 5792 | 4632 | 4307 | 3124 | 4028 | 3503 | 3495 | 4201 | 49,910 |
| 1983 | 3721 | 2929 | 3699 | 4228 | 5794 | 4620 | 4306 | 3118 | 4011 | 3437 | 3451 | 4213 | 47,525 |
| 1984 | 3729 | 2929 | 3704 | 4214 | 5801 | 4639 | 4330 | 3204 | 4122 | 3615 | 3555 | 4030 | 47,872 |
| 1985 | 4025 | 4474 | 3788 | 4530 | 5801 | 4709 | 4362 | 3300 | 4157 | 3674 | 3612 | 4353 | 50,795 |
| 1986 | 4662 | 4538 | 3858 | 4379 | 5774 | 4618 | 4313 | 3144 | 4048 | 3597 | 3551 | 4029 | 50,511 |
| 1987 | 4231 | 4283 | 3788 | 4523 | 5810 | 4743 | 4379 | 3335 | 4180 | 3721 | 3632 | 4586 | 51,191 |
| 1988 | 5050 | 5040 | 3893 | 5013 | 5801 | 4730 | 4369 | 3345 | 4251 | 4343 | 3985 | 4693 | 54,513 |
| 1989 | 4999 | 4887 | 3805 | 4393 | 5788 | 5031 | 4399 | 3364 | 4316 | 3838 | 3887 | 4224 | 52,931 |
| 1990 | 4353 | 4693 | 3845 | 4787 | 5781 | 4728 | 4389 | 3267 | 4276 | 4242 | 4197 | 4601 | 53,159 |
| 76 - 90 AVG | 4,425 | 4,345 | 3,787 | 4,393 | 5,791 | 4,698 | 4,350 | 3,243 | 4,152 | 3,741 | 3,676 | 4,308 | 50,908 |

**Old River @ Middle River (58)**
**Maximum Flow**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 396 | 379 | 642 | 721 | 648 | 720 | 740 | 790 | 730 | 742 | 729 | 529 | 7,766 |
| 1977 | 567 | 595 | 794 | 948 | 933 | 864 | 890 | 871 | 909 | 977 | 1054 | 906 | 10,308 |
| 1978 | 756 | 770 | 779 | 486 | 308 | 192 | 229 | 271 | 464 | 592 | 635 | 394 | 5,876 |
| 1979 | 435 | 477 | 682 | 388 | 293 | 268 | 399 | 477 | 583 | 656 | 692 | 424 | 5,774 |
| 1980 | 456 | 464 | 654 | 191 | 154 | 165 | 330 | 329 | 429 | 482 | 527 | 386 | 4,567 |
| 1981 | 421 | 451 | 658 | 537 | 620 | 609 | 704 | 718 | 727 | 703 | 716 | 465 | 7,329 |
| 1982 | 503 | 524 | 650 | 282 | 169 | 156 | 174 | 205 | 277 | 406 | 474 | 376 | 4,196 |
| 1983 | 308 | 206 | 161 | 159 | 153 | 156 | 158 | 166 | 169 | 222 | 326 | 350 | 2,534 |
| 1984 | 359 | 185 | 154 | 171 | 260 | 336 | 407 | 477 | 596 | 609 | 620 | 389 | 4,563 |
| 1985 | 433 | 534 | 668 | 756 | 680 | 638 | 703 | 715 | 710 | 699 | 740 | 498 | 7,774 |
| 1986 | 535 | 578 | 736 | 744 | 173 | 153 | 261 | 302 | 340 | 605 | 614 | 379 | 5,420 |
| 1987 | 432 | 475 | 686 | 763 | 690 | 682 | 729 | 770 | 737 | 743 | 753 | 639 | 8,099 |
| 1988 | 598 | 657 | 928 | 910 | 933 | 885 | 807 | 850 | 907 | 1130 | 1115 | 710 | 10,430 |
| 1989 | 644 | 652 | 943 | 972 | 940 | 782 | 773 | 809 | 959 | 868 | 1019 | 511 | 9,872 |
| 1990 | 494 | 574 | 1022 | 942 | 924 | 860 | 808 | 872 | 933 | 1032 | 1098 | 628 | 10,187 |
| 76 - 90 AVG | 489 | 501 | 677 | 598 | 525 | 498 | 541 | 575 | 631 | 698 | 741 | 506 | 6,980 |

**Old River @ Middle River (58)**
**Maximum Flow**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 203 | 176 | 277 | 318 | 279 | 317 | 329 | 362 | 332 | 340 | 329 | 323 | 3,585 |
| 1977 | 376 | 367 | 362 | 439 | 431 | 393 | 410 | 403 | 431 | 473 | 512 | 506 | 5,103 |
| 1978 | 569 | 581 | 355 | 193 | 98 | 37 | 56 | 79 | 186 | 256 | 278 | 190 | 2,878 |
| 1979 | 232 | 260 | 301 | 141 | 90 | 77 | 147 | 191 | 251 | 291 | 310 | 225 | 2,516 |
| 1980 | 257 | 260 | 285 | 39 | 32 | 31 | 110 | 111 | 166 | 195 | 219 | 186 | 1,891 |
| 1981 | 221 | 239 | 286 | 220 | 264 | 258 | 310 | 322 | 330 | 319 | 323 | 269 | 3,361 |
| 1982 | 308 | 313 | 285 | 85 | 31 | 33 | 31 | 44 | 84 | 154 | 190 | 135 | 1,693 |
| 1983 | 99 | 45 | 31 | 35 | 32 | 33 | 30 | 31 | 32 | 54 | 110 | 122 | 654 |
| 1984 | 126 | 34 | 32 | 31 | 73 | 113 | 151 | 191 | 258 | 266 | 270 | 198 | 1,743 |
| 1985 | 241 | 332 | 294 | 338 | 296 | 274 | 309 | 320 | 321 | 316 | 336 | 290 | 3,667 |
| 1986 | 347 | 341 | 331 | 331 | 42 | 32 | 74 | 96 | 118 | 263 | 266 | 188 | 2,429 |
| 1987 | 236 | 266 | 302 | 345 | 301 | 297 | 323 | 350 | 336 | 341 | 344 | 344 | 3,785 |
| 1988 | 420 | 494 | 439 | 426 | 431 | 405 | 364 | 392 | 431 | 562 | 547 | 419 | 5,330 |
| 1989 | 481 | 426 | 440 | 452 | 434 | 354 | 347 | 372 | 461 | 412 | 494 | 294 | 4,967 |
| 1990 | 297 | 353 | 483 | 450 | 426 | 391 | 365 | 402 | 445 | 509 | 544 | 388 | 5,053 |
| 76 - 90 AVG | 294 | 299 | 300 | 256 | 217 | 203 | 224 | 244 | 279 | 317 | 338 | 272 | 3,244 |

**Old River @ Middle River (58)**
**Maximum Flow**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3982 | 3845 | 3733 | 4311 | 5777 | 4707 | 4376 | 3358 | 4173 | 3727 | 3593 | 4423 | 50,005 |
| 1977 | 4801 | 5204 | 3849 | 4311 | 5782 | 4720 | 4406 | 3312 | 4254 | 3962 | 3861 | 4756 | 53,218 |
| 1978 | 5245 | 5624 | 3841 | 4251 | 5777 | 4839 | 4311 | 3136 | 4089 | 3596 | 3560 | 4256 | 52,325 |
| 1979 | 4679 | 4355 | 3777 | 4258 | 5791 | 4636 | 4325 | 3190 | 4121 | 3641 | 3601 | 4161 | 50,535 |
| 1980 | 4274 | 3934 | 3745 | 4206 | 5794 | 4623 | 4318 | 3153 | 4076 | 3536 | 3514 | 4259 | 49,434 |
| 1981 | 4526 | 4402 | 3740 | 4250 | 5802 | 4689 | 4357 | 3292 | 4176 | 3684 | 3602 | 4344 | 50,864 |
| 1982 | 4498 | 4351 | 3770 | 4229 | 5792 | 4632 | 4307 | 3124 | 4028 | 3503 | 3495 | 4201 | 49,930 |
| 1983 | 3721 | 2929 | 3699 | 4226 | 5794 | 4620 | 4306 | 3118 | 4011 | 3437 | 3451 | 4213 | 47,525 |
| 1984 | 3729 | 2929 | 3704 | 4214 | 5801 | 4639 | 4330 | 3204 | 4122 | 3615 | 3555 | 4031 | 47,673 |
| 1985 | 4157 | 4544 | 3798 | 4530 | 5801 | 4709 | 4363 | 3303 | 4158 | 3674 | 3611 | 4425 | 51,073 |
| 1986 | 4876 | 4849 | 3860 | 4376 | 5774 | 4618 | 4313 | 3144 | 4048 | 3597 | 3551 | 4029 | 51,035 |
| 1987 | 4231 | 4281 | 3768 | 4520 | 5810 | 4743 | 4377 | 3335 | 4181 | 3722 | 3633 | 4736 | 51,337 |
| 1988 | 5104 | 5373 | 3910 | 5009 | 5802 | 4732 | 4370 | 3344 | 4252 | 4210 | 3933 | 4825 | 54,864 |
| 1989 | 5088 | 4922 | 3806 | 4386 | 5787 | 5028 | 4398 | 3368 | 4302 | 3837 | 3879 | 4221 | 53,022 |
| 1990 | 4338 | 4680 | 3845 | 4782 | 5782 | 4729 | 4388 | 3269 | 4276 | 4150 | 4114 | 4673 | 53,026 |
| 76 - 90 AVG | 4,483 | 4,415 | 3,790 | 4,391 | 5,791 | 4,698 | 4,350 | 3,243 | 4,151 | 3,726 | 3,664 | 4,370 | 51,071 |

**Old River @ Middle River, 58**
**Cumulative Impact**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 401 | 410 | 730 | 780 | 730 | 759 | 621 | 613 | 733 | 856 | 968 | 488 |
| 1977 | 527 | 573 | 763 | 927 | 960 | 955 | 773 | 759 | 909 | 1088 | 1186 | 962 |
| 1978 | 742 | 740 | 812 | 501 | 313 | 195 | 214 | 247 | 436 | 586 | 857 | 398 |
| 1979 | 449 | 484 | 737 | 395 | 255 | 278 | 347 | 387 | 629 | 665 | 684 | 422 |
| 1980 | 446 | 457 | 713 | 218 | 155 | 169 | 312 | 300 | 377 | 621 | 651 | 405 |
| 1981 | 431 | 479 | 738 | 615 | 541 | 619 | 492 | 484 | 691 | 709 | 717 | 446 |
| 1982 | 488 | 517 | 719 | 287 | 199 | 156 | 172 | 210 | 282 | 573 | 596 | 445 |
| 1983 | 243 | 213 | 155 | 159 | 153 | 155 | 164 | 168 | 176 | 247 | 398 | 354 |
| 1984 | 234 | 186 | 153 | 160 | 232 | 374 | 413 | 408 | 534 | 612 | 624 | 387 |
| 1985 | 419 | 514 | 704 | 745 | 673 | 650 | 592 | 544 | 691 | 729 | 905 | 504 |
| 1986 | 515 | 540 | 739 | 771 | 188 | 153 | 256 | 289 | 329 | 603 | 619 | 381 |
| 1987 | 433 | 493 | 761 | 800 | 725 | 711 | 614 | 607 | 723 | 921 | 990 | 684 |
| 1988 | 600 | 640 | 900 | 926 | 953 | 933 | 741 | 744 | 824 | 1070 | 1083 | 648 |
| 1989 | 608 | 608 | 914 | 975 | 954 | 812 | 730 | 789 | 796 | 992 | 1040 | 513 |
| 1990 | 488 | 539 | 972 | 947 | 962 | 925 | 782 | 815 | 908 | 1045 | 1090 | 608 |
| Average | 468 | 493 | 701 | 614 | 533 | 523 | 482 | 490 | 603 | 754 | 814 | 510 |

**Old River @ Middle River, 58**
**Cumulative Impact**
**Bromide**
Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 210 | 205 | 330 | 360 | 323 | 338 | 265 | 265 | 334 | 405 | 468 | 283 |
| 1977 | 325 | 343 | 346 | 428 | 445 | 442 | 347 | 342 | 431 | 538 | 588 | 537 |
| 1978 | 547 | 532 | 374 | 201 | 101 | 38 | 48 | 67 | 171 | 253 | 291 | 203 |
| 1979 | 247 | 271 | 336 | 145 | 70 | 83 | 119 | 143 | 276 | 296 | 306 | 227 |
| 1980 | 252 | 255 | 317 | 51 | 32 | 31 | 100 | 95 | 138 | 272 | 287 | 203 |
| 1981 | 235 | 275 | 336 | 262 | 222 | 264 | 197 | 195 | 311 | 322 | 323 | 250 |
| 1982 | 290 | 314 | 325 | 87 | 41 | 33 | 31 | 47 | 86 | 246 | 257 | 173 |
| 1983 | 64 | 49 | 31 | 35 | 32 | 33 | 30 | 31 | 32 | 68 | 149 | 124 |
| 1984 | 60 | 34 | 32 | 31 | 58 | 133 | 154 | 154 | 223 | 268 | 272 | 196 |
| 1985 | 231 | 321 | 314 | 333 | 292 | 280 | 250 | 228 | 310 | 332 | 428 | 287 |
| 1986 | 316 | 313 | 330 | 352 | 44 | 32 | 71 | 89 | 113 | 262 | 269 | 193 |
| 1987 | 241 | 288 | 355 | 382 | 319 | 312 | 262 | 261 | 328 | 441 | 476 | 382 |
| 1988 | 421 | 418 | 424 | 451 | 442 | 430 | 330 | 335 | 384 | 527 | 529 | 391 |
| 1989 | 438 | 376 | 424 | 454 | 441 | 376 | 324 | 349 | 369 | 482 | 506 | 295 |
| 1990 | 289 | 321 | 457 | 451 | 447 | 426 | 351 | 371 | 431 | 513 | 537 | 370 |
| Average | 278 | 288 | 315 | 268 | 221 | 217 | 192 | 198 | 262 | 348 | 379 | 274 |

**Old River @ Middle River, 58**
**Cumulative Impact**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3923 | 3759 | 3780 | 4558 | 5781 | 4717 | 4358 | 3269 | 4176 | 3829 | 3906 | 4332 |
| 1977 | 4768 | 5245 | 3848 | 4303 | 5759 | 4740 | 4383 | 3267 | 4261 | 4140 | 4013 | 4791 |
| 1978 | 5213 | 5494 | 3868 | 4254 | 5775 | 4639 | 4310 | 3132 | 4080 | 3590 | 3591 | 4105 |
| 1979 | 4470 | 4249 | 3792 | 4260 | 5789 | 4635 | 4322 | 3188 | 4143 | 3650 | 3587 | 4146 |
| 1980 | 4149 | 3974 | 3749 | 4213 | 5793 | 4624 | 4317 | 3147 | 4060 | 3610 | 3567 | 4210 |
| 1981 | 4364 | 4244 | 3773 | 4258 | 5793 | 4684 | 4339 | 3204 | 4166 | 3684 | 3603 | 4262 |
| 1982 | 4372 | 4312 | 3857 | 4233 | 5794 | 4633 | 4307 | 3124 | 4030 | 3585 | 3542 | 4204 |
| 1983 | 3721 | 2929 | 3699 | 4225 | 5794 | 4619 | 4306 | 3118 | 4012 | 3445 | 3471 | 4212 |
| 1984 | 3720 | 2923 | 3703 | 4214 | 5799 | 4639 | 4332 | 3179 | 4102 | 3615 | 3558 | 4012 |
| 1985 | 3997 | 4519 | 3804 | 4491 | 5800 | 4710 | 4351 | 3230 | 4167 | 3701 | 3721 | 4386 |
| 1986 | 4652 | 4546 | 3790 | 4617 | 5787 | 4620 | 4313 | 3141 | 4045 | 3593 | 3553 | 4020 |
| 1987 | 4205 | 4279 | 3805 | 4572 | 5814 | 4752 | 4363 | 3256 | 4177 | 3904 | 3801 | 4835 |
| 1988 | 5132 | 5264 | 3868 | 5020 | 5802 | 4743 | 4361 | 3288 | 4215 | 4095 | 3900 | 4770 |
| 1989 | 5046 | 4906 | 3803 | 4412 | 5789 | 5250 | 4393 | 3344 | 4215 | 3987 | 3892 | 4224 |
| 1990 | 4180 | 4421 | 3835 | 4792 | 5800 | 4742 | 4381 | 3251 | 4267 | 4063 | 4035 | 4651 |
| Average | 4394 | 4338 | 3797 | 4428 | 5791 | 4716 | 4342 | 3208 | 4141 | 3786 | 3718 | 4345 |



Main TOC

Next Page

**Old River @ Tracy Road (71)**
**Existing Conditions**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 356 | 350 | 658 | 760 | 686 | 811 | 720 | 750 | 764 | 830 | 1046 | 770 | 8,501 |
| 1977 | 487 | 548 | 788 | 970 | 944 | 950 | 768 | 862 | 872 | 1000 | 1157 | 956 | 10,302 |
| 1978 | 693 | 729 | 844 | 563 | 346 | 217 | 232 | 278 | 478 | 599 | 636 | 482 | 6,097 |
| 1979 | 365 | 411 | 767 | 453 | 319 | 283 | 396 | 480 | 591 | 661 | 690 | 509 | 5,925 |
| 1980 | 413 | 465 | 743 | 214 | 178 | 172 | 335 | 334 | 436 | 482 | 560 | 444 | 4,776 |
| 1981 | 377 | 404 | 667 | 587 | 657 | 638 | 607 | 708 | 781 | 857 | 858 | 630 | 7,771 |
| 1982 | 446 | 533 | 634 | 332 | 174 | 170 | 176 | 208 | 289 | 396 | 493 | 381 | 4,232 |
| 1983 | 307 | 229 | 171 | 230 | 176 | 197 | 162 | 167 | 174 | 221 | 340 | 357 | 2,731 |
| 1984 | 371 | 194 | 174 | 178 | 269 | 350 | 456 | 610 | 603 | 622 | 689 | 502 | 5,018 |
| 1985 | 391 | 498 | 754 | 835 | 733 | 696 | 595 | 696 | 759 | 851 | 948 | 699 | 8,455 |
| 1986 | 459 | 530 | 780 | 723 | 208 | 168 | 263 | 308 | 358 | 595 | 629 | 477 | 5,498 |
| 1987 | 407 | 476 | 703 | 813 | 742 | 766 | 716 | 740 | 737 | 825 | 1028 | 764 | 8,717 |
| 1988 | 491 | 518 | 948 | 971 | 950 | 921 | 722 | 800 | 858 | 1039 | 1145 | 866 | 10,229 |
| 1989 | 604 | 634 | 939 | 997 | 976 | 830 | 685 | 802 | 820 | 900 | 1030 | 746 | 9,963 |
| 1990 | 455 | 516 | 989 | 988 | 977 | 900 | 782 | 838 | 858 | 1023 | 1093 | 821 | 10,240 |
| 76 - 90 AVG | 441 | 469 | 704 | 641 | 556 | 538 | 508 | 572 | 625 | 727 | 823 | 627 | 7,230 |

**Old River @ Tracy Road (71)**
**Existing Conditions**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 182 | 162 | 288 | 339 | 299 | 364 | 319 | 343 | 356 | 396 | 526 | 432 | 4,006 |
| 1977 | 340 | 376 | 370 | 452 | 436 | 439 | 345 | 400 | 417 | 507 | 586 | 578 | 5,246 |
| 1978 | 592 | 601 | 407 | 236 | 118 | 50 | 58 | 84 | 196 | 264 | 282 | 229 | 3,117 |
| 1979 | 184 | 228 | 352 | 176 | 104 | 85 | 146 | 194 | 259 | 299 | 312 | 259 | 2,598 |
| 1980 | 254 | 286 | 340 | 55 | 44 | 33 | 113 | 115 | 173 | 198 | 240 | 208 | 2,059 |
| 1981 | 198 | 224 | 294 | 247 | 284 | 273 | 258 | 319 | 365 | 419 | 418 | 347 | 3,646 |
| 1982 | 307 | 347 | 283 | 113 | 36 | 39 | 32 | 46 | 91 | 152 | 203 | 139 | 1,788 |
| 1983 | 99 | 62 | 37 | 73 | 43 | 53 | 32 | 32 | 34 | 55 | 119 | 127 | 786 |
| 1984 | 134 | 40 | 46 | 35 | 78 | 121 | 178 | 266 | 265 | 277 | 312 | 245 | 1,997 |
| 1985 | 227 | 316 | 349 | 381 | 324 | 304 | 252 | 312 | 352 | 415 | 473 | 387 | 4,092 |
| 1986 | 319 | 353 | 361 | 321 | 59 | 39 | 75 | 100 | 129 | 263 | 278 | 228 | 2,525 |
| 1987 | 239 | 313 | 319 | 369 | 329 | 341 | 317 | 337 | 340 | 394 | 518 | 440 | 4,256 |
| 1988 | 367 | 358 | 455 | 457 | 440 | 423 | 320 | 368 | 409 | 522 | 585 | 532 | 5,236 |
| 1989 | 504 | 483 | 448 | 467 | 453 | 375 | 300 | 371 | 387 | 444 | 523 | 412 | 5,167 |
| 1990 | 306 | 356 | 478 | 464 | 454 | 412 | 352 | 385 | 409 | 515 | 565 | 503 | 5,199 |
| 76 - 90 AVG | 283 | 300 | 322 | 279 | 233 | 223 | 206 | 245 | 279 | 341 | 396 | 338 | 3,447 |

**Old River @ Tracy Road (71)**
**Existing Conditions**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3672 | 3496 | 3743 | 4292 | 5686 | 4764 | 4395 | 3467 | 4268 | 3995 | 4386 | 4354 | 50,518 |
| 1977 | 3867 | 3904 | 3840 | 4275 | 5653 | 4798 | 4412 | 3464 | 4321 | 4653 | 4357 | 4559 | 52,103 |
| 1978 | 4528 | 4388 | 3902 | 4233 | 5696 | 4652 | 4316 | 3169 | 4141 | 3726 | 3842 | 3891 | 50,284 |
| 1979 | 3958 | 3697 | 3814 | 4236 | 5720 | 4652 | 4335 | 3255 | 4182 | 3774 | 3682 | 3767 | 49,072 |
| 1980 | 3766 | 3598 | 3802 | 4208 | 5737 | 4634 | 4326 | 3197 | 4117 | 3618 | 3594 | 3851 | 48,448 |
| 1981 | 3993 | 3737 | 3749 | 4233 | 5701 | 4738 | 4370 | 3412 | 4271 | 4257 | 4174 | 4007 | 50,642 |
| 1982 | 3678 | 3902 | 3791 | 4218 | 5764 | 4636 | 4311 | 3145 | 4056 | 3574 | 3561 | 4203 | 48,829 |
| 1983 | 3746 | 3010 | 3707 | 4211 | 5748 | 4604 | 4307 | 3132 | 4019 | 3471 | 3498 | 4218 | 47,669 |
| 1984 | 3759 | 2959 | 3724 | 4208 | 5758 | 4657 | 4345 | 3343 | 4175 | 3745 | 3686 | 3776 | 48,135 |
| 1985 | 3727 | 3873 | 3932 | 4430 | 5720 | 4760 | 4367 | 3398 | 4246 | 4240 | 4366 | 4233 | 51,292 |
| 1986 | 3739 | 3859 | 3909 | 4382 | 5709 | 4617 | 4319 | 3187 | 4088 | 3720 | 3639 | 3814 | 48,982 |
| 1987 | 3773 | 3571 | 3760 | 4508 | 5737 | 4828 | 4408 | 3437 | 4249 | 4014 | 4420 | 4371 | 51,076 |
| 1988 | 3792 | 3737 | 3881 | 4828 | 5733 | 4787 | 4379 | 3438 | 4315 | 4460 | 4534 | 4446 | 52,330 |
| 1989 | 4042 | 4095 | 3797 | 4320 | 5643 | 5174 | 4438 | 3481 | 4296 | 4351 | 4555 | 4320 | 52,512 |
| 1990 | 3731 | 3641 | 3777 | 4620 | 5694 | 4784 | 4403 | 3369 | 4316 | 4509 | 4765 | 4541 | 52,150 |
| 76 - 90 AVG | 3,851 | 3,698 | 3,808 | 4,347 | 5,713 | 4,739 | 4,362 | 3,326 | 4,204 | 4,007 | 4,057 | 4,157 | 50,269 |

**Old River @ Tracy Road (71)**
**No-Action Alternative**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 365 | 376 | 527 | 700 | 704 | 704 | 733 | 763 | 766 | 733 | 736 | 609 | 8,501 |
| 1,977 | 496 | 609 | 705 | 873 | 951 | 913 | 878 | 878 | 875 | 914 | 991 | 980 | 10,302 |
| 1,978 | 725 | 765 | 806 | 674 | 417 | 266 | 208 | 254 | 371 | 528 | 614 | 491 | 6,097 |
| 1,979 | 414 | 453 | 578 | 576 | 354 | 287 | 335 | 444 | 533 | 620 | 671 | 516 | 5,925 |
| 1,980 | 416 | 456 | 648 | 445 | 184 | 155 | 249 | 335 | 384 | 459 | 506 | 434 | 4,776 |
| 1,981 | 402 | 435 | 565 | 627 | 583 | 625 | 659 | 714 | 724 | 717 | 708 | 566 | 7,771 |
| 1,982 | 474 | 548 | 695 | 507 | 225 | 176 | 164 | 192 | 246 | 346 | 441 | 427 | 4,232 |
| 1,983 | 344 | 274 | 191 | 223 | 141 | 144 | 124 | 164 | 170 | 198 | 276 | 340 | 2,731 |
| 1,984 | 356 | 278 | 188 | 168 | 225 | 307 | 377 | 447 | 539 | 606 | 615 | 472 | 5,018 |
| 1,985 | 382 | 492 | 648 | 730 | 738 | 670 | 675 | 711 | 714 | 706 | 716 | 609 | 8,455 |
| 1,986 | 496 | 553 | 751 | 770 | 476 | 144 | 192 | 287 | 328 | 467 | 611 | 460 | 5,498 |
| 1,987 | 390 | 478 | 594 | 738 | 748 | 706 | 709 | 748 | 756 | 737 | 746 | 607 | 8,717 |
| 1,988 | 574 | 622 | 883 | 942 | 969 | 935 | 854 | 821 | 865 | 948 | 1127 | 836 | 10,229 |
| 1,989 | 646 | 680 | 918 | 968 | 987 | 883 | 779 | 817 | 903 | 904 | 871 | 700 | 9,963 |
| 1,990 | 476 | 513 | 931 | 996 | 951 | 905 | 840 | 829 | 888 | 938 | 1015 | 809 | 10,240 |
| 76 - 90 AVG | 464 | 502 | 642 | 662 | 576 | 521 | 518 | 560 | 604 | 655 | 710 | 584 | 7,230 |

**Old River @ Tracy Road (71)**
**No-Action Alternative**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 188 | 177 | 218 | 307 | 305 | 303 | 326 | 351 | 356 | 341 | 337 | 326 | 4,006 |
| 1,977 | 349 | 418 | 326 | 400 | 440 | 419 | 403 | 409 | 421 | 451 | 488 | 531 | 5,246 |
| 1,978 | 604 | 632 | 383 | 295 | 156 | 76 | 46 | 71 | 139 | 227 | 270 | 236 | 3,117 |
| 1,979 | 229 | 274 | 250 | 242 | 123 | 87 | 113 | 175 | 228 | 277 | 305 | 269 | 2,598 |
| 1,980 | 260 | 276 | 287 | 173 | 44 | 33 | 72 | 115 | 145 | 186 | 210 | 205 | 2,059 |
| 1,981 | 225 | 265 | 241 | 268 | 244 | 267 | 286 | 323 | 333 | 330 | 323 | 315 | 3,646 |
| 1,982 | 334 | 361 | 315 | 206 | 57 | 39 | 32 | 39 | 69 | 125 | 176 | 184 | 1,788 |
| 1,983 | 119 | 86 | 43 | 72 | 43 | 53 | 31 | 32 | 34 | 47 | 85 | 118 | 766 |
| 1,984 | 127 | 84 | 46 | 35 | 55 | 96 | 136 | 177 | 231 | 268 | 271 | 231 | 1,997 |
| 1,985 | 222 | 310 | 290 | 326 | 327 | 290 | 295 | 321 | 327 | 324 | 327 | 336 | 4,092 |
| 1,986 | 356 | 372 | 344 | 348 | 199 | 39 | 53 | 89 | 114 | 195 | 268 | 219 | 2,525 |
| 1,987 | 224 | 306 | 260 | 329 | 332 | 308 | 313 | 342 | 350 | 343 | 344 | 354 | 4,256 |
| 1,988 | 456 | 470 | 421 | 442 | 445 | 424 | 390 | 380 | 415 | 475 | 563 | 504 | 5,236 |
| 1,989 | 542 | 540 | 439 | 451 | 448 | 404 | 351 | 379 | 438 | 440 | 426 | 376 | 5,167 |
| 1,990 | 312 | 358 | 447 | 469 | 440 | 415 | 383 | 380 | 427 | 467 | 508 | 469 | 5,199 |
| 76 - 90 AVG | 303 | 329 | 287 | 291 | 244 | 217 | 215 | 239 | 268 | 300 | 327 | 310 | 3,447 |

**Old River @ Tracy Road (71)**
**No-Action Alternative**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 3708 | 3516 | 3726 | 4290 | 5686 | 4752 | 4399 | 3500 | 4246 | 3877 | 3683 | 3883 | 50,518 |
| 1,977 | 3867 | 3921 | 3835 | 4272 | 5657 | 4777 | 4458 | 3462 | 4344 | 4315 | 4103 | 4501 | 52,103 |
| 1,978 | 4762 | 4676 | 3881 | 4231 | 5700 | 4652 | 4316 | 3168 | 4135 | 3724 | 3638 | 3853 | 50,284 |
| 1,979 | 3975 | 3854 | 3767 | 4233 | 5723 | 4650 | 4335 | 3255 | 4177 | 3764 | 3765 | 3793 | 49,072 |
| 1,980 | 3699 | 3581 | 3742 | 4202 | 5735 | 4833 | 4326 | 3196 | 4115 | 3621 | 3578 | 3833 | 48,448 |
| 1,981 | 3989 | 3731 | 3740 | 4226 | 5707 | 4726 | 4383 | 3417 | 4241 | 3821 | 3698 | 3858 | 50,642 |
| 1,982 | 3773 | 3936 | 3785 | 4217 | 5763 | 4636 | 4311 | 3145 | 4053 | 3581 | 3554 | 4204 | 48,829 |
| 1,983 | 3746 | 3007 | 3707 | 4211 | 5745 | 4604 | 4308 | 3133 | 4020 | 3473 | 3493 | 4218 | 47,669 |
| 1,984 | 3757 | 2959 | 3724 | 4208 | 5758 | 4656 | 4341 | 3268 | 4175 | 3729 | 3631 | 3756 | 48,135 |
| 1,985 | 3703 | 3864 | 3823 | 4601 | 5736 | 4748 | 4387 | 3405 | 4223 | 3816 | 3712 | 3962 | 51,292 |
| 1,986 | 3895 | 3992 | 3894 | 4687 | 5721 | 4618 | 4319 | 3186 | 4083 | 3717 | 3625 | 3745 | 48,982 |
| 1,987 | 3711 | 3558 | 3754 | 4654 | 5745 | 4779 | 4408 | 3465 | 4250 | 3883 | 3741 | 3972 | 51,076 |
| 1,988 | 4045 | 4067 | 3905 | 4815 | 5717 | 4778 | 4397 | 3487 | 4345 | 4533 | 4161 | 4241 | 52,330 |
| 1,989 | 4107 | 4132 | 3800 | 4315 | 5848 | 5112 | 4452 | 3494 | 4420 | 4144 | 4192 | 4084 | 52,512 |
| 1,990 | 3768 | 3668 | 3777 | 4620 | 5695 | 4779 | 4409 | 3380 | 4359 | 4420 | 4335 | 4348 | 52,150 |
| 76 - 90 AVG | 3,900 | 3,764 | 3,791 | 4,385 | 5,716 | 4,727 | 4,370 | 3,331 | 4,212 | 3,895 | 3,795 | 4,017 | 50,269 |

**Old River @ Tracy Road (71)**
**State Permit**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 359 | 353 | 632 | 733 | 661 | 727 | 744 | 789 | 736 | 742 | 729 | 619 | 7,824 |
| 1977 | 515 | 578 | 785 | 947 | 941 | 875 | 893 | 873 | 898 | 951 | 1027 | 890 | 10,173 |
| 1978 | 728 | 761 | 783 | 533 | 337 | 211 | 230 | 274 | 467 | 591 | 635 | 479 | 6,029 |
| 1979 | 393 | 463 | 675 | 430 | 312 | 276 | 401 | 480 | 584 | 656 | 690 | 519 | 5,879 |
| 1980 | 421 | 443 | 648 | 218 | 179 | 170 | 332 | 333 | 432 | 485 | 529 | 434 | 4,624 |
| 1981 | 398 | 426 | 650 | 563 | 629 | 619 | 705 | 721 | 728 | 705 | 716 | 566 | 7,426 |
| 1982 | 475 | 534 | 650 | 330 | 177 | 168 | 176 | 207 | 281 | 408 | 475 | 379 | 4,260 |
| 1983 | 312 | 224 | 169 | 230 | 178 | 197 | 160 | 167 | 171 | 224 | 329 | 352 | 2,711 |
| 1984 | 361 | 192 | 174 | 178 | 267 | 342 | 411 | 481 | 596 | 611 | 621 | 475 | 4,709 |
| 1985 | 392 | 486 | 667 | 771 | 695 | 649 | 705 | 718 | 712 | 701 | 738 | 599 | 7,833 |
| 1986 | 500 | 548 | 742 | 768 | 216 | 168 | 263 | 305 | 345 | 601 | 615 | 464 | 5,535 |
| 1987 | 394 | 461 | 677 | 769 | 709 | 700 | 734 | 770 | 739 | 742 | 752 | 608 | 8,055 |
| 1988 | 588 | 638 | 929 | 937 | 941 | 895 | 815 | 847 | 898 | 1049 | 1084 | 826 | 10,447 |
| 1989 | 599 | 640 | 924 | 980 | 951 | 808 | 780 | 809 | 936 | 862 | 984 | 750 | 10,023 |
| 1990 | 487 | 520 | 989 | 970 | 930 | 871 | 815 | 867 | 922 | 973 | 1060 | 807 | 10,211 |
| 76 - 90 AVG | 461 | 484 | 673 | 624 | 541 | 512 | 544 | 576 | 630 | 687 | 732 | 584 | 7,049 |

**Old River @ Tracy Road (71)**
**State Permit**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 183 | 164 | 274 | 325 | 286 | 320 | 332 | 364 | 340 | 345 | 333 | 331 | 3,597 |
| 1977 | 360 | 412 | 371 | 439 | 434 | 399 | 411 | 406 | 432 | 471 | 507 | 536 | 5,178 |
| 1978 | 611 | 619 | 370 | 220 | 114 | 47 | 57 | 82 | 189 | 260 | 282 | 229 | 3,080 |
| 1979 | 217 | 281 | 302 | 164 | 101 | 81 | 149 | 194 | 255 | 296 | 314 | 272 | 2,626 |
| 1980 | 262 | 266 | 286 | 54 | 44 | 33 | 112 | 114 | 171 | 200 | 223 | 205 | 1,970 |
| 1981 | 223 | 259 | 286 | 235 | 268 | 263 | 311 | 326 | 335 | 324 | 327 | 316 | 3,473 |
| 1982 | 329 | 348 | 291 | 112 | 36 | 39 | 32 | 46 | 87 | 158 | 193 | 139 | 1,810 |
| 1983 | 101 | 59 | 37 | 72 | 43 | 53 | 31 | 32 | 34 | 57 | 113 | 125 | 757 |
| 1984 | 129 | 38 | 46 | 35 | 77 | 116 | 154 | 195 | 262 | 271 | 274 | 233 | 1,830 |
| 1985 | 227 | 306 | 300 | 346 | 304 | 279 | 311 | 324 | 326 | 321 | 339 | 337 | 3,720 |
| 1986 | 359 | 370 | 340 | 347 | 63 | 39 | 75 | 99 | 123 | 265 | 270 | 221 | 2,571 |
| 1987 | 226 | 296 | 304 | 346 | 311 | 305 | 327 | 353 | 342 | 345 | 347 | 356 | 3,858 |
| 1988 | 465 | 483 | 447 | 439 | 435 | 410 | 370 | 394 | 431 | 531 | 540 | 481 | 5,426 |
| 1989 | 485 | 491 | 441 | 458 | 440 | 364 | 350 | 375 | 455 | 416 | 483 | 408 | 5,166 |
| 1990 | 327 | 363 | 478 | 454 | 429 | 397 | 370 | 401 | 445 | 488 | 531 | 473 | 5,156 |
| 76 - 90 AVG | 300 | 317 | 305 | 270 | 226 | 210 | 226 | 247 | 282 | 317 | 338 | 311 | 3,348 |

**Old River @ Tracy Road (71)**
**State Permit**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3706 | 3517 | 3725 | 4291 | 5686 | 4752 | 4397 | 3497 | 4240 | 3877 | 3686 | 3914 | 49,288 |
| 1977 | 3885 | 3875 | 3828 | 4262 | 5653 | 4777 | 4456 | 3459 | 4343 | 4310 | 4104 | 4498 | 51,450 |
| 1978 | 4659 | 4516 | 3873 | 4231 | 5700 | 4652 | 4316 | 3168 | 4135 | 3717 | 3638 | 3851 | 50,456 |
| 1979 | 3983 | 3808 | 3767 | 4233 | 5723 | 4650 | 4335 | 3255 | 4176 | 3765 | 3755 | 3785 | 49,235 |
| 1980 | 3701 | 3551 | 3742 | 4202 | 5735 | 4633 | 4326 | 3196 | 4115 | 3821 | 3578 | 3836 | 48,236 |
| 1981 | 3995 | 3649 | 3739 | 4226 | 5707 | 4728 | 4382 | 3417 | 4242 | 3824 | 3698 | 3862 | 49,469 |
| 1982 | 3774 | 3939 | 3784 | 4217 | 5763 | 4636 | 4311 | 3145 | 4053 | 3581 | 3554 | 4204 | 48,961 |
| 1983 | 3746 | 3007 | 3706 | 4211 | 5746 | 4604 | 4307 | 3132 | 4018 | 3473 | 3494 | 4218 | 47,662 |
| 1984 | 3757 | 2959 | 3724 | 4208 | 5758 | 4656 | 4341 | 3268 | 4176 | 3729 | 3631 | 3755 | 47,962 |
| 1985 | 3707 | 3824 | 3822 | 4387 | 5720 | 4747 | 4386 | 3408 | 4222 | 3815 | 3711 | 3919 | 49,668 |
| 1986 | 3849 | 3950 | 3889 | 4679 | 5721 | 4618 | 4319 | 3186 | 4083 | 3722 | 3626 | 3744 | 49,386 |
| 1987 | 3713 | 3560 | 3754 | 4658 | 5745 | 4779 | 4408 | 3463 | 4249 | 3881 | 3739 | 3959 | 49,908 |
| 1988 | 4024 | 3994 | 3905 | 4825 | 5716 | 4778 | 4395 | 3488 | 4338 | 4568 | 4194 | 4249 | 52,474 |
| 1989 | 4074 | 4076 | 3798 | 4315 | 5650 | 5131 | 4454 | 3497 | 4405 | 4097 | 4077 | 4064 | 51,638 |
| 1990 | 3769 | 3636 | 3775 | 4620 | 5694 | 4779 | 4409 | 3387 | 4354 | 4455 | 4304 | 4260 | 51,462 |
| 76 - 90 AVG | 3,899 | 3,724 | 3,789 | 4,371 | 5,714 | 4,728 | 4,369 | 3,331 | 4,210 | 3,898 | 3,786 | 4,009 | 49,817 |



Main TOC

Next Page

**Old River @ Tracy Road (71)**
**Percent Inflow**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 358 | 352 | 632 | 733 | 661 | 727 | 744 | 789 | 736 | 742 | 729 | 616 | 7,819 |
| 1977 | 514 | 570 | 783 | 947 | 941 | 875 | 893 | 873 | 898 | 951 | 1027 | 891 | 10,163 |
| 1978 | 729 | 766 | 784 | 533 | 337 | 211 | 230 | 274 | 467 | 591 | 635 | 479 | 6,036 |
| 1979 | 393 | 465 | 672 | 430 | 312 | 276 | 401 | 480 | 584 | 656 | 689 | 519 | 5,877 |
| 1980 | 421 | 453 | 649 | 218 | 179 | 170 | 332 | 333 | 432 | 485 | 529 | 431 | 4,632 |
| 1981 | 395 | 448 | 651 | 562 | 629 | 618 | 705 | 721 | 728 | 705 | 716 | 561 | 7,439 |
| 1982 | 470 | 530 | 651 | 330 | 177 | 168 | 176 | 207 | 281 | 408 | 475 | 379 | 4,252 |
| 1983 | 312 | 224 | 169 | 230 | 177 | 197 | 160 | 167 | 171 | 224 | 329 | 352 | 2,712 |
| 1984 | 361 | 192 | 174 | 178 | 267 | 342 | 411 | 481 | 596 | 611 | 621 | 475 | 4,709 |
| 1985 | 392 | 496 | 668 | 772 | 695 | 649 | 706 | 718 | 713 | 701 | 738 | 617 | 7,865 |
| 1986 | 509 | 554 | 742 | 768 | 216 | 168 | 263 | 305 | 345 | 601 | 615 | 464 | 5,550 |
| 1987 | 394 | 461 | 677 | 769 | 709 | 700 | 734 | 770 | 740 | 742 | 752 | 606 | 8,054 |
| 1988 | 570 | 618 | 931 | 939 | 941 | 895 | 816 | 847 | 896 | 1064 | 1095 | 824 | 10,436 |
| 1989 | 642 | 683 | 925 | 980 | 951 | 808 | 780 | 809 | 934 | 854 | 951 | 714 | 10,031 |
| 1990 | 472 | 517 | 988 | 968 | 930 | 871 | 815 | 867 | 921 | 1006 | 1071 | 846 | 10,272 |
| 76 - 90 AVG | 462 | 489 | 673 | 624 | 541 | 512 | 544 | 576 | 629 | 689 | 731 | 585 | 7,056 |

**Old River @ Tracy Road (71)**
**Percent Inflow**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 182 | 163 | 274 | 325 | 286 | 320 | 332 | 365 | 341 | 345 | 333 | 329 | 3,595 |
| 1977 | 363 | 400 | 368 | 439 | 435 | 399 | 411 | 406 | 432 | 470 | 507 | 538 | 5,168 |
| 1978 | 609 | 635 | 372 | 220 | 114 | 47 | 57 | 82 | 189 | 280 | 282 | 230 | 3,097 |
| 1979 | 217 | 279 | 300 | 164 | 101 | 81 | 149 | 194 | 255 | 296 | 314 | 271 | 2,621 |
| 1980 | 263 | 274 | 287 | 54 | 44 | 33 | 112 | 114 | 171 | 201 | 223 | 202 | 1,978 |
| 1981 | 220 | 280 | 287 | 234 | 268 | 263 | 311 | 326 | 335 | 324 | 327 | 312 | 3,487 |
| 1982 | 324 | 344 | 292 | 112 | 36 | 39 | 32 | 46 | 87 | 158 | 193 | 139 | 1,802 |
| 1983 | 101 | 59 | 37 | 72 | 43 | 53 | 31 | 32 | 34 | 57 | 113 | 125 | 757 |
| 1984 | 129 | 39 | 46 | 35 | 77 | 116 | 154 | 195 | 262 | 271 | 274 | 233 | 1,831 |
| 1985 | 228 | 314 | 301 | 348 | 304 | 279 | 311 | 324 | 326 | 321 | 339 | 343 | 3,738 |
| 1986 | 366 | 376 | 340 | 347 | 63 | 39 | 75 | 99 | 123 | 265 | 270 | 221 | 2,584 |
| 1987 | 226 | 296 | 304 | 346 | 311 | 305 | 327 | 353 | 342 | 348 | 348 | 351 | 3,855 |
| 1988 | 443 | 459 | 446 | 440 | 435 | 410 | 370 | 394 | 431 | 537 | 546 | 496 | 5,407 |
| 1989 | 538 | 543 | 443 | 458 | 440 | 363 | 350 | 375 | 454 | 414 | 468 | 384 | 5,230 |
| 1990 | 310 | 359 | 477 | 453 | 429 | 397 | 370 | 401 | 445 | 503 | 537 | 497 | 5,178 |
| 76 - 90 AVG | 301 | 321 | 305 | 270 | 226 | 210 | 226 | 247 | 282 | 318 | 338 | 311 | 3,355 |

**Old River @ Tracy Road (71)**
**Percent Inflow**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3705 | 3516 | 3726 | 4289 | 5686 | 4752 | 4398 | 3502 | 4248 | 3878 | 3683 | 3903 | 49,286 |
| 1977 | 3892 | 3931 | 3835 | 4269 | 5656 | 4777 | 4455 | 3461 | 4343 | 4313 | 4103 | 4500 | 51,535 |
| 1978 | 4757 | 4676 | 3881 | 4231 | 5700 | 4652 | 4316 | 3168 | 4135 | 3727 | 3638 | 3852 | 50,733 |
| 1979 | 3978 | 3855 | 3767 | 4234 | 5723 | 4650 | 4335 | 3255 | 4176 | 3763 | 3761 | 3791 | 49,288 |
| 1980 | 3701 | 3591 | 3743 | 4202 | 5735 | 4633 | 4326 | 3196 | 4115 | 3628 | 3578 | 3827 | 48,275 |
| 1981 | 3991 | 3712 | 3739 | 4225 | 5708 | 4726 | 4382 | 3422 | 4241 | 3821 | 3698 | 3842 | 49,507 |
| 1982 | 3741 | 3909 | 3784 | 4217 | 5763 | 4636 | 4311 | 3145 | 4053 | 3581 | 3554 | 4204 | 48,898 |
| 1983 | 3746 | 3007 | 3707 | 4211 | 5745 | 4604 | 4308 | 3134 | 4020 | 3473 | 3494 | 4218 | 47,667 |
| 1984 | 3757 | 2959 | 3723 | 4208 | 5758 | 4656 | 4341 | 3268 | 4176 | 3729 | 3631 | 3755 | 47,961 |
| 1985 | 3706 | 3876 | 3823 | 4639 | 5738 | 4749 | 4386 | 3407 | 4223 | 3818 | 3713 | 3972 | 50,050 |
| 1986 | 3904 | 4003 | 3895 | 4687 | 5721 | 4618 | 4319 | 3186 | 4083 | 3720 | 3626 | 3743 | 49,505 |
| 1987 | 3713 | 3559 | 3754 | 4659 | 5745 | 4779 | 4410 | 3472 | 4252 | 3891 | 3744 | 4017 | 49,995 |
| 1988 | 4101 | 4133 | 3913 | 4819 | 5715 | 4778 | 4399 | 3489 | 4347 | 4529 | 4175 | 4244 | 52,642 |
| 1989 | 4132 | 4161 | 3803 | 4314 | 5847 | 5108 | 4452 | 3495 | 4420 | 4143 | 4193 | 4087 | 51,955 |
| 1990 | 3776 | 3674 | 3777 | 4620 | 5698 | 4779 | 4409 | 3387 | 4361 | 4388 | 4295 | 4352 | 51,516 |
| 76 - 90 AVG | 3,907 | 3,771 | 3,791 | 4,388 | 5,716 | 4,726 | 4,370 | 3,332 | 4,213 | 3,993 | 3,792 | 4,020 | 49,921 |

**Old River @ Tracy Road (71)**
**Flow Study**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 387 | 357 | 632 | 733 | 661 | 727 | 744 | 789 | 736 | 742 | 729 | 618 | 7,835 |
| 1977 | 515 | 555 | 782 | 947 | 941 | 875 | 893 | 873 | 898 | 951 | 1027 | 887 | 10,144 |
| 1978 | 729 | 774 | 784 | 533 | 338 | 211 | 230 | 274 | 467 | 591 | 635 | 480 | 6,046 |
| 1979 | 394 | 464 | 672 | 430 | 312 | 276 | 401 | 480 | 584 | 658 | 690 | 518 | 5,877 |
| 1980 | 420 | 457 | 649 | 218 | 179 | 170 | 332 | 333 | 432 | 485 | 529 | 430 | 4,834 |
| 1981 | 395 | 450 | 651 | 582 | 629 | 619 | 705 | 721 | 728 | 705 | 716 | 561 | 7,442 |
| 1982 | 462 | 529 | 650 | 330 | 177 | 168 | 176 | 207 | 281 | 408 | 475 | 379 | 4,242 |
| 1983 | 312 | 224 | 169 | 230 | 176 | 197 | 160 | 167 | 171 | 224 | 329 | 352 | 2,711 |
| 1984 | 361 | 192 | 174 | 178 | 267 | 342 | 411 | 481 | 598 | 611 | 621 | 475 | 4,709 |
| 1985 | 392 | 492 | 668 | 772 | 695 | 649 | 705 | 718 | 713 | 701 | 738 | 606 | 7,849 |
| 1986 | 498 | 532 | 741 | 768 | 216 | 168 | 263 | 305 | 345 | 601 | 615 | 464 | 5,516 |
| 1987 | 395 | 463 | 677 | 769 | 709 | 700 | 734 | 770 | 740 | 742 | 752 | 601 | 8,052 |
| 1988 | 579 | 602 | 925 | 937 | 941 | 896 | 816 | 846 | 896 | 1058 | 1085 | 826 | 10,407 |
| 1989 | 618 | 652 | 924 | 980 | 951 | 808 | 780 | 809 | 938 | 869 | 894 | 753 | 10,076 |
| 1990 | 482 | 517 | 989 | 967 | 930 | 871 | 816 | 867 | 921 | 986 | 1049 | 778 | 10,173 |
| 76 - 90 AVG | 461 | 484 | 672 | 624 | 541 | 512 | 544 | 576 | 630 | 689 | 732 | 582 | 7,048 |

**Old River @ Tracy Road (71)**
**Flow Study**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 192 | 168 | 274 | 325 | 286 | 320 | 332 | 365 | 341 | 345 | 333 | 334 | 3,615 |
| 1977 | 366 | 385 | 366 | 439 | 434 | 399 | 411 | 406 | 432 | 470 | 507 | 537 | 5,152 |
| 1978 | 613 | 641 | 372 | 220 | 114 | 46 | 57 | 82 | 189 | 260 | 282 | 231 | 3,107 |
| 1979 | 219 | 281 | 300 | 164 | 101 | 81 | 149 | 194 | 255 | 296 | 314 | 270 | 2,624 |
| 1980 | 262 | 278 | 287 | 54 | 44 | 33 | 112 | 114 | 171 | 201 | 223 | 202 | 1,981 |
| 1981 | 221 | 283 | 288 | 235 | 268 | 263 | 311 | 326 | 336 | 325 | 327 | 304 | 3,487 |
| 1982 | 313 | 341 | 291 | 112 | 36 | 39 | 32 | 46 | 87 | 158 | 193 | 139 | 1,787 |
| 1983 | 101 | 59 | 37 | 72 | 43 | 53 | 31 | 32 | 34 | 57 | 113 | 125 | 757 |
| 1984 | 129 | 38 | 46 | 35 | 77 | 116 | 154 | 195 | 262 | 271 | 274 | 233 | 1,830 |
| 1985 | 228 | 311 | 301 | 348 | 304 | 279 | 311 | 325 | 326 | 322 | 339 | 333 | 3,727 |
| 1986 | 352 | 350 | 339 | 347 | 63 | 39 | 75 | 99 | 123 | 265 | 270 | 221 | 2,543 |
| 1987 | 228 | 298 | 304 | 346 | 311 | 305 | 327 | 354 | 342 | 346 | 347 | 350 | 3,858 |
| 1988 | 455 | 437 | 442 | 439 | 435 | 410 | 370 | 394 | 432 | 535 | 541 | 488 | 5,378 |
| 1989 | 509 | 508 | 441 | 459 | 440 | 364 | 351 | 375 | 456 | 420 | 487 | 405 | 5,212 |
| 1990 | 319 | 359 | 477 | 453 | 429 | 397 | 370 | 400 | 445 | 494 | 526 | 450 | 5,119 |
| 76 - 90 AVG | 300 | 316 | 304 | 270 | 226 | 210 | 226 | 247 | 282 | 318 | 338 | 308 | 3,345 |

**Old River @ Tracy Road (71)**
**Flow Study**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3715 | 3520 | 3725 | 4290 | 5686 | 4750 | 4399 | 3505 | 4249 | 3879 | 3685 | 3907 | 49,310 |
| 1977 | 3888 | 3943 | 3847 | 4270 | 5855 | 4778 | 4458 | 3463 | 4343 | 4313 | 4103 | 4515 | 51,576 |
| 1978 | 4766 | 4682 | 3882 | 4231 | 5699 | 4652 | 4316 | 3168 | 4135 | 3727 | 3638 | 3852 | 50,748 |
| 1979 | 3980 | 3828 | 3764 | 4236 | 5723 | 4650 | 4335 | 3255 | 4176 | 3770 | 3749 | 3788 | 49,254 |
| 1980 | 3695 | 3802 | 3743 | 4202 | 5735 | 4633 | 4326 | 3196 | 4115 | 3628 | 3578 | 3826 | 48,279 |
| 1981 | 3989 | 3696 | 3738 | 4226 | 5710 | 4727 | 4382 | 3421 | 4246 | 3836 | 3698 | 3865 | 49,534 |
| 1982 | 3781 | 3941 | 3785 | 4217 | 5763 | 4636 | 4311 | 3145 | 4053 | 3580 | 3554 | 4204 | 48,970 |
| 1983 | 3746 | 3007 | 3706 | 4211 | 5746 | 4604 | 4307 | 3132 | 4018 | 3473 | 3494 | 4218 | 47,662 |
| 1984 | 3757 | 2959 | 3724 | 4208 | 5757 | 4656 | 4341 | 3268 | 4176 | 3729 | 3631 | 3755 | 47,961 |
| 1985 | 3706 | 3862 | 3823 | 4577 | 5734 | 4749 | 4386 | 3412 | 4223 | 3830 | 3710 | 3940 | 49,952 |
| 1986 | 3855 | 3918 | 3891 | 4694 | 5722 | 4618 | 4319 | 3166 | 4083 | 3723 | 3626 | 3744 | 49,379 |
| 1987 | 3713 | 3559 | 3754 | 4661 | 5745 | 4779 | 4411 | 3479 | 4254 | 3909 | 3738 | 3958 | 49,960 |
| 1988 | 4018 | 3985 | 3903 | 4823 | 5715 | 4790 | 4399 | 3502 | 4344 | 4551 | 4194 | 4247 | 52,471 |
| 1989 | 4065 | 4078 | 3797 | 4312 | 5649 | 5130 | 4454 | 3487 | 4404 | 4072 | 4038 | 4080 | 51,566 |
| 1990 | 3800 | 3857 | 3775 | 4618 | 5693 | 4779 | 4414 | 3383 | 4362 | 4444 | 4340 | 4283 | 51,548 |
| 76 - 90 AVG | 3,898 | 3,749 | 3,790 | 4,385 | 5,715 | 4,729 | 4,371 | 3,333 | 4,212 | 3,898 | 3,785 | 4,012 | 49,878 |

**Old River @ Tracy Road (71)**
**Maximum Flow**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 379 | 373 | 632 | 734 | 661 | 727 | 745 | 789 | 736 | 742 | 729 | 653 | 7,900 |
| 1977 | 575 | 587 | 783 | 948 | 941 | 875 | 893 | 873 | 898 | 950 | 1027 | 889 | 10,239 |
| 1978 | 724 | 763 | 784 | 533 | 337 | 211 | 230 | 274 | 467 | 591 | 635 | 480 | 6,029 |
| 1979 | 394 | 469 | 676 | 430 | 312 | 276 | 401 | 480 | 584 | 656 | 692 | 548 | 5,918 |
| 1980 | 424 | 465 | 650 | 218 | 179 | 170 | 332 | 333 | 432 | 485 | 529 | 432 | 4,649 |
| 1981 | 395 | 434 | 651 | 563 | 629 | 619 | 705 | 722 | 728 | 705 | 716 | 578 | 7,445 |
| 1982 | 484 | 537 | 651 | 330 | 177 | 168 | 176 | 207 | 281 | 408 | 475 | 379 | 4,273 |
| 1983 | 312 | 224 | 169 | 230 | 176 | 197 | 160 | 167 | 171 | 224 | 329 | 352 | 2,711 |
| 1984 | 361 | 192 | 174 | 178 | 267 | 342 | 411 | 481 | 596 | 611 | 621 | 475 | 4,709 |
| 1985 | 392 | 510 | 669 | 772 | 695 | 649 | 706 | 718 | 713 | 701 | 738 | 614 | 7,877 |
| 1986 | 517 | 563 | 743 | 768 | 216 | 168 | 263 | 305 | 345 | 600 | 615 | 464 | 5,567 |
| 1987 | 395 | 462 | 677 | 769 | 709 | 700 | 734 | 770 | 740 | 742 | 752 | 642 | 8,092 |
| 1988 | 582 | 646 | 934 | 940 | 942 | 898 | 816 | 846 | 895 | 1057 | 1100 | 853 | 10,509 |
| 1989 | 647 | 669 | 924 | 980 | 951 | 808 | 780 | 808 | 933 | 869 | 996 | 759 | 10,124 |
| 1990 | 488 | 519 | 989 | 968 | 930 | 871 | 816 | 867 | 921 | 1010 | 1080 | 843 | 10,302 |
| 76 - 90 AVG | 471 | 494 | 674 | 624 | 541 | 512 | 545 | 576 | 629 | 690 | 736 | 597 | 7,090 |

**Old River @ Tracy Road (71)**
**Maximum Flow**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 207 | 187 | 274 | 325 | 286 | 320 | 332 | 365 | 340 | 346 | 333 | 361 | 3,676 |
| 1977 | 432 | 419 | 367 | 439 | 435 | 399 | 411 | 406 | 432 | 470 | 507 | 535 | 5,252 |
| 1978 | 605 | 628 | 371 | 220 | 114 | 47 | 57 | 82 | 189 | 260 | 282 | 229 | 3,084 |
| 1979 | 219 | 285 | 303 | 164 | 101 | 81 | 149 | 194 | 255 | 296 | 314 | 279 | 2,640 |
| 1980 | 258 | 285 | 288 | 54 | 44 | 33 | 112 | 114 | 171 | 201 | 223 | 203 | 1,986 |
| 1981 | 220 | 258 | 286 | 235 | 268 | 263 | 311 | 327 | 337 | 325 | 327 | 320 | 3,477 |
| 1982 | 337 | 351 | 291 | 112 | 36 | 39 | 32 | 46 | 87 | 158 | 193 | 139 | 1,821 |
| 1983 | 101 | 59 | 37 | 72 | 43 | 53 | 31 | 32 | 34 | 57 | 113 | 125 | 757 |
| 1984 | 129 | 39 | 46 | 35 | 77 | 116 | 154 | 195 | 262 | 271 | 274 | 233 | 1,831 |
| 1985 | 229 | 325 | 302 | 348 | 304 | 280 | 311 | 325 | 327 | 322 | 339 | 342 | 3,754 |
| 1986 | 376 | 385 | 340 | 347 | 63 | 39 | 75 | 99 | 123 | 265 | 270 | 222 | 2,804 |
| 1987 | 227 | 297 | 304 | 346 | 311 | 306 | 327 | 354 | 344 | 347 | 348 | 357 | 3,868 |
| 1988 | 440 | 497 | 451 | 440 | 435 | 411 | 370 | 394 | 431 | 535 | 549 | 500 | 5,453 |
| 1989 | 536 | 522 | 440 | 458 | 440 | 363 | 351 | 376 | 455 | 420 | 487 | 410 | 5,258 |
| 1990 | 325 | 361 | 478 | 454 | 429 | 397 | 370 | 401 | 445 | 504 | 541 | 502 | 5,207 |
| 76 - 90 AVG | 309 | 327 | 305 | 270 | 226 | 210 | 226 | 247 | 282 | 318 | 340 | 317 | 3,378 |

**Old River @ Tracy Road (71)**
**Maximum Flow**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3725 | 3537 | 3726 | 4331 | 5693 | 4753 | 4400 | 3511 | 4248 | 3894 | 3688 | 3970 | 49,476 |
| 1977 | 3981 | 4004 | 3847 | 4265 | 5649 | 4781 | 4454 | 3465 | 4343 | 4313 | 4103 | 4501 | 51,706 |
| 1978 | 4723 | 4626 | 3879 | 4231 | 5700 | 4652 | 4316 | 3168 | 4135 | 3727 | 3644 | 3870 | 50,671 |
| 1979 | 3981 | 3847 | 3772 | 4233 | 5723 | 4650 | 4335 | 3256 | 4179 | 3773 | 3695 | 3859 | 49,303 |
| 1980 | 3814 | 3643 | 3744 | 4202 | 5735 | 4633 | 4326 | 3197 | 4115 | 3629 | 3580 | 3841 | 48,459 |
| 1981 | 3992 | 3761 | 3742 | 4225 | 5707 | 4727 | 4382 | 3433 | 4259 | 3846 | 3702 | 3922 | 49,698 |
| 1982 | 3811 | 3951 | 3788 | 4218 | 5763 | 4636 | 4311 | 3145 | 4053 | 3580 | 3554 | 4204 | 49,012 |
| 1983 | 3746 | 3008 | 3707 | 4210 | 5746 | 4604 | 4307 | 3132 | 4018 | 3473 | 3494 | 4218 | 47,663 |
| 1984 | 3757 | 2959 | 3723 | 4208 | 5758 | 4656 | 4341 | 3268 | 4176 | 3729 | 3631 | 3755 | 47,961 |
| 1985 | 3698 | 3934 | 3825 | 4636 | 5738 | 4750 | 4388 | 3426 | 4233 | 3830 | 3711 | 3975 | 50,144 |
| 1986 | 3938 | 4083 | 3895 | 4683 | 5721 | 4618 | 4319 | 3186 | 4083 | 3725 | 3626 | 3745 | 49,622 |
| 1987 | 3714 | 3561 | 3754 | 4648 | 5744 | 4778 | 4414 | 3482 | 4269 | 3926 | 3759 | 4275 | 50,324 |
| 1988 | 4572 | 4560 | 3935 | 4814 | 5714 | 4807 | 4397 | 3499 | 4349 | 4567 | 4172 | 4355 | 53,741 |
| 1989 | 4247 | 4188 | 3801 | 4308 | 5644 | 5109 | 4451 | 3533 | 4407 | 4063 | 4031 | 4082 | 51,864 |
| 1990 | 3795 | 3646 | 3775 | 4610 | 5693 | 4779 | 4417 | 3403 | 4362 | 4372 | 4270 | 4314 | 51,436 |
| 76 - 90 AVG | 3,966 | 3,821 | 3,794 | 4,388 | 5,715 | 4,729 | 4,371 | 3,340 | 4,215 | 3,896 | 3,777 | 4,059 | 50,072 |

**Old River @ Tracy Road, 71**
**Cumulative Impact**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 382 | 380 | 717 | 780 | 740 | 768 | 634 | 616 | 727 | 840 | 944 | 722 |
| 1977 | 487 | 526 | 750 | 926 | 984 | 963 | 791 | 781 | 893 | 1011 | 1142 | 932 |
| 1978 | 690 | 735 | 816 | 549 | 344 | 214 | 215 | 250 | 438 | 585 | 658 | 490 |
| 1979 | 408 | 475 | 726 | 439 | 274 | 285 | 351 | 391 | 625 | 666 | 685 | 521 |
| 1980 | 426 | 451 | 707 | 252 | 182 | 174 | 314 | 304 | 381 | 615 | 652 | 483 |
| 1981 | 406 | 469 | 724 | 639 | 556 | 624 | 503 | 489 | 684 | 710 | 716 | 564 |
| 1982 | 462 | 525 | 726 | 337 | 210 | 169 | 174 | 212 | 286 | 568 | 598 | 451 |
| 1983 | 248 | 230 | 162 | 227 | 177 | 194 | 166 | 170 | 179 | 251 | 398 | 358 |
| 1984 | 238 | 191 | 172 | 167 | 238 | 378 | 417 | 414 | 534 | 612 | 624 | 477 |
| 1985 | 394 | 488 | 704 | 764 | 688 | 660 | 601 | 552 | 686 | 728 | 887 | 690 |
| 1986 | 486 | 537 | 738 | 792 | 250 | 169 | 257 | 291 | 335 | 600 | 619 | 470 |
| 1987 | 398 | 468 | 754 | 789 | 743 | 729 | 626 | 612 | 718 | 889 | 975 | 719 |
| 1988 | 583 | 609 | 900 | 936 | 957 | 945 | 758 | 747 | 816 | 990 | 1068 | 835 |
| 1989 | 604 | 606 | 894 | 981 | 963 | 842 | 740 | 769 | 794 | 959 | 1026 | 765 |
| 1990 | 479 | 506 | 942 | 974 | 966 | 934 | 797 | 814 | 894 | 1006 | 1075 | 813 |
| Average | 446 | 480 | 695 | 637 | 550 | 537 | 490 | 493 | 599 | 735 | 804 | 619 |

**Old River @ Tracy Road, 71**
**Cumulative Impact**
**Bromide**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 212 | 198 | 321 | 352 | 328 | 342 | 273 | 271 | 336 | 404 | 461 | 391 |
| 1977 | 329 | 347 | 347 | 428 | 447 | 445 | 357 | 345 | 428 | 512 | 576 | 557 |
| 1978 | 577 | 590 | 388 | 229 | 117 | 48 | 49 | 69 | 174 | 256 | 294 | 243 |
| 1979 | 240 | 295 | 332 | 169 | 80 | 86 | 122 | 148 | 278 | 301 | 309 | 270 |
| 1980 | 263 | 276 | 319 | 70 | 46 | 33 | 102 | 99 | 142 | 273 | 290 | 236 |
| 1981 | 233 | 307 | 328 | 276 | 230 | 266 | 203 | 200 | 312 | 328 | 327 | 301 |
| 1982 | 308 | 340 | 333 | 116 | 46 | 39 | 32 | 49 | 90 | 246 | 261 | 177 |
| 1983 | 68 | 63 | 36 | 71 | 43 | 52 | 31 | 32 | 34 | 71 | 151 | 127 |
| 1984 | 63 | 38 | 45 | 35 | 61 | 136 | 157 | 158 | 227 | 271 | 276 | 234 |
| 1985 | 228 | 308 | 322 | 344 | 300 | 285 | 255 | 233 | 312 | 337 | 424 | 375 |
| 1986 | 337 | 355 | 337 | 361 | 75 | 39 | 72 | 92 | 117 | 264 | 273 | 228 |
| 1987 | 234 | 309 | 348 | 358 | 329 | 321 | 269 | 267 | 331 | 434 | 475 | 414 |
| 1988 | 454 | 437 | 428 | 440 | 444 | 436 | 339 | 339 | 386 | 498 | 529 | 488 |
| 1989 | 481 | 439 | 422 | 459 | 446 | 382 | 330 | 353 | 373 | 473 | 505 | 413 |
| 1990 | 318 | 344 | 451 | 457 | 449 | 430 | 360 | 372 | 430 | 502 | 536 | 477 |
| Average | 290 | 310 | 317 | 278 | 229 | 223 | 197 | 202 | 265 | 345 | 379 | 329 |

**Old River @ Tracy Road, 71**
**Cumulative Impact**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3713 | 3418 | 3746 | 4690 | 5736 | 4759 | 4381 | 3373 | 4252 | 4086 | 4091 | 4087 |
| 1977 | 3886 | 3981 | 3841 | 4258 | 5632 | 4804 | 4416 | 3376 | 4338 | 4583 | 4304 | 4499 |
| 1978 | 4489 | 4386 | 3885 | 4234 | 5696 | 4652 | 4314 | 3161 | 4123 | 3691 | 3661 | 3770 |
| 1979 | 3783 | 3773 | 3790 | 4236 | 5730 | 4649 | 4332 | 3229 | 4201 | 3774 | 3679 | 3787 |
| 1980 | 3778 | 3582 | 3762 | 4207 | 5729 | 4634 | 4324 | 3188 | 4095 | 3730 | 3648 | 3791 |
| 1981 | 3923 | 3615 | 3771 | 4242 | 5712 | 4723 | 4355 | 3281 | 4247 | 3877 | 3707 | 3890 |
| 1982 | 3788 | 3901 | 3830 | 4222 | 5755 | 4638 | 4311 | 3146 | 4055 | 3688 | 3614 | 4205 |
| 1983 | 3740 | 3012 | 3705 | 4210 | 5748 | 4605 | 4306 | 3135 | 4022 | 3488 | 3521 | 4218 |
| 1984 | 3739 | 2956 | 3721 | 4207 | 5761 | 4657 | 4343 | 3245 | 4148 | 3729 | 3633 | 3760 |
| 1985 | 3708 | 3881 | 3849 | 4573 | 5732 | 4751 | 4370 | 3318 | 4224 | 3870 | 3863 | 4025 |
| 1986 | 3874 | 3929 | 3887 | 4837 | 5698 | 4623 | 4318 | 3182 | 4079 | 3694 | 3627 | 3744 |
| 1987 | 3695 | 3492 | 3785 | 4680 | 5757 | 4802 | 4393 | 3358 | 4261 | 4191 | 3989 | 4267 |
| 1988 | 4264 | 4150 | 3894 | 4852 | 5736 | 4841 | 4387 | 3412 | 4299 | 4517 | 4108 | 4309 |
| 1989 | 4130 | 4099 | 3804 | 4326 | 5652 | 5229 | 4452 | 3475 | 4288 | 4243 | 4059 | 4068 |
| 1990 | 3726 | 3527 | 3788 | 4620 | 5709 | 4792 | 4415 | 3374 | 4352 | 4389 | 4191 | 4265 |
| Average | 3883 | 3713 | 3803 | 4426 | 5719 | 4744 | 4381 | 3284 | 4199 | 3971 | 3848 | 4046 |

**SJR @ Prisoners Point (40)**
**Existing Conditions**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 178 | 190 | 172 | 277 | 423 | 402 | 329 | 298 | 266 | 262 | 336 | 351 | 3,484 |
| 1977 | 413 | 482 | 454 | 682 | 837 | 581 | 416 | 396 | 389 | 443 | 518 | 596 | 6,207 |
| 1978 | 551 | 493 | 356 | 267 | 246 | 236 | 223 | 217 | 180 | 179 | 190 | 209 | 3,347 |
| 1979 | 232 | 340 | 340 | 325 | 268 | 224 | 196 | 183 | 178 | 179 | 210 | 263 | 2,938 |
| 1980 | 321 | 321 | 235 | 198 | 179 | 177 | 199 | 205 | 181 | 177 | 184 | 216 | 2,593 |
| 1981 | 246 | 305 | 241 | 210 | 215 | 200 | 195 | 202 | 216 | 245 | 284 | 322 | 2,881 |
| 1982 | 365 | 386 | 193 | 226 | 179 | 185 | 169 | 192 | 187 | 171 | 169 | 167 | 2,589 |
| 1983 | 176 | 210 | 168 | 186 | 175 | 172 | 168 | 168 | 177 | 206 | 180 | 185 | 2,171 |
| 1984 | 176 | 190 | 169 | 185 | 209 | 197 | 181 | 188 | 189 | 179 | 189 | 230 | 2,282 |
| 1985 | 322 | 387 | 190 | 239 | 379 | 262 | 219 | 228 | 206 | 237 | 283 | 328 | 3,278 |
| 1986 | 364 | 359 | 289 | 343 | 189 | 166 | 201 | 212 | 203 | 196 | 190 | 233 | 2,945 |
| 1987 | 323 | 431 | 400 | 696 | 635 | 329 | 234 | 221 | 220 | 246 | 313 | 378 | 4,426 |
| 1988 | 340 | 315 | 280 | 377 | 264 | 236 | 295 | 346 | 281 | 262 | 406 | 500 | 3,902 |
| 1989 | 453 | 391 | 351 | 635 | 688 | 295 | 185 | 192 | 211 | 235 | 293 | 330 | 4,259 |
| 1990 | 353 | 441 | 426 | 910 | 680 | 335 | 303 | 286 | 231 | 252 | 372 | 469 | 5,058 |
| 76 - 90 AVG | 321 | 349 | 284 | 384 | 371 | 266 | 234 | 235 | 221 | 231 | 274 | 318 | 3,491 |

**SJR @ Prisoners Point (40)**
**Existing Conditions**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 59 | 55 | 46 | 158 | 329 | 310 | 220 | 181 | 148 | 149 | 246 | 267 | 2,168 |
| 1977 | 312 | 375 | 366 | 645 | 830 | 525 | 321 | 288 | 286 | 358 | 454 | 556 | 5,314 |
| 1978 | 468 | 366 | 244 | 104 | 78 | 70 | 62 | 66 | 53 | 54 | 68 | 87 | 1,720 |
| 1979 | 120 | 241 | 247 | 186 | 93 | 69 | 58 | 56 | 56 | 54 | 94 | 161 | 1,435 |
| 1980 | 233 | 230 | 123 | 59 | 48 | 42 | 56 | 64 | 55 | 53 | 63 | 96 | 1,122 |
| 1981 | 135 | 192 | 129 | 70 | 62 | 56 | 56 | 68 | 96 | 135 | 184 | 233 | 1,416 |
| 1982 | 275 | 304 | 70 | 73 | 47 | 52 | 38 | 47 | 54 | 46 | 46 | 45 | 1,097 |
| 1983 | 49 | 67 | 44 | 53 | 45 | 44 | 37 | 36 | 40 | 56 | 49 | 53 | 573 |
| 1984 | 51 | 52 | 47 | 45 | 57 | 55 | 48 | 62 | 69 | 56 | 69 | 121 | 732 |
| 1985 | 236 | 305 | 67 | 116 | 275 | 128 | 83 | 100 | 85 | 125 | 183 | 239 | 1,942 |
| 1986 | 274 | 260 | 184 | 231 | 61 | 42 | 57 | 66 | 66 | 63 | 66 | 123 | 1,493 |
| 1987 | 233 | 342 | 321 | 669 | 583 | 210 | 94 | 84 | 101 | 136 | 217 | 299 | 3,289 |
| 1988 | 247 | 190 | 169 | 277 | 132 | 103 | 180 | 249 | 176 | 153 | 328 | 444 | 2,648 |
| 1989 | 365 | 289 | 257 | 591 | 639 | 182 | 59 | 69 | 95 | 124 | 194 | 242 | 3,106 |
| 1990 | 267 | 351 | 343 | 927 | 635 | 219 | 194 | 179 | 118 | 142 | 288 | 406 | 4,071 |
| 76 - 90 AVG | 222 | 241 | 177 | 280 | 261 | 140 | 104 | 108 | 100 | 114 | 170 | 225 | 2,142 |

**SJR @ Prisoners Point (40)**
**Existing Conditions**
**Dissolved Organic Compound**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2422 | 2639 | 2983 | 3649 | 4024 | 3712 | 3316 | 3345 | 3494 | 3261 | 2979 | 2765 | 38,589 |
| 1977 | 2917 | 3043 | 3179 | 3610 | 3934 | 3819 | 3503 | 3579 | 3682 | 3710 | 3642 | 3274 | 41,892 |
| 1978 | 3206 | 3208 | 3502 | 5465 | 5665 | 5109 | 4243 | 3463 | 2887 | 3149 | 3012 | 2826 | 45,735 |
| 1979 | 2645 | 2677 | 2993 | 4668 | 5912 | 4474 | 3316 | 2888 | 2862 | 3073 | 2929 | 2767 | 41,204 |
| 1980 | 2579 | 2563 | 3058 | 4240 | 5457 | 4817 | 3630 | 3164 | 2867 | 3054 | 2942 | 2852 | 41,023 |
| 1981 | 2691 | 2781 | 3009 | 3906 | 4577 | 4135 | 3394 | 3157 | 2982 | 2942 | 2897 | 2712 | 39,183 |
| 1982 | 2673 | 2741 | 3374 | 4770 | 5000 | 4525 | 3749 | 3231 | 2982 | 2964 | 2828 | 2674 | 41,511 |
| 1983 | 2644 | 3428 | 3593 | 4294 | 5548 | 4444 | 4268 | 3288 | 3898 | 3730 | 3091 | 2953 | 45,179 |
| 1984 | 2714 | 3040 | 3725 | 4271 | 4803 | 3882 | 2933 | 2856 | 2931 | 3032 | 2890 | 2739 | 39,816 |
| 1985 | 2523 | 2836 | 3290 | 3517 | 4094 | 4166 | 3477 | 3147 | 2980 | 2947 | 2914 | 2731 | 38,622 |
| 1986 | 2715 | 2803 | 3188 | 3876 | 5191 | 4368 | 3786 | 3322 | 3129 | 3388 | 3094 | 2786 | 41,646 |
| 1987 | 2617 | 2764 | 2971 | 3384 | 4081 | 4009 | 3712 | 3414 | 3028 | 2986 | 2984 | 2804 | 38,754 |
| 1988 | 2718 | 2981 | 3201 | 3643 | 4223 | 4012 | 3325 | 3032 | 3056 | 3115 | 3162 | 2933 | 39,301 |
| 1989 | 2998 | 2921 | 3107 | 3570 | 4303 | 3549 | 2756 | 2744 | 2812 | 2925 | 2952 | 2726 | 37,363 |
| 1990 | 2645 | 2827 | 3116 | 3334 | 4124 | 4121 | 3066 | 2904 | 2920 | 3029 | 3068 | 2881 | 38,035 |
| 76 - 90 AVG | 2,714 | 2,877 | 3,219 | 4,013 | 4,729 | 4,196 | 3,498 | 3,169 | 3,101 | 3,154 | 3,026 | 2,828 | 40,524 |

**SJR @ Prisoners Point (40)**
**No-Action Alternative**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 184 | 183 | 211 | 540 | 651 | 459 | 338 | 309 | 279 | 244 | 311 | 379 | 3,484 |
| 1,977 | 454 | 522 | 516 | 784 | 890 | 598 | 425 | 413 | 431 | 473 | 536 | 617 | 6,207 |
| 1,978 | 612 | 522 | 344 | 266 | 303 | 268 | 206 | 199 | 179 | 184 | 191 | 239 | 3,347 |
| 1,979 | 313 | 376 | 341 | 352 | 275 | 217 | 188 | 182 | 176 | 184 | 239 | 286 | 2,938 |
| 1,980 | 311 | 297 | 216 | 284 | 182 | 164 | 177 | 197 | 181 | 180 | 187 | 239 | 2,593 |
| 1,981 | 300 | 375 | 371 | 350 | 225 | 189 | 182 | 213 | 225 | 246 | 306 | 357 | 2,881 |
| 1,982 | 387 | 370 | 191 | 253 | 204 | 169 | 161 | 180 | 183 | 171 | 173 | 170 | 2,589 |
| 1,983 | 164 | 222 | 178 | 181 | 148 | 133 | 129 | 164 | 174 | 188 | 175 | 173 | 2,171 |
| 1,984 | 168 | 235 | 178 | 176 | 188 | 184 | 181 | 189 | 184 | 184 | 205 | 236 | 2,282 |
| 1,985 | 312 | 410 | 230 | 290 | 456 | 309 | 238 | 258 | 227 | 238 | 308 | 374 | 3,278 |
| 1,986 | 383 | 358 | 290 | 347 | 299 | 153 | 170 | 203 | 203 | 189 | 187 | 226 | 2,945 |
| 1,987 | 305 | 421 | 406 | 786 | 664 | 326 | 224 | 214 | 220 | 240 | 312 | 455 | 4,426 |
| 1,988 | 459 | 377 | 326 | 412 | 285 | 239 | 284 | 317 | 281 | 258 | 389 | 536 | 3,902 |
| 1,989 | 521 | 416 | 352 | 646 | 696 | 291 | 183 | 185 | 192 | 223 | 294 | 329 | 4,259 |
| 1,990 | 365 | 461 | 454 | 897 | 641 | 334 | 319 | 319 | 247 | 255 | 349 | 457 | 5,058 |
| 76 - 90 AVG | 349 | 370 | 307 | 438 | 407 | 270 | 227 | 236 | 225 | 230 | 277 | 338 | 3,491 |

**SJR @ Prisoners Point (40)**
**No-Action Alternative**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 65 | 54 | 96 | 477 | 605 | 378 | 231 | 197 | 164 | 130 | 215 | 300 | 2,168 |
| 1,977 | 353 | 423 | 437 | 767 | 894 | 545 | 332 | 312 | 337 | 392 | 473 | 575 | 5,314 |
| 1,978 | 511 | 383 | 230 | 103 | 107 | 86 | 55 | 58 | 52 | 56 | 71 | 119 | 1,720 |
| 1,979 | 209 | 279 | 251 | 223 | 101 | 67 | 53 | 56 | 55 | 62 | 131 | 189 | 1,435 |
| 1,980 | 219 | 200 | 100 | 103 | 48 | 42 | 47 | 60 | 55 | 54 | 66 | 123 | 1,122 |
| 1,981 | 200 | 278 | 288 | 249 | 93 | 54 | 50 | 89 | 108 | 135 | 210 | 274 | 1,418 |
| 1,982 | 300 | 285 | 67 | 87 | 58 | 52 | 37 | 42 | 51 | 46 | 51 | 47 | 1,097 |
| 1,983 | 43 | 74 | 47 | 52 | 45 | 44 | 37 | 36 | 39 | 51 | 47 | 46 | 573 |
| 1,984 | 46 | 76 | 48 | 45 | 48 | 48 | 48 | 59 | 62 | 63 | 89 | 131 | 732 |
| 1,985 | 223 | 331 | 112 | 179 | 369 | 181 | 107 | 146 | 114 | 127 | 211 | 294 | 1,942 |
| 1,986 | 290 | 254 | 185 | 236 | 118 | 43 | 49 | 63 | 66 | 59 | 66 | 116 | 1,493 |
| 1,987 | 210 | 328 | 328 | 779 | 618 | 206 | 88 | 81 | 100 | 127 | 214 | 387 | 3,289 |
| 1,988 | 369 | 258 | 224 | 319 | 148 | 102 | 162 | 208 | 170 | 146 | 306 | 486 | 2,648 |
| 1,989 | 455 | 326 | 259 | 606 | 649 | 177 | 57 | 59 | 72 | 109 | 195 | 241 | 3,106 |
| 1,990 | 281 | 376 | 375 | 912 | 590 | 219 | 215 | 221 | 138 | 146 | 261 | 392 | 4,071 |
| 76 - 90 AVG | 252 | 262 | 203 | 342 | 299 | 150 | 105 | 112 | 106 | 114 | 174 | 248 | 2,142 |

**SJR @ Prisoners Point (40)**
**No-Action Alternative**
**Dissolved Organic Compound**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 2424 | 2574 | 2933 | 3546 | 3978 | 3728 | 3298 | 3283 | 3510 | 3174 | 2996 | 2797 | 38,589 |
| 1,977 | 2916 | 3023 | 3204 | 3616 | 3920 | 3814 | 3519 | 3530 | 3683 | 3777 | 3760 | 3418 | 41,892 |
| 1,978 | 3421 | 3306 | 3475 | 5468 | 6093 | 5070 | 4160 | 3380 | 2920 | 3261 | 2927 | 2841 | 45,735 |
| 1,979 | 2776 | 2730 | 2943 | 4472 | 5995 | 4458 | 3214 | 2890 | 2677 | 2864 | 2813 | 2676 | 41,204 |
| 1,980 | 2549 | 2556 | 3059 | 4231 | 5355 | 4458 | 3393 | 3106 | 2889 | 3106 | 2935 | 2851 | 41,023 |
| 1,981 | 2691 | 2768 | 2988 | 3477 | 3971 | 3640 | 3023 | 3007 | 2981 | 3028 | 2988 | 2757 | 39,183 |
| 1,982 | 2694 | 2743 | 3379 | 4739 | 4985 | 4492 | 3712 | 3216 | 3041 | 2967 | 2844 | 2681 | 41,511 |
| 1,983 | 2469 | 3369 | 3587 | 4268 | 5535 | 4428 | 4251 | 3278 | 3900 | 3728 | 3066 | 2831 | 45,179 |
| 1,984 | 2614 | 3010 | 3715 | 4244 | 4734 | 3736 | 2959 | 2972 | 2839 | 2900 | 2816 | 2694 | 39,816 |
| 1,985 | 2508 | 2853 | 3288 | 3431 | 4008 | 4382 | 3418 | 2933 | 2875 | 2981 | 3050 | 2825 | 38,622 |
| 1,986 | 2799 | 2830 | 3181 | 3845 | 5090 | 4326 | 3774 | 3337 | 3185 | 3288 | 2920 | 2706 | 41,646 |
| 1,987 | 2602 | 2765 | 2963 | 3321 | 4044 | 4018 | 3511 | 3272 | 3046 | 3106 | 3179 | 3025 | 38,754 |
| 1,988 | 3019 | 2975 | 3187 | 3636 | 4561 | 4196 | 3486 | 3218 | 3283 | 3218 | 3205 | 2998 | 39,301 |
| 1,989 | 2991 | 2871 | 3074 | 3549 | 4320 | 3556 | 2747 | 2814 | 2798 | 2916 | 2938 | 2736 | 37,363 |
| 1,990 | 2638 | 2816 | 3119 | 3329 | 4039 | 4064 | 3011 | 2813 | 2847 | 2987 | 3024 | 2910 | 38,035 |
| 76 - 90 AVG | 2,741 | 2,879 | 3,205 | 3,945 | 4,709 | 4,158 | 3,431 | 3,137 | 3,098 | 3,153 | 3,032 | 2,650 | 40,524 |



Main TOC

Next Page

**SJR @ Prisoners Point (40)**
**State Permit**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 179 | 179 | 210 | 537 | 644 | 454 | 335 | 308 | 268 | 238 | 308 | 390 | 4,050 |
| 1977 | 465 | 568 | 542 | 728 | 837 | 599 | 423 | 407 | 420 | 466 | 535 | 623 | 6,613 |
| 1978 | 588 | 513 | 371 | 267 | 279 | 234 | 217 | 206 | 181 | 181 | 189 | 233 | 3,459 |
| 1979 | 315 | 377 | 333 | 345 | 268 | 215 | 190 | 182 | 175 | 182 | 239 | 288 | 3,109 |
| 1980 | 305 | 283 | 207 | 199 | 175 | 174 | 188 | 201 | 182 | 179 | 189 | 242 | 2,524 |
| 1981 | 294 | 331 | 326 | 332 | 220 | 191 | 184 | 217 | 225 | 244 | 306 | 347 | 3,217 |
| 1982 | 373 | 348 | 188 | 225 | 181 | 184 | 168 | 191 | 190 | 172 | 173 | 168 | 2,561 |
| 1983 | 162 | 200 | 166 | 186 | 174 | 172 | 166 | 167 | 175 | 203 | 180 | 174 | 2,125 |
| 1984 | 168 | 186 | 167 | 184 | 205 | 189 | 183 | 191 | 184 | 184 | 205 | 239 | 2,285 |
| 1985 | 312 | 393 | 224 | 268 | 427 | 304 | 232 | 241 | 212 | 236 | 312 | 375 | 3,536 |
| 1986 | 385 | 370 | 288 | 338 | 187 | 166 | 204 | 215 | 207 | 193 | 188 | 226 | 2,967 |
| 1987 | 303 | 415 | 402 | 776 | 655 | 323 | 222 | 213 | 220 | 241 | 313 | 456 | 4,539 |
| 1988 | 489 | 426 | 364 | 419 | 283 | 239 | 288 | 325 | 271 | 242 | 350 | 481 | 4,177 |
| 1989 | 477 | 414 | 355 | 645 | 709 | 302 | 185 | 185 | 192 | 228 | 318 | 357 | 4,367 |
| 1990 | 362 | 453 | 450 | 875 | 805 | 320 | 300 | 292 | 239 | 250 | 343 | 454 | 4,943 |
| 76 - 90 AVG | 345 | 364 | 306 | 422 | 390 | 271 | 232 | 236 | 223 | 229 | 277 | 337 | 3,631 |

**SJR @ Prisoners Point (40)**
**State Permit**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 60 | 52 | 94 | 474 | 597 | 372 | 229 | 198 | 155 | 125 | 212 | 313 | 2,881 |
| 1977 | 384 | 492 | 471 | 696 | 828 | 546 | 330 | 307 | 327 | 386 | 472 | 581 | 5,820 |
| 1978 | 500 | 392 | 265 | 106 | 94 | 68 | 61 | 62 | 53 | 54 | 69 | 115 | 1,839 |
| 1979 | 214 | 283 | 242 | 215 | 97 | 65 | 55 | 56 | 54 | 60 | 131 | 191 | 1,663 |
| 1980 | 214 | 185 | 90 | 57 | 46 | 42 | 52 | 62 | 55 | 54 | 69 | 128 | 1,054 |
| 1981 | 196 | 223 | 232 | 228 | 87 | 54 | 51 | 94 | 109 | 132 | 208 | 262 | 1,876 |
| 1982 | 284 | 258 | 63 | 73 | 48 | 52 | 37 | 46 | 55 | 46 | 50 | 46 | 1,058 |
| 1983 | 42 | 62 | 43 | 53 | 45 | 44 | 37 | 36 | 39 | 57 | 49 | 47 | 554 |
| 1984 | 47 | 50 | 46 | 45 | 56 | 51 | 49 | 60 | 63 | 63 | 89 | 132 | 751 |
| 1985 | 224 | 312 | 105 | 151 | 333 | 177 | 101 | 124 | 95 | 123 | 216 | 295 | 2,256 |
| 1986 | 295 | 271 | 182 | 225 | 60 | 42 | 58 | 67 | 68 | 61 | 67 | 116 | 1,512 |
| 1987 | 209 | 323 | 324 | 768 | 608 | 203 | 86 | 81 | 101 | 128 | 216 | 389 | 3,436 |
| 1988 | 413 | 328 | 273 | 328 | 145 | 100 | 169 | 219 | 163 | 130 | 260 | 421 | 2,949 |
| 1989 | 405 | 326 | 264 | 604 | 667 | 191 | 59 | 59 | 71 | 114 | 223 | 274 | 3,257 |
| 1990 | 279 | 372 | 373 | 886 | 546 | 202 | 191 | 188 | 128 | 142 | 253 | 390 | 3,950 |
| 76 - 90 AVG | 251 | 262 | 204 | 327 | 284 | 147 | 104 | 111 | 102 | 112 | 172 | 247 | 2,324 |

**SJR @ Prisoners Point (40)**
**State Permit**
**Dissolved Organic Compound**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2421 | 2573 | 2932 | 3542 | 3975 | 3729 | 3244 | 3223 | 3371 | 3084 | 3002 | 2813 | 37,909 |
| 1977 | 2852 | 2954 | 3179 | 3731 | 4011 | 3825 | 3474 | 3460 | 3635 | 3746 | 3745 | 3413 | 42,025 |
| 1978 | 3305 | 3211 | 3465 | 5445 | 6087 | 5071 | 4150 | 3379 | 2922 | 3176 | 2901 | 2839 | 45,951 |
| 1979 | 2734 | 2713 | 2955 | 4485 | 5989 | 4455 | 3215 | 2871 | 2675 | 2890 | 2822 | 2676 | 40,480 |
| 1980 | 2515 | 2545 | 3055 | 4227 | 5355 | 4470 | 3414 | 3112 | 2889 | 3081 | 2932 | 2854 | 40,449 |
| 1981 | 2616 | 2755 | 2972 | 3472 | 3966 | 3795 | 3061 | 3005 | 3005 | 3097 | 3044 | 2768 | 37,556 |
| 1982 | 2703 | 2738 | 3376 | 4739 | 4989 | 4506 | 3716 | 3215 | 3037 | 2968 | 2843 | 2677 | 41,507 |
| 1983 | 2468 | 3369 | 3587 | 4289 | 5539 | 4428 | 4251 | 3278 | 3899 | 3728 | 3086 | 2830 | 44,752 |
| 1984 | 2613 | 3010 | 3715 | 4244 | 4734 | 3742 | 2963 | 2974 | 2840 | 2900 | 2816 | 2694 | 39,245 |
| 1985 | 2469 | 2839 | 3286 | 3484 | 4043 | 4268 | 3374 | 2997 | 2901 | 2993 | 3065 | 2811 | 38,530 |
| 1986 | 2779 | 2821 | 3176 | 3847 | 5091 | 4326 | 3833 | 3353 | 3183 | 3354 | 2942 | 2707 | 41,412 |
| 1987 | 2602 | 2763 | 2962 | 3322 | 4044 | 4018 | 3480 | 3239 | 3024 | 3087 | 3155 | 3013 | 38,709 |
| 1988 | 2954 | 2922 | 3166 | 3626 | 4583 | 4207 | 3417 | 3170 | 3084 | 3043 | 3151 | 2974 | 40,297 |
| 1989 | 2939 | 2852 | 3072 | 3546 | 4217 | 3518 | 2747 | 2824 | 2824 | 2939 | 3009 | 2756 | 37,243 |
| 1990 | 2618 | 2776 | 3110 | 3329 | 4078 | 4086 | 3054 | 2877 | 2822 | 2936 | 3033 | 2892 | 37,611 |
| 76 - 90 AVG | 2,706 | 2,856 | 3,201 | 3,955 | 4,713 | 4,163 | 3,426 | 3,132 | 3,074 | 3,135 | 3,036 | 2,848 | 40,245 |

**SJR @ Prisoners Point (40)**
**Percent Inflow**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 178 | 179 | 207 | 515 | 639 | 457 | 335 | 302 | 273 | 243 | 313 | 389 | 4,030 |
| 1977 | 447 | 516 | 518 | 779 | 878 | 592 | 420 | 410 | 428 | 475 | 540 | 623 | 6,626 |
| 1978 | 611 | 514 | 344 | 266 | 279 | 234 | 217 | 206 | 181 | 189 | 192 | 234 | 3,467 |
| 1979 | 314 | 372 | 342 | 361 | 271 | 215 | 189 | 183 | 176 | 184 | 241 | 286 | 3,134 |
| 1980 | 311 | 301 | 217 | 200 | 175 | 174 | 187 | 201 | 192 | 190 | 190 | 235 | 2,563 |
| 1981 | 314 | 415 | 398 | 426 | 253 | 194 | 183 | 211 | 220 | 244 | 304 | 344 | 3,506 |
| 1982 | 367 | 363 | 191 | 225 | 181 | 184 | 168 | 191 | 190 | 174 | 176 | 171 | 2,581 |
| 1983 | 163 | 200 | 165 | 184 | 174 | 172 | 166 | 167 | 175 | 203 | 180 | 174 | 2,123 |
| 1984 | 168 | 186 | 167 | 184 | 205 | 189 | 183 | 191 | 184 | 184 | 205 | 238 | 2,284 |
| 1985 | 314 | 432 | 201 | 278 | 457 | 308 | 238 | 252 | 221 | 241 | 322 | 381 | 3,645 |
| 1986 | 389 | 366 | 293 | 328 | 185 | 166 | 201 | 214 | 207 | 190 | 188 | 226 | 2,953 |
| 1987 | 302 | 414 | 402 | 777 | 656 | 323 | 230 | 221 | 218 | 236 | 306 | 439 | 4,524 |
| 1988 | 437 | 354 | 300 | 389 | 277 | 238 | 279 | 304 | 276 | 258 | 386 | 533 | 4,031 |
| 1989 | 521 | 422 | 354 | 641 | 688 | 289 | 183 | 184 | 192 | 224 | 295 | 330 | 4,323 |
| 1990 | 363 | 456 | 445 | 888 | 640 | 335 | 317 | 312 | 240 | 254 | 377 | 496 | 5,123 |
| 76 - 90 AVG | 347 | 366 | 303 | 429 | 397 | 271 | 233 | 237 | 224 | 233 | 281 | 340 | 3,661 |

**SJR @ Prisoners Point (40)**
**Percent Inflow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 59 | 52 | 91 | 447 | 590 | 375 | 228 | 188 | 155 | 128 | 217 | 312 | 2,842 |
| 1977 | 354 | 420 | 439 | 760 | 880 | 538 | 327 | 311 | 336 | 396 | 478 | 582 | 5,821 |
| 1978 | 512 | 379 | 231 | 104 | 94 | 69 | 61 | 62 | 53 | 60 | 72 | 116 | 1,813 |
| 1979 | 209 | 275 | 254 | 235 | 100 | 65 | 54 | 57 | 55 | 63 | 132 | 189 | 1,688 |
| 1980 | 219 | 205 | 102 | 58 | 46 | 42 | 51 | 62 | 56 | 80 | 88 | 119 | 1,088 |
| 1981 | 218 | 328 | 320 | 342 | 127 | 80 | 51 | 85 | 102 | 132 | 207 | 258 | 2,230 |
| 1982 | 278 | 277 | 66 | 73 | 48 | 52 | 37 | 46 | 55 | 48 | 54 | 48 | 1,082 |
| 1983 | 42 | 63 | 43 | 52 | 45 | 44 | 37 | 36 | 39 | 57 | 49 | 47 | 554 |
| 1984 | 47 | 50 | 46 | 45 | 56 | 51 | 49 | 59 | 63 | 63 | 89 | 131 | 749 |
| 1985 | 225 | 359 | 79 | 165 | 371 | 180 | 106 | 138 | 107 | 130 | 227 | 301 | 2,388 |
| 1986 | 296 | 264 | 188 | 214 | 58 | 42 | 57 | 67 | 68 | 59 | 67 | 116 | 1,496 |
| 1987 | 207 | 321 | 324 | 768 | 608 | 203 | 90 | 82 | 95 | 121 | 206 | 367 | 3,392 |
| 1988 | 332 | 219 | 192 | 292 | 138 | 98 | 152 | 189 | 161 | 144 | 301 | 483 | 2,701 |
| 1989 | 453 | 331 | 262 | 600 | 639 | 174 | 57 | 59 | 71 | 110 | 197 | 241 | 3,194 |
| 1990 | 280 | 368 | 366 | 901 | 590 | 221 | 212 | 211 | 129 | 144 | 294 | 439 | 4,155 |
| 76 - 90 AVG | 249 | 261 | 200 | 337 | 293 | 148 | 105 | 110 | 103 | 114 | 177 | 250 | 2,346 |

**SJR @ Prisoners Point (40)**
**Percent Inflow**
**Dissolved Organic Compound**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2422 | 2573 | 2939 | 3575 | 3997 | 3730 | 3298 | 3304 | 3553 | 3183 | 3007 | 2610 | 38,391 |
| 1977 | 2921 | 3025 | 3208 | 3628 | 3928 | 3815 | 3453 | 3462 | 3659 | 3768 | 3756 | 3417 | 42,040 |
| 1978 | 3422 | 3306 | 3475 | 5468 | 6092 | 5073 | 4150 | 3383 | 2925 | 3322 | 2944 | 2842 | 46,402 |
| 1979 | 2777 | 2730 | 2937 | 4494 | 6020 | 4454 | 3204 | 2889 | 2678 | 2964 | 2812 | 2676 | 40,535 |
| 1980 | 2553 | 2559 | 3060 | 4233 | 5355 | 4458 | 3394 | 3107 | 2889 | 3262 | 2966 | 2847 | 40,683 |
| 1981 | 2671 | 2751 | 2964 | 3404 | 3940 | 3692 | 3046 | 3052 | 3003 | 3031 | 2987 | 2745 | 37,286 |
| 1982 | 2672 | 2736 | 3379 | 4740 | 4985 | 4493 | 3713 | 3218 | 3051 | 3004 | 2863 | 2687 | 41,539 |
| 1983 | 2472 | 3372 | 3585 | 4268 | 5535 | 4428 | 4252 | 3278 | 3899 | 3728 | 3086 | 2830 | 44,733 |
| 1984 | 2613 | 3010 | 3715 | 4245 | 4734 | 3742 | 2962 | 2972 | 2839 | 2900 | 2816 | 2694 | 39,242 |
| 1985 | 2516 | 2863 | 3317 | 3427 | 4009 | 4396 | 3423 | 2950 | 2884 | 3004 | 3080 | 2832 | 38,701 |
| 1986 | 2813 | 2844 | 3183 | 3816 | 5086 | 4326 | 3774 | 3338 | 3190 | 3306 | 2926 | 2706 | 41,308 |
| 1987 | 2602 | 2764 | 2963 | 3322 | 4045 | 4021 | 3676 | 3450 | 3155 | 3190 | 3271 | 3062 | 39,521 |
| 1988 | 3083 | 3039 | 3201 | 3635 | 4595 | 4223 | 3579 | 3304 | 3338 | 3257 | 3237 | 3009 | 41,500 |
| 1989 | 3012 | 2895 | 3081 | 3553 | 4331 | 3559 | 2747 | 2814 | 2799 | 2916 | 2938 | 2737 | 37,382 |
| 1990 | 2642 | 2824 | 3124 | 3332 | 4022 | 4052 | 3010 | 2849 | 2905 | 3024 | 3074 | 2930 | 37,788 |
| 76 - 90 AVG | 2,746 | 2,886 | 3,209 | 3,943 | 4,712 | 4,164 | 3,445 | 3,158 | 3,118 | 3,184 | 3,051 | 2,855 | 40,470 |

**SJR @ Prisoners Point (40)**
**Flow Study**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 187 | 180 | 210 | 534 | 644 | 454 | 335 | 304 | 279 | 245 | 323 | 392 | 4,087 |
| 1977 | 416 | 445 | 391 | 596 | 803 | 573 | 416 | 404 | 421 | 468 | 535 | 628 | 6,096 |
| 1978 | 612 | 530 | 363 | 269 | 276 | 233 | 217 | 206 | 181 | 189 | 193 | 236 | 3,505 |
| 1979 | 316 | 375 | 343 | 361 | 271 | 213 | 189 | 183 | 176 | 182 | 236 | 284 | 3,129 |
| 1980 | 316 | 305 | 218 | 200 | 175 | 174 | 187 | 201 | 182 | 187 | 188 | 235 | 2,568 |
| 1981 | 317 | 420 | 399 | 434 | 259 | 195 | 183 | 211 | 223 | 237 | 286 | 326 | 3,490 |
| 1982 | 365 | 351 | 189 | 225 | 181 | 184 | 168 | 191 | 190 | 174 | 175 | 171 | 2,564 |
| 1983 | 163 | 200 | 165 | 187 | 174 | 172 | 166 | 167 | 175 | 203 | 180 | 174 | 2,126 |
| 1984 | 168 | 186 | 167 | 184 | 205 | 188 | 183 | 191 | 184 | 185 | 205 | 238 | 2,284 |
| 1985 | 310 | 428 | 201 | 275 | 453 | 308 | 238 | 242 | 212 | 231 | 303 | 366 | 3,567 |
| 1986 | 363 | 323 | 274 | 350 | 188 | 166 | 202 | 214 | 207 | 194 | 188 | 227 | 2,896 |
| 1987 | 306 | 416 | 402 | 776 | 656 | 323 | 234 | 229 | 219 | 234 | 302 | 445 | 4,542 |
| 1988 | 432 | 356 | 344 | 420 | 286 | 240 | 262 | 291 | 261 | 244 | 365 | 505 | 4,006 |
| 1989 | 486 | 406 | 352 | 640 | 707 | 303 | 185 | 186 | 199 | 226 | 301 | 343 | 4,334 |
| 1990 | 359 | 452 | 443 | 870 | 616 | 324 | 274 | 255 | 232 | 240 | 319 | 413 | 4,797 |
| 76 - 90 AVG | 341 | 358 | 297 | 421 | 393 | 270 | 229 | 232 | 223 | 229 | 273 | 332 | 3,599 |

**SJR @ Prisoners Point (40)**
**Flow Study**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 70 | 53 | 95 | 471 | 596 | 373 | 226 | 188 | 159 | 130 | 229 | 316 | 2,906 |
| 1977 | 304 | 318 | 291 | 542 | 789 | 515 | 320 | 301 | 325 | 386 | 472 | 586 | 5,149 |
| 1978 | 517 | 395 | 252 | 106 | 93 | 68 | 61 | 62 | 53 | 60 | 72 | 119 | 1,858 |
| 1979 | 213 | 279 | 255 | 235 | 100 | 65 | 54 | 56 | 55 | 60 | 127 | 186 | 1,685 |
| 1980 | 225 | 211 | 102 | 58 | 46 | 42 | 51 | 62 | 56 | 59 | 67 | 120 | 1,099 |
| 1981 | 223 | 334 | 322 | 351 | 134 | 61 | 51 | 85 | 103 | 121 | 184 | 236 | 2,205 |
| 1982 | 274 | 261 | 64 | 73 | 48 | 52 | 37 | 48 | 55 | 48 | 53 | 48 | 1,059 |
| 1983 | 42 | 63 | 43 | 54 | 45 | 44 | 37 | 36 | 39 | 57 | 49 | 47 | 556 |
| 1984 | 47 | 50 | 46 | 45 | 56 | 51 | 49 | 59 | 63 | 63 | 89 | 131 | 749 |
| 1985 | 222 | 354 | 90 | 161 | 365 | 180 | 106 | 126 | 94 | 116 | 203 | 283 | 2,290 |
| 1986 | 269 | 217 | 166 | 239 | 61 | 42 | 58 | 67 | 68 | 61 | 66 | 117 | 1,431 |
| 1987 | 212 | 324 | 324 | 768 | 609 | 202 | 92 | 86 | 93 | 116 | 201 | 375 | 3,402 |
| 1988 | 340 | 241 | 248 | 329 | 149 | 95 | 124 | 165 | 142 | 130 | 278 | 450 | 2,691 |
| 1989 | 416 | 315 | 260 | 599 | 665 | 192 | 59 | 62 | 90 | 111 | 202 | 256 | 3,217 |
| 1990 | 275 | 368 | 364 | 880 | 560 | 206 | 156 | 141 | 119 | 129 | 225 | 340 | 3,763 |
| 76 - 90 AVG | 243 | 252 | 194 | 327 | 288 | 146 | 99 | 103 | 100 | 110 | 168 | 241 | 2,271 |

**SJR @ Prisoners Point (40)**
**Flow Study**
**Dissolved Organic Compound**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2426 | 2574 | 2933 | 3547 | 3979 | 3725 | 3334 | 3355 | 3616 | 3213 | 3033 | 2811 | 38,546 |
| 1977 | 3004 | 3126 | 3168 | 3590 | 3928 | 3815 | 3536 | 3565 | 3700 | 3781 | 3761 | 3464 | 42,438 |
| 1978 | 3418 | 3325 | 3495 | 5486 | 6071 | 5069 | 4150 | 3383 | 2928 | 3325 | 2944 | 2841 | 46,435 |
| 1979 | 2750 | 2720 | 2936 | 4494 | 6025 | 4434 | 3185 | 2885 | 2678 | 2907 | 2827 | 2676 | 40,517 |
| 1980 | 2563 | 2561 | 3060 | 4231 | 5355 | 4458 | 3392 | 3104 | 2888 | 3217 | 2950 | 2844 | 40,623 |
| 1981 | 2657 | 2744 | 2961 | 3405 | 3945 | 3685 | 3040 | 3046 | 3181 | 3218 | 3054 | 2765 | 37,699 |
| 1982 | 2898 | 2740 | 3377 | 4739 | 4986 | 4493 | 3714 | 3216 | 3051 | 3017 | 2866 | 2687 | 41,584 |
| 1983 | 2479 | 3375 | 3585 | 4308 | 5538 | 4428 | 4251 | 3278 | 3899 | 3728 | 3086 | 2831 | 44,786 |
| 1984 | 2615 | 3010 | 3715 | 4244 | 4736 | 3738 | 2959 | 2972 | 2839 | 2900 | 2816 | 2694 | 39,236 |
| 1985 | 2505 | 2860 | 3319 | 3442 | 4019 | 4408 | 3430 | 3001 | 2933 | 3118 | 3089 | 2820 | 38,944 |
| 1986 | 2756 | 2788 | 3172 | 3861 | 5090 | 4326 | 3799 | 3345 | 3186 | 3362 | 2945 | 2708 | 41,338 |
| 1987 | 2602 | 2763 | 2962 | 3322 | 4043 | 4020 | 3775 | 3592 | 3240 | 3303 | 3239 | 3015 | 39,876 |
| 1988 | 2954 | 2912 | 3163 | 3630 | 4601 | 4484 | 3795 | 3468 | 3339 | 3147 | 3184 | 2969 | 41,626 |
| 1989 | 2940 | 2856 | 3075 | 3552 | 4218 | 3520 | 2747 | 2783 | 2840 | 3086 | 3093 | 2776 | 37,486 |
| 1990 | 2632 | 2797 | 3105 | 3326 | 4074 | 4088 | 3199 | 2941 | 2932 | 2980 | 3010 | 2861 | 37,945 |
| 76 - 90 AVG | 2,733 | 2,877 | 3,202 | 3,945 | 4,707 | 4,179 | 3,487 | 3,196 | 3,150 | 3,220 | 3,058 | 2,851 | 40,605 |

**SJR @ Prisoners Point (40)**
**Maximum Flow**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 219 | 201 | 230 | 653 | 692 | 452 | 340 | 303 | 269 | 257 | 387 | 468 | 4,471 |
| 1977 | 433 | 414 | 370 | 557 | 774 | 574 | 420 | 400 | 406 | 460 | 530 | 618 | 5,956 |
| 1978 | 602 | 516 | 355 | 269 | 282 | 234 | 217 | 207 | 181 | 190 | 189 | 233 | 3,475 |
| 1979 | 317 | 369 | 320 | 340 | 268 | 213 | 189 | 185 | 177 | 180 | 220 | 270 | 3,048 |
| 1980 | 322 | 326 | 231 | 201 | 175 | 174 | 189 | 203 | 184 | 197 | 190 | 235 | 2,627 |
| 1981 | 286 | 355 | 361 | 409 | 266 | 197 | 183 | 213 | 238 | 243 | 297 | 357 | 3,407 |
| 1982 | 377 | 351 | 189 | 226 | 181 | 184 | 169 | 192 | 190 | 177 | 179 | 173 | 2,588 |
| 1983 | 163 | 200 | 165 | 187 | 174 | 172 | 166 | 167 | 175 | 198 | 176 | 172 | 2,115 |
| 1984 | 167 | 186 | 187 | 184 | 205 | 189 | 183 | 191 | 184 | 184 | 206 | 237 | 2,283 |
| 1985 | 323 | 471 | 208 | 288 | 464 | 310 | 236 | 228 | 216 | 230 | 311 | 386 | 3,671 |
| 1986 | 391 | 350 | 284 | 352 | 188 | 166 | 202 | 215 | 207 | 196 | 190 | 227 | 2,968 |
| 1987 | 305 | 416 | 402 | 775 | 655 | 323 | 246 | 247 | 245 | 254 | 313 | 459 | 4,640 |
| 1988 | 478 | 387 | 279 | 380 | 282 | 255 | 265 | 296 | 272 | 258 | 383 | 536 | 4,071 |
| 1989 | 490 | 377 | 338 | 626 | 680 | 291 | 184 | 185 | 194 | 221 | 306 | 353 | 4,245 |
| 1990 | 360 | 453 | 445 | 870 | 614 | 323 | 267 | 246 | 228 | 253 | 393 | 501 | 4,953 |
| 76 - 90 AVG | 349 | 358 | 290 | 421 | 393 | 270 | 230 | 232 | 224 | 233 | 285 | 348 | 3,635 |

**SJR @ Prisoners Point (40)**
**Maximum Flow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 108 | 78 | 118 | 617 | 657 | 369 | 231 | 184 | 149 | 142 | 304 | 405 | 3,362 |
| 1977 | 319 | 281 | 261 | 493 | 753 | 514 | 325 | 297 | 307 | 376 | 466 | 575 | 4,967 |
| 1978 | 506 | 386 | 245 | 106 | 96 | 69 | 61 | 62 | 53 | 60 | 67 | 114 | 1,825 |
| 1979 | 213 | 286 | 224 | 210 | 97 | 65 | 54 | 58 | 56 | 57 | 107 | 169 | 1,576 |
| 1980 | 231 | 236 | 119 | 59 | 46 | 42 | 52 | 63 | 56 | 64 | 67 | 119 | 1,154 |
| 1981 | 184 | 248 | 275 | 320 | 141 | 62 | 52 | 85 | 107 | 121 | 195 | 273 | 2,063 |
| 1982 | 288 | 262 | 64 | 73 | 48 | 52 | 38 | 46 | 55 | 50 | 57 | 51 | 1,084 |
| 1983 | 42 | 63 | 44 | 53 | 45 | 44 | 37 | 36 | 39 | 55 | 47 | 46 | 551 |
| 1984 | 46 | 50 | 46 | 45 | 56 | 51 | 49 | 59 | 63 | 63 | 90 | 130 | 748 |
| 1985 | 234 | 405 | 88 | 176 | 378 | 181 | 103 | 103 | 89 | 110 | 212 | 307 | 2,386 |
| 1986 | 289 | 237 | 176 | 241 | 61 | 42 | 58 | 67 | 68 | 63 | 68 | 116 | 1,486 |
| 1987 | 211 | 324 | 324 | 767 | 608 | 202 | 99 | 95 | 107 | 127 | 203 | 383 | 3,450 |
| 1988 | 351 | 219 | 159 | 279 | 142 | 99 | 120 | 173 | 152 | 142 | 296 | 485 | 2,617 |
| 1989 | 416 | 279 | 242 | 582 | 630 | 177 | 57 | 57 | 68 | 102 | 207 | 268 | 3,085 |
| 1990 | 277 | 369 | 367 | 880 | 558 | 205 | 147 | 124 | 111 | 143 | 312 | 446 | 3,939 |
| 76 - 90 AVG | 248 | 247 | 183 | 327 | 288 | 145 | 99 | 101 | 99 | 112 | 180 | 259 | 2,286 |

**SJR @ Prisoners Point (40)**
**Maximum Flow**
**Dissolved Organic Compound**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2457 | 2585 | 2933 | 3432 | 3890 | 3773 | 3398 | 3429 | 3588 | 3356 | 3211 | 2893 | 38,923 |
| 1977 | 3050 | 3116 | 3209 | 3660 | 3967 | 3941 | 3544 | 3509 | 3696 | 3778 | 3758 | 3419 | 42,647 |
| 1978 | 3385 | 3276 | 3475 | 5501 | 6160 | 5084 | 4150 | 3385 | 2930 | 3325 | 2988 | 2855 | 46,514 |
| 1979 | 2779 | 2766 | 2977 | 4492 | 6004 | 4433 | 3188 | 2916 | 2716 | 2955 | 2869 | 2742 | 40,837 |
| 1980 | 2601 | 2571 | 3063 | 4234 | 5355 | 4465 | 3423 | 3127 | 2910 | 3334 | 3014 | 2858 | 40,955 |
| 1981 | 2724 | 2820 | 2984 | 3476 | 3993 | 3728 | 3015 | 3117 | 3502 | 3435 | 3187 | 2808 | 38,789 |
| 1982 | 2706 | 2744 | 3382 | 4741 | 4989 | 4499 | 3744 | 3228 | 3053 | 3090 | 2920 | 2698 | 41,794 |
| 1983 | 2486 | 3378 | 3587 | 4302 | 5539 | 4428 | 4252 | 3278 | 3900 | 3597 | 3009 | 2760 | 44,516 |
| 1984 | 2591 | 3016 | 3715 | 4247 | 4734 | 3743 | 2962 | 2973 | 2839 | 2900 | 2816 | 2694 | 39,230 |
| 1985 | 2564 | 2886 | 3323 | 3432 | 4013 | 4452 | 3530 | 3195 | 3363 | 3291 | 3180 | 2868 | 40,095 |
| 1986 | 2915 | 2912 | 3201 | 3872 | 5095 | 4328 | 3806 | 3346 | 3187 | 3403 | 2958 | 2709 | 41,732 |
| 1987 | 2602 | 2762 | 2962 | 3322 | 4045 | 4027 | 4014 | 3824 | 3731 | 3669 | 3670 | 3353 | 41,981 |
| 1988 | 3361 | 3260 | 3253 | 3657 | 4638 | 4859 | 3941 | 3423 | 3450 | 3368 | 3385 | 3103 | 43,698 |
| 1989 | 3009 | 2870 | 3081 | 3566 | 4330 | 3563 | 2749 | 2958 | 3226 | 3199 | 3118 | 2781 | 38,450 |
| 1990 | 2629 | 2795 | 3109 | 3330 | 4075 | 4100 | 3280 | 3132 | 3030 | 3083 | 3109 | 2917 | 38,569 |
| 76 - 90 AVG | 2,791 | 2,917 | 3,217 | 3,951 | 4,722 | 4,228 | 3,533 | 3,256 | 3,273 | 3,318 | 3,146 | 2,897 | 41,249 |

**SJR @ Prisoners Point, 40**
**Cumulative Impact**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 213 | 323 | 741 | 861 | 680 | 437 | 314 | 284 | 266 | 276 | 327 | 335 |
| 1977 | 387 | 408 | 429 | 616 | 709 | 485 | 341 | 385 | 359 | 366 | 476 | 586 |
| 1978 | 572 | 497 | 360 | 267 | 263 | 236 | 220 | 234 | 188 | 177 | 207 | 245 |
| 1979 | 324 | 380 | 952 | 668 | 277 | 210 | 226 | 252 | 181 | 182 | 234 | 284 |
| 1980 | 314 | 320 | 495 | 242 | 178 | 176 | 214 | 253 | 198 | 176 | 193 | 241 |
| 1981 | 325 | 430 | 1127 | 848 | 337 | 206 | 201 | 223 | 227 | 244 | 278 | 322 |
| 1982 | 373 | 386 | 192 | 225 | 189 | 187 | 170 | 198 | 190 | 173 | 193 | 179 |
| 1983 | 174 | 200 | 163 | 178 | 173 | 171 | 171 | 170 | 181 | 199 | 171 | 171 |
| 1984 | 162 | 180 | 167 | 177 | 201 | 183 | 202 | 228 | 183 | 180 | 204 | 240 |
| 1985 | 315 | 451 | 248 | 299 | 454 | 295 | 232 | 229 | 204 | 221 | 286 | 344 |
| 1986 | 382 | 362 | 571 | 452 | 196 | 168 | 220 | 252 | 217 | 182 | 201 | 238 |
| 1987 | 305 | 421 | 1134 | 1112 | 663 | 318 | 262 | 264 | 247 | 250 | 309 | 448 |
| 1988 | 431 | 343 | 700 | 579 | 277 | 251 | 252 | 257 | 253 | 268 | 392 | 480 |
| 1989 | 420 | 343 | 318 | 594 | 693 | 311 | 187 | 182 | 189 | 222 | 307 | 354 |
| 1990 | 346 | 397 | 383 | 752 | 528 | 299 | 235 | 224 | 211 | 252 | 374 | 457 |
| Average | 338 | 363 | 532 | 525 | 388 | 262 | 230 | 242 | 220 | 225 | 277 | 328 |

**SJR @ Prisoners Point, 40**
**Cumulative Impact**
**Bromide**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 105 | 231 | 738 | 871 | 644 | 355 | 200 | 153 | 134 | 153 | 231 | 247 |
| 1977 | 256 | 272 | 311 | 551 | 666 | 404 | 230 | 278 | 262 | 274 | 407 | 542 |
| 1978 | 483 | 383 | 255 | 105 | 87 | 70 | 58 | 67 | 55 | 53 | 92 | 137 |
| 1979 | 225 | 291 | 991 | 608 | 107 | 63 | 72 | 87 | 53 | 60 | 124 | 186 |
| 1980 | 222 | 228 | 435 | 105 | 48 | 42 | 62 | 84 | 62 | 51 | 75 | 129 |
| 1981 | 235 | 349 | 1201 | 853 | 227 | 74 | 62 | 74 | 85 | 112 | 169 | 231 |
| 1982 | 286 | 304 | 69 | 73 | 51 | 53 | 38 | 49 | 55 | 48 | 74 | 62 |
| 1983 | 48 | 63 | 44 | 49 | 44 | 44 | 37 | 36 | 40 | 58 | 45 | 46 |
| 1984 | 52 | 47 | 46 | 44 | 53 | 48 | 60 | 76 | 55 | 57 | 88 | 134 |
| 1985 | 226 | 384 | 133 | 190 | 369 | 169 | 89 | 83 | 72 | 100 | 183 | 257 |
| 1986 | 288 | 263 | 523 | 363 | 64 | 43 | 63 | 80 | 71 | 56 | 85 | 130 |
| 1987 | 213 | 341 | 1211 | 1175 | 618 | 198 | 106 | 103 | 106 | 123 | 203 | 376 |
| 1988 | 319 | 213 | 675 | 521 | 144 | 96 | 93 | 118 | 124 | 148 | 305 | 419 |
| 1989 | 323 | 236 | 219 | 543 | 649 | 202 | 61 | 54 | 66 | 106 | 209 | 270 |
| 1990 | 260 | 313 | 298 | 738 | 456 | 180 | 106 | 89 | 87 | 138 | 288 | 393 |
| Average | 236 | 261 | 477 | 453 | 282 | 136 | 89 | 95 | 88 | 102 | 172 | 237 |

**SJR @ Prisoners Point, 40**
**Cumulative Impact**
**Dissolved Organic Compound**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2403 | 2515 | 2820 | 3335 | 3832 | 3595 | 3331 | 3466 | 3691 | 3710 | 3117 | 2804 |
| 1977 | 3094 | 3161 | 3332 | 3811 | 4149 | 3959 | 3453 | 3447 | 3218 | 3402 | 3549 | 3282 |
| 1978 | 3253 | 3162 | 3424 | 5460 | 5921 | 5107 | 4363 | 3610 | 2954 | 2937 | 2810 | 2719 |
| 1979 | 2703 | 2684 | 2841 | 4442 | 6047 | 4397 | 3873 | 3566 | 2767 | 2878 | 2871 | 2744 |
| 1980 | 2553 | 2576 | 3037 | 4282 | 5340 | 4522 | 3819 | 3530 | 2993 | 3003 | 2835 | 2807 |
| 1981 | 2614 | 2715 | 2872 | 3377 | 3974 | 3667 | 3354 | 3383 | 3504 | 3702 | 3229 | 2789 |
| 1982 | 2668 | 2736 | 3360 | 4772 | 4764 | 4523 | 3839 | 3301 | 3022 | 2936 | 2856 | 2625 |
| 1983 | 2686 | 3457 | 3602 | 4206 | 5523 | 4453 | 4262 | 3297 | 3869 | 3658 | 2957 | 2789 |
| 1984 | 2867 | 3039 | 3718 | 4270 | 4915 | 3748 | 3200 | 3349 | 2900 | 2874 | 2806 | 2682 |
| 1985 | 2498 | 2835 | 3281 | 3443 | 3950 | 4222 | 3792 | 3478 | 3218 | 3297 | 3144 | 2822 |
| 1986 | 2801 | 2806 | 3149 | 3833 | 4998 | 4362 | 4159 | 3660 | 3252 | 2964 | 2811 | 2693 |
| 1987 | 2564 | 2689 | 2855 | 3274 | 4029 | 3963 | 4219 | 3901 | 3668 | 3607 | 3522 | 3197 |
| 1988 | 3116 | 3007 | 3092 | 3627 | 4349 | 4802 | 4087 | 3493 | 3495 | 3563 | 3444 | 3017 |
| 1989 | 2984 | 2861 | 3081 | 3551 | 4190 | 3513 | 2824 | 2928 | 2963 | 3108 | 3127 | 2783 |
| 1990 | 2580 | 2697 | 3045 | 3306 | 3982 | 3882 | 3384 | 3345 | 3126 | 3256 | 3196 | 2910 |
| Average | 2760 | 2863 | 3167 | 3933 | 4664 | 4182 | 3717 | 3449 | 3243 | 3260 | 3085 | 2844 |

**Collinsville (435)**
**Existing Conditions**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 1578 | 1688 | 2898 | 3497 | 3590 | 2944 | 3793 | 4931 | 4168 | 5381 | 5872 | 5918 | 46,258 |
| 1977 | 9236 | 10221 | 9494 | 7394 | 4505 | 4126 | 5379 | 6404 | 6925 | 7547 | 8353 | 8846 | 88,430 |
| 1978 | 7526 | 7015 | 4814 | 358 | 178 | 174 | 179 | 191 | 934 | 2005 | 3144 | 2674 | 29,192 |
| 1979 | 6805 | 8475 | 8176 | 1082 | 207 | 183 | 603 | 1460 | 1108 | 2313 | 3273 | 4663 | 38,348 |
| 1980 | 6330 | 4516 | 2026 | 210 | 164 | 166 | 205 | 391 | 1101 | 1921 | 2660 | 3812 | 23,502 |
| 1981 | 6928 | 8236 | 3922 | 372 | 192 | 178 | 749 | 3140 | 3977 | 3493 | 4263 | 4928 | 40,378 |
| 1982 | 6404 | 900 | 162 | 172 | 161 | 171 | 155 | 161 | 183 | 762 | 1191 | 503 | 10,925 |
| 1983 | 197 | 168 | 161 | 174 | 160 | 155 | 160 | 155 | 158 | 167 | 245 | 176 | 2,076 |
| 1984 | 214 | 162 | 156 | 161 | 167 | 166 | 383 | 1590 | 1872 | 2050 | 2395 | 4045 | 13,361 |
| 1985 | 7136 | 886 | 392 | 2524 | 1716 | 876 | 2815 | 2786 | 3235 | 3420 | 4589 | 5138 | 35,313 |
| 1986 | 6413 | 6151 | 3922 | 1275 | 175 | 157 | 178 | 387 | 1154 | 2026 | 2943 | 4563 | 29,344 |
| 1987 | 8347 | 9965 | 6901 | 4160 | 1992 | 602 | 1148 | 3234 | 3968 | 4402 | 5878 | 6297 | 56,894 |
| 1988 | 7171 | 7586 | 5735 | 1110 | 1104 | 3277 | 4511 | 4724 | 4111 | 5482 | 7663 | 7936 | 60,410 |
| 1989 | 8597 | 9767 | 8514 | 6783 | 5186 | 505 | 363 | 1388 | 3021 | 3835 | 5411 | 5365 | 57,735 |
| 1990 | 8368 | 9773 | 9236 | 4787 | 2479 | 3040 | 2626 | 3587 | 3968 | 5178 | 7056 | 7827 | 67,725 |
| 76 - 90 AVG | 6,083 | 5,634 | 4,434 | 2,271 | 1,465 | 1,115 | 1,536 | 2,302 | 2,659 | 3,332 | 4,329 | 4,833 | 39,993 |

**Collinsville (435)**
**Existing Conditions**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 1755 | 1888 | 3350 | 4070 | 4179 | 3399 | 4426 | 5804 | 4878 | 6347 | 6946 | 7005 | 54,047 |
| 1977 | 11024 | 12212 | 11326 | 8784 | 5286 | 4830 | 6346 | 7585 | 8213 | 8963 | 9940 | 10541 | 105,050 |
| 1978 | 8947 | 8320 | 5647 | 257 | 42 | 41 | 44 | 64 | 965 | 2264 | 3643 | 3077 | 33,311 |
| 1979 | 9082 | 10104 | 9740 | 1133 | 63 | 47 | 564 | 1605 | 1181 | 2638 | 3801 | 5486 | 44,444 |
| 1980 | 7506 | 5310 | 2293 | 94 | 37 | 38 | 84 | 310 | 1169 | 2162 | 3058 | 4455 | 26,516 |
| 1981 | 8230 | 9814 | 4588 | 286 | 65 | 52 | 743 | 3637 | 4650 | 4067 | 5000 | 5807 | 46,939 |
| 1982 | 7595 | 934 | 41 | 40 | 36 | 41 | 39 | 37 | 60 | 763 | 1283 | 452 | 11,315 |
| 1983 | 83 | 43 | 37 | 42 | 34 | 33 | 36 | 34 | 35 | 42 | 133 | 58 | 610 |
| 1984 | 102 | 40 | 34 | 36 | 38 | 39 | 303 | 1764 | 2104 | 2320 | 2739 | 4739 | 14,258 |
| 1985 | 8484 | 917 | 315 | 2893 | 1911 | 892 | 2997 | 3208 | 3754 | 3979 | 5396 | 6062 | 40,808 |
| 1986 | 7606 | 7287 | 4584 | 1372 | 54 | 34 | 52 | 302 | 1229 | 2283 | 3396 | 5363 | 33,562 |
| 1987 | 9948 | 11907 | 8196 | 4875 | 2244 | 563 | 1222 | 3748 | 4638 | 5186 | 6955 | 7464 | 66,926 |
| 1988 | 8523 | 9025 | 6780 | 1176 | 1166 | 3799 | 5294 | 5556 | 4814 | 6473 | 9115 | 9445 | 71,166 |
| 1989 | 10248 | 10451 | 10144 | 8048 | 6108 | 451 | 281 | 1523 | 3498 | 4483 | 6390 | 6336 | 67,961 |
| 1990 | 9975 | 11675 | 11019 | 5631 | 2831 | 3508 | 3015 | 4181 | 4643 | 6106 | 8381 | 9072 | 80,037 |
| 76 - 90 AVG | 7,207 | 6,662 | 5,206 | 2,582 | 1,606 | 1,184 | 1,696 | 2,624 | 3,055 | 3,870 | 5,078 | 5,691 | 48,483 |

**Collinsville (435)**
**Existing Conditions**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2335 | 2282 | 2448 | 2752 | 3091 | 3054 | 2565 | 2357 | 2665 | 2587 | 2477 | 2297 | 30,910 |
| 1977 | 1891 | 1817 | 1980 | 2377 | 3009 | 3033 | 2528 | 2323 | 2443 | 2539 | 2555 | 2424 | 28,919 |
| 1978 | 2423 | 2387 | 2760 | 3389 | 4017 | 3163 | 2862 | 2807 | 2733 | 2659 | 2693 | 2564 | 34,437 |
| 1979 | 2044 | 1838 | 1954 | 3285 | 4353 | 3481 | 2739 | 2491 | 2637 | 2589 | 2811 | 2385 | 32,387 |
| 1980 | 2119 | 2164 | 2681 | 2954 | 3894 | 3243 | 2791 | 2658 | 2714 | 2660 | 2679 | 2461 | 33,018 |
| 1981 | 2072 | 1893 | 2470 | 3013 | 3681 | 3099 | 2669 | 2407 | 2493 | 2513 | 2471 | 2319 | 31,099 |
| 1982 | 2099 | 2412 | 2872 | 3165 | 3786 | 3184 | 2243 | 2691 | 2588 | 2621 | 2696 | 2601 | 32,958 |
| 1983 | 2413 | 2846 | 3041 | 3313 | 3781 | 2656 | 2584 | 2635 | 2528 | 2896 | 2881 | 2528 | 33,902 |
| 1984 | 2492 | 2485 | 2928 | 3014 | 3790 | 3081 | 2539 | 2405 | 2610 | 2649 | 2665 | 2394 | 33,050 |
| 1985 | 1976 | 2426 | 2924 | 2884 | 3376 | 3340 | 2748 | 2511 | 2551 | 2515 | 2448 | 2320 | 32,019 |
| 1986 | 2125 | 2149 | 2608 | 3179 | 3721 | 2770 | 2768 | 2729 | 2825 | 2805 | 2819 | 2455 | 32,953 |
| 1987 | 1937 | 1721 | 2144 | 2606 | 3353 | 3179 | 2764 | 2513 | 2558 | 2450 | 2368 | 2272 | 29,865 |
| 1988 | 2079 | 1987 | 2340 | 3026 | 3454 | 3241 | 2580 | 2296 | 2472 | 2393 | 2272 | 2221 | 30,361 |
| 1989 | 2069 | 2007 | 2049 | 2417 | 2904 | 2853 | 2389 | 2361 | 2417 | 2413 | 2370 | 2305 | 28,554 |
| 1990 | 1989 | 1745 | 1930 | 2553 | 3244 | 3303 | 2562 | 2256 | 2403 | 2359 | 2281 | 2200 | 28,725 |
| 76 - 90 AVG | 2,131 | 2,131 | 2,475 | 2,927 | 3,564 | 3,112 | 2,622 | 2,496 | 2,576 | 2,577 | 2,552 | 2,382 | 31,544 |

**Collinsville (435)**
**No-Action Alternative**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 1714 | 2750 | 5161 | 5069 | 4246 | 3025 | 3830 | 5258 | 4288 | 4426 | 6024 | 6513 | 46,258 |
| 1,977 | 9630 | 10779 | 10334 | 7744 | 4601 | 4213 | 5517 | 7020 | 7481 | 7640 | 8357 | 9001 | 88,430 |
| 1,978 | 7647 | 6780 | 4529 | 348 | 184 | 178 | 174 | 206 | 862 | 1908 | 2278 | 4058 | 29,192 |
| 1,979 | 8357 | 8771 | 6415 | 1160 | 221 | 180 | 602 | 1729 | 1264 | 2051 | 2919 | 3797 | 38,348 |
| 1,980 | 5707 | 4037 | 1619 | 208 | 165 | 163 | 221 | 420 | 1296 | 1962 | 2643 | 4534 | 23,502 |
| 1,981 | 8179 | 9417 | 6482 | 875 | 266 | 204 | 1494 | 3812 | 4079 | 4503 | 5488 | 5803 | 40,378 |
| 1,982 | 6608 | 816 | 160 | 173 | 163 | 171 | 155 | 159 | 186 | 943 | 1430 | 592 | 10,925 |
| 1,983 | 236 | 168 | 162 | 174 | 159 | 155 | 153 | 154 | 158 | 166 | 267 | 191 | 2,076 |
| 1,984 | 252 | 169 | 156 | 161 | 165 | 163 | 357 | 1502 | 1797 | 1891 | 2218 | 3539 | 13,361 |
| 1,985 | 6854 | 1051 | 372 | 2243 | 2718 | 1730 | 2634 | 2685 | 3285 | 4066 | 5991 | 6317 | 35,313 |
| 1,986 | 6629 | 6042 | 3878 | 1167 | 173 | 157 | 175 | 391 | 1138 | 1842 | 2085 | 3643 | 29,344 |
| 1,987 | 8037 | 9982 | 6824 | 3959 | 1899 | 580 | 1178 | 3343 | 4044 | 4845 | 6517 | 8244 | 56,894 |
| 1,988 | 8610 | 8578 | 6207 | 1177 | 1151 | 3315 | 4658 | 5606 | 4394 | 5305 | 7698 | 8679 | 60,410 |
| 1,989 | 9480 | 8930 | 8486 | 6835 | 5296 | 480 | 367 | 1463 | 2483 | 3825 | 5385 | 5615 | 57,735 |
| 1,990 | 8642 | 10109 | 9585 | 4418 | 2284 | 2899 | 2587 | 3350 | 3892 | 4938 | 6545 | 7782 | 67,725 |
| 76 - 90 AVG | 6,439 | 5,892 | 4,690 | 2,381 | 1,579 | 1,174 | 1,607 | 2,473 | 2,710 | 3,355 | 4,390 | 5,207 | 39,993 |

**Collinsville (435)**
**No-Action Alternative**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 1919 | 3174 | 6092 | 5975 | 4974 | 3497 | 4472 | 6201 | 5024 | 5192 | 7130 | 7725 | 54,047 |
| 1,977 | 11501 | 12886 | 12344 | 9208 | 5403 | 4935 | 6513 | 8331 | 8888 | 9076 | 9944 | 10728 | 105,050 |
| 1,978 | 9089 | 8027 | 5299 | 245 | 46 | 43 | 42 | 87 | 881 | 2146 | 2595 | 4754 | 33,311 |
| 1,979 | 9960 | 10461 | 7608 | 1229 | 83 | 47 | 565 | 1932 | 1371 | 2324 | 3375 | 4439 | 44,444 |
| 1,980 | 6752 | 4731 | 1801 | 84 | 37 | 37 | 108 | 347 | 1406 | 2212 | 3037 | 5329 | 26,516 |
| 1,981 | 9745 | 11245 | 7690 | 897 | 159 | 87 | 1647 | 4453 | 4775 | 5289 | 6482 | 6623 | 46,939 |
| 1,982 | 7842 | 833 | 39 | 41 | 37 | 41 | 33 | 36 | 66 | 982 | 1572 | 559 | 11,315 |
| 1,983 | 131 | 44 | 38 | 42 | 34 | 33 | 35 | 34 | 35 | 43 | 162 | 76 | 610 |
| 1,984 | 150 | 45 | 34 | 36 | 37 | 38 | 272 | 1657 | 2014 | 2130 | 2526 | 4127 | 14,258 |
| 1,985 | 8142 | 1116 | 293 | 2554 | 3125 | 1923 | 3019 | 3088 | 3816 | 4786 | 7091 | 7487 | 40,606 |
| 1,986 | 7867 | 7153 | 4530 | 1242 | 51 | 34 | 52 | 311 | 1211 | 2062 | 2362 | 4252 | 33,562 |
| 1,987 | 9573 | 11928 | 8103 | 4632 | 2133 | 537 | 1259 | 3882 | 4731 | 5702 | 7726 | 9819 | 66,926 |
| 1,988 | 10264 | 10222 | 7350 | 1257 | 1219 | 3841 | 5471 | 6621 | 5154 | 6256 | 9155 | 10344 | 71,166 |
| 1,989 | 11317 | 10651 | 10088 | 8111 | 6241 | 421 | 286 | 1612 | 2847 | 4470 | 6359 | 6639 | 67,961 |
| 1,990 | 10307 | 12081 | 11444 | 5185 | 2596 | 3339 | 2969 | 3896 | 4553 | 5817 | 7763 | 9261 | 80,037 |
| 76 - 90 AVG | 7,637 | 6,973 | 5,517 | 2,716 | 1,745 | 1,257 | 1,783 | 2,833 | 3,118 | 3,899 | 5,152 | 6,144 | 46,463 |

**Collinsville (435)**
**No-Action Alternative**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 2327 | 2172 | 2189 | 2546 | 2989 | 3040 | 2549 | 2303 | 2634 | 2649 | 2428 | 2260 | 30,910 |
| 1,977 | 1860 | 1759 | 1886 | 2343 | 2993 | 3018 | 2522 | 2265 | 2374 | 2548 | 2597 | 2475 | 28,919 |
| 1,978 | 2507 | 2534 | 2823 | 3355 | 4131 | 3176 | 2756 | 2723 | 2722 | 2696 | 2735 | 2405 | 34,437 |
| 1,979 | 1937 | 1849 | 2159 | 3280 | 4218 | 3357 | 2654 | 2445 | 2532 | 2490 | 2518 | 2350 | 32,387 |
| 1,980 | 2105 | 2181 | 2722 | 3033 | 3862 | 3132 | 2653 | 2597 | 2688 | 2675 | 2686 | 2385 | 33,018 |
| 1,981 | 1956 | 1784 | 2187 | 2905 | 3573 | 3001 | 2516 | 2277 | 2453 | 2442 | 2421 | 2307 | 31,099 |
| 1,982 | 2107 | 2407 | 2869 | 3168 | 3782 | 3152 | 2233 | 2677 | 2599 | 2610 | 2687 | 2606 | 32,956 |
| 1,983 | 2399 | 2595 | 3029 | 3303 | 3775 | 2654 | 2571 | 2634 | 2534 | 2877 | 2877 | 2520 | 33,902 |
| 1,984 | 2462 | 2474 | 2923 | 3003 | 3766 | 3037 | 2527 | 2430 | 2589 | 2578 | 2597 | 2386 | 33,050 |
| 1,985 | 1972 | 2431 | 2881 | 2814 | 3157 | 3377 | 2754 | 2430 | 2455 | 2430 | 2365 | 2296 | 32,019 |
| 1,986 | 2168 | 2200 | 2820 | 3165 | 3716 | 2760 | 2758 | 2727 | 2838 | 2813 | 2757 | 2416 | 32,953 |
| 1,987 | 1914 | 1704 | 2148 | 2601 | 3346 | 3175 | 2706 | 2435 | 2535 | 2448 | 2398 | 2207 | 29,965 |
| 1,988 | 2101 | 2032 | 2335 | 3021 | 3469 | 3317 | 2654 | 2311 | 2566 | 2526 | 2330 | 2183 | 30,361 |
| 1,989 | 2012 | 1989 | 2033 | 2397 | 2884 | 2835 | 2382 | 2367 | 2482 | 2393 | 2365 | 2279 | 28,554 |
| 1,990 | 1868 | 1708 | 1890 | 2592 | 3255 | 3268 | 2515 | 2241 | 2356 | 2339 | 2301 | 2164 | 28,725 |
| 76 - 90 AVG | 2,113 | 2,121 | 2,446 | 2,901 | 3,528 | 3,087 | 2,583 | 2,457 | 2,557 | 2,568 | 2,537 | 2,349 | 31,544 |

**Collinsville (435)**
**State Permit**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 1546 | 2639 | 5036 | 4957 | 4160 | 2963 | 3718 | 4899 | 4172 | 3991 | 6215 | 6711 | 51,007 |
| 1977 | 10067 | 11146 | 10388 | 8422 | 4772 | 4150 | 5392 | 6787 | 7361 | 7646 | 8377 | 9035 | 93,543 |
| 1978 | 7667 | 7316 | 4873 | 346 | 183 | 175 | 174 | 204 | 919 | 1798 | 2234 | 4071 | 29,960 |
| 1979 | 8256 | 8676 | 8651 | 1219 | 221 | 180 | 590 | 1490 | 1171 | 2222 | 2985 | 3837 | 37,498 |
| 1980 | 5335 | 3724 | 1351 | 191 | 164 | 164 | 222 | 420 | 1159 | 2021 | 2834 | 4635 | 22,220 |
| 1981 | 7314 | 8255 | 6100 | 808 | 254 | 191 | 1532 | 3817 | 4069 | 4799 | 5788 | 5532 | 48,459 |
| 1982 | 6490 | 741 | 159 | 172 | 161 | 171 | 155 | 160 | 182 | 955 | 1379 | 531 | 11,256 |
| 1983 | 226 | 168 | 160 | 174 | 159 | 155 | 160 | 155 | 158 | 167 | 268 | 188 | 2,136 |
| 1984 | 249 | 163 | 156 | 161 | 167 | 164 | 356 | 1506 | 1801 | 1894 | 2234 | 3541 | 12,392 |
| 1985 | 6139 | 921 | 357 | 2339 | 2722 | 1377 | 2539 | 2696 | 3162 | 4071 | 6213 | 6128 | 38,664 |
| 1986 | 6719 | 6208 | 3753 | 1152 | 172 | 157 | 177 | 396 | 1048 | 1864 | 2100 | 3583 | 27,329 |
| 1987 | 7921 | 9848 | 6726 | 3892 | 1856 | 567 | 1150 | 3273 | 4018 | 4841 | 6518 | 8214 | 58,824 |
| 1988 | 9262 | 9457 | 6402 | 1114 | 1100 | 3259 | 4560 | 5541 | 4309 | 4665 | 7076 | 8079 | 64,824 |
| 1989 | 9250 | 8973 | 8399 | 6734 | 5121 | 489 | 371 | 1429 | 2722 | 4152 | 6171 | 5805 | 59,616 |
| 1990 | 8407 | 9939 | 9553 | 4191 | 2177 | 2827 | 2560 | 3501 | 3898 | 4436 | 6527 | 7618 | 65,634 |
| 76 - 90 AVG | 6,323 | 5,878 | 4,671 | 2,391 | 1,559 | 1,133 | 1,577 | 2,418 | 2,677 | 3,301 | 4,461 | 5,167 | 41,557 |

**Collinsville (435)**
**State Permit**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 1716 | 3040 | 5940 | 5840 | 4869 | 3423 | 4336 | 5767 | 4885 | 4667 | 7362 | 7965 | 59,810 |
| 1977 | 12030 | 13336 | 12411 | 10028 | 5608 | 4858 | 6362 | 8050 | 8743 | 9065 | 9968 | 10768 | 111,247 |
| 1978 | 9113 | 8682 | 5720 | 243 | 45 | 42 | 42 | 84 | 949 | 2012 | 2542 | 4770 | 34,244 |
| 1979 | 9837 | 10346 | 7894 | 1299 | 84 | 46 | 551 | 1643 | 1258 | 2531 | 3455 | 4488 | 43,432 |
| 1980 | 6303 | 4352 | 1476 | 69 | 36 | 37 | 107 | 346 | 1240 | 2283 | 3270 | 5452 | 24,971 |
| 1981 | 8697 | 9837 | 7226 | 816 | 145 | 71 | 1693 | 4459 | 4763 | 5646 | 6845 | 6537 | 56,735 |
| 1982 | 7699 | 743 | 38 | 40 | 36 | 41 | 33 | 36 | 59 | 996 | 1510 | 486 | 11,717 |
| 1983 | 119 | 43 | 37 | 42 | 34 | 33 | 35 | 34 | 35 | 43 | 162 | 72 | 689 |
| 1984 | 145 | 41 | 34 | 36 | 37 | 38 | 271 | 1661 | 2018 | 2133 | 2546 | 4130 | 13,090 |
| 1985 | 7277 | 959 | 275 | 2670 | 3129 | 1496 | 2904 | 3101 | 3667 | 4767 | 7380 | 7258 | 44,863 |
| 1986 | 7976 | 7354 | 4380 | 1224 | 51 | 34 | 51 | 312 | 1100 | 2087 | 2378 | 4179 | 31,126 |
| 1987 | 9433 | 11767 | 7984 | 4551 | 2082 | 521 | 1226 | 3798 | 4699 | 5697 | 7728 | 9783 | 69,269 |
| 1988 | 11053 | 11287 | 7588 | 1182 | 1158 | 3773 | 5352 | 6543 | 5052 | 5484 | 8404 | 9619 | 76,495 |
| 1989 | 11039 | 10703 | 10007 | 7989 | 6030 | 432 | 292 | 1571 | 3136 | 4866 | 7310 | 6869 | 70,244 |
| 1990 | 10021 | 11876 | 11405 | 4911 | 2467 | 3251 | 2935 | 4078 | 4560 | 5210 | 7742 | 9063 | 77,519 |
| 76 - 90 AVG | 7,497 | 6,958 | 5,494 | 2,729 | 1,721 | 1,206 | 1,748 | 2,766 | 3,078 | 3,834 | 5,239 | 6,096 | 48,363 |

**Collinsville (435)**
**State Permit**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2336 | 2181 | 2202 | 2557 | 2998 | 3048 | 2540 | 2309 | 2596 | 2613 | 2368 | 2245 | 29,993 |
| 1977 | 1813 | 1699 | 1856 | 2293 | 3025 | 3038 | 2524 | 2261 | 2357 | 2520 | 2576 | 2460 | 28,422 |
| 1978 | 2479 | 2404 | 2752 | 3327 | 4127 | 3170 | 2757 | 2723 | 2714 | 2691 | 2710 | 2396 | 34,250 |
| 1979 | 1937 | 1843 | 2128 | 3283 | 4215 | 3355 | 2656 | 2460 | 2534 | 2478 | 2522 | 2348 | 31,759 |
| 1980 | 2126 | 2189 | 2752 | 3010 | 3861 | 3139 | 2662 | 2601 | 2701 | 2661 | 2657 | 2375 | 32,734 |
| 1981 | 2012 | 1855 | 2213 | 2901 | 3571 | 3020 | 2534 | 2282 | 2463 | 2441 | 2436 | 2340 | 30,068 |
| 1982 | 2127 | 2402 | 2867 | 3162 | 3778 | 3175 | 2229 | 2662 | 2579 | 2599 | 2686 | 2596 | 32,862 |
| 1983 | 2390 | 2596 | 3029 | 3307 | 3776 | 2653 | 2570 | 2634 | 2534 | 2877 | 2876 | 2516 | 33,758 |
| 1984 | 2460 | 2473 | 2923 | 3002 | 3765 | 3035 | 2527 | 2430 | 2589 | 2578 | 2595 | 2366 | 32,763 |
| 1985 | 2015 | 2432 | 2882 | 2825 | 3179 | 3338 | 2726 | 2449 | 2495 | 2440 | 2349 | 2312 | 31,442 |
| 1986 | 2146 | 2177 | 2632 | 3171 | 3715 | 2756 | 2776 | 2748 | 2651 | 2828 | 2782 | 2429 | 33,011 |
| 1987 | 1927 | 1717 | 2157 | 2608 | 3352 | 3176 | 2700 | 2429 | 2522 | 2434 | 2384 | 2198 | 29,604 |
| 1988 | 2016 | 1918 | 2302 | 3017 | 3472 | 3330 | 2637 | 2288 | 2516 | 2487 | 2306 | 2206 | 30,475 |
| 1989 | 2005 | 1961 | 2032 | 2406 | 2902 | 2830 | 2384 | 2373 | 2474 | 2381 | 2314 | 2295 | 28,357 |
| 1990 | 1893 | 1715 | 1879 | 2601 | 3263 | 3286 | 2547 | 2254 | 2362 | 2360 | 2281 | 2178 | 28,619 |
| 76 - 90 AVG | 2,112 | 2,104 | 2,440 | 2,898 | 3,533 | 3,090 | 2,585 | 2,460 | 2,552 | 2,558 | 2,523 | 2,352 | 31,208 |

**Collinsville (435)**
**Percent Inflow**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 1510 | 2694 | 5230 | 5190 | 4237 | 2964 | 3753 | 5001 | 4161 | 4358 | 6119 | 6721 | 51,938 |
| 1977 | 9658 | 10671 | 10248 | 7713 | 4545 | 4131 | 5402 | 6918 | 7465 | 7681 | 8386 | 9022 | 91,840 |
| 1978 | 7661 | 6785 | 4585 | 350 | 183 | 175 | 174 | 214 | 857 | 1894 | 2259 | 4047 | 29,184 |
| 1979 | 8262 | 8663 | 6157 | 1318 | 233 | 180 | 577 | 1714 | 1265 | 2089 | 2908 | 3790 | 37,176 |
| 1980 | 5760 | 4022 | 1610 | 203 | 164 | 164 | 226 | 423 | 1172 | 2060 | 2466 | 4414 | 22,684 |
| 1981 | 8414 | 9830 | 6592 | 1125 | 329 | 208 | 1440 | 3739 | 4033 | 4489 | 5493 | 5265 | 50,957 |
| 1982 | 6404 | 803 | 160 | 172 | 161 | 170 | 155 | 161 | 202 | 1051 | 1664 | 689 | 11,792 |
| 1983 | 253 | 167 | 160 | 174 | 160 | 155 | 160 | 155 | 158 | 167 | 269 | 189 | 2,167 |
| 1984 | 249 | 163 | 156 | 161 | 167 | 165 | 358 | 1508 | 1798 | 1893 | 2214 | 3536 | 12,368 |
| 1985 | 6890 | 1207 | 456 | 2234 | 2685 | 1734 | 2572 | 2627 | 3249 | 4376 | 6219 | 6331 | 40,580 |
| 1986 | 6695 | 6155 | 3911 | 907 | 165 | 157 | 178 | 401 | 1055 | 1867 | 2101 | 3580 | 27,172 |
| 1987 | 7929 | 9857 | 6728 | 3895 | 1861 | 566 | 1148 | 3279 | 4011 | 4849 | 6529 | 8060 | 58,712 |
| 1988 | 7901 | 7792 | 5868 | 1074 | 1090 | 3270 | 4614 | 5511 | 4338 | 5289 | 7698 | 8658 | 63,103 |
| 1989 | 9401 | 8908 | 8415 | 6759 | 5221 | 477 | 362 | 1432 | 2508 | 3851 | 5390 | 5595 | 58,319 |
| 1990 | 8564 | 9953 | 9438 | 4378 | 2242 | 2844 | 2536 | 3509 | 3937 | 5223 | 7129 | 8135 | 67,886 |
| 76 - 90 AVG | 6,371 | 5,845 | 4,848 | 2,377 | 1,563 | 1,157 | 1,577 | 2,439 | 2,681 | 3,409 | 4,456 | 5,202 | 41,725 |

**Collinsville (435)**
**Percent Inflow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 1673 | 3107 | 6175 | 6121 | 4962 | 3423 | 4378 | 5890 | 4869 | 5109 | 7245 | 7977 | 60,929 |
| 1977 | 11535 | 12758 | 12241 | 9170 | 5335 | 4836 | 6374 | 8208 | 8870 | 9126 | 9981 | 10752 | 109,186 |
| 1978 | 9107 | 8034 | 5367 | 248 | 45 | 42 | 42 | 96 | 874 | 2128 | 2571 | 4740 | 33,294 |
| 1979 | 9869 | 10330 | 7296 | 1419 | 97 | 47 | 536 | 1914 | 1372 | 2369 | 3362 | 4431 | 43,042 |
| 1980 | 6817 | 4713 | 1789 | 82 | 37 | 37 | 113 | 349 | 1255 | 2329 | 2821 | 5184 | 25,526 |
| 1981 | 10029 | 11745 | 7823 | 1199 | 234 | 92 | 1582 | 4364 | 4719 | 5271 | 6488 | 6215 | 59,761 |
| 1982 | 7595 | 817 | 39 | 41 | 36 | 41 | 33 | 36 | 83 | 1112 | 1855 | 676 | 12,364 |
| 1983 | 152 | 44 | 37 | 42 | 34 | 33 | 35 | 34 | 35 | 43 | 163 | 73 | 725 |
| 1984 | 146 | 42 | 34 | 36 | 38 | 39 | 274 | 1664 | 2015 | 2132 | 2522 | 4123 | 13,065 |
| 1985 | 8186 | 1305 | 392 | 2542 | 3085 | 1927 | 2943 | 3019 | 3773 | 5136 | 7367 | 7504 | 47,179 |
| 1986 | 7946 | 7290 | 4570 | 928 | 42 | 34 | 52 | 319 | 1109 | 2091 | 2381 | 4175 | 30,937 |
| 1987 | 9444 | 11775 | 7987 | 4554 | 2087 | 520 | 1222 | 3802 | 4688 | 5705 | 7740 | 9595 | 69,119 |
| 1988 | 9403 | 9265 | 6937 | 1133 | 1145 | 3786 | 5416 | 6505 | 5084 | 6236 | 9154 | 10320 | 74,384 |
| 1989 | 11221 | 10624 | 10026 | 8019 | 6150 | 418 | 280 | 1575 | 2876 | 4502 | 6365 | 8614 | 68,670 |
| 1990 | 10211 | 11890 | 11265 | 5134 | 2546 | 3273 | 2907 | 4088 | 4606 | 6161 | 8468 | 9688 | 80,237 |
| 76 - 90 AVG | 7,556 | 6,916 | 5,485 | 2,711 | 1,725 | 1,237 | 1,746 | 2,791 | 3,082 | 3,963 | 5,232 | 6,138 | 48,561 |

**Collinsville (435)**
**Percent Inflow**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2336 | 2175 | 2179 | 2542 | 3003 | 3050 | 2558 | 2333 | 2660 | 2669 | 2423 | 2251 | 30,179 |
| 1977 | 1867 | 1774 | 1897 | 2351 | 3004 | 3029 | 2514 | 2242 | 2354 | 2528 | 2585 | 2468 | 28,613 |
| 1978 | 2503 | 2533 | 2815 | 3352 | 4130 | 3181 | 2757 | 2727 | 2727 | 2709 | 2756 | 2409 | 34,599 |
| 1979 | 1946 | 1881 | 2187 | 3293 | 4236 | 3356 | 2649 | 2444 | 2533 | 2486 | 2520 | 2351 | 31,862 |
| 1980 | 2103 | 2184 | 2723 | 3034 | 3872 | 3133 | 2652 | 2597 | 2700 | 2697 | 2745 | 2399 | 32,839 |
| 1981 | 1929 | 1738 | 2175 | 2892 | 3560 | 3013 | 2532 | 2296 | 2477 | 2450 | 2424 | 2336 | 29,822 |
| 1982 | 2114 | 2404 | 2870 | 3169 | 3762 | 3160 | 2234 | 2677 | 2630 | 2824 | 2687 | 2611 | 32,962 |
| 1983 | 2406 | 2599 | 3025 | 3319 | 3760 | 2654 | 2577 | 2634 | 2533 | 2877 | 2876 | 2516 | 33,796 |
| 1984 | 2460 | 2475 | 2923 | 3011 | 3767 | 3048 | 2530 | 2430 | 2589 | 2578 | 2597 | 2387 | 32,795 |
| 1985 | 1972 | 2433 | 2936 | 2869 | 3184 | 3388 | 2765 | 2441 | 2467 | 2409 | 2357 | 2307 | 31,508 |
| 1986 | 2168 | 2198 | 2622 | 3152 | 3715 | 2760 | 2758 | 2726 | 2848 | 2817 | 2764 | 2425 | 32,951 |
| 1987 | 1926 | 1717 | 2158 | 2608 | 3352 | 3177 | 2758 | 2516 | 2616 | 2512 | 2452 | 2273 | 30,065 |
| 1988 | 2202 | 2145 | 2392 | 3025 | 3474 | 3336 | 2699 | 2367 | 2610 | 2563 | 2355 | 2202 | 31,370 |
| 1989 | 2031 | 2006 | 2049 | 2409 | 2896 | 2837 | 2363 | 2370 | 2481 | 2392 | 2364 | 2281 | 28,499 |
| 1990 | 1877 | 1727 | 1908 | 2589 | 3262 | 3271 | 2519 | 2233 | 2382 | 2341 | 2269 | 2156 | 28,534 |
| 76 - 90 AVG | 2,123 | 2,131 | 2,457 | 2,908 | 3,533 | 3,093 | 2,592 | 2,469 | 2,574 | 2,577 | 2,545 | 2,358 | 31,360 |

**Collinsville (435)**
**Flow Study**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 1836 | 2713 | 5080 | 4992 | 4174 | 2944 | 3762 | 5256 | 4229 | 4407 | 6339 | 6587 | 52,319 |
| 1977 | 8888 | 9541 | 8543 | 6947 | 4439 | 4107 | 5430 | 6828 | 7279 | 7622 | 8399 | 9057 | 87,080 |
| 1978 | 7752 | 6992 | 4817 | 366 | 183 | 175 | 174 | 214 | 816 | 1870 | 2353 | 4102 | 29,814 |
| 1979 | 8260 | 8668 | 6161 | 1318 | 233 | 180 | 567 | 1703 | 1263 | 2286 | 2930 | 3760 | 37,329 |
| 1980 | 5941 | 4171 | 1641 | 203 | 164 | 164 | 226 | 422 | 1297 | 1981 | 2504 | 4442 | 23,156 |
| 1981 | 8405 | 9839 | 6598 | 1199 | 342 | 210 | 1431 | 3731 | 4065 | 4817 | 5418 | 5327 | 51,382 |
| 1982 | 6469 | 760 | 160 | 172 | 161 | 170 | 155 | 161 | 202 | 1030 | 1649 | 687 | 11,776 |
| 1983 | 310 | 170 | 160 | 174 | 159 | 155 | 160 | 155 | 158 | 168 | 269 | 194 | 2,232 |
| 1984 | 256 | 163 | 156 | 161 | 167 | 165 | 357 | 1506 | 1858 | 1900 | 2207 | 3528 | 12,424 |
| 1985 | 6733 | 1194 | 487 | 2299 | 2708 | 1760 | 2578 | 2647 | 3232 | 4755 | 6100 | 6140 | 40,633 |
| 1986 | 6190 | 5536 | 3709 | 1330 | 177 | 157 | 177 | 396 | 1141 | 1832 | 2112 | 3654 | 26,411 |
| 1987 | 7935 | 9844 | 6721 | 3894 | 1856 | 566 | 1147 | 3277 | 4001 | 4757 | 6486 | 8199 | 58,683 |
| 1988 | 8048 | 8641 | 6280 | 1152 | 1124 | 3302 | 4560 | 5527 | 4265 | 4928 | 7289 | 8285 | 63,401 |
| 1989 | 9170 | 8868 | 8423 | 6768 | 5127 | 500 | 355 | 1423 | 3005 | 4708 | 6194 | 5791 | 60,330 |
| 1990 | 8471 | 9966 | 9392 | 4251 | 2222 | 2837 | 2614 | 3311 | 3872 | 4380 | 6121 | 7099 | 64,516 |
| 76 - 90 AVG | 6,311 | 5,804 | 4,555 | 2,348 | 1,549 | 1,159 | 1,580 | 2,437 | 2,712 | 3,428 | 4,425 | 5,123 | 41,432 |

**Collinsville (435)**
**Flow Study**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2068 | 3130 | 5994 | 5882 | 4886 | 3399 | 4389 | 6198 | 4951 | 5167 | 7511 | 7814 | 61,389 |
| 1977 | 10601 | 11386 | 10172 | 8243 | 5207 | 4807 | 6407 | 8099 | 8643 | 9054 | 9994 | 10795 | 103,408 |
| 1978 | 9216 | 8285 | 5647 | 266 | 45 | 42 | 42 | 96 | 824 | 2098 | 2686 | 4806 | 34,053 |
| 1979 | 9842 | 10336 | 7301 | 1419 | 97 | 47 | 523 | 1901 | 1370 | 2608 | 3388 | 4394 | 43,226 |
| 1980 | 7036 | 4893 | 1827 | 82 | 37 | 37 | 113 | 349 | 1407 | 2234 | 2869 | 5219 | 26,102 |
| 1981 | 10018 | 11754 | 7830 | 1288 | 251 | 94 | 1571 | 4355 | 4757 | 5666 | 6396 | 6288 | 60,268 |
| 1982 | 7673 | 765 | 39 | 41 | 36 | 41 | 33 | 36 | 83 | 1086 | 1836 | 674 | 12,343 |
| 1983 | 220 | 47 | 37 | 42 | 34 | 33 | 35 | 34 | 35 | 43 | 163 | 79 | 802 |
| 1984 | 154 | 42 | 34 | 36 | 38 | 38 | 272 | 1662 | 2087 | 2140 | 2513 | 4114 | 13,130 |
| 1985 | 7995 | 1289 | 429 | 2621 | 3112 | 1959 | 2950 | 3042 | 3751 | 5594 | 7222 | 7272 | 47,238 |
| 1986 | 7335 | 6541 | 4327 | 1439 | 57 | 34 | 52 | 312 | 1212 | 2048 | 2392 | 4265 | 30,014 |
| 1987 | 9450 | 11761 | 7978 | 4553 | 2081 | 519 | 1220 | 3798 | 4674 | 5591 | 7686 | 9763 | 69,074 |
| 1988 | 9583 | 10298 | 7440 | 1227 | 1186 | 3822 | 5348 | 6521 | 4993 | 5798 | 8660 | 9868 | 74,744 |
| 1989 | 10942 | 10576 | 10036 | 8030 | 6037 | 446 | 271 | 1566 | 3478 | 5535 | 7335 | 6851 | 71,103 |
| 1990 | 10099 | 11908 | 11211 | 4983 | 2520 | 3263 | 2999 | 3847 | 4527 | 5117 | 7249 | 8434 | 76,157 |
| 76 - 90 AVG | 7,482 | 6,867 | 5,353 | 2,677 | 1,706 | 1,239 | 1,748 | 2,788 | 3,119 | 3,985 | 5,193 | 6,042 | 48,203 |

**Collinsville (435)**
**Flow Study**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2321 | 2177 | 2197 | 2555 | 2999 | 3048 | 2569 | 2331 | 2687 | 2696 | 2419 | 2273 | 30,272 |
| 1977 | 1953 | 1926 | 2108 | 2419 | 3010 | 3030 | 2537 | 2297 | 2406 | 2553 | 2593 | 2475 | 29,307 |
| 1978 | 2512 | 2513 | 2808 | 3375 | 4123 | 3183 | 2757 | 2727 | 2730 | 2712 | 2745 | 2403 | 34,588 |
| 1979 | 1943 | 1851 | 2183 | 3293 | 4239 | 3345 | 2639 | 2440 | 2532 | 2475 | 2534 | 2356 | 31,830 |
| 1980 | 2090 | 2178 | 2721 | 3026 | 3862 | 3120 | 2643 | 2585 | 2679 | 2689 | 2717 | 2384 | 32,694 |
| 1981 | 1918 | 1726 | 2166 | 2890 | 3564 | 3012 | 2529 | 2294 | 2521 | 2537 | 2523 | 2364 | 30,044 |
| 1982 | 2130 | 2404 | 2869 | 3168 | 3782 | 3153 | 2233 | 2677 | 2630 | 2629 | 2692 | 2611 | 32,978 |
| 1983 | 2429 | 2603 | 3022 | 3313 | 3776 | 2853 | 2572 | 2635 | 2534 | 2876 | 2976 | 2519 | 33,808 |
| 1984 | 2463 | 2474 | 2923 | 3003 | 3766 | 3037 | 2527 | 2429 | 2583 | 2578 | 2598 | 2388 | 32,769 |
| 1985 | 1982 | 2434 | 2933 | 2871 | 3168 | 3392 | 2769 | 2457 | 2502 | 2420 | 2424 | 2326 | 31,678 |
| 1986 | 2204 | 2220 | 2619 | 3168 | 3717 | 2780 | 2764 | 2736 | 2841 | 2834 | 2784 | 2422 | 33,069 |
| 1987 | 1926 | 1717 | 2158 | 2608 | 3352 | 3176 | 2785 | 2571 | 2685 | 2586 | 2498 | 2242 | 30,304 |
| 1988 | 2152 | 1987 | 2308 | 3019 | 3476 | 3436 | 2830 | 2452 | 2677 | 2572 | 2344 | 2200 | 31,453 |
| 1989 | 2018 | 1972 | 2031 | 2404 | 2903 | 2836 | 2382 | 2364 | 2443 | 2375 | 2391 | 2334 | 28,453 |
| 1990 | 1904 | 1722 | 1905 | 2596 | 3260 | 3286 | 2625 | 2325 | 2409 | 2428 | 2340 | 2218 | 29,018 |
| 76 - 90 AVG | 2,130 | 2,127 | 2,463 | 2,914 | 3,533 | 3,098 | 2,611 | 2,488 | 2,591 | 2,597 | 2,565 | 2,368 | 31,484 |

**Collinsville (435)**
**Maximum Flow**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3812 | 4010 | 5386 | 4404 | 3931 | 3358 | 3889 | 5246 | 4201 | 5332 | 7635 | 7478 | 58,682 |
| 1977 | 8665 | 9036 | 8435 | 7143 | 4523 | 4673 | 5543 | 6603 | 7195 | 7531 | 8366 | 9042 | 86,755 |
| 1978 | 7688 | 7013 | 4752 | 377 | 190 | 176 | 174 | 222 | 808 | 1856 | 2485 | 4225 | 29,966 |
| 1979 | 8336 | 8712 | 6850 | 1250 | 223 | 180 | 572 | 2051 | 1404 | 2278 | 3182 | 4431 | 39,469 |
| 1980 | 6413 | 4661 | 1882 | 209 | 164 | 164 | 216 | 441 | 1269 | 2033 | 2651 | 4505 | 24,608 |
| 1981 | 7937 | 9269 | 6395 | 1413 | 372 | 207 | 1432 | 3781 | 3944 | 4788 | 6175 | 5772 | 51,465 |
| 1982 | 6551 | 761 | 160 | 173 | 162 | 171 | 155 | 161 | 202 | 1197 | 2109 | 811 | 12,613 |
| 1983 | 398 | 174 | 159 | 175 | 160 | 155 | 160 | 156 | 159 | 171 | 325 | 340 | 2,532 |
| 1984 | 460 | 173 | 156 | 162 | 167 | 165 | 358 | 1507 | 1799 | 1956 | 2184 | 3515 | 12,602 |
| 1985 | 7676 | 1444 | 549 | 2303 | 2730 | 1866 | 2607 | 2638 | 3187 | 4709 | 6438 | 6586 | 42,733 |
| 1986 | 6510 | 5825 | 3758 | 1324 | 177 | 157 | 177 | 396 | 1132 | 1976 | 2115 | 3627 | 27,174 |
| 1987 | 7937 | 9840 | 6722 | 3891 | 1859 | 563 | 1145 | 3275 | 3997 | 4728 | 6588 | 8290 | 58,835 |
| 1988 | 7640 | 6822 | 5439 | 1130 | 1122 | 3320 | 4518 | 5535 | 4306 | 5303 | 7760 | 9653 | 61,548 |
| 1989 | 8839 | 8429 | 8329 | 6821 | 5226 | 492 | 333 | 1432 | 2971 | 4644 | 6340 | 5838 | 59,694 |
| 1990 | 8448 | 9969 | 9441 | 4256 | 2217 | 2837 | 2629 | 4081 | 4129 | 5402 | 7447 | 8067 | 68,923 |
| 76 - 90 AVG | 6,487 | 5,743 | 4,561 | 2,335 | 1,548 | 1,232 | 1,594 | 2,500 | 2,714 | 3,594 | 4,787 | 5,412 | 42,507 |

**Collinsville (435)**
**Maximum Flow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 4459 | 4700 | 6364 | 5171 | 4594 | 3900 | 4541 | 6184 | 4917 | 6286 | 9078 | 8891 | 69,085 |
| 1977 | 10329 | 10772 | 10041 | 8478 | 5308 | 5491 | 6543 | 7827 | 8541 | 8944 | 9954 | 10778 | 103,006 |
| 1978 | 9139 | 8312 | 5570 | 277 | 48 | 43 | 42 | 105 | 814 | 2082 | 2845 | 4956 | 34,233 |
| 1979 | 9934 | 10389 | 8134 | 1337 | 85 | 47 | 530 | 2322 | 1540 | 2598 | 3692 | 5206 | 45,814 |
| 1980 | 7606 | 5486 | 2119 | 90 | 37 | 37 | 100 | 371 | 1372 | 2296 | 3044 | 5294 | 27,852 |
| 1981 | 9451 | 11065 | 7583 | 1546 | 287 | 90 | 1572 | 4390 | 4607 | 5625 | 7308 | 6826 | 60,350 |
| 1982 | 7772 | 766 | 39 | 41 | 36 | 41 | 33 | 36 | 83 | 1287 | 2392 | 824 | 13,350 |
| 1983 | 327 | 53 | 37 | 43 | 35 | 33 | 36 | 34 | 36 | 45 | 231 | 253 | 1,163 |
| 1984 | 400 | 53 | 34 | 36 | 38 | 39 | 273 | 1663 | 2016 | 2208 | 2486 | 4098 | 13,344 |
| 1985 | 9138 | 1592 | 504 | 2626 | 3139 | 2087 | 2984 | 3028 | 3692 | 5534 | 7628 | 7811 | 49,763 |
| 1986 | 7721 | 6887 | 4383 | 1431 | 57 | 34 | 52 | 312 | 1202 | 2223 | 2396 | 4232 | 30,930 |
| 1987 | 9453 | 11755 | 7979 | 4550 | 2085 | 515 | 1216 | 3790 | 4661 | 5546 | 7801 | 9867 | 69,218 |
| 1988 | 9081 | 8078 | 6407 | 1199 | 1184 | 3841 | 5293 | 6530 | 5042 | 6250 | 9226 | 10311 | 72,442 |
| 1989 | 10540 | 10042 | 9922 | 8094 | 6157 | 436 | 245 | 1574 | 3433 | 5457 | 7512 | 6907 | 70,319 |
| 1990 | 10072 | 11914 | 11270 | 4989 | 2515 | 3264 | 3016 | 4777 | 4834 | 6376 | 8853 | 9606 | 81,486 |
| 76 - 90 AVG | 7,695 | 6,791 | 5,359 | 2,661 | 1,707 | 1,327 | 1,765 | 2,863 | 3,119 | 4,184 | 5,630 | 6,391 | 49,490 |

**Collinsville (435)**
**Maximum Flow**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2210 | 2102 | 2180 | 2585 | 2977 | 3040 | 2593 | 2362 | 2708 | 2629 | 2388 | 2278 | 30,050 |
| 1977 | 2029 | 1995 | 2123 | 2423 | 3021 | 3039 | 2560 | 2297 | 2404 | 2558 | 2592 | 2469 | 29,510 |
| 1978 | 2496 | 2486 | 2789 | 3424 | 4242 | 3205 | 2757 | 2731 | 2738 | 2715 | 2770 | 2422 | 34,775 |
| 1979 | 1949 | 1867 | 2124 | 3284 | 4224 | 3343 | 2641 | 2417 | 2551 | 2502 | 2548 | 2345 | 31,795 |
| 1980 | 2097 | 2156 | 2701 | 3030 | 3872 | 3138 | 2660 | 2606 | 2708 | 2729 | 2774 | 2415 | 32,886 |
| 1981 | 1995 | 1819 | 2214 | 2904 | 3577 | 3021 | 2520 | 2296 | 2631 | 2715 | 2574 | 2397 | 30,663 |
| 1982 | 2148 | 2406 | 2871 | 3176 | 3790 | 3170 | 2242 | 2688 | 2635 | 2626 | 2692 | 2619 | 33,063 |
| 1983 | 2446 | 2608 | 3013 | 3334 | 3785 | 2657 | 2580 | 2668 | 2546 | 2958 | 2856 | 2656 | 34,107 |
| 1984 | 2511 | 2486 | 2936 | 3015 | 3767 | 3048 | 2530 | 2430 | 2589 | 2571 | 2600 | 2389 | 32,872 |
| 1985 | 1920 | 2430 | 2929 | 2866 | 3158 | 3406 | 2821 | 2533 | 2678 | 2634 | 2489 | 2348 | 32,212 |
| 1986 | 2234 | 2287 | 2665 | 3179 | 3720 | 2764 | 2767 | 2738 | 2842 | 2827 | 2798 | 2428 | 33,249 |
| 1987 | 1927 | 1718 | 2157 | 2609 | 3352 | 3178 | 2851 | 2686 | 2873 | 2880 | 2740 | 2489 | 31,460 |
| 1988 | 2424 | 2421 | 2527 | 3040 | 3485 | 3563 | 2952 | 2460 | 2693 | 2634 | 2429 | 2283 | 32,911 |
| 1989 | 2130 | 2048 | 2049 | 2404 | 2901 | 2848 | 2381 | 2394 | 2611 | 2564 | 2440 | 2349 | 29,119 |
| 1990 | 1909 | 1722 | 1900 | 2597 | 3261 | 3289 | 2864 | 2320 | 2475 | 2380 | 2269 | 2179 | 28,965 |
| 76 - 90 AVG | 2,162 | 2,170 | 2,479 | 2,925 | 3,542 | 3,114 | 2,635 | 2,508 | 2,645 | 2,661 | 2,597 | 2,404 | 31,842 |

**Collinsville, 435**
**Cumulative Impact**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2929 | 3241 | 3724 | 3627 | 3721 | 2236 | 3148 | 4248 | 3943 | 5471 | 5307 | 5946 |
| 1977 | 8216 | 9134 | 9145 | 7831 | 5299 | 3210 | 4920 | 6874 | 6349 | 8939 | 8203 | 8982 |
| 1978 | 7803 | 7352 | 4577 | 357 | 184 | 174 | 180 | 183 | 749 | 1812 | 2318 | 3840 |
| 1979 | 8080 | 8470 | 5247 | 1159 | 246 | 184 | 223 | 456 | 796 | 2153 | 3539 | 4584 |
| 1980 | 5879 | 4906 | 1906 | 229 | 165 | 165 | 178 | 205 | 701 | 1704 | 2183 | 4426 |
| 1981 | 8282 | 9714 | 5628 | 1816 | 459 | 284 | 460 | 1571 | 2921 | 4565 | 5174 | 5445 |
| 1982 | 6606 | 872 | 161 | 173 | 161 | 173 | 156 | 163 | 220 | 1232 | 2404 | 1261 |
| 1983 | 327 | 168 | 159 | 173 | 159 | 155 | 160 | 156 | 159 | 170 | 459 | 248 |
| 1984 | 212 | 159 | 156 | 161 | 166 | 167 | 249 | 358 | 1056 | 1612 | 2108 | 3555 |
| 1985 | 6618 | 1215 | 461 | 2307 | 2099 | 1226 | 1611 | 1727 | 2829 | 4682 | 5819 | 5949 |
| 1986 | 6772 | 6022 | 2755 | 990 | 172 | 158 | 174 | 216 | 787 | 1455 | 2156 | 3663 |
| 1987 | 7612 | 9585 | 5746 | 3838 | 1780 | 527 | 1125 | 3060 | 3804 | 4763 | 6817 | 8204 |
| 1988 | 7522 | 8060 | 4650 | 928 | 1091 | 1567 | 3128 | 4442 | 4067 | 5474 | 7699 | 7867 |
| 1989 | 8050 | 8167 | 7902 | 6511 | 5046 | 525 | 230 | 1413 | 3063 | 4706 | 6446 | 5838 |
| 1990 | 7892 | 8919 | 8612 | 3499 | 1908 | 1658 | 1914 | 3098 | 3801 | 5645 | 7237 | 7652 |
| Average | 6173 | 5732 | 4055 | 2240 | 1510 | 827 | 1190 | 1878 | 2350 | 3492 | 4511 | 5164 |

**Collinsville, 435**
**Cumulative Impact**
**Bromide**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3391 | 3769 | 4354 | 4231 | 4341 | 2544 | 3646 | 4977 | 4602 | 6448 | 6255 | 7036 |
| 1977 | 9786 | 10891 | 10896 | 9306 | 6242 | 3718 | 5789 | 8156 | 7518 | 8233 | 9764 | 10708 |
| 1978 | 9281 | 8728 | 5365 | 254 | 45 | 41 | 44 | 49 | 733 | 2030 | 2647 | 4491 |
| 1979 | 9626 | 10098 | 6196 | 1228 | 109 | 51 | 105 | 380 | 795 | 2445 | 4125 | 5392 |
| 1980 | 6960 | 5783 | 2149 | 114 | 37 | 38 | 52 | 77 | 675 | 1897 | 2482 | 5200 |
| 1981 | 9671 | 11606 | 6657 | 2035 | 391 | 183 | 395 | 1736 | 3364 | 5350 | 6092 | 6429 |
| 1982 | 7839 | 901 | 40 | 41 | 36 | 42 | 33 | 37 | 102 | 1331 | 2751 | 1369 |
| 1983 | 240 | 44 | 36 | 42 | 34 | 33 | 35 | 34 | 35 | 47 | 395 | 145 |
| 1984 | 100 | 38 | 34 | 36 | 37 | 41 | 140 | 268 | 1111 | 1791 | 2393 | 4147 |
| 1985 | 7857 | 1315 | 401 | 2632 | 2377 | 1315 | 1778 | 1923 | 3256 | 5500 | 6878 | 7040 |
| 1986 | 8039 | 7129 | 3174 | 1030 | 50 | 34 | 45 | 83 | 773 | 1596 | 2451 | 4276 |
| 1987 | 9060 | 11449 | 6801 | 4487 | 1989 | 472 | 1192 | 3526 | 4424 | 5588 | 7837 | 9766 |
| 1988 | 8942 | 9590 | 5467 | 957 | 1149 | 1722 | 3607 | 5204 | 4751 | 6454 | 9150 | 9358 |
| 1989 | 9584 | 9725 | 9404 | 7719 | 5940 | 476 | 121 | 1551 | 3547 | 5535 | 7641 | 6908 |
| 1990 | 9156 | 10641 | 10267 | 4074 | 2143 | 1839 | 2151 | 3585 | 4436 | 6668 | 8596 | 9102 |
| Average | 7315 | 6780 | 4749 | 2546 | 1661 | 837 | 1276 | 2106 | 2675 | 4061 | 5297 | 6091 |

**Collinsville, 435**
**Cumulative Impact**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2253 | 2118 | 2349 | 2627 | 2976 | 3023 | 2578 | 2439 | 2745 | 2735 | 2693 | 2340 |
| 1977 | 2039 | 1986 | 2075 | 2410 | 2970 | 3145 | 2558 | 2236 | 2396 | 2364 | 2411 | 2336 |
| 1978 | 2383 | 2352 | 2751 | 3415 | 4129 | 3159 | 2945 | 2993 | 2852 | 2634 | 2593 | 2363 |
| 1979 | 1920 | 1850 | 2270 | 3260 | 4335 | 3413 | 2709 | 2791 | 2738 | 2514 | 2505 | 2340 |
| 1980 | 2125 | 2118 | 2695 | 3019 | 3884 | 3178 | 2762 | 2825 | 2866 | 2682 | 2641 | 2342 |
| 1981 | 1920 | 1729 | 2258 | 2843 | 3567 | 3090 | 2604 | 2554 | 2765 | 2600 | 2757 | 2419 |
| 1982 | 2131 | 2408 | 2869 | 3174 | 3762 | 3207 | 2262 | 2740 | 2665 | 2593 | 2604 | 2571 |
| 1983 | 2448 | 2608 | 3009 | 3284 | 3775 | 2656 | 2577 | 2641 | 2505 | 2606 | 2811 | 2518 |
| 1984 | 2485 | 2460 | 2922 | 3020 | 3804 | 3095 | 2594 | 2652 | 2720 | 2599 | 2594 | 2377 |
| 1985 | 1981 | 2429 | 2876 | 2815 | 3265 | 3358 | 2924 | 2710 | 2728 | 2583 | 2543 | 2371 |
| 1986 | 2164 | 2200 | 2696 | 3135 | 3715 | 2777 | 2903 | 3055 | 3019 | 2747 | 2610 | 2381 |
| 1987 | 1937 | 1719 | 2235 | 2594 | 3365 | 3162 | 2884 | 2757 | 2873 | 2842 | 2685 | 2413 |
| 1988 | 2321 | 2124 | 2479 | 3015 | 3461 | 3626 | 3063 | 2584 | 2714 | 2668 | 2515 | 2369 |
| 1989 | 2164 | 2046 | 2086 | 2431 | 2910 | 2852 | 2385 | 2391 | 2517 | 2429 | 2387 | 2346 |
| 1990 | 1958 | 1774 | 1938 | 2650 | 3287 | 3249 | 2712 | 2479 | 2568 | 2441 | 2385 | 2251 |
| Average | 2149 | 2128 | 2501 | 2913 | 3547 | 3133 | 2697 | 2656 | 2711 | 2629 | 2582 | 2382 |

**Old River @ Highway 4 (90)**
**Existing Conditions**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 258 | 253 | 222 | 304 | 495 | 497 | 472 | 414 | 429 | 340 | 408 | 442 | 4,534 |
| 1977 | 536 | 625 | 619 | 721 | 980 | 777 | 599 | 566 | 560 | 568 | 598 | 689 | 7,838 |
| 1978 | 741 | 685 | 525 | 371 | 334 | 345 | 320 | 273 | 238 | 242 | 231 | 287 | 4,592 |
| 1979 | 319 | 467 | 455 | 419 | 372 | 310 | 254 | 242 | 244 | 230 | 248 | 333 | 3,893 |
| 1980 | 438 | 455 | 312 | 289 | 187 | 192 | 242 | 264 | 246 | 233 | 223 | 291 | 3,372 |
| 1981 | 345 | 417 | 344 | 297 | 318 | 276 | 284 | 285 | 285 | 299 | 348 | 407 | 3,903 |
| 1982 | 488 | 505 | 251 | 316 | 279 | 218 | 180 | 232 | 232 | 216 | 201 | 208 | 3,326 |
| 1983 | 222 | 277 | 203 | 201 | 173 | 188 | 168 | 170 | 182 | 238 | 226 | 233 | 2,481 |
| 1984 | 237 | 195 | 170 | 183 | 283 | 272 | 235 | 236 | 256 | 227 | 222 | 290 | 2,806 |
| 1985 | 430 | 513 | 251 | 252 | 452 | 340 | 289 | 306 | 277 | 285 | 343 | 414 | 4,152 |
| 1986 | 490 | 510 | 390 | 399 | 231 | 183 | 236 | 260 | 269 | 295 | 241 | 302 | 3,806 |
| 1987 | 439 | 570 | 536 | 737 | 804 | 444 | 357 | 326 | 298 | 301 | 370 | 470 | 5,652 |
| 1988 | 495 | 468 | 376 | 434 | 359 | 296 | 355 | 407 | 408 | 324 | 452 | 606 | 4,980 |
| 1989 | 630 | 572 | 491 | 650 | 875 | 422 | 226 | 221 | 258 | 284 | 347 | 416 | 5,392 |
| 1990 | 471 | 601 | 588 | 952 | 961 | 483 | 374 | 362 | 322 | 304 | 425 | 567 | 6,410 |
| 76 - 90 AVG | 436 | 474 | 382 | 435 | 474 | 350 | 306 | 304 | 300 | 292 | 325 | 397 | 4,476 |

**Old River @ Highway 4 (90)**
**Existing Conditions**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 113 | 90 | 75 | 167 | 379 | 392 | 321 | 260 | 271 | 214 | 321 | 362 | 2,965 |
| 1977 | 410 | 488 | 495 | 660 | 973 | 731 | 483 | 386 | 386 | 435 | 518 | 644 | 6,589 |
| 1978 | 651 | 513 | 385 | 179 | 120 | 116 | 104 | 91 | 85 | 99 | 101 | 142 | 2,586 |
| 1979 | 179 | 347 | 349 | 270 | 153 | 108 | 84 | 88 | 103 | 93 | 129 | 224 | 2,127 |
| 1980 | 330 | 346 | 198 | 115 | 48 | 44 | 73 | 92 | 92 | 92 | 94 | 148 | 1,672 |
| 1981 | 207 | 280 | 222 | 130 | 118 | 93 | 101 | 113 | 148 | 189 | 250 | 320 | 2,171 |
| 1982 | 374 | 400 | 118 | 119 | 94 | 62 | 35 | 68 | 77 | 74 | 70 | 72 | 1,563 |
| 1983 | 75 | 111 | 58 | 57 | 42 | 49 | 35 | 34 | 41 | 82 | 75 | 80 | 739 |
| 1984 | 87 | 42 | 42 | 38 | 86 | 87 | 74 | 88 | 121 | 94 | 89 | 171 | 1,029 |
| 1985 | 326 | 412 | 118 | 116 | 336 | 192 | 125 | 149 | 140 | 172 | 246 | 328 | 2,660 |
| 1986 | 376 | 380 | 276 | 280 | 80 | 46 | 72 | 87 | 102 | 129 | 105 | 177 | 2,110 |
| 1987 | 326 | 463 | 460 | 702 | 757 | 312 | 175 | 146 | 159 | 189 | 277 | 396 | 4,362 |
| 1988 | 386 | 309 | 253 | 328 | 212 | 140 | 212 | 287 | 296 | 210 | 371 | 556 | 3,560 |
| 1989 | 532 | 430 | 375 | 586 | 818 | 304 | 88 | 87 | 138 | 172 | 250 | 333 | 4,113 |
| 1990 | 362 | 480 | 479 | 961 | 948 | 360 | 249 | 244 | 200 | 191 | 341 | 513 | 5,328 |
| 76 - 90 AVG | 316 | 339 | 260 | 314 | 344 | 202 | 147 | 148 | 157 | 162 | 216 | 298 | 2,905 |

**Old River @ Highway 4 (90)**
**Existing Conditions**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2869 | 2895 | 3215 | 4323 | 4819 | 4613 | 4595 | 4513 | 4805 | 4094 | 3522 | 3178 | 47,441 |
| 1977 | 3342 | 3492 | 3583 | 4257 | 4561 | 4711 | 4832 | 4947 | 4981 | 5236 | 4752 | 4116 | 52,810 |
| 1978 | 4013 | 3890 | 4026 | 6539 | 6887 | 6698 | 5859 | 4473 | 3574 | 3810 | 3626 | 3344 | 56,739 |
| 1979 | 3146 | 2977 | 3243 | 5111 | 6785 | 5974 | 4273 | 3571 | 3607 | 3677 | 3444 | 3180 | 48,988 |
| 1980 | 3006 | 2844 | 3243 | 5395 | 6082 | 5064 | 4809 | 3872 | 3558 | 3621 | 3476 | 3347 | 48,317 |
| 1981 | 3203 | 3099 | 3257 | 4782 | 5724 | 5304 | 4683 | 4256 | 3788 | 3388 | 3330 | 3112 | 47,906 |
| 1982 | 3116 | 3084 | 3636 | 6173 | 6372 | 5393 | 4410 | 4471 | 3649 | 3489 | 3298 | 3139 | 50,230 |
| 1983 | 3245 | 4312 | 4322 | 4668 | 5919 | 4876 | 4419 | 3232 | 4090 | 4424 | 3659 | 3472 | 50,638 |
| 1984 | 3509 | 3054 | 3636 | 4359 | 6001 | 5357 | 3802 | 3497 | 3682 | 3603 | 3382 | 3148 | 47,230 |
| 1985 | 2919 | 3157 | 3701 | 4104 | 4687 | 5017 | 4558 | 4168 | 3787 | 3391 | 3354 | 3139 | 45,982 |
| 1986 | 3175 | 3186 | 3577 | 4539 | 6334 | 5024 | 4747 | 4030 | 3795 | 4335 | 3803 | 3222 | 49,767 |
| 1987 | 3068 | 3050 | 3185 | 3922 | 4774 | 5118 | 5225 | 4838 | 3943 | 3482 | 3492 | 3262 | 47,359 |
| 1988 | 3232 | 3314 | 3409 | 4279 | 5026 | 5058 | 4337 | 3770 | 3877 | 3747 | 3776 | 3494 | 47,319 |
| 1989 | 3653 | 3434 | 3422 | 4170 | 5107 | 4447 | 3479 | 3235 | 3418 | 3355 | 3425 | 3105 | 44,250 |
| 1990 | 3060 | 3232 | 3479 | 3854 | 4637 | 5192 | 4035 | 3532 | 3686 | 3560 | 3623 | 3392 | 45,282 |
| 76 - 90 AVG | 3,237 | 3,268 | 3,542 | 4,698 | 5,581 | 5,190 | 4,536 | 4,027 | 3,883 | 3,814 | 3,597 | 3,310 | 48,684 |

**Old River @ Highway 4 (90)**
**No-Action Alternative**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 266 | 246 | 259 | 555 | 788 | 597 | 485 | 413 | 449 | 326 | 364 | 480 | 4,534 |
| 1,977 | 564 | 658 | 672 | 829 | 1053 | 801 | 658 | 547 | 592 | 629 | 625 | 721 | 7,838 |
| 1,978 | 777 | 720 | 497 | 369 | 426 | 402 | 302 | 250 | 240 | 271 | 232 | 309 | 4,592 |
| 1,979 | 415 | 512 | 453 | 430 | 315 | 255 | 238 | 242 | 222 | 213 | 281 | 366 | 3,893 |
| 1,980 | 427 | 422 | 287 | 264 | 306 | 263 | 225 | 256 | 249 | 243 | 228 | 315 | 3,372 |
| 1,981 | 411 | 502 | 494 | 442 | 296 | 232 | 227 | 271 | 301 | 301 | 368 | 459 | 3,903 |
| 1,982 | 516 | 492 | 246 | 313 | 274 | 298 | 187 | 228 | 233 | 215 | 209 | 212 | 3,326 |
| 1,983 | 201 | 234 | 207 | 181 | 131 | 123 | 165 | 172 | 180 | 232 | 224 | 218 | 2,481 |
| 1,984 | 218 | 193 | 169 | 185 | 279 | 248 | 234 | 253 | 241 | 219 | 241 | 307 | 2,806 |
| 1,985 | 417 | 527 | 293 | 305 | 537 | 414 | 308 | 315 | 299 | 290 | 359 | 482 | 4,152 |
| 1,986 | 520 | 508 | 389 | 404 | 308 | 175 | 227 | 260 | 272 | 269 | 225 | 293 | 3,806 |
| 1,987 | 414 | 552 | 541 | 830 | 850 | 441 | 325 | 310 | 298 | 302 | 364 | 534 | 5,652 |
| 1,988 | 653 | 555 | 434 | 478 | 460 | 326 | 359 | 385 | 427 | 337 | 433 | 626 | 4,980 |
| 1,989 | 707 | 610 | 487 | 658 | 889 | 420 | 221 | 221 | 235 | 264 | 348 | 423 | 5,392 |
| 1,990 | 480 | 618 | 618 | 949 | 885 | 465 | 380 | 387 | 334 | 308 | 407 | 549 | 6,410 |
| 76 - 90 AVG | 466 | 490 | 403 | 479 | 520 | 364 | 303 | 301 | 305 | 295 | 327 | 420 | 4,476 |

**Old River @ Highway 4 (90)**
**No-Action Alternative**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 126 | 97 | 134 | 475 | 736 | 511 | 344 | 269 | 294 | 201 | 268 | 395 | 2,965 |
| 1,977 | 462 | 545 | 550 | 784 | 1062 | 760 | 481 | 399 | 423 | 477 | 536 | 663 | 6,589 |
| 1,978 | 675 | 549 | 363 | 179 | 178 | 168 | 101 | 74 | 83 | 111 | 103 | 182 | 2,586 |
| 1,979 | 280 | 397 | 364 | 300 | 137 | 85 | 73 | 84 | 90 | 88 | 174 | 261 | 2,127 |
| 1,980 | 318 | 310 | 167 | 147 | 120 | 86 | 58 | 83 | 92 | 95 | 98 | 181 | 1,672 |
| 1,981 | 287 | 385 | 413 | 337 | 146 | 78 | 74 | 120 | 169 | 188 | 273 | 371 | 2,171 |
| 1,982 | 407 | 385 | 112 | 137 | 107 | 104 | 38 | 63 | 70 | 71 | 77 | 78 | 1,563 |
| 1,983 | 67 | 97 | 69 | 58 | 44 | 46 | 35 | 36 | 41 | 73 | 67 | 69 | 739 |
| 1,984 | 75 | 87 | 43 | 39 | 76 | 69 | 69 | 89 | 102 | 93 | 125 | 186 | 1,029 |
| 1,985 | 309 | 434 | 167 | 180 | 442 | 273 | 153 | 185 | 179 | 177 | 261 | 395 | 2,660 |
| 1,986 | 402 | 375 | 276 | 285 | 250 | 60 | 65 | 80 | 99 | 109 | 96 | 165 | 2,110 |
| 1,987 | 300 | 447 | 468 | 817 | 814 | 308 | 154 | 137 | 159 | 182 | 260 | 450 | 4,362 |
| 1,988 | 541 | 397 | 329 | 381 | 279 | 156 | 201 | 244 | 293 | 215 | 346 | 574 | 3,560 |
| 1,989 | 627 | 489 | 384 | 599 | 837 | 299 | 84 | 83 | 107 | 148 | 252 | 334 | 4,113 |
| 1,990 | 375 | 503 | 521 | 957 | 860 | 344 | 261 | 282 | 224 | 198 | 320 | 483 | 5,328 |
| 76 - 90 AVG | 350 | 366 | 291 | 378 | 406 | 223 | 148 | 149 | 162 | 162 | 217 | 319 | 2,905 |

**Old River @ Highway 4 (90)**
**No-Action Alternative**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 2877 | 2830 | 3119 | 4162 | 4736 | 4642 | 4555 | 4375 | 4775 | 3954 | 3564 | 3250 | 47,441 |
| 1,977 | 3353 | 3446 | 3628 | 4279 | 4543 | 4697 | 4948 | 4853 | 5021 | 5429 | 5025 | 4300 | 52,810 |
| 1,978 | 4388 | 4032 | 3975 | 6537 | 8320 | 7837 | 5750 | 4058 | 3607 | 4064 | 3493 | 3329 | 56,739 |
| 1,979 | 3305 | 3053 | 3143 | 4922 | 6036 | 5176 | 4036 | 3563 | 3271 | 3241 | 3213 | 3082 | 48,988 |
| 1,980 | 2960 | 2837 | 3256 | 5052 | 7531 | 6389 | 4303 | 3745 | 3577 | 3712 | 3481 | 3335 | 48,317 |
| 1,981 | 3203 | 3082 | 3181 | 4132 | 4644 | 4441 | 3910 | 3915 | 3767 | 3548 | 3513 | 3209 | 47,906 |
| 1,982 | 3164 | 3089 | 3650 | 6137 | 6257 | 6563 | 4508 | 4442 | 3672 | 3491 | 3316 | 3148 | 50,230 |
| 1,983 | 2977 | 3766 | 4428 | 4713 | 5987 | 4809 | 4421 | 3267 | 4096 | 4292 | 3618 | 3322 | 50,638 |
| 1,984 | 3287 | 3063 | 3849 | 4400 | 5910 | 4916 | 3748 | 3657 | 3509 | 3331 | 3243 | 3103 | 47,230 |
| 1,985 | 2900 | 3159 | 3706 | 4055 | 4566 | 5208 | 4518 | 3685 | 3563 | 3446 | 3606 | 3333 | 45,982 |
| 1,986 | 3312 | 3233 | 3576 | 4508 | 7145 | 5244 | 4768 | 4040 | 3838 | 4117 | 3484 | 3106 | 49,767 |
| 1,987 | 3030 | 3055 | 3177 | 3854 | 4704 | 5120 | 4932 | 4590 | 3969 | 3730 | 3868 | 3598 | 47,359 |
| 1,988 | 3683 | 3479 | 3398 | 4274 | 5595 | 5388 | 4637 | 4173 | 4401 | 4011 | 3861 | 3580 | 47,319 |
| 1,989 | 3691 | 3369 | 3362 | 4139 | 5133 | 4473 | 3451 | 3419 | 3435 | 3322 | 3407 | 3131 | 44,250 |
| 1,990 | 3077 | 3205 | 3481 | 3857 | 4544 | 5075 | 3917 | 3349 | 3502 | 3461 | 3555 | 3416 | 45,282 |
| 76 - 90 AVG | 3,280 | 3,247 | 3,529 | 4,601 | 5,709 | 5,319 | 4,427 | 3,942 | 3,867 | 3,810 | 3,615 | 3,349 | 48,684 |

**Old River @ Highway 4 (90)**
**State Permit**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 259 | 244 | 257 | 552 | 781 | 590 | 462 | 405 | 407 | 308 | 354 | 494 | 5,113 |
| 1977 | 585 | 721 | 704 | 786 | 975 | 796 | 622 | 528 | 577 | 611 | 618 | 723 | 8,246 |
| 1978 | 782 | 699 | 532 | 375 | 428 | 403 | 302 | 249 | 240 | 249 | 226 | 308 | 4,793 |
| 1979 | 417 | 516 | 445 | 422 | 315 | 254 | 238 | 240 | 220 | 213 | 282 | 368 | 3,930 |
| 1980 | 429 | 405 | 274 | 261 | 317 | 274 | 226 | 257 | 248 | 238 | 229 | 321 | 3,479 |
| 1981 | 405 | 455 | 429 | 419 | 288 | 241 | 231 | 274 | 305 | 303 | 367 | 452 | 4,169 |
| 1982 | 499 | 470 | 240 | 313 | 275 | 241 | 183 | 227 | 232 | 216 | 208 | 211 | 3,315 |
| 1983 | 201 | 235 | 211 | 208 | 173 | 183 | 167 | 171 | 181 | 232 | 224 | 218 | 2,404 |
| 1984 | 218 | 193 | 171 | 186 | 277 | 246 | 234 | 253 | 241 | 220 | 241 | 308 | 2,788 |
| 1985 | 417 | 510 | 286 | 286 | 499 | 401 | 300 | 307 | 282 | 284 | 362 | 486 | 4,420 |
| 1986 | 517 | 524 | 389 | 393 | 338 | 203 | 243 | 263 | 272 | 286 | 229 | 293 | 3,950 |
| 1987 | 412 | 550 | 537 | 821 | 839 | 437 | 317 | 303 | 298 | 302 | 366 | 536 | 5,716 |
| 1988 | 666 | 603 | 488 | 491 | 477 | 327 | 356 | 390 | 395 | 302 | 389 | 570 | 5,454 |
| 1989 | 646 | 599 | 492 | 657 | 887 | 431 | 224 | 223 | 236 | 270 | 366 | 462 | 5,493 |
| 1990 | 479 | 612 | 613 | 932 | 848 | 447 | 365 | 362 | 316 | 304 | 392 | 553 | 6,223 |
| 76 - 90 AVG | 462 | 489 | 405 | 473 | 514 | 365 | 298 | 297 | 297 | 289 | 324 | 420 | 4,633 |

**Old River @ Highway 4 (90)**
**State Permit**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 114 | 89 | 131 | 472 | 728 | 502 | 335 | 267 | 273 | 189 | 256 | 413 | 3,769 |
| 1977 | 476 | 619 | 595 | 724 | 962 | 752 | 482 | 391 | 418 | 471 | 532 | 686 | 7,088 |
| 1978 | 679 | 531 | 406 | 184 | 167 | 147 | 99 | 80 | 86 | 103 | 99 | 170 | 2,751 |
| 1979 | 290 | 402 | 351 | 284 | 130 | 82 | 77 | 87 | 99 | 86 | 174 | 265 | 2,317 |
| 1980 | 320 | 288 | 150 | 93 | 111 | 88 | 67 | 89 | 93 | 95 | 101 | 185 | 1,680 |
| 1981 | 286 | 329 | 333 | 309 | 136 | 82 | 76 | 124 | 172 | 185 | 270 | 363 | 2,665 |
| 1982 | 385 | 356 | 104 | 118 | 91 | 74 | 36 | 66 | 77 | 75 | 77 | 75 | 1,534 |
| 1983 | 63 | 85 | 64 | 60 | 42 | 46 | 35 | 35 | 42 | 78 | 73 | 71 | 694 |
| 1984 | 76 | 42 | 43 | 39 | 85 | 76 | 74 | 92 | 103 | 94 | 125 | 189 | 1,038 |
| 1985 | 314 | 409 | 156 | 156 | 394 | 260 | 145 | 168 | 154 | 169 | 264 | 402 | 2,991 |
| 1986 | 402 | 393 | 275 | 272 | 140 | 56 | 75 | 88 | 103 | 121 | 100 | 168 | 2,193 |
| 1987 | 295 | 438 | 462 | 805 | 801 | 303 | 149 | 134 | 159 | 183 | 264 | 455 | 4,448 |
| 1988 | 569 | 468 | 396 | 397 | 283 | 156 | 204 | 254 | 274 | 187 | 298 | 507 | 3,991 |
| 1989 | 556 | 477 | 385 | 598 | 846 | 317 | 88 | 85 | 107 | 154 | 272 | 379 | 4,264 |
| 1990 | 376 | 502 | 512 | 936 | 813 | 319 | 239 | 245 | 201 | 196 | 302 | 487 | 5,128 |
| 76 - 90 AVG | 347 | 362 | 291 | 363 | 382 | 217 | 145 | 147 | 157 | 159 | 214 | 320 | 3,103 |

**Old River @ Highway 4 (90)**
**State Permit**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2873 | 2830 | 3116 | 4156 | 4731 | 4643 | 4429 | 4242 | 4482 | 3757 | 3555 | 3286 | 46,100 |
| 1977 | 3293 | 3352 | 3590 | 4444 | 4696 | 4729 | 4861 | 4704 | 4944 | 5346 | 4989 | 4288 | 53,236 |
| 1978 | 4160 | 3851 | 3949 | 6529 | 8335 | 7654 | 5753 | 4057 | 3607 | 3889 | 3439 | 3324 | 58,547 |
| 1979 | 3252 | 3026 | 3159 | 4938 | 6038 | 5173 | 4036 | 3529 | 3263 | 3287 | 3234 | 3080 | 46,015 |
| 1980 | 3088 | 2818 | 3254 | 5051 | 7536 | 6510 | 4351 | 3757 | 3576 | 3672 | 3450 | 3338 | 50,401 |
| 1981 | 3125 | 3051 | 3187 | 4130 | 4638 | 4857 | 3996 | 3900 | 3807 | 3672 | 3630 | 3232 | 45,025 |
| 1982 | 3174 | 3089 | 3645 | 6136 | 6278 | 5697 | 4452 | 4445 | 3668 | 3501 | 3317 | 3143 | 50,545 |
| 1983 | 2974 | 3766 | 4477 | 4715 | 5914 | 4806 | 4419 | 3246 | 4104 | 4292 | 3618 | 3321 | 49,652 |
| 1984 | 3284 | 3063 | 3849 | 4400 | 5909 | 4923 | 3757 | 3661 | 3510 | 3336 | 3244 | 3103 | 46,039 |
| 1985 | 2848 | 3135 | 3704 | 4124 | 4621 | 5111 | 4444 | 3846 | 3630 | 3465 | 3631 | 3311 | 45,870 |
| 1986 | 3276 | 3216 | 3571 | 4508 | 7356 | 5251 | 4881 | 4076 | 3838 | 4256 | 3531 | 3109 | 50,869 |
| 1987 | 3044 | 3052 | 3176 | 3855 | 4704 | 5120 | 4881 | 4498 | 3919 | 3687 | 3826 | 3577 | 47,339 |
| 1988 | 3576 | 3375 | 3376 | 4262 | 5687 | 5409 | 4516 | 4090 | 3979 | 3622 | 3747 | 3552 | 49,191 |
| 1989 | 3614 | 3329 | 3358 | 4137 | 4948 | 4400 | 3451 | 3449 | 3485 | 3365 | 3526 | 3181 | 44,243 |
| 1990 | 3048 | 3148 | 3463 | 3860 | 4590 | 5121 | 4014 | 3501 | 3464 | 3359 | 3548 | 3406 | 44,522 |
| 76 - 90 AVG | 3,242 | 3,207 | 3,525 | 4,616 | 5,732 | 5,280 | 4,416 | 3,933 | 3,818 | 3,767 | 3,619 | 3,350 | 48,506 |

**Old River @ Highway 4 (90)**
**Percent Inflow**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 258 | 244 | 256 | 529 | 770 | 592 | 480 | 412 | 474 | 325 | 364 | 491 | 5,195 |
| 1977 | 574 | 660 | 672 | 825 | 1039 | 793 | 604 | 528 | 588 | 626 | 627 | 726 | 8,262 |
| 1978 | 781 | 722 | 498 | 370 | 426 | 402 | 302 | 249 | 240 | 308 | 236 | 310 | 4,844 |
| 1979 | 415 | 509 | 454 | 440 | 320 | 254 | 237 | 242 | 222 | 214 | 284 | 366 | 3,957 |
| 1980 | 428 | 427 | 289 | 265 | 317 | 269 | 225 | 256 | 249 | 273 | 236 | 312 | 3,546 |
| 1981 | 423 | 549 | 533 | 513 | 335 | 243 | 230 | 278 | 297 | 299 | 368 | 447 | 4,511 |
| 1982 | 492 | 484 | 245 | 313 | 274 | 298 | 187 | 228 | 233 | 218 | 213 | 216 | 3,401 |
| 1983 | 202 | 235 | 232 | 204 | 178 | 183 | 166 | 171 | 181 | 232 | 224 | 218 | 2,426 |
| 1984 | 218 | 193 | 171 | 186 | 277 | 246 | 234 | 252 | 241 | 220 | 241 | 307 | 2,786 |
| 1985 | 419 | 548 | 274 | 284 | 540 | 413 | 308 | 312 | 291 | 292 | 373 | 492 | 4,546 |
| 1986 | 524 | 519 | 394 | 387 | 317 | 203 | 239 | 261 | 272 | 274 | 227 | 293 | 3,910 |
| 1987 | 410 | 548 | 537 | 821 | 839 | 437 | 392 | 352 | 308 | 304 | 360 | 522 | 5,830 |
| 1988 | 626 | 537 | 402 | 452 | 472 | 325 | 369 | 381 | 432 | 341 | 428 | 623 | 5,388 |
| 1989 | 705 | 617 | 492 | 655 | 881 | 417 | 221 | 221 | 234 | 266 | 350 | 423 | 5,482 |
| 1990 | 479 | 614 | 611 | 939 | 877 | 465 | 378 | 383 | 333 | 306 | 428 | 597 | 6,410 |
| 76 - 90 AVG | 464 | 494 | 404 | 479 | 524 | 389 | 305 | 302 | 306 | 300 | 330 | 423 | 4,700 |

**Old River @ Highway 4 (90)**
**Percent Inflow**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 113 | 89 | 128 | 443 | 713 | 505 | 341 | 265 | 289 | 198 | 267 | 410 | 3,761 |
| 1977 | 456 | 534 | 550 | 779 | 1044 | 749 | 476 | 391 | 422 | 478 | 541 | 669 | 7,089 |
| 1978 | 679 | 542 | 361 | 178 | 165 | 146 | 99 | 80 | 87 | 137 | 106 | 171 | 2,751 |
| 1979 | 283 | 391 | 366 | 307 | 135 | 82 | 76 | 88 | 91 | 89 | 177 | 262 | 2,347 |
| 1980 | 318 | 312 | 169 | 97 | 111 | 85 | 66 | 89 | 94 | 116 | 103 | 174 | 1,734 |
| 1981 | 304 | 444 | 460 | 426 | 195 | 89 | 76 | 120 | 161 | 184 | 271 | 358 | 3,088 |
| 1982 | 379 | 374 | 111 | 118 | 91 | 101 | 38 | 67 | 77 | 76 | 82 | 80 | 1,594 |
| 1983 | 64 | 86 | 78 | 58 | 44 | 46 | 35 | 35 | 42 | 78 | 73 | 71 | 710 |
| 1984 | 76 | 41 | 43 | 39 | 85 | 75 | 74 | 92 | 103 | 94 | 125 | 189 | 1,036 |
| 1985 | 313 | 454 | 142 | 158 | 445 | 271 | 152 | 179 | 169 | 178 | 277 | 408 | 3,146 |
| 1986 | 406 | 384 | 281 | 266 | 126 | 56 | 73 | 88 | 103 | 114 | 98 | 168 | 2,163 |
| 1987 | 293 | 436 | 461 | 806 | 802 | 304 | 186 | 158 | 158 | 178 | 249 | 435 | 4,466 |
| 1988 | 509 | 357 | 283 | 350 | 272 | 152 | 198 | 228 | 282 | 214 | 339 | 569 | 3,753 |
| 1989 | 623 | 490 | 383 | 594 | 824 | 295 | 84 | 83 | 106 | 150 | 254 | 334 | 4,220 |
| 1990 | 374 | 496 | 505 | 945 | 852 | 345 | 259 | 275 | 216 | 194 | 344 | 538 | 5,343 |
| 76 - 90 AVG | 348 | 362 | 288 | 371 | 394 | 220 | 149 | 149 | 160 | 165 | 220 | 322 | 3,147 |

**Old River @ Highway 4 (90)**
**Percent Inflow**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2873 | 2829 | 3134 | 4196 | 4768 | 4647 | 4554 | 4438 | 4820 | 3969 | 3579 | 3275 | 47,082 |
| 1977 | 3362 | 3449 | 3635 | 4295 | 4556 | 4702 | 4820 | 4726 | 4974 | 5395 | 5009 | 4296 | 53,219 |
| 1978 | 4389 | 4033 | 3975 | 6535 | 8314 | 7634 | 5754 | 4059 | 3616 | 4210 | 3526 | 3328 | 59,373 |
| 1979 | 3313 | 3054 | 3137 | 4926 | 6057 | 5159 | 4020 | 3558 | 3271 | 3240 | 3212 | 3081 | 46,028 |
| 1980 | 2965 | 2840 | 3257 | 5054 | 7533 | 6390 | 4304 | 3745 | 3576 | 3974 | 3529 | 3330 | 50,497 |
| 1981 | 3178 | 3057 | 3174 | 4057 | 4564 | 4513 | 3960 | 4058 | 3816 | 3551 | 3512 | 3196 | 44,636 |
| 1982 | 3133 | 3077 | 3650 | 6136 | 6257 | 6564 | 4506 | 4461 | 3679 | 3536 | 3343 | 3154 | 51,496 |
| 1983 | 2981 | 3769 | 4814 | 4729 | 5983 | 4808 | 4419 | 3247 | 4104 | 4292 | 3618 | 3321 | 50,085 |
| 1984 | 3284 | 3063 | 3849 | 4400 | 5910 | 4918 | 3752 | 3657 | 3509 | 3337 | 3243 | 3103 | 46,025 |
| 1985 | 2920 | 3167 | 3749 | 3980 | 4544 | 5219 | 4523 | 3730 | 3584 | 3483 | 3657 | 3345 | 45,901 |
| 1986 | 3325 | 3251 | 3581 | 4491 | 7135 | 5244 | 4767 | 4039 | 3844 | 4157 | 3497 | 3107 | 50,438 |
| 1987 | 3026 | 3054 | 3177 | 3855 | 4705 | 5122 | 5135 | 4991 | 4199 | 3915 | 4033 | 3670 | 48,882 |
| 1988 | 3790 | 3599 | 3426 | 4276 | 5726 | 5430 | 4795 | 4349 | 4558 | 4108 | 3918 | 3803 | 51,578 |
| 1989 | 3726 | 3403 | 3374 | 4144 | 5154 | 4479 | 3452 | 3419 | 3436 | 3335 | 3407 | 3131 | 44,460 |
| 1990 | 3082 | 3217 | 3490 | 3860 | 4525 | 5054 | 3914 | 3430 | 3630 | 3547 | 3633 | 3455 | 44,837 |
| 76 - 90 AVG | 3,290 | 3,257 | 3,561 | 4,596 | 5,715 | 5,326 | 4,445 | 3,994 | 3,908 | 3,870 | 3,648 | 3,360 | 48,969 |

**Old River @ Highway 4 (90)**
**Flow Study**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 274 | 247 | 258 | 550 | 780 | 590 | 497 | 419 | 513 | 333 | 372 | 500 | 5,333 |
| 1977 | 547 | 588 | 548 | 625 | 928 | 759 | 660 | 548 | 584 | 620 | 621 | 723 | 7,751 |
| 1978 | 793 | 729 | 526 | 374 | 417 | 395 | 302 | 249 | 241 | 308 | 236 | 312 | 4,882 |
| 1979 | 418 | 513 | 456 | 440 | 320 | 251 | 235 | 242 | 222 | 213 | 278 | 363 | 3,951 |
| 1980 | 433 | 434 | 290 | 265 | 317 | 269 | 225 | 256 | 249 | 265 | 232 | 312 | 3,547 |
| 1981 | 426 | 555 | 534 | 520 | 343 | 244 | 230 | 275 | 316 | 307 | 348 | 423 | 4,521 |
| 1982 | 489 | 472 | 242 | 313 | 274 | 296 | 187 | 228 | 233 | 218 | 212 | 215 | 3,379 |
| 1983 | 202 | 235 | 243 | 211 | 173 | 183 | 167 | 171 | 181 | 232 | 224 | 218 | 2,440 |
| 1984 | 218 | 193 | 171 | 186 | 277 | 246 | 234 | 252 | 241 | 220 | 241 | 307 | 2,786 |
| 1985 | 415 | 543 | 274 | 283 | 533 | 414 | 309 | 311 | 284 | 286 | 358 | 471 | 4,481 |
| 1986 | 504 | 466 | 366 | 403 | 324 | 202 | 240 | 261 | 272 | 294 | 229 | 294 | 3,855 |
| 1987 | 415 | 550 | 537 | 821 | 839 | 437 | 458 | 434 | 321 | 317 | 360 | 526 | 6,015 |
| 1988 | 630 | 517 | 456 | 490 | 486 | 353 | 367 | 392 | 411 | 314 | 406 | 597 | 5,419 |
| 1989 | 668 | 591 | 469 | 854 | 884 | 432 | 225 | 219 | 244 | 276 | 348 | 443 | 5,473 |
| 1990 | 474 | 611 | 606 | 923 | 860 | 453 | 361 | 324 | 315 | 294 | 371 | 510 | 6,102 |
| 76 - 90 AVG | 460 | 483 | 400 | 471 | 517 | 368 | 313 | 305 | 308 | 300 | 322 | 414 | 4,662 |

**Old River @ Highway 4 (90)**
**Flow Study**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 131 | 92 | 132 | 469 | 726 | 502 | 343 | 267 | 302 | 203 | 276 | 421 | 3,864 |
| 1977 | 414 | 429 | 414 | 549 | 911 | 709 | 465 | 391 | 413 | 469 | 533 | 665 | 6,362 |
| 1978 | 689 | 549 | 390 | 183 | 162 | 143 | 99 | 80 | 87 | 137 | 106 | 174 | 2,799 |
| 1979 | 289 | 397 | 368 | 307 | 135 | 81 | 75 | 88 | 90 | 87 | 169 | 258 | 2,344 |
| 1980 | 323 | 322 | 170 | 97 | 111 | 85 | 66 | 88 | 94 | 111 | 100 | 175 | 1,742 |
| 1981 | 309 | 452 | 462 | 434 | 204 | 91 | 76 | 120 | 169 | 179 | 245 | 328 | 3,069 |
| 1982 | 372 | 358 | 106 | 118 | 91 | 101 | 38 | 67 | 77 | 76 | 81 | 80 | 1,565 |
| 1983 | 64 | 86 | 85 | 62 | 42 | 46 | 35 | 35 | 42 | 78 | 73 | 71 | 719 |
| 1984 | 76 | 42 | 43 | 39 | 85 | 75 | 73 | 92 | 103 | 95 | 125 | 188 | 1,036 |
| 1985 | 310 | 448 | 142 | 155 | 437 | 271 | 153 | 172 | 154 | 165 | 257 | 383 | 3,047 |
| 1986 | 386 | 328 | 249 | 285 | 135 | 56 | 74 | 88 | 103 | 126 | 99 | 170 | 2,099 |
| 1987 | 299 | 439 | 461 | 805 | 801 | 303 | 216 | 200 | 162 | 181 | 249 | 442 | 4,558 |
| 1988 | 523 | 362 | 358 | 396 | 290 | 168 | 177 | 212 | 251 | 189 | 315 | 540 | 3,781 |
| 1989 | 583 | 466 | 380 | 593 | 842 | 318 | 88 | 83 | 118 | 156 | 247 | 355 | 4,229 |
| 1990 | 370 | 497 | 505 | 926 | 829 | 327 | 222 | 191 | 192 | 181 | 277 | 435 | 4,952 |
| 76 - 90 AVG | 343 | 351 | 284 | 381 | 387 | 218 | 147 | 145 | 157 | 162 | 210 | 312 | 3,078 |

**Old River @ Highway 4 (90)**
**Flow Study**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2879 | 2830 | 3119 | 4162 | 4738 | 4640 | 4645 | 4549 | 4905 | 4035 | 3619 | 3280 | 47,401 |
| 1977 | 3437 | 3602 | 3586 | 4222 | 4550 | 4703 | 4977 | 4928 | 5052 | 5424 | 5020 | 4381 | 53,842 |
| 1978 | 4363 | 4057 | 4010 | 6547 | 8182 | 7543 | 5748 | 4058 | 3617 | 4213 | 3528 | 3327 | 59,191 |
| 1979 | 3275 | 3038 | 3136 | 4926 | 6059 | 5104 | 3989 | 3551 | 3271 | 3310 | 3248 | 3080 | 45,987 |
| 1980 | 2978 | 2846 | 3257 | 5055 | 7534 | 6389 | 4303 | 3741 | 3575 | 3895 | 3503 | 3328 | 50,402 |
| 1981 | 3164 | 3047 | 3170 | 4055 | 4569 | 4501 | 3947 | 4042 | 4110 | 3941 | 3668 | 3223 | 45,437 |
| 1982 | 3170 | 3089 | 3647 | 6137 | 6260 | 6530 | 4503 | 4462 | 3679 | 3549 | 3350 | 3155 | 51,531 |
| 1983 | 2987 | 3774 | 4984 | 4664 | 5910 | 4806 | 4419 | 3247 | 4104 | 4292 | 3618 | 3321 | 50,126 |
| 1984 | 3286 | 3063 | 3849 | 4400 | 5913 | 4917 | 3748 | 3657 | 3509 | 3337 | 3243 | 3103 | 46,025 |
| 1985 | 2896 | 3160 | 3750 | 4006 | 4562 | 5234 | 4534 | 3865 | 3688 | 3696 | 3715 | 3315 | 46,421 |
| 1986 | 3271 | 3172 | 3559 | 4517 | 7139 | 5243 | 4805 | 4055 | 3839 | 4271 | 3536 | 3109 | 50,516 |
| 1987 | 3044 | 3052 | 3176 | 3855 | 4704 | 5121 | 5194 | 5207 | 4390 | 4196 | 4003 | 3582 | 49,524 |
| 1988 | 3616 | 3371 | 3371 | 4263 | 5729 | 5828 | 5209 | 4798 | 4563 | 3877 | 3778 | 3536 | 51,939 |
| 1989 | 3614 | 3335 | 3363 | 4143 | 4945 | 4401 | 3452 | 3336 | 3490 | 3649 | 3717 | 3219 | 44,664 |
| 1990 | 3071 | 3178 | 3456 | 3852 | 4583 | 5118 | 4329 | 3673 | 3685 | 3474 | 3524 | 3356 | 45,299 |
| 76 - 90 AVG | 3,270 | 3,241 | 3,561 | 4,587 | 5,692 | 5,339 | 4,520 | 4,078 | 3,965 | 3,944 | 3,671 | 3,353 | 49,220 |

**Old River @ Highway 4 (90)**
**Maximum Flow**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 320 | 281 | 286 | 668 | 863 | 596 | 512 | 439 | 467 | 350 | 434 | 589 | 5,805 |
| 1977 | 586 | 561 | 531 | 594 | 888 | 762 | 598 | 538 | 579 | 609 | 614 | 719 | 7,579 |
| 1978 | 780 | 715 | 513 | 373 | 429 | 403 | 302 | 249 | 241 | 309 | 234 | 308 | 4,856 |
| 1979 | 419 | 507 | 428 | 416 | 315 | 251 | 235 | 248 | 229 | 215 | 259 | 348 | 3,868 |
| 1980 | 439 | 460 | 312 | 268 | 316 | 272 | 227 | 259 | 251 | 291 | 241 | 312 | 3,648 |
| 1981 | 399 | 474 | 479 | 490 | 350 | 249 | 228 | 335 | 440 | 348 | 358 | 464 | 4,614 |
| 1982 | 506 | 474 | 242 | 314 | 275 | 277 | 183 | 230 | 234 | 227 | 219 | 221 | 3,402 |
| 1983 | 202 | 235 | 264 | 212 | 173 | 183 | 167 | 171 | 181 | 231 | 219 | 217 | 2,455 |
| 1984 | 215 | 193 | 171 | 186 | 277 | 246 | 234 | 252 | 241 | 220 | 243 | 306 | 2,784 |
| 1985 | 425 | 589 | 286 | 294 | 549 | 419 | 315 | 372 | 369 | 305 | 362 | 497 | 4,782 |
| 1986 | 534 | 505 | 381 | 406 | 322 | 202 | 241 | 262 | 272 | 308 | 234 | 294 | 3,961 |
| 1987 | 415 | 550 | 537 | 820 | 838 | 437 | 621 | 565 | 501 | 445 | 404 | 536 | 6,669 |
| 1988 | 655 | 595 | 382 | 438 | 495 | 427 | 376 | 384 | 470 | 360 | 419 | 622 | 5,623 |
| 1989 | 693 | 583 | 469 | 840 | 869 | 418 | 222 | 324 | 292 | 279 | 350 | 457 | 5,576 |
| 1990 | 477 | 612 | 610 | 925 | 858 | 453 | 369 | 339 | 322 | 304 | 442 | 612 | 6,323 |
| 76 - 90 AVG | 471 | 488 | 393 | 470 | 521 | 373 | 322 | 331 | 339 | 320 | 335 | 433 | 4,796 |

**Old River @ Highway 4 (90)**
**Maximum Flow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 187 | 133 | 166 | 617 | 832 | 508 | 350 | 276 | 282 | 214 | 341 | 523 | 4,429 |
| 1977 | 456 | 396 | 380 | 502 | 861 | 706 | 471 | 389 | 404 | 456 | 525 | 660 | 6,206 |
| 1978 | 676 | 539 | 379 | 182 | 167 | 147 | 99 | 80 | 87 | 137 | 102 | 168 | 2,763 |
| 1979 | 288 | 383 | 326 | 276 | 129 | 81 | 75 | 90 | 95 | 86 | 145 | 237 | 2,211 |
| 1980 | 326 | 351 | 196 | 101 | 111 | 87 | 67 | 90 | 95 | 128 | 105 | 174 | 1,831 |
| 1981 | 270 | 345 | 392 | 396 | 211 | 95 | 75 | 148 | 221 | 197 | 249 | 375 | 2,974 |
| 1982 | 393 | 361 | 106 | 118 | 91 | 91 | 36 | 68 | 77 | 81 | 87 | 86 | 1,595 |
| 1983 | 65 | 86 | 101 | 83 | 42 | 46 | 35 | 35 | 42 | 78 | 71 | 71 | 735 |
| 1984 | 74 | 42 | 43 | 39 | 85 | 75 | 74 | 92 | 103 | 94 | 127 | 187 | 1,035 |
| 1985 | 317 | 500 | 157 | 169 | 456 | 276 | 155 | 185 | 186 | 168 | 257 | 412 | 3,238 |
| 1986 | 409 | 354 | 263 | 288 | 134 | 56 | 75 | 88 | 103 | 134 | 103 | 169 | 2,176 |
| 1987 | 297 | 439 | 462 | 804 | 900 | 303 | 285 | 263 | 249 | 242 | 257 | 433 | 4,834 |
| 1988 | 531 | 387 | 243 | 331 | 284 | 207 | 178 | 213 | 280 | 220 | 321 | 564 | 3,759 |
| 1989 | 607 | 429 | 355 | 576 | 809 | 297 | 85 | 136 | 132 | 149 | 249 | 372 | 4,196 |
| 1990 | 374 | 499 | 508 | 928 | 826 | 327 | 220 | 187 | 185 | 189 | 360 | 557 | 5,160 |
| 76 - 90 AVG | 351 | 350 | 272 | 359 | 389 | 220 | 152 | 156 | 169 | 172 | 220 | 333 | 3,143 |

**Old River @ Highway 4 (90)**
**Maximum Flow**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2906 | 2845 | 3118 | 4020 | 4581 | 4692 | 4770 | 4758 | 4850 | 4305 | 3931 | 3415 | 48,191 |
| 1977 | 3509 | 3598 | 3643 | 4333 | 4615 | 4872 | 4960 | 4872 | 5052 | 5419 | 5013 | 4300 | 54,206 |
| 1978 | 4307 | 3970 | 3971 | 6546 | 8364 | 7659 | 5755 | 4060 | 3625 | 4217 | 3596 | 3349 | 59,419 |
| 1979 | 3315 | 3097 | 3197 | 4951 | 6043 | 5102 | 3993 | 3603 | 3351 | 3408 | 3332 | 3159 | 46,549 |
| 1980 | 3045 | 2859 | 3259 | 5056 | 7522 | 6453 | 4358 | 3781 | 3601 | 4115 | 3613 | 3346 | 51,006 |
| 1981 | 3234 | 3137 | 3206 | 4110 | 4650 | 4562 | 3900 | 4321 | 4791 | 4405 | 3913 | 3301 | 47,530 |
| 1982 | 3182 | 3093 | 3651 | 6146 | 6275 | 6217 | 4448 | 4493 | 3699 | 3653 | 3429 | 3178 | 51,482 |
| 1983 | 2995 | 3780 | 5193 | 4679 | 5911 | 4806 | 4419 | 3247 | 4103 | 4260 | 3532 | 3289 | 50,214 |
| 1984 | 3228 | 3064 | 3849 | 4401 | 5910 | 4920 | 3752 | 3658 | 3509 | 3336 | 3243 | 3103 | 45,973 |
| 1985 | 2963 | 3200 | 3756 | 3986 | 4550 | 5270 | 4693 | 4366 | 4507 | 4101 | 3883 | 3397 | 48,852 |
| 1986 | 3454 | 3355 | 3610 | 4530 | 7122 | 5239 | 4825 | 4060 | 3839 | 4355 | 3564 | 3111 | 51,064 |
| 1987 | 3044 | 3051 | 3175 | 3855 | 4706 | 5125 | 4975 | 5278 | 5238 | 5071 | 4777 | 4127 | 52,422 |
| 1988 | 4371 | 4077 | 3530 | 4299 | 5933 | 6402 | 5464 | 4692 | 4793 | 4394 | 4185 | 3764 | 55,904 |
| 1989 | 3757 | 3372 | 3372 | 4153 | 5142 | 4478 | 3457 | 3928 | 4337 | 3980 | 3756 | 3227 | 46,959 |
| 1990 | 3064 | 3174 | 3461 | 3856 | 4582 | 5126 | 4500 | 4111 | 3926 | 3835 | 3693 | 3450 | 46,578 |
| 76 - 90 AVG | 3,358 | 3,311 | 3,599 | 4,595 | 5,727 | 5,395 | 4,552 | 4,215 | 4,215 | 4,177 | 3,829 | 3,434 | 50,409 |

**Old River @ Highway 4, 90**
**Cumulative Impact**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 314 | 379 | 801 | 992 | 866 | 570 | 482 | 432 | 507 | 451 | 410 | 425 |
| 1977 | 510 | 535 | 590 | 676 | 845 | 678 | 489 | 475 | 490 | 466 | 531 | 669 |
| 1978 | 757 | 679 | 516 | 370 | 369 | 380 | 228 | 253 | 249 | 216 | 241 | 322 |
| 1979 | 431 | 525 | 976 | 882 | 346 | 249 | 281 | 378 | 244 | 210 | 276 | 366 |
| 1980 | 434 | 446 | 551 | 364 | 360 | 305 | 268 | 322 | 277 | 225 | 224 | 317 |
| 1981 | 439 | 572 | 1168 | 1097 | 467 | 262 | 270 | 353 | 441 | 462 | 355 | 414 |
| 1982 | 498 | 505 | 248 | 314 | 272 | 205 | 177 | 217 | 236 | 208 | 224 | 229 |
| 1983 | 208 | 233 | 259 | 251 | 173 | 191 | 172 | 173 | 196 | 233 | 211 | 212 |
| 1984 | 221 | 223 | 170 | 174 | 263 | 240 | 266 | 328 | 250 | 213 | 238 | 309 |
| 1985 | 422 | 564 | 317 | 318 | 538 | 395 | 348 | 390 | 308 | 291 | 340 | 441 |
| 1986 | 510 | 511 | 626 | 569 | 444 | 196 | 267 | 300 | 292 | 225 | 234 | 309 |
| 1987 | 413 | 582 | 1172 | 1344 | 867 | 431 | 592 | 492 | 467 | 407 | 374 | 523 |
| 1988 | 631 | 507 | 741 | 734 | 400 | 768 | 480 | 368 | 459 | 414 | 444 | 592 |
| 1989 | 605 | 508 | 445 | 607 | 859 | 438 | 239 | 249 | 246 | 272 | 349 | 455 |
| 1990 | 467 | 550 | 526 | 808 | 718 | 405 | 404 | 350 | 311 | 311 | 427 | 560 |
| Average | 457 | 487 | 607 | 633 | 519 | 381 | 331 | 339 | 332 | 307 | 325 | 410 |

**Old River @ Highway 4, 90**
**Cumulative Impact**
**Bromide**
Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 187 | 255 | 791 | 1011 | 842 | 489 | 315 | 247 | 273 | 261 | 310 | 333 |
| 1977 | 363 | 383 | 405 | 567 | 789 | 592 | 351 | 323 | 375 | 354 | 449 | 615 |
| 1978 | 855 | 518 | 394 | 180 | 138 | 135 | 56 | 72 | 88 | 82 | 125 | 198 |
| 1979 | 307 | 414 | 998 | 841 | 165 | 80 | 97 | 148 | 90 | 84 | 166 | 259 |
| 1980 | 323 | 337 | 484 | 218 | 134 | 102 | 85 | 116 | 105 | 84 | 103 | 186 |
| 1981 | 327 | 472 | 1229 | 1135 | 351 | 114 | 98 | 144 | 203 | 235 | 232 | 317 |
| 1982 | 387 | 402 | 115 | 118 | 89 | 57 | 34 | 53 | 78 | 71 | 102 | 106 |
| 1983 | 69 | 63 | 100 | 84 | 42 | 50 | 35 | 35 | 49 | 78 | 69 | 70 |
| 1984 | 75 | 68 | 42 | 38 | 77 | 72 | 90 | 128 | 95 | 85 | 122 | 191 |
| 1985 | 315 | 478 | 195 | 197 | 446 | 257 | 160 | 172 | 136 | 152 | 232 | 350 |
| 1986 | 391 | 383 | 562 | 485 | 216 | 53 | 82 | 98 | 110 | 87 | 116 | 188 |
| 1987 | 302 | 461 | 1233 | 1439 | 836 | 299 | 262 | 221 | 230 | 225 | 248 | 433 |
| 1988 | 509 | 333 | 693 | 690 | 253 | 361 | 213 | 174 | 243 | 241 | 341 | 527 |
| 1989 | 493 | 363 | 328 | 537 | 815 | 327 | 99 | 95 | 107 | 148 | 247 | 372 |
| 1990 | 363 | 441 | 427 | 790 | 662 | 279 | 210 | 166 | 154 | 182 | 338 | 497 |
| Average | 338 | 358 | 533 | 555 | 390 | 218 | 146 | 146 | 156 | 158 | 213 | 309 |

**Old River @ Highway 4, 90**
**Cumulative Impact**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2827 | 2764 | 3011 | 3910 | 4458 | 4434 | 4600 | 4743 | 4976 | 5215 | 3848 | 3235 |
| 1977 | 3516 | 3662 | 3923 | 4585 | 4953 | 5039 | 4783 | 4620 | 4201 | 4585 | 4509 | 4069 |
| 1978 | 4009 | 3782 | 3902 | 6502 | 7438 | 7316 | 4532 | 3382 | 3649 | 3428 | 3233 | 3157 |
| 1979 | 3182 | 3021 | 3033 | 4910 | 6142 | 5095 | 4638 | 4276 | 3531 | 3265 | 3305 | 3165 |
| 1980 | 2981 | 2859 | 3216 | 4923 | 7967 | 6998 | 5287 | 4242 | 3839 | 3580 | 3284 | 3267 |
| 1981 | 3105 | 3019 | 3078 | 3984 | 4640 | 4488 | 4376 | 4508 | 4742 | 4961 | 4011 | 3256 |
| 1982 | 3125 | 3072 | 3628 | 6192 | 5988 | 5214 | 4383 | 3349 | 3864 | 3445 | 3308 | 3054 |
| 1983 | 3150 | 3868 | 5129 | 5434 | 5954 | 4922 | 4418 | 3232 | 4156 | 4157 | 3496 | 3245 |
| 1984 | 3456 | 3688 | 3880 | 4364 | 6021 | 5002 | 4178 | 4361 | 3653 | 3324 | 3219 | 3082 |
| 1985 | 2901 | 3158 | 3693 | 4070 | 4491 | 5033 | 5109 | 4771 | 4235 | 4080 | 3830 | 3321 |
| 1986 | 3291 | 3197 | 3525 | 4525 | 7997 | 5171 | 5005 | 3602 | 3996 | 3519 | 3232 | 3090 |
| 1987 | 2982 | 3002 | 3058 | 3802 | 4692 | 5040 | 4738 | 5206 | 5119 | 5069 | 4553 | 3905 |
| 1988 | 3842 | 3534 | 3351 | 4302 | 5241 | 5701 | 5684 | 4788 | 4772 | 5005 | 4343 | 3650 |
| 1989 | 3640 | 3352 | 3372 | 4140 | 4889 | 4368 | 3656 | 3794 | 3763 | 3726 | 3767 | 3233 |
| 1990 | 2987 | 3046 | 3344 | 3818 | 4465 | 4869 | 4714 | 4540 | 4147 | 4066 | 3886 | 3450 |
| Average | 3266 | 3268 | 3543 | 4631 | 5689 | 5246 | 4673 | 4228 | 4163 | 4094 | 3721 | 3345 |

**Contra Costa Canal Intake, 247**
**Cumulative Impact**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 310 | 378 | 877 | 1099 | 977 | 636 | 491 | 426 | 438 | 417 | 461 | 463 |
| 1977 | 533 | 559 | 614 | 746 | 944 | 746 | 542 | 506 | 533 | 510 | 606 | 753 |
| 1978 | 810 | 709 | 593 | 648 | 564 | 565 | 409 | 315 | 256 | 225 | 267 | 334 |
| 1979 | 452 | 564 | 1066 | 1049 | 437 | 280 | 292 | 364 | 252 | 228 | 309 | 392 |
| 1980 | 454 | 469 | 610 | 436 | 753 | 493 | 321 | 363 | 278 | 228 | 245 | 327 |
| 1981 | 470 | 626 | 1284 | 1242 | 533 | 293 | 288 | 322 | 354 | 374 | 383 | 449 |
| 1982 | 522 | 541 | 267 | 640 | 328 | 493 | 291 | 263 | 244 | 218 | 243 | 236 |
| 1983 | 206 | 281 | 346 | 795 | 632 | 582 | 304 | 225 | 251 | 242 | 212 | 208 |
| 1984 | 221 | 274 | 336 | 271 | 312 | 274 | 281 | 313 | 249 | 227 | 263 | 323 |
| 1985 | 443 | 625 | 341 | 352 | 631 | 444 | 366 | 353 | 301 | 303 | 383 | 483 |
| 1986 | 535 | 534 | 697 | 666 | 792 | 647 | 354 | 360 | 294 | 235 | 258 | 318 |
| 1987 | 432 | 605 | 1284 | 1482 | 1000 | 501 | 527 | 467 | 409 | 390 | 417 | 577 |
| 1988 | 661 | 506 | 814 | 860 | 434 | 556 | 473 | 381 | 412 | 407 | 507 | 663 |
| 1989 | 641 | 517 | 481 | 681 | 974 | 509 | 280 | 254 | 256 | 297 | 400 | 498 |
| 1990 | 484 | 578 | 574 | 902 | 810 | 439 | 379 | 324 | 319 | 340 | 494 | 631 |
| Average | 478 | 518 | 679 | 791 | 675 | 497 | 373 | 349 | 323 | 309 | 383 | 444 |

**Contra Costa Canal Intake, 247**
**Cumulative Impact**
**Bromide**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 205 | 275 | 882 | 1105 | 934 | 536 | 346 | 255 | 255 | 251 | 360 | 384 |
| 1977 | 414 | 415 | 463 | 639 | 884 | 647 | 387 | 359 | 416 | 397 | 518 | 714 |
| 1978 | 741 | 584 | 465 | 300 | 190 | 195 | 130 | 103 | 91 | 88 | 147 | 224 |
| 1979 | 350 | 483 | 1107 | 974 | 204 | 89 | 99 | 143 | 94 | 95 | 197 | 298 |
| 1980 | 368 | 385 | 544 | 264 | 268 | 178 | 105 | 137 | 106 | 86 | 120 | 209 |
| 1981 | 382 | 558 | 1368 | 1267 | 394 | 126 | 102 | 127 | 159 | 197 | 265 | 385 |
| 1982 | 440 | 461 | 130 | 253 | 106 | 162 | 81 | 79 | 83 | 77 | 118 | 116 |
| 1983 | 70 | 114 | 144 | 327 | 205 | 184 | 90 | 61 | 85 | 83 | 69 | 70 |
| 1984 | 78 | 108 | 133 | 85 | 93 | 82 | 92 | 118 | 94 | 94 | 143 | 216 |
| 1985 | 383 | 556 | 215 | 215 | 513 | 292 | 172 | 155 | 133 | 164 | 276 | 405 |
| 1986 | 446 | 436 | 625 | 560 | 326 | 249 | 120 | 131 | 113 | 93 | 136 | 210 |
| 1987 | 344 | 537 | 1369 | 1576 | 935 | 334 | 248 | 209 | 204 | 220 | 286 | 504 |
| 1988 | 571 | 361 | 774 | 797 | 273 | 280 | 209 | 184 | 229 | 241 | 401 | 613 |
| 1989 | 561 | 400 | 377 | 596 | 922 | 391 | 118 | 95 | 114 | 189 | 299 | 432 |
| 1990 | 407 | 504 | 494 | 873 | 742 | 300 | 206 | 156 | 162 | 206 | 402 | 581 |
| Average | 383 | 412 | 608 | 655 | 466 | 270 | 167 | 154 | 156 | 164 | 249 | 358 |

**Contra Costa Canal Intake, 247**
**Cumulative Impact**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2915 | 2956 | 3244 | 4853 | 4984 | 4890 | 4939 | 5102 | 5474 | 5320 | 4142 | 3437 |
| 1977 | 3700 | 3848 | 4148 | 5253 | 5250 | 5446 | 5437 | 4997 | 4663 | 4898 | 4980 | 4446 |
| 1978 | 4454 | 4145 | 5050 | 12513 | 10448 | 10135 | 7474 | 5002 | 3970 | 3626 | 3415 | 3323 |
| 1979 | 3390 | 3170 | 3289 | 6919 | 7257 | 5690 | 5105 | 5468 | 3827 | 3500 | 3483 | 3356 |
| 1980 | 3099 | 3040 | 3864 | 6174 | 12890 | 9694 | 6272 | 5764 | 4142 | 3750 | 3459 | 3421 |
| 1981 | 3293 | 3205 | 3329 | 5135 | 5122 | 4850 | 4888 | 4998 | 5094 | 5176 | 4160 | 3492 |
| 1982 | 3249 | 3473 | 4141 | 13472 | 6807 | 9408 | 6176 | 4708 | 3906 | 3638 | 3472 | 3169 |
| 1983 | 3201 | 5136 | 7156 | 16891 | 12687 | 10714 | 6444 | 4378 | 4912 | 4448 | 3665 | 3388 |
| 1984 | 3570 | 4914 | 7218 | 6296 | 6719 | 5583 | 4732 | 4742 | 3876 | 3526 | 3396 | 3279 |
| 1985 | 2973 | 3929 | 4165 | 4643 | 5086 | 5362 | 5657 | 5354 | 4513 | 4286 | 3998 | 3573 |
| 1986 | 3490 | 3402 | 4567 | 5619 | 12576 | 10936 | 6879 | 5515 | 4310 | 3716 | 3412 | 3236 |
| 1987 | 3170 | 3160 | 3285 | 4599 | 5522 | 5697 | 5964 | 5798 | 5621 | 5275 | 4884 | 4194 |
| 1988 | 4089 | 3775 | 3898 | 5447 | 5390 | 6661 | 6189 | 5185 | 5334 | 5285 | 4747 | 4020 |
| 1989 | 3953 | 3633 | 3784 | 5005 | 5288 | 4686 | 4222 | 4089 | 3989 | 3943 | 3924 | 3300 |
| 1990 | 3141 | 3183 | 3607 | 4850 | 4811 | 5044 | 5159 | 4587 | 4521 | 4379 | 4245 | 3741 |
| Average | 3446 | 3665 | 4316 | 7165 | 7389 | 6986 | 5702 | 5046 | 4543 | 4318 | 3959 | 3558 |

**Contra Costa Canal Intake (247)**
**No-Action Alternative**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 252 | 229 | 274 | 638 | 883 | 661 | 504 | 436 | 444 | 349 | 417 | 526 | 4,844 |
| 1,977 | 602 | 719 | 740 | 934 | 1176 | 890 | 674 | 578 | 599 | 648 | 693 | 800 | 8,522 |
| 1,978 | 830 | 744 | 563 | 588 | 632 | 544 | 332 | 266 | 249 | 263 | 253 | 322 | 5,604 |
| 1,979 | 436 | 553 | 508 | 520 | 367 | 271 | 245 | 251 | 241 | 238 | 324 | 399 | 4,237 |
| 1,980 | 445 | 442 | 319 | 296 | 664 | 319 | 236 | 262 | 254 | 246 | 245 | 327 | 4,120 |
| 1,981 | 440 | 545 | 560 | 511 | 319 | 243 | 240 | 290 | 322 | 338 | 422 | 505 | 4,155 |
| 1,982 | 541 | 521 | 254 | 533 | 305 | 485 | 342 | 260 | 246 | 225 | 223 | 214 | 4,185 |
| 1,983 | 198 | 279 | 380 | 607 | 473 | 465 | 258 | 230 | 246 | 249 | 232 | 219 | 4,137 |
| 1,984 | 214 | 257 | 304 | 263 | 297 | 261 | 244 | 259 | 255 | 242 | 273 | 324 | 3,260 |
| 1,985 | 434 | 580 | 309 | 333 | 613 | 443 | 326 | 346 | 325 | 328 | 413 | 529 | 4,566 |
| 1,986 | 544 | 522 | 442 | 464 | 754 | 535 | 250 | 272 | 277 | 271 | 246 | 301 | 4,856 |
| 1,987 | 434 | 602 | 613 | 934 | 960 | 502 | 335 | 313 | 314 | 332 | 413 | 591 | 6,274 |
| 1,988 | 693 | 558 | 485 | 554 | 440 | 340 | 381 | 413 | 444 | 367 | 503 | 710 | 5,442 |
| 1,989 | 765 | 629 | 528 | 749 | 993 | 456 | 246 | 245 | 259 | 299 | 401 | 459 | 5,947 |
| 1,990 | 500 | 649 | 670 | 1066 | 966 | 498 | 424 | 414 | 367 | 350 | 472 | 617 | 7,003 |
| 76 - 90 AVG | 489 | 522 | 463 | 599 | 656 | 461 | 336 | 322 | 323 | 316 | 369 | 456 | 5,143 |

**Contra Costa Canal Intake (247)**
**No-Action Alternative**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 127 | 90 | 152 | 554 | 830 | 562 | 372 | 291 | 303 | 222 | 321 | 460 | 3,280 |
| 1,977 | 525 | 643 | 656 | 905 | 1187 | 832 | 542 | 434 | 462 | 524 | 604 | 758 | 7,436 |
| 1,978 | 751 | 606 | 423 | 270 | 224 | 208 | 112 | 84 | 90 | 107 | 118 | 200 | 3,131 |
| 1,979 | 324 | 466 | 431 | 358 | 153 | 88 | 77 | 90 | 102 | 104 | 211 | 306 | 2,422 |
| 1,980 | 360 | 354 | 196 | 151 | 242 | 104 | 65 | 87 | 96 | 98 | 111 | 204 | 2,072 |
| 1,981 | 336 | 455 | 492 | 395 | 154 | 79 | 77 | 132 | 188 | 220 | 326 | 432 | 2,423 |
| 1,982 | 463 | 437 | 119 | 219 | 113 | 173 | 107 | 79 | 80 | 78 | 87 | 81 | 2,002 |
| 1,983 | 66 | 123 | 168 | 244 | 155 | 160 | 79 | 66 | 83 | 83 | 75 | 73 | 1,462 |
| 1,984 | 76 | 123 | 119 | 80 | 84 | 73 | 73 | 93 | 112 | 108 | 149 | 214 | 1,282 |
| 1,985 | 352 | 502 | 180 | 200 | 509 | 297 | 164 | 210 | 201 | 209 | 314 | 459 | 3,044 |
| 1,986 | 457 | 419 | 325 | 332 | 366 | 219 | 76 | 87 | 104 | 110 | 111 | 186 | 2,693 |
| 1,987 | 340 | 526 | 556 | 923 | 905 | 340 | 158 | 139 | 173 | 208 | 309 | 527 | 4,983 |
| 1,988 | 620 | 434 | 386 | 444 | 277 | 162 | 224 | 272 | 310 | 239 | 415 | 674 | 4,044 |
| 1,989 | 720 | 545 | 442 | 693 | 949 | 333 | 93 | 94 | 123 | 176 | 303 | 385 | 4,723 |
| 1,990 | 426 | 575 | 601 | 1082 | 940 | 367 | 293 | 312 | 251 | 234 | 384 | 563 | 6,004 |
| 76 - 90 AVG | 396 | 420 | 350 | 457 | 473 | 266 | 167 | 165 | 179 | 181 | 256 | 368 | 3,400 |

**Contra Costa Canal Intake (247)**
**No-Action Alternative**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 2989 | 3025 | 3339 | 4780 | 4928 | 5041 | 4758 | 4663 | 4978 | 4213 | 3794 | 3463 | 51,357 |
| 1,977 | 3529 | 3578 | 3754 | 4676 | 4813 | 5198 | 5553 | 5289 | 5479 | 5746 | 5443 | 4755 | 57,408 |
| 1,978 | 4915 | 4394 | 5069 | 11342 | 11553 | 9858 | 6272 | 4503 | 3994 | 4346 | 3797 | 3572 | 74,820 |
| 1,979 | 3534 | 3205 | 3369 | 6367 | 6737 | 5491 | 4253 | 3910 | 3656 | 3611 | 3549 | 3381 | 54,670 |
| 1,980 | 3110 | 3017 | 3798 | 5853 | 12166 | 7180 | 4537 | 4075 | 3961 | 4012 | 3763 | 3584 | 60,223 |
| 1,981 | 3418 | 3263 | 3406 | 4892 | 4852 | 4578 | 4126 | 4257 | 4096 | 3874 | 3801 | 3502 | 51,855 |
| 1,982 | 3280 | 3447 | 4016 | 11140 | 6641 | 9512 | 6949 | 5155 | 4006 | 3801 | 3621 | 3341 | 66,251 |
| 1,983 | 3075 | 4986 | 7919 | 13364 | 10602 | 9675 | 6027 | 4567 | 5006 | 4742 | 3950 | 3564 | 80,611 |
| 1,984 | 3434 | 4476 | 6561 | 6012 | 6261 | 5169 | 4044 | 4003 | 3844 | 3684 | 3561 | 3408 | 56,785 |
| 1,985 | 3026 | 3916 | 4080 | 4402 | 4802 | 5285 | 4708 | 4016 | 3875 | 3788 | 3878 | 3624 | 50,751 |
| 1,986 | 3479 | 3405 | 4333 | 5174 | 12083 | 10118 | 5151 | 4423 | 4220 | 4393 | 3786 | 3358 | 64,339 |
| 1,987 | 3255 | 3211 | 3381 | 4381 | 5210 | 5642 | 5080 | 4823 | 4200 | 4002 | 4093 | 3864 | 51,771 |
| 1,988 | 3836 | 3590 | 3777 | 5005 | 5500 | 5555 | 4824 | 4486 | 4729 | 4352 | 4187 | 3890 | 51,118 |
| 1,989 | 3943 | 3535 | 3627 | 4635 | 5250 | 4552 | 3760 | 3799 | 3760 | 3668 | 3697 | 3237 | 47,918 |
| 1,990 | 3191 | 3300 | 3612 | 4332 | 4663 | 5206 | 4285 | 3406 | 3840 | 3852 | 3896 | 3738 | 48,306 |
| 76 - 90 AVG | 3,468 | 3,623 | 4,269 | 6,422 | 7,071 | 6,537 | 4,955 | 4,358 | 4,243 | 4,139 | 3,921 | 3,619 | 57,879 |

**Contra Costa Canal Intake (247)**
**State Permit**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 243 | 227 | 271 | 634 | 874 | 654 | 493 | 431 | 420 | 336 | 406 | 543 | 5,532 |
| 1977 | 628 | 803 | 781 | 882 | 1089 | 882 | 656 | 561 | 586 | 636 | 688 | 803 | 8,995 |
| 1978 | 836 | 724 | 602 | 588 | 625 | 555 | 332 | 266 | 249 | 250 | 247 | 320 | 5,594 |
| 1979 | 440 | 560 | 498 | 510 | 373 | 271 | 245 | 249 | 238 | 236 | 324 | 402 | 4,346 |
| 1980 | 441 | 422 | 303 | 292 | 666 | 336 | 238 | 263 | 254 | 242 | 247 | 335 | 4,039 |
| 1981 | 436 | 487 | 480 | 485 | 309 | 246 | 243 | 294 | 325 | 336 | 420 | 495 | 4,556 |
| 1982 | 520 | 495 | 248 | 533 | 306 | 485 | 314 | 258 | 246 | 225 | 222 | 213 | 4,065 |
| 1983 | 198 | 279 | 381 | 606 | 499 | 510 | 272 | 230 | 246 | 250 | 232 | 219 | 3,922 |
| 1984 | 214 | 257 | 305 | 264 | 293 | 258 | 244 | 259 | 255 | 242 | 273 | 325 | 3,189 |
| 1985 | 438 | 562 | 300 | 312 | 573 | 431 | 317 | 333 | 301 | 320 | 417 | 535 | 4,839 |
| 1986 | 542 | 543 | 442 | 451 | 755 | 548 | 267 | 274 | 277 | 261 | 249 | 302 | 4,931 |
| 1987 | 432 | 600 | 609 | 923 | 948 | 497 | 330 | 309 | 313 | 333 | 416 | 594 | 6,304 |
| 1988 | 714 | 624 | 552 | 569 | 440 | 337 | 379 | 421 | 419 | 335 | 452 | 645 | 5,887 |
| 1989 | 692 | 617 | 533 | 750 | 991 | 469 | 249 | 247 | 259 | 305 | 424 | 506 | 6,042 |
| 1990 | 499 | 644 | 665 | 1047 | 922 | 472 | 401 | 381 | 344 | 344 | 454 | 621 | 6,794 |
| 76 - 90 AVG | 485 | 523 | 465 | 590 | 644 | 463 | 332 | 318 | 315 | 311 | 365 | 457 | 5,269 |

**Contra Costa Canal Intake (247)**
**State Permit**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 114 | 84 | 148 | 549 | 820 | 553 | 363 | 292 | 288 | 213 | 308 | 480 | 4,212 |
| 1977 | 552 | 743 | 711 | 838 | 1077 | 824 | 530 | 426 | 454 | 518 | 602 | 763 | 8,038 |
| 1978 | 765 | 594 | 474 | 275 | 217 | 195 | 108 | 89 | 92 | 101 | 114 | 193 | 3,217 |
| 1979 | 332 | 475 | 416 | 343 | 150 | 86 | 78 | 92 | 100 | 101 | 211 | 309 | 2,693 |
| 1980 | 358 | 329 | 177 | 105 | 222 | 108 | 71 | 91 | 97 | 97 | 114 | 212 | 1,981 |
| 1981 | 338 | 385 | 394 | 364 | 144 | 79 | 78 | 137 | 190 | 214 | 321 | 420 | 3,064 |
| 1982 | 436 | 405 | 110 | 207 | 99 | 165 | 93 | 80 | 85 | 79 | 86 | 79 | 1,924 |
| 1983 | 64 | 114 | 161 | 237 | 152 | 160 | 79 | 66 | 82 | 88 | 79 | 75 | 1,357 |
| 1984 | 76 | 91 | 112 | 79 | 86 | 77 | 75 | 95 | 113 | 108 | 149 | 216 | 1,277 |
| 1985 | 360 | 478 | 168 | 174 | 455 | 288 | 155 | 189 | 169 | 199 | 318 | 466 | 3,417 |
| 1986 | 457 | 445 | 325 | 316 | 316 | 193 | 84 | 94 | 107 | 117 | 113 | 187 | 2,754 |
| 1987 | 337 | 519 | 549 | 909 | 890 | 335 | 154 | 137 | 174 | 211 | 314 | 532 | 5,061 |
| 1988 | 656 | 528 | 470 | 463 | 277 | 159 | 229 | 285 | 299 | 214 | 358 | 597 | 4,535 |
| 1989 | 638 | 534 | 447 | 696 | 959 | 356 | 97 | 95 | 122 | 183 | 328 | 441 | 4,896 |
| 1990 | 426 | 575 | 594 | 1059 | 885 | 337 | 267 | 269 | 226 | 231 | 384 | 570 | 5,803 |
| 76 - 90 AVG | 394 | 420 | 350 | 441 | 450 | 261 | 164 | 162 | 173 | 178 | 252 | 369 | 3,615 |

**Contra Costa Canal Intake (247)**
**State Permit**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2985 | 3025 | 3337 | 4753 | 4923 | 5040 | 4642 | 4543 | 4677 | 4038 | 3788 | 3493 | 49,244 |
| 1977 | 3471 | 3488 | 3710 | 4778 | 4948 | 5176 | 5373 | 5078 | 5335 | 5598 | 5360 | 4697 | 57,012 |
| 1978 | 4630 | 4151 | 4970 | 11227 | 11435 | 10010 | 6265 | 4502 | 3999 | 4167 | 3742 | 3569 | 72,667 |
| 1979 | 3485 | 3176 | 3380 | 6380 | 6841 | 5489 | 4254 | 3882 | 3649 | 3645 | 3568 | 3381 | 51,130 |
| 1980 | 3075 | 2998 | 3792 | 5845 | 12149 | 7409 | 4588 | 4084 | 3965 | 3966 | 3752 | 3590 | 59,213 |
| 1981 | 3346 | 3228 | 3412 | 4887 | 4821 | 4717 | 4210 | 4255 | 4135 | 3982 | 3898 | 3528 | 48,419 |
| 1982 | 3287 | 3447 | 4011 | 11146 | 6858 | 9458 | 6514 | 5117 | 4001 | 3803 | 3623 | 3338 | 64,403 |
| 1983 | 3071 | 4989 | 7939 | 13090 | 10441 | 9664 | 6017 | 4558 | 5004 | 4742 | 3950 | 3560 | 77,025 |
| 1984 | 3431 | 4477 | 6560 | 6010 | 6200 | 5150 | 4050 | 4011 | 3847 | 3687 | 3561 | 3408 | 54,392 |
| 1985 | 2979 | 3895 | 4078 | 4454 | 4937 | 5200 | 4634 | 4173 | 3939 | 3806 | 3901 | 3604 | 49,600 |
| 1986 | 3451 | 3391 | 4326 | 5173 | 12089 | 10067 | 5275 | 4465 | 4223 | 4528 | 3834 | 3362 | 64,184 |
| 1987 | 3254 | 3211 | 3380 | 4382 | 5209 | 5639 | 5022 | 4739 | 4155 | 3960 | 4057 | 3843 | 50,851 |
| 1988 | 3709 | 3488 | 3745 | 4991 | 5498 | 5540 | 4650 | 4368 | 4240 | 3932 | 4016 | 3817 | 51,994 |
| 1989 | 3811 | 3453 | 3581 | 4576 | 5004 | 4419 | 3754 | 3826 | 3802 | 3705 | 3800 | 3283 | 47,014 |
| 1990 | 3163 | 3252 | 3599 | 4333 | 4699 | 5208 | 4281 | 3502 | 3757 | 3702 | 3832 | 3683 | 47,011 |
| 76 - 90 AVG | 3,410 | 3,576 | 4,255 | 6,402 | 7,057 | 6,546 | 4,902 | 4,340 | 4,182 | 4,084 | 3,912 | 3,610 | 56,277 |

**Contra Costa Canal Intake (247)**
**Percent Inflow**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 242 | 227 | 269 | 609 | 863 | 657 | 501 | 432 | 437 | 347 | 417 | 540 | 5,541 |
| 1977 | 614 | 722 | 739 | 930 | 1160 | 881 | 653 | 565 | 594 | 647 | 697 | 805 | 9,007 |
| 1978 | 834 | 746 | 564 | 588 | 632 | 544 | 331 | 266 | 250 | 275 | 256 | 322 | 5,608 |
| 1979 | 436 | 550 | 510 | 532 | 379 | 270 | 244 | 251 | 240 | 239 | 326 | 399 | 4,376 |
| 1980 | 446 | 448 | 321 | 296 | 666 | 324 | 236 | 262 | 254 | 266 | 252 | 323 | 4,094 |
| 1981 | 455 | 605 | 607 | 592 | 367 | 254 | 242 | 291 | 315 | 336 | 420 | 491 | 4,975 |
| 1982 | 512 | 512 | 254 | 533 | 304 | 485 | 340 | 259 | 246 | 227 | 227 | 219 | 4,118 |
| 1983 | 198 | 279 | 389 | 627 | 507 | 511 | 272 | 230 | 246 | 250 | 232 | 219 | 3,960 |
| 1984 | 214 | 257 | 305 | 264 | 293 | 258 | 244 | 259 | 255 | 242 | 273 | 324 | 3,188 |
| 1985 | 435 | 605 | 291 | 313 | 620 | 441 | 326 | 341 | 316 | 329 | 430 | 540 | 4,987 |
| 1986 | 549 | 535 | 447 | 445 | 742 | 546 | 262 | 272 | 278 | 273 | 247 | 301 | 4,897 |
| 1987 | 430 | 598 | 608 | 923 | 948 | 503 | 361 | 340 | 320 | 332 | 406 | 575 | 6,344 |
| 1988 | 658 | 529 | 445 | 527 | 435 | 339 | 379 | 403 | 437 | 367 | 498 | 705 | 5,722 |
| 1989 | 762 | 636 | 534 | 745 | 982 | 452 | 245 | 245 | 258 | 299 | 404 | 460 | 6,022 |
| 1990 | 499 | 643 | 661 | 1055 | 959 | 498 | 422 | 409 | 359 | 346 | 498 | 672 | 7,021 |
| 76 - 90 AVG | 486 | 526 | 463 | 599 | 657 | 464 | 337 | 322 | 320 | 318 | 372 | 460 | 5,324 |

**Contra Costa Canal Intake (247)**
**Percent Inflow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 113 | 84 | 144 | 518 | 805 | 557 | 368 | 285 | 288 | 219 | 320 | 476 | 4,177 |
| 1977 | 529 | 634 | 654 | 898 | 1167 | 821 | 528 | 429 | 460 | 525 | 609 | 764 | 8,018 |
| 1978 | 755 | 603 | 421 | 271 | 218 | 191 | 108 | 89 | 92 | 117 | 120 | 194 | 3,179 |
| 1979 | 324 | 460 | 434 | 371 | 157 | 86 | 77 | 92 | 102 | 105 | 214 | 306 | 2,728 |
| 1980 | 360 | 360 | 199 | 110 | 223 | 103 | 70 | 91 | 97 | 111 | 115 | 198 | 2,037 |
| 1981 | 358 | 530 | 549 | 494 | 210 | 90 | 78 | 128 | 177 | 216 | 323 | 416 | 3,569 |
| 1982 | 429 | 425 | 118 | 207 | 98 | 167 | 104 | 81 | 85 | 81 | 92 | 86 | 1,973 |
| 1983 | 65 | 114 | 167 | 249 | 155 | 160 | 79 | 66 | 82 | 88 | 79 | 75 | 1,379 |
| 1984 | 77 | 91 | 112 | 79 | 86 | 77 | 75 | 95 | 113 | 108 | 149 | 215 | 1,277 |
| 1985 | 354 | 530 | 158 | 177 | 513 | 295 | 163 | 202 | 188 | 210 | 333 | 472 | 3,595 |
| 1986 | 463 | 432 | 331 | 310 | 301 | 191 | 82 | 93 | 107 | 112 | 112 | 187 | 2,721 |
| 1987 | 335 | 517 | 549 | 910 | 891 | 338 | 173 | 151 | 169 | 201 | 294 | 505 | 5,033 |
| 1988 | 574 | 383 | 331 | 409 | 264 | 157 | 214 | 252 | 294 | 236 | 407 | 668 | 4,189 |
| 1989 | 715 | 549 | 444 | 687 | 936 | 328 | 92 | 94 | 122 | 177 | 306 | 388 | 4,836 |
| 1990 | 424 | 566 | 585 | 1068 | 932 | 368 | 291 | 303 | 238 | 228 | 413 | 630 | 6,046 |
| 76 - 90 AVG | 392 | 419 | 346 | 451 | 464 | 262 | 167 | 163 | 174 | 182 | 259 | 372 | 3,650 |

**Contra Costa Canal Intake (247)**
**Percent Inflow**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2985 | 3025 | 3344 | 4790 | 4958 | 5045 | 4760 | 4724 | 5078 | 4235 | 3809 | 3484 | 50,237 |
| 1977 | 3539 | 3583 | 3761 | 4688 | 4823 | 5192 | 5371 | 5157 | 5433 | 5710 | 5426 | 4753 | 57,436 |
| 1978 | 4912 | 4387 | 5051 | 11327 | 11548 | 9857 | 6262 | 4504 | 4008 | 4505 | 3835 | 3574 | 73,770 |
| 1979 | 3531 | 3206 | 3361 | 6371 | 6863 | 5480 | 4239 | 3910 | 3658 | 3613 | 3549 | 3384 | 51,165 |
| 1980 | 3113 | 3021 | 3796 | 5853 | 12144 | 7183 | 4536 | 4071 | 3986 | 4278 | 3840 | 3581 | 59,382 |
| 1981 | 3394 | 3241 | 3398 | 4818 | 4845 | 4634 | 4172 | 4386 | 4141 | 3882 | 3802 | 3488 | 48,201 |
| 1982 | 3250 | 3435 | 4016 | 11154 | 6628 | 9510 | 6904 | 5142 | 4015 | 3848 | 3649 | 3351 | 64,902 |
| 1983 | 3079 | 4991 | 8023 | 13536 | 10613 | 9670 | 8018 | 4558 | 5004 | 4742 | 3951 | 3560 | 77,745 |
| 1984 | 3431 | 4477 | 6560 | 6010 | 6201 | 5148 | 4048 | 4008 | 3846 | 3686 | 3561 | 3409 | 54,383 |
| 1985 | 3033 | 3924 | 4146 | 4384 | 4878 | 5295 | 4719 | 4061 | 3895 | 3820 | 3923 | 3638 | 49,716 |
| 1986 | 3496 | 3424 | 4336 | 5153 | 12064 | 10061 | 5155 | 4419 | 4228 | 4431 | 3799 | 3360 | 63,926 |
| 1987 | 3254 | 3212 | 3381 | 4382 | 5210 | 5712 | 5464 | 5295 | 4491 | 4245 | 4313 | 3984 | 52,943 |
| 1988 | 3991 | 3747 | 3852 | 5102 | 5606 | 5614 | 4998 | 4653 | 4879 | 4439 | 4243 | 3912 | 55,036 |
| 1989 | 3979 | 3569 | 3639 | 4640 | 5264 | 4555 | 3758 | 3800 | 3762 | 3671 | 3697 | 3237 | 47,571 |
| 1990 | 3195 | 3313 | 3620 | 4333 | 4846 | 5188 | 4281 | 3478 | 3946 | 3925 | 3968 | 3775 | 47,868 |
| 76 - 90 AVG | 3,479 | 3,637 | 4,286 | 6,436 | 7,086 | 6,543 | 4,979 | 4,411 | 4,290 | 4,202 | 3,958 | 3,633 | 56,939 |

**Contra Costa Canal Intake (247)**
**Flow Study**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 263 | 230 | 273 | 632 | 873 | 654 | 505 | 436 | 454 | 353 | 427 | 550 | 5,650 |
| 1977 | 577 | 625 | 590 | 707 | 1042 | 845 | 661 | 572 | 587 | 639 | 691 | 802 | 8,338 |
| 1978 | 846 | 754 | 595 | 593 | 617 | 534 | 330 | 266 | 250 | 275 | 256 | 326 | 5,642 |
| 1979 | 440 | 556 | 512 | 533 | 380 | 268 | 243 | 250 | 240 | 236 | 319 | 395 | 4,372 |
| 1980 | 451 | 458 | 323 | 296 | 667 | 324 | 236 | 262 | 254 | 259 | 249 | 324 | 4,103 |
| 1981 | 460 | 613 | 609 | 599 | 377 | 256 | 242 | 291 | 327 | 331 | 395 | 461 | 4,961 |
| 1982 | 507 | 497 | 249 | 533 | 305 | 485 | 339 | 259 | 246 | 228 | 226 | 218 | 4,092 |
| 1983 | 198 | 279 | 389 | 609 | 496 | 510 | 272 | 230 | 246 | 250 | 232 | 219 | 3,930 |
| 1984 | 214 | 257 | 305 | 264 | 293 | 258 | 244 | 259 | 255 | 243 | 273 | 324 | 3,189 |
| 1985 | 433 | 599 | 291 | 311 | 613 | 442 | 328 | 337 | 304 | 318 | 409 | 517 | 4,902 |
| 1986 | 526 | 474 | 416 | 464 | 778 | 550 | 264 | 273 | 278 | 282 | 249 | 303 | 4,857 |
| 1987 | 436 | 601 | 608 | 923 | 948 | 503 | 382 | 373 | 329 | 336 | 404 | 582 | 6,425 |
| 1988 | 667 | 518 | 514 | 570 | 453 | 364 | 370 | 399 | 412 | 344 | 473 | 676 | 5,760 |
| 1989 | 720 | 608 | 530 | 744 | 991 | 474 | 252 | 246 | 272 | 308 | 400 | 483 | 6,028 |
| 1990 | 494 | 641 | 659 | 1036 | 939 | 483 | 390 | 332 | 340 | 332 | 430 | 569 | 6,645 |
| 76 - 90 AVG | 482 | 514 | 458 | 588 | 651 | 463 | 337 | 319 | 320 | 316 | 362 | 450 | 5,260 |

**Contra Costa Canal Intake (247)**
**Flow Study**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 137 | 88 | 150 | 546 | 818 | 553 | 369 | 285 | 297 | 223 | 331 | 488 | 4,285 |
| 1977 | 476 | 499 | 480 | 637 | 1026 | 779 | 522 | 422 | 446 | 513 | 601 | 758 | 7,159 |
| 1978 | 767 | 611 | 454 | 276 | 212 | 187 | 108 | 89 | 92 | 117 | 121 | 199 | 3,233 |
| 1979 | 331 | 468 | 436 | 371 | 157 | 85 | 77 | 92 | 102 | 101 | 205 | 301 | 2,726 |
| 1980 | 365 | 371 | 201 | 110 | 224 | 103 | 70 | 91 | 97 | 107 | 113 | 199 | 2,051 |
| 1981 | 364 | 540 | 552 | 503 | 222 | 93 | 79 | 129 | 180 | 201 | 290 | 379 | 3,532 |
| 1982 | 421 | 407 | 112 | 207 | 98 | 167 | 103 | 81 | 85 | 82 | 90 | 86 | 1,939 |
| 1983 | 65 | 114 | 168 | 241 | 151 | 160 | 79 | 66 | 82 | 88 | 79 | 75 | 1,368 |
| 1984 | 77 | 91 | 112 | 79 | 86 | 77 | 75 | 95 | 113 | 109 | 150 | 214 | 1,278 |
| 1985 | 352 | 523 | 158 | 173 | 504 | 296 | 164 | 193 | 170 | 191 | 308 | 443 | 3,473 |
| 1986 | 438 | 365 | 294 | 331 | 332 | 195 | 83 | 94 | 107 | 118 | 112 | 189 | 2,658 |
| 1987 | 341 | 521 | 549 | 909 | 891 | 337 | 185 | 169 | 170 | 197 | 292 | 516 | 5,077 |
| 1988 | 595 | 396 | 424 | 481 | 287 | 172 | 186 | 226 | 260 | 215 | 380 | 633 | 4,235 |
| 1989 | 669 | 521 | 441 | 686 | 953 | 358 | 99 | 96 | 137 | 181 | 296 | 411 | 4,848 |
| 1990 | 418 | 568 | 586 | 1044 | 906 | 347 | 243 | 204 | 214 | 213 | 333 | 507 | 5,583 |
| 76 - 90 AVG | 388 | 406 | 341 | 438 | 458 | 261 | 163 | 155 | 170 | 177 | 247 | 360 | 3,563 |

**Contra Costa Canal Intake (247)**
**Flow Study**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2992 | 3026 | 3338 | 4759 | 4929 | 5040 | 4843 | 4834 | 5240 | 4300 | 3846 | 3490 | 50,637 |
| 1977 | 3613 | 3735 | 3724 | 4630 | 4821 | 5194 | 5604 | 5366 | 5511 | 5739 | 5437 | 4821 | 58,195 |
| 1978 | 4896 | 4417 | 5083 | 11341 | 11289 | 9710 | 6245 | 4503 | 4009 | 4508 | 3835 | 3573 | 73,409 |
| 1979 | 3504 | 3188 | 3359 | 6370 | 6865 | 5439 | 4208 | 3903 | 3658 | 3665 | 3579 | 3384 | 51,122 |
| 1980 | 3121 | 3027 | 3796 | 5853 | 12147 | 7183 | 4536 | 4067 | 3963 | 4185 | 3810 | 3576 | 59,264 |
| 1981 | 3378 | 3229 | 3393 | 4816 | 4852 | 4628 | 4162 | 4371 | 4437 | 4229 | 3937 | 3519 | 48,951 |
| 1982 | 3284 | 3448 | 4014 | 11146 | 6632 | 9505 | 6891 | 5143 | 4015 | 3865 | 3656 | 3351 | 64,950 |
| 1983 | 3086 | 4998 | 7999 | 13072 | 10348 | 9663 | 6017 | 4558 | 5004 | 4742 | 3950 | 3561 | 76,998 |
| 1984 | 3433 | 4478 | 6560 | 6010 | 6206 | 5146 | 4043 | 4007 | 3846 | 3686 | 3561 | 3409 | 54,385 |
| 1985 | 3021 | 3918 | 4147 | 4400 | 4894 | 5303 | 4762 | 4203 | 4022 | 4035 | 4004 | 3638 | 50,347 |
| 1986 | 3470 | 3371 | 4356 | 5224 | 12249 | 10075 | 5193 | 4438 | 4224 | 4546 | 3839 | 3363 | 64,348 |
| 1987 | 3254 | 3211 | 3380 | 4382 | 5209 | 5708 | 5653 | 5684 | 4675 | 4496 | 4283 | 3898 | 53,833 |
| 1988 | 3793 | 3518 | 3788 | 5090 | 5608 | 5978 | 5407 | 5100 | 4881 | 4234 | 4109 | 3850 | 55,356 |
| 1989 | 3853 | 3497 | 3627 | 4638 | 5116 | 4484 | 3807 | 3755 | 3846 | 3976 | 3993 | 3341 | 47,933 |
| 1990 | 3203 | 3298 | 3624 | 4360 | 4692 | 5243 | 4597 | 3884 | 4004 | 3863 | 3871 | 3691 | 48,130 |
| 76 - 90 AVG | 3,460 | 3,624 | 4,279 | 6,406 | 7,057 | 6,553 | 5,065 | 4,508 | 4,356 | 4,271 | 3,981 | 3,631 | 57,191 |

**Contra Costa Canal Intake (247)**
**Maximum Flow**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 322 | 274 | 307 | 760 | 961 | 662 | 523 | 451 | 438 | 369 | 497 | 654 | 6,218 |
| 1977 | 623 | 590 | 563 | 664 | 1000 | 849 | 647 | 566 | 575 | 627 | 683 | 798 | 8,185 |
| 1978 | 833 | 740 | 581 | 593 | 632 | 546 | 332 | 266 | 250 | 276 | 252 | 320 | 5,621 |
| 1979 | 441 | 545 | 475 | 503 | 373 | 268 | 243 | 254 | 245 | 234 | 294 | 373 | 4,248 |
| 1980 | 456 | 488 | 349 | 300 | 668 | 329 | 238 | 264 | 257 | 278 | 255 | 324 | 4,206 |
| 1981 | 423 | 508 | 541 | 566 | 385 | 267 | 248 | 311 | 374 | 361 | 406 | 510 | 4,900 |
| 1982 | 530 | 504 | 255 | 592 | 322 | 490 | 320 | 261 | 247 | 234 | 233 | 225 | 4,213 |
| 1983 | 199 | 279 | 343 | 607 | 495 | 509 | 272 | 230 | 248 | 249 | 228 | 219 | 3,876 |
| 1984 | 212 | 257 | 305 | 264 | 293 | 258 | 244 | 259 | 255 | 243 | 275 | 322 | 3,187 |
| 1985 | 440 | 652 | 306 | 323 | 630 | 460 | 341 | 351 | 343 | 331 | 416 | 548 | 5,141 |
| 1986 | 561 | 518 | 443 | 478 | 847 | 556 | 264 | 273 | 278 | 290 | 253 | 302 | 5,063 |
| 1987 | 434 | 600 | 608 | 922 | 947 | 526 | 492 | 495 | 426 | 410 | 431 | 584 | 6,875 |
| 1988 | 686 | 592 | 425 | 521 | 461 | 433 | 389 | 411 | 443 | 384 | 488 | 700 | 5,933 |
| 1989 | 747 | 576 | 510 | 725 | 979 | 465 | 253 | 276 | 291 | 307 | 405 | 500 | 6,034 |
| 1990 | 498 | 642 | 663 | 1033 | 946 | 494 | 399 | 343 | 346 | 347 | 516 | 689 | 6,916 |
| 76 - 90 AVG | 494 | 518 | 445 | 590 | 663 | 474 | 347 | 334 | 334 | 329 | 375 | 471 | 5,374 |

**Contra Costa Canal Intake (247)**
**Maximum Flow**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 209 | 141 | 191 | 705 | 928 | 557 | 381 | 291 | 283 | 233 | 407 | 608 | 4,934 |
| 1977 | 526 | 455 | 436 | 576 | 967 | 777 | 516 | 422 | 432 | 499 | 592 | 755 | 6,953 |
| 1978 | 756 | 601 | 443 | 275 | 219 | 193 | 108 | 89 | 93 | 117 | 115 | 191 | 3,200 |
| 1979 | 330 | 449 | 384 | 333 | 150 | 85 | 77 | 94 | 105 | 97 | 173 | 271 | 2,548 |
| 1980 | 368 | 408 | 232 | 114 | 225 | 105 | 71 | 92 | 99 | 119 | 116 | 198 | 2,147 |
| 1981 | 314 | 405 | 466 | 461 | 229 | 99 | 81 | 137 | 193 | 211 | 293 | 432 | 3,321 |
| 1982 | 446 | 413 | 116 | 232 | 104 | 168 | 95 | 82 | 86 | 85 | 96 | 92 | 2,015 |
| 1983 | 65 | 114 | 142 | 240 | 151 | 159 | 79 | 66 | 82 | 88 | 76 | 75 | 1,337 |
| 1984 | 75 | 91 | 112 | 79 | 86 | 77 | 75 | 95 | 112 | 108 | 152 | 212 | 1,274 |
| 1985 | 356 | 584 | 176 | 189 | 525 | 307 | 167 | 181 | 174 | 188 | 305 | 475 | 3,627 |
| 1986 | 466 | 395 | 313 | 336 | 356 | 198 | 83 | 94 | 108 | 122 | 116 | 187 | 2,774 |
| 1987 | 340 | 521 | 549 | 908 | 890 | 347 | 238 | 228 | 214 | 232 | 286 | 495 | 5,248 |
| 1988 | 579 | 413 | 283 | 387 | 280 | 211 | 187 | 235 | 278 | 239 | 383 | 654 | 4,129 |
| 1989 | 693 | 476 | 411 | 653 | 921 | 339 | 97 | 108 | 129 | 169 | 298 | 430 | 4,724 |
| 1990 | 422 | 569 | 589 | 1037 | 909 | 353 | 242 | 196 | 205 | 222 | 430 | 648 | 5,822 |
| 76 - 90 AVG | 396 | 402 | 323 | 435 | 463 | 285 | 166 | 161 | 173 | 182 | 256 | 382 | 3,604 |

**Contra Costa Canal Intake (247)**
**Maximum Flow**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3023 | 3043 | 3340 | 4650 | 4790 | 5157 | 5087 | 5133 | 5204 | 4610 | 4213 | 3704 | 51,954 |
| 1977 | 3748 | 3790 | 3821 | 4785 | 4975 | 5343 | 5519 | 5323 | 5518 | 5735 | 5430 | 4757 | 58,744 |
| 1978 | 4829 | 4316 | 5044 | 11364 | 11545 | 9890 | 6265 | 4505 | 4019 | 4515 | 3900 | 3595 | 73,787 |
| 1979 | 3533 | 3241 | 3415 | 6392 | 6846 | 5436 | 4211 | 3951 | 3723 | 3743 | 3648 | 3464 | 51,603 |
| 1980 | 3185 | 3041 | 3799 | 5854 | 12144 | 7273 | 4589 | 4105 | 3994 | 4432 | 3920 | 3598 | 59,934 |
| 1981 | 3453 | 3313 | 3433 | 4879 | 4927 | 4783 | 4243 | 4792 | 5286 | 4797 | 4269 | 3728 | 51,903 |
| 1982 | 3380 | 3539 | 4112 | 12417 | 6894 | 9556 | 6596 | 5255 | 4039 | 3951 | 3736 | 3374 | 66,849 |
| 1983 | 3094 | 5003 | 7027 | 13023 | 10345 | 9649 | 6018 | 4557 | 5004 | 4706 | 3857 | 3538 | 75,821 |
| 1984 | 3382 | 4475 | 6557 | 6010 | 6201 | 5149 | 4047 | 4008 | 3846 | 3688 | 3561 | 3409 | 54,331 |
| 1985 | 3085 | 3958 | 4152 | 4390 | 4882 | 5512 | 5062 | 4951 | 5010 | 4572 | 4294 | 3853 | 53,721 |
| 1986 | 3751 | 3650 | 4671 | 5536 | 13095 | 10140 | 5215 | 4445 | 4226 | 4643 | 3869 | 3365 | 66,606 |
| 1987 | 3254 | 3211 | 3379 | 4382 | 5210 | 6031 | 6141 | 6259 | 5910 | 5591 | 5230 | 4598 | 59,196 |
| 1988 | 4766 | 4444 | 4123 | 5453 | 5858 | 6780 | 5839 | 5223 | 5317 | 4864 | 4663 | 4219 | 61,549 |
| 1989 | 4153 | 3653 | 3764 | 4913 | 5458 | 4666 | 3880 | 4409 | 4686 | 4362 | 4111 | 3400 | 51,455 |
| 1990 | 3261 | 3322 | 3666 | 4461 | 4799 | 5379 | 4897 | 4228 | 4356 | 4137 | 4147 | 3861 | 50,514 |
| 76 - 90 AVG | 3,593 | 3,733 | 4,287 | 6,567 | 7,198 | 6,716 | 5,174 | 4,743 | 4,676 | 4,556 | 4,190 | 3,764 | 59,198 |

**Contra Costa Canal Intake, 247**
**Cumulative Impact**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 310 | 378 | 877 | 1099 | 977 | 636 | 491 | 426 | 438 | 417 | 461 | 463 |
| 1977 | 533 | 559 | 614 | 746 | 944 | 746 | 542 | 506 | 533 | 510 | 606 | 753 |
| 1978 | 810 | 709 | 593 | 648 | 564 | 565 | 409 | 315 | 256 | 225 | 267 | 334 |
| 1979 | 452 | 564 | 1066 | 1049 | 437 | 280 | 292 | 364 | 252 | 228 | 309 | 392 |
| 1980 | 454 | 469 | 610 | 436 | 753 | 493 | 321 | 363 | 278 | 228 | 245 | 327 |
| 1981 | 470 | 626 | 1284 | 1242 | 533 | 293 | 288 | 322 | 354 | 374 | 383 | 449 |
| 1982 | 522 | 541 | 267 | 640 | 328 | 493 | 291 | 263 | 244 | 218 | 243 | 236 |
| 1983 | 206 | 281 | 346 | 795 | 632 | 582 | 304 | 225 | 251 | 242 | 212 | 208 |
| 1984 | 221 | 274 | 336 | 271 | 312 | 274 | 281 | 313 | 249 | 227 | 263 | 323 |
| 1985 | 443 | 625 | 341 | 352 | 631 | 444 | 366 | 353 | 301 | 303 | 383 | 483 |
| 1986 | 535 | 534 | 697 | 666 | 792 | 647 | 354 | 360 | 294 | 235 | 258 | 318 |
| 1987 | 432 | 605 | 1284 | 1482 | 1000 | 501 | 527 | 467 | 409 | 390 | 417 | 577 |
| 1988 | 661 | 506 | 814 | 860 | 434 | 556 | 473 | 381 | 412 | 407 | 507 | 663 |
| 1989 | 641 | 517 | 481 | 681 | 974 | 509 | 280 | 254 | 256 | 297 | 400 | 498 |
| 1990 | 484 | 578 | 574 | 902 | 810 | 439 | 379 | 324 | 319 | 340 | 494 | 631 |
| Average | 478 | 518 | 679 | 791 | 675 | 497 | 373 | 349 | 323 | 309 | 383 | 444 |

**Contra Costa Canal Intake, 247**
**Cumulative Impact**
**Bromide**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 205 | 275 | 882 | 1105 | 934 | 536 | 346 | 255 | 255 | 251 | 360 | 384 |
| 1977 | 414 | 415 | 463 | 639 | 884 | 647 | 387 | 359 | 416 | 397 | 518 | 714 |
| 1978 | 741 | 584 | 465 | 300 | 190 | 195 | 130 | 103 | 91 | 88 | 147 | 224 |
| 1979 | 350 | 483 | 1107 | 974 | 204 | 89 | 99 | 143 | 94 | 95 | 197 | 298 |
| 1980 | 368 | 385 | 544 | 264 | 268 | 176 | 105 | 137 | 106 | 86 | 120 | 209 |
| 1981 | 382 | 558 | 1368 | 1267 | 394 | 126 | 102 | 127 | 159 | 197 | 265 | 365 |
| 1982 | 440 | 461 | 130 | 253 | 106 | 162 | 81 | 79 | 83 | 77 | 118 | 116 |
| 1983 | 70 | 114 | 144 | 327 | 205 | 184 | 90 | 61 | 85 | 83 | 69 | 70 |
| 1984 | 78 | 108 | 133 | 85 | 93 | 82 | 92 | 118 | 94 | 94 | 143 | 216 |
| 1985 | 363 | 556 | 215 | 215 | 513 | 292 | 172 | 155 | 133 | 164 | 276 | 405 |
| 1986 | 446 | 436 | 625 | 560 | 326 | 249 | 120 | 131 | 113 | 93 | 136 | 210 |
| 1987 | 344 | 537 | 1369 | 1576 | 935 | 334 | 248 | 209 | 204 | 220 | 286 | 504 |
| 1988 | 571 | 361 | 774 | 797 | 273 | 280 | 209 | 184 | 229 | 241 | 401 | 613 |
| 1989 | 561 | 400 | 377 | 596 | 922 | 391 | 116 | 95 | 114 | 169 | 299 | 432 |
| 1990 | 407 | 504 | 494 | 873 | 742 | 300 | 206 | 156 | 162 | 206 | 402 | 581 |
| Average | 383 | 412 | 606 | 655 | 466 | 270 | 167 | 154 | 156 | 164 | 249 | 356 |

**Contra Costa Canal Intake, 247**
**Cumulative Impact**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2915 | 2956 | 3244 | 4853 | 4984 | 4890 | 4939 | 5102 | 5474 | 5320 | 4142 | 3437 |
| 1977 | 3700 | 3848 | 4148 | 5253 | 5250 | 5446 | 5437 | 4997 | 4663 | 4898 | 4980 | 4446 |
| 1978 | 4454 | 4145 | 5050 | 12513 | 10448 | 10135 | 7474 | 5002 | 3970 | 3626 | 3415 | 3323 |
| 1979 | 3390 | 3170 | 3289 | 6919 | 7257 | 5690 | 5105 | 5468 | 3827 | 3500 | 3483 | 3356 |
| 1980 | 3099 | 3040 | 3864 | 6174 | 12890 | 9694 | 6272 | 5764 | 4142 | 3750 | 3459 | 3421 |
| 1981 | 3293 | 3205 | 3329 | 5135 | 5122 | 4850 | 4888 | 4998 | 5094 | 5176 | 4160 | 3492 |
| 1982 | 3249 | 3473 | 4141 | 13472 | 6807 | 9408 | 6176 | 4708 | 3906 | 3638 | 3472 | 3169 |
| 1983 | 3201 | 5136 | 7156 | 16891 | 12687 | 10714 | 6444 | 4378 | 4912 | 4448 | 3665 | 3388 |
| 1984 | 3570 | 4914 | 7218 | 6298 | 6719 | 5583 | 4732 | 4742 | 3876 | 3526 | 3396 | 3279 |
| 1985 | 2973 | 3929 | 4165 | 4643 | 5086 | 5362 | 5657 | 5354 | 4513 | 4286 | 3998 | 3573 |
| 1986 | 3490 | 3402 | 4567 | 5619 | 12576 | 10936 | 6879 | 5515 | 4310 | 3716 | 3412 | 3236 |
| 1987 | 3170 | 3160 | 3285 | 4599 | 5522 | 5697 | 5964 | 5798 | 5621 | 5275 | 4884 | 4194 |
| 1988 | 4089 | 3775 | 3898 | 5447 | 5390 | 6861 | 6189 | 5185 | 5334 | 5285 | 4747 | 4020 |
| 1989 | 3953 | 3633 | 3784 | 5005 | 5286 | 4686 | 4222 | 4089 | 3989 | 3943 | 3924 | 3300 |
| 1990 | 3141 | 3183 | 3607 | 4650 | 4811 | 5044 | 5159 | 4587 | 4521 | 4379 | 4245 | 3741 |
| Average | 3446 | 3665 | 4316 | 7165 | 7389 | 6986 | 5702 | 5046 | 4543 | 4318 | 3959 | 3558 |

**Clifton Court Forebay**
**Existing Conditions**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 283 | 277 | 250 | 284 | 466 | 492 | 533 | 489 | 457 | 399 | 371 | 405 | 4,706 |
| 1977 | 508 | 582 | 608 | 625 | 899 | 816 | 667 | 629 | 625 | 622 | 618 | 625 | 7,824 |
| 1978 | 679 | 694 | 564 | 416 | 360 | 258 | 244 | 278 | 280 | 272 | 248 | 295 | 4,588 |
| 1979 | 324 | 440 | 439 | 425 | 375 | 316 | 306 | 298 | 290 | 284 | 255 | 317 | 4,069 |
| 1980 | 425 | 445 | 332 | 233 | 180 | 177 | 273 | 303 | 291 | 265 | 251 | 296 | 3,471 |
| 1981 | 346 | 402 | 361 | 328 | 383 | 335 | 385 | 381 | 349 | 291 | 319 | 372 | 4,252 |
| 1982 | 465 | 502 | 305 | 326 | 219 | 176 | 177 | 211 | 260 | 267 | 250 | 268 | 3,426 |
| 1983 | 261 | 243 | 181 | 187 | 173 | 180 | 165 | 169 | 175 | 225 | 270 | 284 | 2,513 |
| 1984 | 278 | 209 | 170 | 178 | 256 | 304 | 301 | 276 | 281 | 256 | 233 | 284 | 3,026 |
| 1985 | 409 | 500 | 296 | 253 | 430 | 373 | 336 | 344 | 340 | 279 | 317 | 379 | 4,258 |
| 1986 | 470 | 510 | 404 | 399 | 195 | 161 | 249 | 287 | 308 | 325 | 270 | 298 | 3,876 |
| 1987 | 416 | 522 | 504 | 637 | 782 | 479 | 378 | 380 | 340 | 295 | 335 | 421 | 5,489 |
| 1988 | 491 | 485 | 391 | 417 | 431 | 331 | 361 | 400 | 428 | 338 | 362 | 524 | 4,959 |
| 1989 | 596 | 588 | 500 | 558 | 858 | 473 | 273 | 239 | 259 | 271 | 317 | 378 | 5,310 |
| 1990 | 453 | 561 | 582 | 812 | 980 | 551 | 393 | 373 | 348 | 299 | 353 | 493 | 6,198 |
| 76 - 90 AVG | 427 | 484 | 392 | 405 | 466 | 361 | 336 | 337 | 335 | 313 | 318 | 376 | 4,531 |

**Clifton Court Forebay**
**Existing Conditions**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 123 | 102 | 87 | 132 | 323 | 365 | 325 | 283 | 272 | 237 | 262 | 311 | 2,822 |
| 1977 | 362 | 418 | 438 | 524 | 848 | 759 | 515 | 418 | 395 | 399 | 416 | 521 | 6,013 |
| 1978 | 596 | 536 | 379 | 197 | 130 | 71 | 64 | 88 | 104 | 113 | 106 | 138 | 2,522 |
| 1979 | 162 | 293 | 304 | 243 | 150 | 107 | 106 | 112 | 120 | 122 | 121 | 193 | 2,033 |
| 1980 | 287 | 310 | 194 | 75 | 43 | 36 | 85 | 106 | 112 | 108 | 103 | 140 | 1,599 |
| 1981 | 187 | 244 | 216 | 147 | 152 | 122 | 149 | 152 | 152 | 166 | 212 | 271 | 2,170 |
| 1982 | 333 | 369 | 148 | 119 | 59 | 41 | 33 | 49 | 85 | 97 | 92 | 97 | 1,522 |
| 1983 | 90 | 76 | 42 | 48 | 40 | 43 | 33 | 33 | 35 | 62 | 92 | 101 | 695 |
| 1984 | 105 | 52 | 38 | 37 | 71 | 99 | 105 | 103 | 123 | 111 | 99 | 152 | 1,095 |
| 1985 | 277 | 373 | 143 | 102 | 292 | 209 | 147 | 151 | 161 | 153 | 210 | 277 | 2,495 |
| 1986 | 338 | 354 | 259 | 250 | 59 | 35 | 73 | 95 | 116 | 135 | 116 | 157 | 1,987 |
| 1987 | 275 | 388 | 390 | 562 | 701 | 329 | 195 | 180 | 165 | 169 | 228 | 331 | 3,913 |
| 1988 | 371 | 318 | 240 | 287 | 248 | 153 | 190 | 248 | 295 | 211 | 247 | 450 | 3,258 |
| 1989 | 505 | 426 | 348 | 457 | 706 | 326 | 112 | 92 | 129 | 150 | 207 | 281 | 3,739 |
| 1990 | 320 | 413 | 433 | 768 | 933 | 417 | 243 | 240 | 212 | 174 | 242 | 417 | 4,812 |
| 76 - 90 AVG | 289 | 311 | 244 | 263 | 317 | 207 | 158 | 157 | 165 | 160 | 184 | 256 | 2,712 |

**Clifton Court Forebay**
**Existing Conditions**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3021 | 3005 | 3278 | 4422 | 5169 | 4976 | 4702 | 4887 | 5041 | 4826 | 3955 | 3373 | 50,655 |
| 1977 | 3475 | 3648 | 3666 | 4361 | 4853 | 5036 | 5039 | 5222 | 5219 | 5537 | 5877 | 4928 | 56,861 |
| 1978 | 4430 | 4297 | 4149 | 6386 | 6866 | 5365 | 4586 | 3995 | 3784 | 3991 | 3928 | 3527 | 55,304 |
| 1979 | 3350 | 3100 | 3292 | 5011 | 6478 | 5728 | 4565 | 3806 | 3887 | 4183 | 3707 | 3389 | 50,476 |
| 1980 | 3206 | 2947 | 3301 | 4611 | 5795 | 4938 | 4756 | 3847 | 3777 | 3842 | 3712 | 3517 | 48,249 |
| 1981 | 3409 | 3251 | 3339 | 4661 | 6020 | 5756 | 4927 | 4857 | 4800 | 3695 | 3525 | 3306 | 51,546 |
| 1982 | 3289 | 3216 | 3724 | 5687 | 6047 | 4881 | 4381 | 3422 | 3890 | 3677 | 3494 | 3566 | 49,274 |
| 1983 | 3540 | 3495 | 3799 | 4415 | 5696 | 4939 | 4392 | 3304 | 4002 | 3797 | 3728 | 3809 | 48,916 |
| 1984 | 3803 | 3159 | 3686 | 4233 | 5574 | 5500 | 4219 | 3752 | 3982 | 3938 | 3616 | 3330 | 48,792 |
| 1985 | 3078 | 3261 | 3820 | 4272 | 4917 | 5347 | 4938 | 4740 | 4746 | 3668 | 3543 | 3330 | 49,660 |
| 1986 | 3344 | 3348 | 3675 | 4692 | 5794 | 4722 | 4607 | 3876 | 3960 | 4441 | 4185 | 3441 | 50,065 |
| 1987 | 3225 | 3175 | 3282 | 4064 | 5056 | 5539 | 5380 | 5466 | 4737 | 3776 | 3738 | 3477 | 50,915 |
| 1988 | 3440 | 3483 | 3511 | 4456 | 5331 | 5463 | 4765 | 4270 | 4119 | 4035 | 4182 | 3822 | 50,877 |
| 1989 | 3803 | 3692 | 3506 | 4288 | 5272 | 4878 | 3833 | 3486 | 3653 | 3562 | 3674 | 3321 | 46,968 |
| 1990 | 3203 | 3345 | 3560 | 4022 | 4801 | 5580 | 4526 | 3822 | 3926 | 3798 | 3980 | 3673 | 48,236 |
| 76 - 90 AVG | 3,441 | 3,381 | 3,573 | 4,639 | 5,578 | 5,243 | 4,641 | 4,183 | 4,234 | 4,051 | 3,922 | 3,587 | 50,453 |

**Clifton Court Forebay**
**No-Action Alternative**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 290 | 269 | 277 | 470 | 741 | 610 | 548 | 490 | 464 | 355 | 331 | 437 | 4,706 |
| 1,977 | 532 | 605 | 643 | 719 | 972 | 847 | 723 | 688 | 627 | 649 | 655 | 661 | 7,824 |
| 1,978 | 721 | 734 | 532 | 409 | 416 | 289 | 255 | 267 | 267 | 289 | 258 | 309 | 4,588 |
| 1,979 | 394 | 483 | 438 | 415 | 326 | 272 | 289 | 296 | 259 | 226 | 276 | 348 | 4,069 |
| 1,980 | 418 | 418 | 318 | 236 | 167 | 203 | 269 | 296 | 290 | 272 | 266 | 313 | 3,471 |
| 1,981 | 393 | 466 | 465 | 449 | 366 | 295 | 295 | 305 | 324 | 301 | 336 | 424 | 4,252 |
| 1,982 | 496 | 494 | 298 | 322 | 222 | 189 | 178 | 211 | 258 | 265 | 257 | 270 | 3,426 |
| 1,983 | 248 | 228 | 177 | 165 | 126 | 118 | 157 | 168 | 172 | 226 | 266 | 274 | 2,513 |
| 1,984 | 266 | 202 | 165 | 177 | 264 | 289 | 291 | 306 | 276 | 237 | 254 | 303 | 3,026 |
| 1,985 | 399 | 507 | 337 | 309 | 509 | 445 | 349 | 322 | 316 | 284 | 327 | 443 | 4,258 |
| 1,986 | 504 | 513 | 401 | 402 | 184 | 133 | 243 | 286 | 308 | 307 | 254 | 292 | 3,876 |
| 1,987 | 396 | 505 | 504 | 712 | 826 | 480 | 374 | 363 | 340 | 315 | 336 | 448 | 5,489 |
| 1,988 | 584 | 584 | 433 | 454 | 573 | 520 | 402 | 406 | 422 | 373 | 361 | 530 | 4,959 |
| 1,989 | 658 | 626 | 495 | 560 | 857 | 473 | 260 | 244 | 250 | 254 | 314 | 391 | 5,310 |
| 1,990 | 459 | 574 | 606 | 817 | 909 | 518 | 393 | 387 | 353 | 299 | 355 | 485 | 6,198 |
| 76 - 90 AVG | 451 | 481 | 406 | 441 | 497 | 379 | 335 | 336 | 328 | 310 | 323 | 395 | 4,531 |

**Clifton Court Forebay**
**No-Action Alternative**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 138 | 110 | 124 | 357 | 652 | 487 | 353 | 294 | 285 | 210 | 218 | 332 | 2,822 |
| 1,977 | 405 | 473 | 477 | 628 | 941 | 798 | 540 | 446 | 416 | 428 | 443 | 536 | 6,013 |
| 1,978 | 616 | 568 | 359 | 206 | 180 | 115 | 64 | 75 | 92 | 115 | 109 | 171 | 2,522 |
| 1,979 | 235 | 340 | 307 | 267 | 140 | 91 | 87 | 103 | 104 | 91 | 152 | 226 | 2,033 |
| 1,980 | 282 | 283 | 172 | 162 | 47 | 52 | 63 | 98 | 108 | 109 | 109 | 164 | 1,599 |
| 1,981 | 243 | 323 | 342 | 301 | 172 | 109 | 104 | 118 | 147 | 169 | 228 | 315 | 2,170 |
| 1,982 | 362 | 362 | 142 | 165 | 81 | 49 | 33 | 44 | 70 | 86 | 94 | 109 | 1,522 |
| 1,983 | 91 | 90 | 47 | 47 | 40 | 43 | 33 | 33 | 34 | 55 | 76 | 90 | 695 |
| 1,984 | 95 | 90 | 39 | 36 | 57 | 81 | 91 | 109 | 115 | 99 | 120 | 166 | 1,095 |
| 1,985 | 263 | 389 | 187 | 158 | 387 | 285 | 170 | 170 | 184 | 161 | 215 | 334 | 2,495 |
| 1,986 | 365 | 354 | 257 | 256 | 201 | 37 | 58 | 85 | 109 | 123 | 105 | 148 | 1,987 |
| 1,987 | 257 | 376 | 389 | 648 | 755 | 326 | 182 | 163 | 162 | 170 | 212 | 338 | 3,913 |
| 1,988 | 462 | 417 | 298 | 332 | 329 | 259 | 205 | 225 | 253 | 227 | 237 | 448 | 3,258 |
| 1,989 | 567 | 479 | 360 | 464 | 750 | 328 | 105 | 91 | 108 | 129 | 204 | 286 | 3,739 |
| 1,990 | 328 | 429 | 469 | 773 | 862 | 386 | 248 | 267 | 231 | 179 | 248 | 399 | 4,812 |
| 76 - 90 AVG | 314 | 339 | 265 | 320 | 373 | 230 | 156 | 155 | 161 | 157 | 185 | 271 | 2,712 |

**Clifton Court Forebay**
**No-Action Alternative**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,976 | 3033 | 2936 | 3210 | 4287 | 5067 | 4973 | 4714 | 4843 | 4992 | 4360 | 3868 | 3473 | 50,655 |
| 1,977 | 3498 | 3607 | 3679 | 4403 | 4831 | 5018 | 5065 | 5276 | 5354 | 5719 | 6090 | 5249 | 56,861 |
| 1,978 | 4685 | 4484 | 4113 | 6323 | 7619 | 5859 | 4821 | 3812 | 3770 | 4174 | 3728 | 3490 | 55,304 |
| 1,979 | 3545 | 3202 | 3252 | 4852 | 6050 | 5162 | 4342 | 3803 | 3536 | 3411 | 3372 | 3228 | 50,476 |
| 1,980 | 3146 | 2940 | 3322 | 4615 | 5875 | 5331 | 4512 | 3750 | 3782 | 3947 | 3690 | 3498 | 48,249 |
| 1,981 | 3400 | 3222 | 3278 | 4333 | 5051 | 4800 | 4263 | 4313 | 4562 | 3931 | 3770 | 3438 | 51,546 |
| 1,982 | 3351 | 3220 | 3731 | 5644 | 6022 | 5016 | 4388 | 3477 | 3903 | 3689 | 3511 | 3574 | 49,274 |
| 1,983 | 3365 | 3397 | 3799 | 4393 | 5706 | 4861 | 4369 | 3275 | 4003 | 3798 | 3695 | 3731 | 48,916 |
| 1,984 | 3597 | 3088 | 3693 | 4229 | 5641 | 5144 | 4140 | 3835 | 3764 | 3522 | 3417 | 3251 | 48,792 |
| 1,985 | 3059 | 3260 | 3836 | 4281 | 4792 | 5471 | 4994 | 4078 | 3879 | 3669 | 3831 | 3583 | 49,660 |
| 1,986 | 3493 | 3404 | 3669 | 4670 | 5824 | 4734 | 4620 | 3875 | 3986 | 4331 | 3715 | 3263 | 50,065 |
| 1,987 | 3197 | 3182 | 3276 | 4000 | 4991 | 5541 | 5246 | 5173 | 4787 | 4262 | 4200 | 3999 | 50,915 |
| 1,988 | 3966 | 3838 | 3508 | 4451 | 5582 | 6127 | 5179 | 4811 | 4885 | 4546 | 4368 | 3945 | 50,877 |
| 1,989 | 3894 | 3629 | 3445 | 4254 | 5238 | 4908 | 3789 | 3699 | 3828 | 3526 | 3668 | 3350 | 46,968 |
| 1,990 | 3238 | 3317 | 3556 | 4029 | 4727 | 5441 | 4376 | 3610 | 3716 | 3654 | 3844 | 3647 | 48,236 |
| 76 - 90 AVG | 3,498 | 3,382 | 3,558 | 4,584 | 5,534 | 5,226 | 4,588 | 4,109 | 4,183 | 4,036 | 3,918 | 3,648 | 50,453 |

**Clifton Court Forebay**
**State Permit**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 284 | 268 | 276 | 468 | 735 | 603 | 499 | 448 | 434 | 328 | 320 | 448 | 5,111 |
| 1977 | 543 | 651 | 673 | 708 | 896 | 831 | 690 | 640 | 601 | 627 | 635 | 654 | 8,149 |
| 1978 | 724 | 714 | 556 | 415 | 417 | 290 | 255 | 267 | 267 | 274 | 250 | 308 | 4,737 |
| 1979 | 395 | 486 | 443 | 410 | 326 | 272 | 290 | 296 | 257 | 224 | 275 | 350 | 4,024 |
| 1980 | 413 | 404 | 306 | 234 | 181 | 205 | 270 | 297 | 290 | 268 | 285 | 317 | 3,452 |
| 1981 | 387 | 434 | 415 | 432 | 359 | 301 | 299 | 302 | 325 | 317 | 338 | 421 | 4,330 |
| 1982 | 481 | 476 | 292 | 322 | 222 | 177 | 177 | 211 | 258 | 266 | 257 | 270 | 3,409 |
| 1983 | 248 | 228 | 177 | 186 | 172 | 178 | 163 | 169 | 173 | 226 | 266 | 274 | 2,460 |
| 1984 | 266 | 202 | 167 | 177 | 260 | 287 | 292 | 307 | 276 | 237 | 255 | 303 | 3,029 |
| 1985 | 398 | 494 | 330 | 294 | 473 | 429 | 341 | 323 | 310 | 278 | 327 | 447 | 4,444 |
| 1986 | 499 | 524 | 401 | 393 | 202 | 162 | 251 | 288 | 308 | 324 | 261 | 292 | 3,905 |
| 1987 | 395 | 504 | 501 | 705 | 917 | 476 | 361 | 349 | 335 | 313 | 336 | 448 | 5,540 |
| 1988 | 597 | 611 | 474 | 467 | 596 | 540 | 389 | 395 | 412 | 321 | 330 | 492 | 5,624 |
| 1989 | 607 | 606 | 501 | 561 | 850 | 478 | 264 | 250 | 255 | 259 | 322 | 424 | 5,377 |
| 1990 | 460 | 568 | 598 | 806 | 880 | 503 | 380 | 369 | 333 | 291 | 341 | 487 | 6,016 |
| 76 - 90 AVG | 446 | 478 | 407 | 439 | 492 | 382 | 328 | 327 | 322 | 304 | 319 | 396 | 4,640 |

**Clifton Court Forebay**
**State Permit**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 124 | 99 | 124 | 356 | 645 | 482 | 352 | 286 | 276 | 193 | 207 | 347 | 3,491 |
| 1977 | 407 | 515 | 522 | 597 | 841 | 777 | 543 | 447 | 414 | 425 | 441 | 536 | 6,465 |
| 1978 | 618 | 542 | 386 | 198 | 159 | 87 | 70 | 83 | 97 | 114 | 106 | 155 | 2,615 |
| 1979 | 241 | 344 | 304 | 237 | 126 | 86 | 99 | 111 | 106 | 89 | 151 | 230 | 2,124 |
| 1980 | 279 | 263 | 158 | 70 | 44 | 51 | 85 | 103 | 112 | 110 | 111 | 165 | 1,551 |
| 1981 | 245 | 288 | 283 | 273 | 167 | 111 | 109 | 118 | 149 | 170 | 224 | 311 | 2,448 |
| 1982 | 345 | 336 | 133 | 117 | 60 | 42 | 33 | 49 | 83 | 97 | 98 | 99 | 1,492 |
| 1983 | 82 | 69 | 41 | 48 | 40 | 43 | 33 | 33 | 34 | 63 | 90 | 95 | 671 |
| 1984 | 96 | 47 | 38 | 36 | 73 | 92 | 100 | 115 | 118 | 100 | 121 | 170 | 1,106 |
| 1985 | 269 | 367 | 176 | 142 | 340 | 269 | 163 | 158 | 164 | 152 | 215 | 340 | 2,755 |
| 1986 | 363 | 367 | 257 | 246 | 63 | 36 | 74 | 95 | 115 | 136 | 111 | 153 | 2,016 |
| 1987 | 251 | 366 | 386 | 640 | 742 | 321 | 176 | 156 | 160 | 170 | 214 | 342 | 3,924 |
| 1988 | 483 | 460 | 351 | 349 | 334 | 266 | 200 | 225 | 261 | 192 | 211 | 405 | 3,737 |
| 1989 | 504 | 456 | 357 | 485 | 753 | 338 | 109 | 94 | 109 | 133 | 210 | 322 | 3,850 |
| 1990 | 332 | 429 | 458 | 760 | 824 | 363 | 231 | 237 | 207 | 174 | 232 | 398 | 4,645 |
| 76 - 90 AVG | 309 | 330 | 265 | 302 | 347 | 224 | 158 | 154 | 160 | 155 | 183 | 271 | 2,859 |

**Clifton Court Forebay**
**State Permit**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3030 | 2936 | 3209 | 4282 | 5061 | 4976 | 4700 | 4720 | 4835 | 4144 | 3815 | 3511 | 49,219 |
| 1977 | 3462 | 3513 | 3632 | 4509 | 5008 | 5073 | 5079 | 5250 | 5299 | 5667 | 6030 | 5209 | 57,731 |
| 1978 | 4619 | 4271 | 4073 | 6316 | 7618 | 5866 | 4810 | 3805 | 3770 | 4099 | 3668 | 3487 | 56,402 |
| 1979 | 3489 | 3167 | 3281 | 4868 | 6051 | 5161 | 4344 | 3763 | 3525 | 3456 | 3399 | 3227 | 47,731 |
| 1980 | 3094 | 2917 | 3320 | 4613 | 5876 | 5330 | 4542 | 3758 | 3784 | 3903 | 3677 | 3501 | 48,315 |
| 1981 | 3299 | 3183 | 3284 | 4332 | 5044 | 5008 | 4392 | 4292 | 4568 | 4274 | 3947 | 3476 | 49,099 |
| 1982 | 3363 | 3222 | 3725 | 5644 | 6025 | 4887 | 4372 | 3476 | 3902 | 3693 | 3512 | 3572 | 49,393 |
| 1983 | 3362 | 3397 | 3803 | 4394 | 5706 | 4861 | 4369 | 3274 | 4003 | 3792 | 3696 | 3730 | 48,387 |
| 1984 | 3597 | 3089 | 3693 | 4229 | 5641 | 5148 | 4150 | 3839 | 3767 | 3523 | 3418 | 3251 | 47,345 |
| 1985 | 2991 | 3230 | 3833 | 4355 | 4870 | 5413 | 4904 | 4385 | 4096 | 3705 | 3873 | 3578 | 49,233 |
| 1986 | 3456 | 3386 | 3663 | 4669 | 5824 | 4734 | 4647 | 3892 | 3987 | 4412 | 3767 | 3265 | 49,702 |
| 1987 | 3195 | 3179 | 3275 | 4001 | 4992 | 5541 | 5244 | 5127 | 4752 | 4238 | 4165 | 3973 | 51,682 |
| 1988 | 3892 | 3723 | 3474 | 4439 | 5591 | 6141 | 5124 | 4692 | 4562 | 3994 | 4061 | 3854 | 53,547 |
| 1989 | 3816 | 3578 | 3441 | 4252 | 5144 | 4824 | 3789 | 3738 | 3931 | 3610 | 3792 | 3425 | 47,340 |
| 1990 | 3216 | 3267 | 3521 | 4030 | 4754 | 5497 | 4502 | 3811 | 3752 | 3554 | 3820 | 3661 | 47,385 |
| 76 - 90 AVG | 3,459 | 3,337 | 3,548 | 4,598 | 5,547 | 5,231 | 4,598 | 4,121 | 4,169 | 4,004 | 3,909 | 3,648 | 50,167 |

**Clifton Court Forebay**
**Percent Inflow**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 283 | 268 | 273 | 448 | 721 | 605 | 539 | 482 | 482 | 361 | 330 | 446 | 5,238 |
| 1977 | 542 | 609 | 644 | 719 | 960 | 826 | 666 | 615 | 597 | 634 | 644 | 659 | 8,115 |
| 1978 | 724 | 736 | 533 | 410 | 416 | 289 | 254 | 267 | 267 | 322 | 267 | 309 | 4,794 |
| 1979 | 393 | 481 | 434 | 420 | 329 | 272 | 289 | 296 | 259 | 226 | 277 | 348 | 4,024 |
| 1980 | 418 | 422 | 320 | 236 | 181 | 206 | 269 | 297 | 290 | 304 | 278 | 310 | 3,531 |
| 1981 | 398 | 500 | 495 | 488 | 395 | 306 | 301 | 310 | 328 | 300 | 334 | 416 | 4,571 |
| 1982 | 475 | 485 | 297 | 322 | 222 | 189 | 178 | 211 | 258 | 269 | 260 | 273 | 3,439 |
| 1983 | 248 | 228 | 179 | 186 | 172 | 178 | 163 | 169 | 173 | 226 | 266 | 274 | 2,462 |
| 1984 | 266 | 202 | 167 | 177 | 260 | 287 | 292 | 307 | 276 | 237 | 255 | 303 | 3,029 |
| 1985 | 400 | 524 | 323 | 288 | 511 | 445 | 350 | 323 | 311 | 286 | 339 | 454 | 4,554 |
| 1986 | 507 | 523 | 405 | 391 | 200 | 162 | 251 | 286 | 308 | 314 | 257 | 292 | 3,696 |
| 1987 | 394 | 502 | 501 | 705 | 817 | 476 | 456 | 467 | 385 | 329 | 340 | 439 | 5,811 |
| 1988 | 557 | 570 | 409 | 433 | 590 | 542 | 447 | 442 | 438 | 383 | 363 | 527 | 5,701 |
| 1989 | 655 | 631 | 501 | 559 | 653 | 471 | 260 | 244 | 249 | 254 | 315 | 391 | 5,383 |
| 1990 | 459 | 572 | 602 | 809 | 901 | 516 | 392 | 388 | 363 | 301 | 364 | 524 | 6,191 |
| 76 - 90 AVG | 448 | 484 | 406 | 439 | 502 | 385 | 340 | 340 | 332 | 316 | 326 | 398 | 4,716 |

**Clifton Court Forebay**
**Percent Inflow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 123 | 99 | 121 | 332 | 627 | 483 | 353 | 292 | 285 | 208 | 217 | 345 | 3,485 |
| 1977 | 401 | 453 | 479 | 627 | 925 | 773 | 532 | 441 | 412 | 427 | 444 | 539 | 6,453 |
| 1978 | 620 | 565 | 354 | 192 | 158 | 86 | 70 | 83 | 97 | 138 | 116 | 156 | 2,635 |
| 1979 | 236 | 335 | 309 | 252 | 130 | 86 | 98 | 111 | 107 | 92 | 154 | 228 | 2,138 |
| 1980 | 282 | 283 | 173 | 72 | 44 | 52 | 84 | 103 | 112 | 129 | 118 | 158 | 1,610 |
| 1981 | 253 | 367 | 382 | 357 | 217 | 120 | 111 | 121 | 147 | 166 | 225 | 308 | 2,774 |
| 1982 | 340 | 349 | 139 | 117 | 60 | 48 | 33 | 49 | 83 | 99 | 101 | 102 | 1,520 |
| 1983 | 83 | 70 | 42 | 48 | 40 | 43 | 33 | 33 | 34 | 63 | 90 | 95 | 674 |
| 1984 | 96 | 47 | 38 | 36 | 73 | 92 | 99 | 115 | 118 | 99 | 121 | 170 | 1,104 |
| 1985 | 267 | 400 | 169 | 136 | 390 | 283 | 170 | 169 | 176 | 161 | 227 | 348 | 2,896 |
| 1986 | 369 | 360 | 261 | 243 | 61 | 36 | 74 | 95 | 115 | 131 | 108 | 153 | 2,006 |
| 1987 | 250 | 364 | 385 | 640 | 742 | 322 | 218 | 213 | 183 | 175 | 210 | 325 | 4,027 |
| 1988 | 437 | 397 | 263 | 306 | 324 | 263 | 217 | 229 | 247 | 227 | 236 | 444 | 3,590 |
| 1989 | 562 | 479 | 356 | 462 | 732 | 321 | 104 | 91 | 107 | 129 | 205 | 285 | 3,833 |
| 1990 | 327 | 427 | 454 | 762 | 855 | 385 | 246 | 265 | 230 | 178 | 258 | 442 | 4,829 |
| 76 - 90 AVG | 310 | 333 | 262 | 305 | 359 | 226 | 163 | 161 | 164 | 161 | 189 | 273 | 2,905 |

**Clifton Court Forebay**
**Percent Inflow**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3030 | 2936 | 3214 | 4321 | 5106 | 4978 | 4723 | 4856 | 4958 | 4340 | 3874 | 3498 | 49,834 |
| 1977 | 3511 | 3611 | 3685 | 4418 | 4846 | 5008 | 5055 | 5233 | 5296 | 5673 | 6045 | 5234 | 57,615 |
| 1978 | 4688 | 4486 | 4113 | 6324 | 7616 | 5859 | 4810 | 3805 | 3776 | 4210 | 3759 | 3490 | 56,934 |
| 1979 | 3546 | 3202 | 3236 | 4853 | 6063 | 5159 | 4331 | 3797 | 3539 | 3411 | 3371 | 3228 | 47,736 |
| 1980 | 3151 | 2944 | 3323 | 4615 | 5876 | 5333 | 4514 | 3748 | 3784 | 4106 | 3757 | 3490 | 48,641 |
| 1981 | 3365 | 3192 | 3270 | 4243 | 4965 | 4870 | 4324 | 4362 | 4638 | 3947 | 3771 | 3425 | 48,372 |
| 1982 | 3324 | 3206 | 3730 | 5645 | 6022 | 5016 | 4388 | 3477 | 3908 | 3735 | 3536 | 3579 | 49,566 |
| 1983 | 3367 | 3399 | 3842 | 4401 | 5706 | 4861 | 4369 | 3274 | 4004 | 3792 | 3696 | 3731 | 48,442 |
| 1984 | 3597 | 3089 | 3693 | 4229 | 5641 | 5145 | 4144 | 3835 | 3765 | 3523 | 3418 | 3251 | 47,330 |
| 1985 | 3071 | 3267 | 3864 | 4161 | 4767 | 5476 | 5001 | 4106 | 3912 | 3701 | 3887 | 3602 | 48,815 |
| 1986 | 3501 | 3423 | 3675 | 4657 | 5821 | 4734 | 4619 | 3870 | 3990 | 4350 | 3728 | 3264 | 49,632 |
| 1987 | 3196 | 3181 | 3276 | 4001 | 4992 | 5543 | 5203 | 5333 | 5023 | 4465 | 4368 | 4142 | 52,723 |
| 1988 | 4067 | 3996 | 3546 | 4454 | 5596 | 6155 | 5235 | 4965 | 5036 | 4668 | 4439 | 3982 | 56,139 |
| 1989 | 3914 | 3664 | 3459 | 4259 | 5261 | 4917 | 3791 | 3700 | 3830 | 3527 | 3668 | 3350 | 47,340 |
| 1990 | 3243 | 3328 | 3565 | 4032 | 4709 | 5415 | 4373 | 3667 | 3848 | 3755 | 3922 | 3698 | 47,555 |
| 76 - 90 AVG | 3,505 | 3,395 | 3,566 | 4,574 | 5,532 | 5,231 | 4,592 | 4,135 | 4,220 | 4,080 | 3,949 | 3,664 | 50,445 |

**Clifton Court Forebay**
**Flow Study**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 296 | 270 | 277 | 466 | 733 | 601 | 570 | 518 | 505 | 375 | 336 | 456 | 5,403 |
| 1977 | 526 | 562 | 548 | 543 | 845 | 780 | 708 | 697 | 628 | 646 | 651 | 658 | 7,790 |
| 1978 | 720 | 738 | 556 | 414 | 409 | 286 | 254 | 267 | 267 | 322 | 267 | 311 | 4,811 |
| 1979 | 396 | 484 | 435 | 420 | 329 | 270 | 287 | 295 | 256 | 239 | 274 | 346 | 4,031 |
| 1980 | 421 | 428 | 321 | 236 | 181 | 206 | 266 | 296 | 290 | 310 | 274 | 311 | 3,540 |
| 1981 | 400 | 505 | 497 | 492 | 394 | 312 | 301 | 309 | 332 | 323 | 328 | 397 | 4,590 |
| 1982 | 470 | 477 | 293 | 322 | 222 | 188 | 178 | 211 | 258 | 271 | 260 | 273 | 3,423 |
| 1983 | 248 | 228 | 181 | 189 | 172 | 178 | 163 | 169 | 173 | 226 | 266 | 274 | 2,487 |
| 1984 | 266 | 202 | 167 | 177 | 260 | 287 | 292 | 307 | 276 | 238 | 255 | 302 | 3,029 |
| 1985 | 398 | 519 | 323 | 285 | 505 | 445 | 356 | 331 | 311 | 307 | 333 | 434 | 4,547 |
| 1986 | 494 | 479 | 380 | 399 | 203 | 162 | 251 | 287 | 308 | 344 | 264 | 293 | 3,864 |
| 1987 | 397 | 505 | 501 | 705 | 817 | 477 | 485 | 571 | 459 | 357 | 347 | 440 | 6,061 |
| 1988 | 570 | 560 | 445 | 465 | 603 | 561 | 440 | 434 | 449 | 348 | 338 | 512 | 5,725 |
| 1989 | 631 | 605 | 495 | 558 | 846 | 478 | 264 | 236 | 251 | 287 | 321 | 409 | 5,381 |
| 1990 | 456 | 567 | 594 | 796 | 888 | 508 | 456 | 369 | 350 | 293 | 328 | 454 | 6,059 |
| 76 - 90 AVG | 446 | 475 | 401 | 431 | 494 | 383 | 351 | 353 | 341 | 326 | 323 | 391 | 4,715 |

**Clifton Court Forebay**
**Flow Study**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 138 | 102 | 125 | 354 | 643 | 490 | 354 | 300 | 292 | 214 | 222 | 358 | 3,590 |
| 1977 | 379 | 381 | 377 | 434 | 787 | 718 | 504 | 434 | 407 | 421 | 438 | 515 | 5,795 |
| 1978 | 605 | 561 | 377 | 197 | 155 | 85 | 70 | 83 | 97 | 138 | 116 | 158 | 2,642 |
| 1979 | 241 | 340 | 311 | 252 | 130 | 86 | 98 | 111 | 106 | 97 | 149 | 225 | 2,146 |
| 1980 | 285 | 290 | 174 | 72 | 44 | 52 | 83 | 103 | 112 | 131 | 115 | 158 | 1,619 |
| 1981 | 257 | 374 | 384 | 362 | 224 | 124 | 111 | 121 | 149 | 174 | 209 | 283 | 2,772 |
| 1982 | 332 | 337 | 134 | 117 | 60 | 48 | 33 | 49 | 83 | 99 | 100 | 102 | 1,494 |
| 1983 | 83 | 70 | 43 | 49 | 40 | 43 | 33 | 33 | 34 | 63 | 90 | 95 | 676 |
| 1984 | 96 | 47 | 38 | 36 | 73 | 92 | 99 | 115 | 118 | 100 | 121 | 169 | 1,104 |
| 1985 | 266 | 395 | 168 | 134 | 381 | 283 | 172 | 169 | 166 | 163 | 214 | 325 | 2,836 |
| 1986 | 358 | 316 | 233 | 253 | 64 | 36 | 74 | 95 | 115 | 146 | 112 | 153 | 1,955 |
| 1987 | 254 | 367 | 386 | 640 | 742 | 320 | 230 | 282 | 218 | 187 | 211 | 329 | 4,146 |
| 1988 | 454 | 406 | 316 | 346 | 339 | 279 | 206 | 211 | 247 | 199 | 217 | 428 | 3,648 |
| 1989 | 533 | 454 | 352 | 461 | 750 | 339 | 110 | 89 | 113 | 150 | 202 | 302 | 3,855 |
| 1990 | 325 | 425 | 453 | 749 | 829 | 370 | 251 | 204 | 201 | 168 | 218 | 359 | 4,552 |
| 76 - 90 AVG | 307 | 324 | 258 | 297 | 351 | 224 | 162 | 159 | 164 | 163 | 182 | 264 | 2,855 |

**Clifton Court Forebay**
**Flow Study**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3036 | 2937 | 3210 | 4287 | 5069 | 4995 | 4734 | 4952 | 5082 | 4408 | 3914 | 3511 | 50,135 |
| 1977 | 3555 | 3759 | 3676 | 4328 | 4836 | 5004 | 5032 | 5277 | 5382 | 5737 | 6095 | 5540 | 58,221 |
| 1978 | 4951 | 4519 | 4149 | 6335 | 7542 | 5816 | 4808 | 3804 | 3777 | 4212 | 3759 | 3490 | 57,162 |
| 1979 | 3512 | 3182 | 3235 | 4853 | 6064 | 5145 | 4305 | 3789 | 3536 | 3481 | 3417 | 3228 | 47,747 |
| 1980 | 3185 | 2951 | 3322 | 4615 | 5876 | 5333 | 4525 | 3761 | 3785 | 4013 | 3725 | 3486 | 48,557 |
| 1981 | 3346 | 3180 | 3267 | 4241 | 4940 | 4851 | 4312 | 4350 | 4700 | 4330 | 3987 | 3456 | 48,960 |
| 1982 | 3359 | 3221 | 3728 | 5644 | 6022 | 5008 | 4387 | 3476 | 3908 | 3752 | 3544 | 3579 | 49,628 |
| 1983 | 3370 | 3401 | 3872 | 4412 | 5707 | 4861 | 4369 | 3274 | 4003 | 3792 | 3696 | 3730 | 48,487 |
| 1984 | 3599 | 3089 | 3693 | 4229 | 5641 | 5144 | 4142 | 3834 | 3765 | 3524 | 3418 | 3251 | 47,329 |
| 1985 | 3053 | 3259 | 3865 | 4183 | 4789 | 5491 | 4988 | 4222 | 4040 | 3885 | 4010 | 3563 | 49,348 |
| 1986 | 3472 | 3346 | 3649 | 4676 | 5825 | 4733 | 4622 | 3868 | 3986 | 4369 | 3765 | 3266 | 49,577 |
| 1987 | 3195 | 3179 | 3275 | 4001 | 4992 | 5532 | 5180 | 5236 | 5063 | 4678 | 4462 | 4016 | 52,809 |
| 1988 | 3956 | 3847 | 3477 | 4439 | 5597 | 6285 | 5746 | 5363 | 5052 | 4317 | 4174 | 3850 | 56,103 |
| 1989 | 3813 | 3584 | 3443 | 4257 | 5142 | 4824 | 3791 | 3592 | 3798 | 3815 | 4032 | 3477 | 47,569 |
| 1990 | 3240 | 3294 | 3530 | 4021 | 4762 | 5492 | 4694 | 4074 | 3922 | 3715 | 3800 | 3599 | 48,143 |
| 76 - 90 AVG | 3,508 | 3,383 | 3,559 | 4,568 | 5,520 | 5,234 | 4,642 | 4,191 | 4,253 | 4,135 | 3,987 | 3,669 | 50,652 |

**Clifton Court Forebay**
**Maximum Flow**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 331 | 297 | 298 | 567 | 827 | 615 | 585 | 544 | 533 | 420 | 391 | 532 | 5,940 |
| 1977 | 573 | 552 | 538 | 531 | 809 | 795 | 669 | 614 | 604 | 632 | 639 | 653 | 7,609 |
| 1978 | 720 | 728 | 543 | 413 | 417 | 290 | 255 | 267 | 268 | 322 | 284 | 309 | 4,816 |
| 1979 | 397 | 483 | 438 | 406 | 326 | 270 | 287 | 301 | 285 | 241 | 270 | 336 | 4,040 |
| 1980 | 426 | 448 | 338 | 237 | 181 | 206 | 271 | 299 | 291 | 314 | 291 | 312 | 3,614 |
| 1981 | 387 | 446 | 454 | 473 | 411 | 325 | 292 | 324 | 418 | 426 | 352 | 430 | 4,738 |
| 1982 | 488 | 480 | 293 | 323 | 222 | 182 | 177 | 210 | 259 | 273 | 268 | 276 | 3,451 |
| 1983 | 249 | 228 | 192 | 191 | 172 | 178 | 163 | 169 | 173 | 226 | 263 | 273 | 2,477 |
| 1984 | 263 | 202 | 167 | 177 | 260 | 287 | 292 | 307 | 276 | 237 | 258 | 302 | 3,026 |
| 1985 | 405 | 556 | 335 | 294 | 521 | 451 | 389 | 455 | 486 | 356 | 335 | 455 | 5,038 |
| 1986 | 518 | 520 | 396 | 403 | 203 | 162 | 252 | 287 | 308 | 348 | 269 | 292 | 3,958 |
| 1987 | 397 | 505 | 501 | 704 | 816 | 481 | 438 | 618 | 631 | 577 | 475 | 480 | 6,623 |
| 1988 | 576 | 602 | 405 | 419 | 600 | 619 | 461 | 420 | 453 | 414 | 373 | 533 | 5,875 |
| 1989 | 660 | 591 | 481 | 547 | 848 | 471 | 262 | 363 | 384 | 304 | 319 | 420 | 5,650 |
| 1990 | 459 | 567 | 596 | 798 | 886 | 514 | 477 | 410 | 366 | 304 | 372 | 539 | 6,288 |
| 76 - 90 AVG | 457 | 480 | 398 | 432 | 500 | 390 | 351 | 373 | 382 | 360 | 344 | 409 | 4,876 |

**Clifton Court Forebay**
**Maximum Flow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 180 | 133 | 151 | 471 | 763 | 499 | 357 | 311 | 300 | 236 | 267 | 441 | 4,109 |
| 1977 | 432 | 367 | 351 | 402 | 733 | 727 | 541 | 444 | 410 | 418 | 433 | 529 | 5,787 |
| 1978 | 613 | 554 | 367 | 196 | 159 | 87 | 70 | 83 | 97 | 138 | 122 | 154 | 2,640 |
| 1979 | 240 | 333 | 287 | 231 | 126 | 85 | 98 | 113 | 120 | 98 | 135 | 208 | 2,074 |
| 1980 | 285 | 313 | 194 | 74 | 44 | 52 | 85 | 104 | 112 | 135 | 124 | 158 | 1,680 |
| 1981 | 234 | 294 | 328 | 330 | 228 | 132 | 107 | 128 | 187 | 220 | 218 | 319 | 2,725 |
| 1982 | 354 | 341 | 134 | 117 | 60 | 45 | 33 | 48 | 83 | 101 | 105 | 106 | 1,527 |
| 1983 | 83 | 70 | 51 | 51 | 40 | 43 | 33 | 33 | 34 | 63 | 88 | 95 | 684 |
| 1984 | 94 | 47 | 38 | 36 | 73 | 92 | 99 | 115 | 118 | 100 | 122 | 168 | 1,102 |
| 1985 | 268 | 437 | 183 | 144 | 401 | 289 | 185 | 213 | 235 | 183 | 209 | 347 | 3,094 |
| 1986 | 378 | 343 | 246 | 256 | 64 | 36 | 74 | 95 | 115 | 148 | 115 | 153 | 2,023 |
| 1987 | 253 | 367 | 386 | 639 | 741 | 318 | 213 | 288 | 300 | 289 | 264 | 336 | 4,394 |
| 1988 | 444 | 444 | 241 | 288 | 329 | 305 | 214 | 205 | 241 | 238 | 238 | 446 | 3,633 |
| 1989 | 563 | 433 | 330 | 446 | 696 | 320 | 106 | 151 | 174 | 153 | 198 | 316 | 3,886 |
| 1990 | 329 | 427 | 455 | 751 | 828 | 362 | 257 | 215 | 200 | 173 | 266 | 460 | 4,723 |
| 76 - 90 AVG | 317 | 327 | 249 | 295 | 352 | 226 | 165 | 170 | 182 | 180 | 194 | 282 | 2,939 |

**Clifton Court Forebay**
**Maximum Flow**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 3058 | 2952 | 3211 | 4177 | 4878 | 5014 | 4814 | 5065 | 5011 | 4591 | 4287 | 3681 | 50,739 |
| 1977 | 3634 | 3778 | 3724 | 4433 | 4916 | 5140 | 5308 | 5392 | 5412 | 5749 | 6102 | 5255 | 58,843 |
| 1978 | 4673 | 4400 | 4102 | 6336 | 7643 | 5869 | 4810 | 3806 | 3782 | 4221 | 3840 | 3517 | 56,999 |
| 1979 | 3548 | 3251 | 3328 | 4880 | 6054 | 5144 | 4307 | 3831 | 3631 | 3582 | 3520 | 3343 | 48,419 |
| 1980 | 3248 | 2966 | 3326 | 4616 | 5875 | 5332 | 4540 | 3755 | 3797 | 4189 | 3835 | 3510 | 48,989 |
| 1981 | 3450 | 3294 | 3303 | 4307 | 5066 | 4907 | 4286 | 4299 | 4845 | 4637 | 4234 | 3557 | 50,185 |
| 1982 | 3376 | 3225 | 3731 | 5650 | 6025 | 4932 | 4378 | 3412 | 3918 | 3838 | 3632 | 3601 | 49,716 |
| 1983 | 3374 | 3404 | 4052 | 4447 | 5707 | 4860 | 4369 | 3274 | 4003 | 3783 | 3643 | 3713 | 48,629 |
| 1984 | 3542 | 3090 | 3693 | 4229 | 5841 | 5146 | 4145 | 3835 | 3765 | 3523 | 3418 | 3251 | 47,278 |
| 1985 | 3153 | 3309 | 3871 | 4168 | 4772 | 5511 | 5036 | 4426 | 4566 | 4404 | 4197 | 3667 | 51,080 |
| 1986 | 3597 | 3544 | 3704 | 4888 | 5825 | 4734 | 4633 | 3882 | 3987 | 4428 | 3796 | 3267 | 50,085 |
| 1987 | 3196 | 3178 | 3274 | 4001 | 4993 | 5513 | 5271 | 5137 | 5076 | 5240 | 5031 | 4524 | 54,534 |
| 1988 | 4448 | 4617 | 3697 | 4474 | 5812 | 6407 | 5985 | 5325 | 5282 | 4856 | 4658 | 4136 | 59,497 |
| 1989 | 3977 | 3640 | 3455 | 4271 | 5289 | 4914 | 3797 | 3916 | 4480 | 4308 | 4092 | 3485 | 49,624 |
| 1990 | 3233 | 3289 | 3532 | 4025 | 4760 | 5453 | 4809 | 4431 | 4218 | 3873 | 3983 | 3709 | 49,315 |
| 76 - 90 AVG | 3,567 | 3,462 | 3,600 | 4,580 | 5,537 | 5,258 | 4,699 | 4,252 | 4,385 | 4,348 | 4,151 | 3,754 | 51,595 |

**Clifton Court Forebay**
**Cumulative Impact**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 329 | 362 | 705 | 904 | 849 | 586 | 551 | 521 | 513 | 545 | 406 | 397 |
| 1977 | 493 | 517 | 574 | 638 | 806 | 758 | 598 | 518 | 509 | 491 | 504 | 575 |
| 1978 | 684 | 689 | 536 | 411 | 383 | 282 | 224 | 248 | 289 | 244 | 249 | 317 |
| 1979 | 412 | 498 | 813 | 780 | 334 | 270 | 314 | 379 | 289 | 221 | 283 | 350 |
| 1980 | 422 | 437 | 513 | 324 | 193 | 202 | 286 | 311 | 318 | 266 | 239 | 313 |
| 1981 | 413 | 524 | 967 | 1031 | 505 | 313 | 328 | 408 | 466 | 535 | 394 | 390 |
| 1982 | 477 | 499 | 296 | 324 | 251 | 176 | 175 | 211 | 261 | 237 | 241 | 281 |
| 1983 | 234 | 231 | 188 | 182 | 170 | 177 | 169 | 172 | 179 | 243 | 265 | 269 |
| 1984 | 239 | 201 | 166 | 168 | 233 | 285 | 324 | 374 | 303 | 235 | 251 | 304 |
| 1985 | 402 | 534 | 359 | 322 | 513 | 426 | 403 | 462 | 384 | 331 | 331 | 408 |
| 1986 | 490 | 511 | 572 | 573 | 282 | 168 | 248 | 289 | 317 | 254 | 248 | 304 |
| 1987 | 397 | 514 | 974 | 1245 | 855 | 469 | 394 | 517 | 530 | 524 | 419 | 437 |
| 1988 | 535 | 548 | 656 | 720 | 451 | 457 | 575 | 449 | 457 | 508 | 442 | 529 |
| 1989 | 593 | 534 | 453 | 518 | 818 | 478 | 274 | 303 | 295 | 282 | 318 | 416 |
| 1990 | 454 | 520 | 522 | 705 | 748 | 469 | 508 | 470 | 381 | 330 | 377 | 498 |
| Average | 438 | 475 | 553 | 590 | 493 | 368 | 358 | 375 | 366 | 350 | 331 | 386 |

**Clifton Court Forebay**
**Cumulative Impact**
**Bromide**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 183 | 213 | 646 | 879 | 799 | 485 | 314 | 271 | 268 | 288 | 275 | 290 |
| 1977 | 336 | 326 | 362 | 468 | 680 | 643 | 454 | 346 | 349 | 349 | 359 | 476 |
| 1978 | 584 | 523 | 375 | 196 | 142 | 83 | 53 | 67 | 104 | 95 | 117 | 178 |
| 1979 | 261 | 357 | 770 | 685 | 143 | 86 | 107 | 140 | 112 | 88 | 150 | 225 |
| 1980 | 284 | 301 | 407 | 166 | 51 | 48 | 90 | 103 | 120 | 105 | 102 | 167 |
| 1981 | 273 | 395 | 955 | 1020 | 357 | 139 | 125 | 165 | 202 | 252 | 225 | 272 |
| 1982 | 340 | 369 | 143 | 118 | 72 | 41 | 33 | 48 | 84 | 86 | 103 | 122 |
| 1983 | 74 | 71 | 52 | 46 | 39 | 42 | 33 | 34 | 35 | 74 | 93 | 94 |
| 1984 | 75 | 47 | 37 | 35 | 60 | 91 | 115 | 144 | 121 | 93 | 118 | 171 |
| 1985 | 269 | 419 | 213 | 174 | 388 | 271 | 189 | 202 | 171 | 162 | 201 | 297 |
| 1986 | 350 | 355 | 463 | 462 | 109 | 38 | 69 | 90 | 116 | 98 | 113 | 169 |
| 1987 | 259 | 383 | 962 | 1295 | 791 | 318 | 194 | 236 | 247 | 263 | 240 | 311 |
| 1988 | 412 | 410 | 559 | 650 | 296 | 244 | 268 | 201 | 220 | 261 | 280 | 439 |
| 1989 | 475 | 364 | 303 | 414 | 724 | 344 | 119 | 123 | 129 | 143 | 199 | 314 |
| 1990 | 322 | 384 | 388 | 644 | 665 | 307 | 256 | 223 | 184 | 176 | 264 | 414 |
| Average | 300 | 328 | 442 | 483 | 354 | 212 | 161 | 160 | 164 | 169 | 189 | 263 |

**Clifton Court Forebay**
**Cumulative Impact**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2981 | 2865 | 3125 | 4078 | 4732 | 4772 | 4576 | 4852 | 5006 | 5453 | 4302 | 3424 |
| 1977 | 3620 | 3836 | 3921 | 4673 | 5248 | 5480 | 5342 | 5211 | 4969 | 4941 | 5347 | 4775 |
| 1978 | 4407 | 4173 | 4014 | 6321 | 7172 | 5735 | 4499 | 3487 | 3798 | 3657 | 3404 | 3317 |
| 1979 | 3388 | 3175 | 3143 | 4859 | 6088 | 5146 | 4566 | 3980 | 3761 | 3427 | 3498 | 3357 |
| 1980 | 3166 | 2976 | 3291 | 4658 | 5967 | 5229 | 4855 | 3693 | 3968 | 3809 | 3466 | 3427 |
| 1981 | 3291 | 3157 | 3190 | 4162 | 5034 | 4855 | 4580 | 4400 | 4563 | 5110 | 4291 | 3485 |
| 1982 | 3322 | 3198 | 3719 | 5689 | 5999 | 4829 | 4396 | 3337 | 3878 | 3692 | 3504 | 3436 |
| 1983 | 3484 | 3502 | 4065 | 4349 | 5706 | 4862 | 4388 | 3318 | 4005 | 3858 | 3652 | 3668 |
| 1984 | 3692 | 3220 | 3710 | 4227 | 5638 | 5212 | 4415 | 4151 | 3916 | 3496 | 3387 | 3236 |
| 1985 | 3041 | 3267 | 3826 | 4296 | 4755 | 5309 | 5298 | 4695 | 4476 | 4306 | 4125 | 3565 |
| 1986 | 3475 | 3374 | 3821 | 4720 | 6360 | 4790 | 4459 | 3586 | 4032 | 3733 | 3400 | 3246 |
| 1987 | 3152 | 3133 | 3172 | 3958 | 4971 | 5441 | 5226 | 5196 | 5169 | 5445 | 5206 | 4619 |
| 1988 | 4424 | 4544 | 3537 | 4509 | 5445 | 5984 | 5872 | 5471 | 5215 | 5470 | 5069 | 3996 |
| 1989 | 3811 | 3600 | 3450 | 4255 | 5101 | 4780 | 3983 | 4007 | 4036 | 3916 | 4063 | 3499 |
| 1990 | 3167 | 3175 | 3406 | 3976 | 4682 | 5209 | 4826 | 4789 | 4461 | 4339 | 4226 | 3720 |
| Average | 3495 | 3413 | 3546 | 4583 | 5527 | 5176 | 4752 | 4278 | 4350 | 4310 | 4063 | 3651 |



Main TOC
Next Page

**Greens Landing**
**Existing Conditions**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 150 | 150 | 150 | 153 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,811 |
| 1977 | 151 | 151 | 150 | 153 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,813 |
| 1978 | 151 | 151 | 155 | 155 | 152 | 152 | 150 | 151 | 151 | 151 | 150 | 151 | 1,820 |
| 1979 | 151 | 151 | 150 | 158 | 153 | 151 | 151 | 151 | 151 | 150 | 150 | 151 | 1,818 |
| 1980 | 150 | 150 | 152 | 152 | 152 | 150 | 151 | 151 | 151 | 151 | 151 | 151 | 1,812 |
| 1981 | 151 | 151 | 151 | 153 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,814 |
| 1982 | 151 | 151 | 151 | 153 | 150 | 152 | 150 | 150 | 150 | 150 | 150 | 150 | 1,808 |
| 1983 | 150 | 152 | 151 | 153 | 152 | 152 | 150 | 150 | 150 | 150 | 150 | 150 | 1,810 |
| 1984 | 150 | 151 | 151 | 151 | 151 | 150 | 151 | 151 | 151 | 150 | 150 | 151 | 1,808 |
| 1985 | 150 | 152 | 150 | 152 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 1,814 |
| 1986 | 151 | 152 | 152 | 154 | 153 | 151 | 151 | 151 | 151 | 151 | 150 | 151 | 1,818 |
| 1987 | 151 | 151 | 150 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,813 |
| 1988 | 151 | 151 | 152 | 153 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,816 |
| 1989 | 151 | 151 | 151 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 150 | 1,813 |
| 1990 | 150 | 150 | 151 | 153 | 152 | 151 | 151 | 150 | 151 | 151 | 151 | 151 | 1,812 |
| 76 - 90 AVG | 151 | 151 | 151 | 153 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,813 |

**Greens Landing**
**Existing Conditions**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 30 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 30 | 31 | 368 |
| 1977 | 31 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 370 |
| 1978 | 31 | 31 | 33 | 32 | 31 | 31 | 30 | 30 | 31 | 30 | 30 | 31 | 371 |
| 1979 | 31 | 30 | 30 | 34 | 32 | 30 | 30 | 31 | 31 | 30 | 30 | 30 | 369 |
| 1980 | 30 | 30 | 31 | 31 | 31 | 30 | 30 | 31 | 31 | 30 | 30 | 31 | 366 |
| 1981 | 31 | 30 | 30 | 31 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 368 |
| 1982 | 31 | 31 | 30 | 31 | 30 | 31 | 30 | 30 | 30 | 30 | 30 | 30 | 364 |
| 1983 | 30 | 31 | 30 | 31 | 31 | 31 | 30 | 30 | 30 | 30 | 30 | 30 | 364 |
| 1984 | 30 | 31 | 31 | 30 | 30 | 30 | 30 | 31 | 31 | 30 | 30 | 31 | 365 |
| 1985 | 30 | 32 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 30 | 31 | 31 | 370 |
| 1986 | 31 | 32 | 31 | 32 | 31 | 30 | 30 | 31 | 31 | 31 | 30 | 30 | 370 |
| 1987 | 31 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 370 |
| 1988 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 372 |
| 1989 | 31 | 31 | 30 | 31 | 31 | 30 | 30 | 31 | 31 | 30 | 30 | 30 | 366 |
| 1990 | 30 | 30 | 30 | 31 | 31 | 31 | 31 | 30 | 31 | 31 | 31 | 31 | 368 |
| 76 - 90 AVG | 31 | 31 | 30 | 31 | 31 | 31 | 30 | 31 | 31 | 30 | 30 | 31 | 368 |

**Greens Landing**
**Existing Conditions**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2110 | 2301 | 2790 | 2639 | 3574 | 2548 | 2030 | 2400 | 2139 | 2503 | 2422 | 2318 | 29,774 |
| 1977 | 2130 | 2296 | 2777 | 2645 | 3576 | 2551 | 2045 | 2394 | 2153 | 2508 | 2441 | 2329 | 29,845 |
| 1978 | 2143 | 2296 | 2823 | 2657 | 3600 | 2531 | 2012 | 2402 | 2127 | 2508 | 2416 | 2318 | 29,833 |
| 1979 | 2124 | 2298 | 2786 | 2687 | 3608 | 2525 | 2018 | 2401 | 2124 | 2505 | 2416 | 2315 | 29,807 |
| 1980 | 2117 | 2297 | 2810 | 2628 | 3606 | 2518 | 2015 | 2400 | 2133 | 2507 | 2418 | 2319 | 29,768 |
| 1981 | 2122 | 2300 | 2791 | 2637 | 3590 | 2532 | 2021 | 2399 | 2134 | 2506 | 2422 | 2317 | 29,771 |
| 1982 | 2119 | 2311 | 2802 | 2631 | 3594 | 2532 | 2012 | 2402 | 2119 | 2504 | 2415 | 2311 | 29,752 |
| 1983 | 2110 | 2323 | 2800 | 2631 | 3604 | 2531 | 2010 | 2399 | 2110 | 2506 | 2413 | 2309 | 29,746 |
| 1984 | 2112 | 2304 | 2811 | 2610 | 3592 | 2522 | 2017 | 2398 | 2127 | 2503 | 2415 | 2316 | 29,727 |
| 1985 | 2116 | 2325 | 2800 | 2625 | 3582 | 2556 | 2031 | 2399 | 2131 | 2506 | 2425 | 2319 | 29,815 |
| 1986 | 2124 | 2317 | 2808 | 2652 | 3601 | 2519 | 2020 | 2400 | 2135 | 2506 | 2417 | 2316 | 29,815 |
| 1987 | 2121 | 2299 | 2785 | 2632 | 3589 | 2539 | 2023 | 2401 | 2131 | 2506 | 2428 | 2326 | 29,780 |
| 1988 | 2126 | 2301 | 2804 | 2645 | 3592 | 2557 | 2037 | 2396 | 2140 | 2505 | 2430 | 2324 | 29,857 |
| 1989 | 2128 | 2299 | 2786 | 2637 | 3572 | 2539 | 2014 | 2400 | 2128 | 2505 | 2421 | 2313 | 29,742 |
| 1990 | 2118 | 2297 | 2782 | 2639 | 3592 | 2549 | 2027 | 2397 | 2133 | 2507 | 2424 | 2323 | 29,788 |
| 76 - 90 AVG | 2122 | 2304 | 2796 | 2640 | 3590 | 2538 | 2022 | 2399 | 2131 | 2506 | 2422 | 2318 | 29,788 |

**Greens Landing**
**No-Action alternative**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 150 | 150 | 150 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,810 |
| 1977 | 151 | 151 | 150 | 154 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,815 |
| 1978 | 151 | 151 | 155 | 155 | 152 | 152 | 150 | 150 | 151 | 151 | 150 | 151 | 1,819 |
| 1979 | 151 | 150 | 150 | 158 | 153 | 151 | 151 | 151 | 151 | 151 | 150 | 151 | 1,818 |
| 1980 | 150 | 150 | 152 | 152 | 152 | 150 | 151 | 151 | 151 | 151 | 151 | 151 | 1,812 |
| 1981 | 151 | 151 | 151 | 154 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,815 |
| 1982 | 150 | 151 | 151 | 153 | 150 | 152 | 150 | 150 | 150 | 150 | 150 | 150 | 1,807 |
| 1983 | 150 | 152 | 151 | 153 | 152 | 152 | 150 | 150 | 150 | 150 | 150 | 150 | 1,810 |
| 1984 | 150 | 151 | 151 | 151 | 151 | 150 | 151 | 151 | 151 | 150 | 150 | 151 | 1,808 |
| 1985 | 150 | 153 | 151 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,815 |
| 1986 | 151 | 152 | 152 | 154 | 153 | 151 | 151 | 151 | 151 | 151 | 150 | 151 | 1,818 |
| 1987 | 151 | 150 | 150 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,812 |
| 1988 | 151 | 151 | 152 | 153 | 151 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 1,816 |
| 1989 | 151 | 151 | 151 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 150 | 1,813 |
| 1990 | 150 | 150 | 150 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,811 |
| 76 - 90 AVG | 151 | 151 | 151 | 153 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,813 |

**Greens Landing**
**No-Action alternative**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 30 | 30 | 30 | 31 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 367 |
| 1977 | 31 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 370 |
| 1978 | 31 | 31 | 33 | 32 | 31 | 31 | 30 | 30 | 31 | 30 | 30 | 31 | 371 |
| 1979 | 31 | 30 | 30 | 33 | 32 | 30 | 30 | 31 | 31 | 30 | 30 | 30 | 368 |
| 1980 | 30 | 30 | 31 | 31 | 31 | 30 | 30 | 31 | 31 | 31 | 30 | 31 | 367 |
| 1981 | 31 | 30 | 30 | 32 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 369 |
| 1982 | 30 | 31 | 30 | 31 | 30 | 31 | 30 | 30 | 30 | 30 | 30 | 30 | 363 |
| 1983 | 30 | 31 | 30 | 31 | 31 | 31 | 30 | 30 | 30 | 30 | 30 | 30 | 364 |
| 1984 | 30 | 31 | 31 | 30 | 30 | 30 | 30 | 31 | 31 | 30 | 30 | 31 | 365 |
| 1985 | 30 | 32 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 371 |
| 1986 | 31 | 32 | 31 | 31 | 31 | 30 | 30 | 31 | 31 | 31 | 30 | 30 | 369 |
| 1987 | 31 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 370 |
| 1988 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 372 |
| 1989 | 31 | 31 | 30 | 31 | 31 | 30 | 30 | 31 | 31 | 31 | 31 | 30 | 368 |
| 1990 | 30 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 369 |
| 76 - 90 AVG | 31 | 31 | 30 | 31 | 31 | 31 | 30 | 31 | 31 | 31 | 31 | 31 | 368 |

**Greens Landing**
**No-Action Alternative**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2110 | 2301 | 2790 | 2635 | 3579 | 2542 | 2028 | 2400 | 2136 | 2508 | 2425 | 2319 | 29,773 |
| 1977 | 2130 | 2296 | 2778 | 2651 | 3574 | 2555 | 2037 | 2395 | 2148 | 2508 | 2437 | 2329 | 29,836 |
| 1978 | 2133 | 2296 | 2821 | 2659 | 3601 | 2532 | 2012 | 2402 | 2127 | 2508 | 2416 | 2319 | 29,826 |
| 1979 | 2122 | 2299 | 2787 | 2685 | 3608 | 2525 | 2017 | 2403 | 2125 | 2506 | 2417 | 2315 | 29,809 |
| 1980 | 2115 | 2297 | 2810 | 2628 | 3606 | 2518 | 2014 | 2399 | 2131 | 2505 | 2418 | 2319 | 29,760 |
| 1981 | 2120 | 2300 | 2791 | 2644 | 3587 | 2531 | 2019 | 2400 | 2145 | 2506 | 2425 | 2318 | 29,786 |
| 1982 | 2116 | 2312 | 2802 | 2631 | 3594 | 2532 | 2012 | 2402 | 2120 | 2504 | 2416 | 2311 | 29,752 |
| 1983 | 2111 | 2324 | 2800 | 2632 | 3604 | 2531 | 2010 | 2399 | 2110 | 2506 | 2413 | 2309 | 29,749 |
| 1984 | 2112 | 2304 | 2811 | 2610 | 3592 | 2521 | 2017 | 2400 | 2128 | 2503 | 2415 | 2316 | 29,729 |
| 1985 | 2116 | 2328 | 2800 | 2625 | 3583 | 2549 | 2031 | 2397 | 2137 | 2507 | 2425 | 2319 | 29,817 |
| 1986 | 2122 | 2315 | 2807 | 2651 | 3602 | 2519 | 2019 | 2400 | 2135 | 2506 | 2417 | 2316 | 29,809 |
| 1987 | 2119 | 2299 | 2786 | 2632 | 3590 | 2538 | 2025 | 2399 | 2146 | 2508 | 2431 | 2327 | 29,800 |
| 1988 | 2127 | 2301 | 2803 | 2642 | 3591 | 2577 | 2041 | 2394 | 2140 | 2506 | 2429 | 2322 | 29,673 |
| 1989 | 2125 | 2300 | 2787 | 2636 | 3573 | 2538 | 2013 | 2401 | 2135 | 2505 | 2424 | 2314 | 29,751 |
| 1990 | 2115 | 2298 | 2784 | 2635 | 3593 | 2547 | 2031 | 2396 | 2138 | 2506 | 2424 | 2321 | 29,788 |
| 76 - 90 AVG | 2120 | 2304 | 2796 | 2640 | 3590 | 2538 | 2022 | 2399 | 2133 | 2506 | 2423 | 2318 | 29,791 |

**Greens Landing**
**State Permit**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 150 | 150 | 150 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,810 |
| 1977 | 151 | 151 | 150 | 154 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,814 |
| 1978 | 151 | 151 | 155 | 155 | 152 | 152 | 150 | 150 | 151 | 150 | 150 | 151 | 1,818 |
| 1979 | 151 | 150 | 150 | 158 | 154 | 151 | 151 | 151 | 151 | 150 | 151 | 151 | 1,819 |
| 1980 | 150 | 150 | 152 | 152 | 152 | 150 | 151 | 151 | 151 | 151 | 150 | 151 | 1,811 |
| 1981 | 151 | 151 | 151 | 154 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,815 |
| 1982 | 150 | 151 | 151 | 153 | 150 | 152 | 150 | 150 | 150 | 150 | 150 | 150 | 1,807 |
| 1983 | 150 | 152 | 151 | 153 | 152 | 152 | 150 | 150 | 150 | 150 | 150 | 150 | 1,810 |
| 1984 | 150 | 151 | 151 | 151 | 151 | 150 | 151 | 151 | 151 | 150 | 150 | 151 | 1,808 |
| 1985 | 150 | 153 | 151 | 152 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 1,816 |
| 1986 | 151 | 152 | 152 | 154 | 153 | 151 | 151 | 151 | 151 | 150 | 150 | 151 | 1,817 |
| 1987 | 151 | 151 | 150 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,813 |
| 1988 | 151 | 151 | 152 | 153 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,815 |
| 1989 | 151 | 151 | 151 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 150 | 1,813 |
| 1990 | 150 | 150 | 150 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,811 |
| 76 - 90 AVG | 151 | 151 | 151 | 153 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,813 |

**Greens Landing**
**State Permit**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 30 | 30 | 30 | 31 | 31 | 30 | 31 | 31 | 31 | 31 | 30 | 31 | 367 |
| 1977 | 31 | 30 | 30 | 32 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 371 |
| 1978 | 31 | 31 | 33 | 32 | 31 | 31 | 30 | 30 | 31 | 30 | 30 | 31 | 371 |
| 1979 | 31 | 30 | 30 | 34 | 32 | 30 | 30 | 31 | 31 | 30 | 30 | 31 | 370 |
| 1980 | 30 | 30 | 31 | 31 | 31 | 30 | 30 | 31 | 31 | 30 | 30 | 31 | 366 |
| 1981 | 31 | 30 | 30 | 32 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 369 |
| 1982 | 30 | 31 | 30 | 31 | 30 | 31 | 30 | 30 | 30 | 30 | 30 | 30 | 363 |
| 1983 | 30 | 31 | 30 | 31 | 31 | 31 | 30 | 30 | 30 | 30 | 30 | 30 | 364 |
| 1984 | 30 | 31 | 31 | 30 | 30 | 30 | 30 | 31 | 31 | 30 | 30 | 31 | 365 |
| 1985 | 30 | 32 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 371 |
| 1986 | 31 | 32 | 31 | 31 | 31 | 30 | 30 | 31 | 31 | 30 | 30 | 30 | 368 |
| 1987 | 31 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 370 |
| 1988 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 372 |
| 1989 | 31 | 31 | 30 | 31 | 31 | 30 | 30 | 31 | 31 | 31 | 31 | 30 | 368 |
| 1990 | 30 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 369 |
| 76 - 90 AVG | 31 | 31 | 30 | 31 | 31 | 31 | 30 | 31 | 31 | 31 | 30 | 31 | 368 |

**Greens Landing**
**State Permit**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2110 | 2301 | 2790 | 2633 | 3580 | 2544 | 2027 | 2400 | 2143 | 2510 | 2419 | 2319 | 29,776 |
| 1977 | 2131 | 2296 | 2774 | 2654 | 3575 | 2549 | 2041 | 2395 | 2140 | 2506 | 2436 | 2328 | 29,827 |
| 1978 | 2136 | 2296 | 2822 | 2659 | 3601 | 2532 | 2012 | 2402 | 2127 | 2503 | 2415 | 2317 | 29,822 |
| 1979 | 2122 | 2299 | 2787 | 2665 | 3612 | 2527 | 2017 | 2403 | 2124 | 2505 | 2419 | 2317 | 29,817 |
| 1980 | 2114 | 2297 | 2810 | 2628 | 3606 | 2518 | 2014 | 2400 | 2131 | 2505 | 2416 | 2319 | 29,758 |
| 1981 | 2120 | 2300 | 2792 | 2647 | 3586 | 2534 | 2020 | 2400 | 2146 | 2511 | 2425 | 2318 | 29,799 |
| 1982 | 2116 | 2312 | 2802 | 2631 | 3594 | 2532 | 2012 | 2402 | 2120 | 2504 | 2416 | 2311 | 29,752 |
| 1983 | 2111 | 2324 | 2800 | 2632 | 3604 | 2531 | 2010 | 2399 | 2110 | 2506 | 2413 | 2309 | 29,749 |
| 1984 | 2112 | 2304 | 2811 | 2610 | 3592 | 2521 | 2017 | 2400 | 2127 | 2503 | 2415 | 2316 | 29,728 |
| 1985 | 2116 | 2328 | 2800 | 2624 | 3583 | 2552 | 2032 | 2397 | 2136 | 2507 | 2424 | 2319 | 29,818 |
| 1986 | 2124 | 2315 | 2807 | 2651 | 3602 | 2519 | 2019 | 2400 | 2135 | 2501 | 2415 | 2316 | 29,804 |
| 1987 | 2119 | 2299 | 2786 | 2632 | 3590 | 2539 | 2026 | 2397 | 2146 | 2508 | 2433 | 2327 | 29,802 |
| 1988 | 2127 | 2301 | 2803 | 2643 | 3591 | 2560 | 2043 | 2396 | 2143 | 2509 | 2430 | 2322 | 29,868 |
| 1989 | 2126 | 2300 | 2786 | 2637 | 3573 | 2538 | 2014 | 2401 | 2132 | 2505 | 2427 | 2314 | 29,753 |
| 1990 | 2115 | 2298 | 2784 | 2636 | 3593 | 2545 | 2032 | 2393 | 2137 | 2507 | 2422 | 2321 | 29,783 |
| 76 - 90 AVG | 2120 | 2304 | 2796 | 2640 | 3590 | 2537 | 2022 | 2399 | 2133 | 2506 | 2422 | 2318 | 29,790 |

**Greens Landing**
**Percent Inflow**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 150 | 150 | 150 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,810 |
| 1977 | 151 | 151 | 150 | 154 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,814 |
| 1978 | 151 | 151 | 155 | 155 | 152 | 152 | 150 | 150 | 151 | 150 | 150 | 151 | 1,818 |
| 1979 | 151 | 150 | 150 | 158 | 154 | 151 | 151 | 151 | 151 | 150 | 151 | 151 | 1,819 |
| 1980 | 150 | 150 | 152 | 152 | 152 | 150 | 151 | 151 | 151 | 151 | 150 | 151 | 1,811 |
| 1981 | 151 | 151 | 151 | 154 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,815 |
| 1982 | 150 | 151 | 151 | 153 | 150 | 152 | 150 | 150 | 150 | 150 | 150 | 150 | 1,807 |
| 1983 | 150 | 152 | 151 | 153 | 152 | 152 | 150 | 150 | 150 | 150 | 150 | 150 | 1,810 |
| 1984 | 150 | 151 | 151 | 151 | 151 | 150 | 151 | 151 | 151 | 150 | 150 | 151 | 1,808 |
| 1985 | 150 | 153 | 151 | 152 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 1,816 |
| 1986 | 151 | 152 | 152 | 154 | 153 | 151 | 151 | 151 | 151 | 150 | 150 | 151 | 1,817 |
| 1987 | 151 | 151 | 150 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,813 |
| 1988 | 151 | 151 | 152 | 153 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,815 |
| 1989 | 151 | 151 | 151 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 150 | 1,813 |
| 1990 | 150 | 150 | 150 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,811 |
| 76 - 90 AVG | 151 | 151 | 151 | 153 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,813 |

**Greens Landing**
**Percent Inflow**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 30 | 30 | 30 | 31 | 31 | 30 | 31 | 31 | 31 | 31 | 30 | 31 | 367 |
| 1977 | 31 | 30 | 30 | 32 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 371 |
| 1978 | 31 | 31 | 33 | 32 | 31 | 31 | 30 | 30 | 31 | 30 | 30 | 31 | 371 |
| 1979 | 31 | 30 | 30 | 34 | 32 | 30 | 30 | 31 | 31 | 30 | 30 | 31 | 370 |
| 1980 | 30 | 30 | 31 | 31 | 31 | 30 | 30 | 31 | 31 | 30 | 30 | 31 | 366 |
| 1981 | 31 | 30 | 30 | 32 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 369 |
| 1982 | 30 | 31 | 30 | 31 | 30 | 31 | 30 | 30 | 30 | 30 | 30 | 30 | 363 |
| 1983 | 30 | 31 | 30 | 31 | 31 | 31 | 30 | 30 | 30 | 30 | 30 | 30 | 364 |
| 1984 | 30 | 31 | 31 | 30 | 30 | 30 | 30 | 31 | 31 | 30 | 30 | 31 | 365 |
| 1985 | 30 | 32 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 371 |
| 1986 | 31 | 32 | 31 | 31 | 31 | 30 | 30 | 31 | 31 | 30 | 30 | 30 | 368 |
| 1987 | 31 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 370 |
| 1988 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 372 |
| 1989 | 31 | 31 | 30 | 31 | 31 | 30 | 30 | 31 | 31 | 31 | 31 | 30 | 368 |
| 1990 | 30 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 369 |
| 76 - 90 AVG | 31 | 31 | 30 | 31 | 31 | 31 | 30 | 31 | 31 | 31 | 30 | 31 | 368 |

**Greens Landing**
**Percent Inflow**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2110 | 2301 | 2790 | 2633 | 3580 | 2544 | 2027 | 2400 | 2143 | 2510 | 2419 | 2319 | 29,776 |
| 1977 | 2131 | 2296 | 2774 | 2654 | 3575 | 2549 | 2041 | 2395 | 2140 | 2508 | 2436 | 2328 | 29,827 |
| 1978 | 2136 | 2296 | 2822 | 2659 | 3601 | 2532 | 2012 | 2402 | 2127 | 2503 | 2415 | 2317 | 29,822 |
| 1979 | 2122 | 2299 | 2787 | 2685 | 3612 | 2527 | 2017 | 2403 | 2124 | 2505 | 2419 | 2317 | 29,817 |
| 1980 | 2114 | 2297 | 2810 | 2628 | 3606 | 2518 | 2014 | 2400 | 2131 | 2505 | 2416 | 2319 | 29,758 |
| 1981 | 2120 | 2300 | 2792 | 2647 | 3586 | 2534 | 2020 | 2400 | 2146 | 2511 | 2425 | 2318 | 29,799 |
| 1982 | 2116 | 2312 | 2802 | 2631 | 3594 | 2532 | 2012 | 2402 | 2120 | 2504 | 2416 | 2311 | 29,752 |
| 1983 | 2111 | 2324 | 2800 | 2632 | 3604 | 2531 | 2010 | 2399 | 2110 | 2506 | 2413 | 2309 | 29,749 |
| 1984 | 2112 | 2304 | 2811 | 2610 | 3592 | 2521 | 2017 | 2400 | 2127 | 2503 | 2415 | 2316 | 29,728 |
| 1985 | 2116 | 2328 | 2800 | 2624 | 3583 | 2552 | 2032 | 2397 | 2136 | 2507 | 2424 | 2319 | 29,818 |
| 1986 | 2124 | 2315 | 2807 | 2651 | 3602 | 2519 | 2019 | 2400 | 2135 | 2501 | 2415 | 2316 | 29,804 |
| 1987 | 2119 | 2299 | 2786 | 2632 | 3590 | 2539 | 2026 | 2397 | 2146 | 2508 | 2433 | 2327 | 29,802 |
| 1988 | 2127 | 2301 | 2803 | 2643 | 3591 | 2560 | 2043 | 2396 | 2143 | 2509 | 2430 | 2322 | 29,868 |
| 1989 | 2126 | 2300 | 2786 | 2637 | 3573 | 2538 | 2014 | 2401 | 2132 | 2505 | 2427 | 2314 | 29,753 |
| 1990 | 2115 | 2298 | 2784 | 2636 | 3593 | 2545 | 2032 | 2393 | 2137 | 2507 | 2422 | 2321 | 29,783 |
| 76 - 90 AVG | 2120 | 2304 | 2796 | 2640 | 3590 | 2537 | 2022 | 2399 | 2133 | 2506 | 2422 | 2318 | 29,790 |

**Greens Landing**
**Flow Study**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 150 | 150 | 150 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,810 |
| 1977 | 151 | 151 | 150 | 154 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,814 |
| 1978 | 151 | 151 | 155 | 155 | 152 | 152 | 150 | 150 | 151 | 150 | 150 | 151 | 1,818 |
| 1979 | 151 | 150 | 150 | 158 | 154 | 151 | 151 | 151 | 151 | 150 | 151 | 151 | 1,819 |
| 1980 | 150 | 150 | 152 | 152 | 152 | 150 | 151 | 151 | 151 | 151 | 150 | 151 | 1,811 |
| 1981 | 151 | 151 | 151 | 154 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,815 |
| 1982 | 150 | 151 | 151 | 153 | 150 | 152 | 150 | 150 | 150 | 150 | 150 | 150 | 1,807 |
| 1983 | 150 | 152 | 151 | 153 | 152 | 152 | 150 | 150 | 150 | 150 | 150 | 150 | 1,810 |
| 1984 | 150 | 151 | 151 | 151 | 151 | 150 | 151 | 151 | 151 | 150 | 150 | 151 | 1,808 |
| 1985 | 150 | 153 | 151 | 152 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 1,816 |
| 1986 | 151 | 152 | 152 | 154 | 153 | 151 | 151 | 151 | 151 | 150 | 150 | 151 | 1,817 |
| 1987 | 151 | 151 | 150 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,813 |
| 1988 | 151 | 151 | 152 | 153 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,815 |
| 1989 | 151 | 151 | 151 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 150 | 1,813 |
| 1990 | 150 | 150 | 150 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,811 |
| 76 - 90 AVG | 151 | 151 | 151 | 153 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,813 |

**Greens Landing**
**Flow Study**
**Bromide**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 30 | 30 | 30 | 31 | 31 | 30 | 31 | 31 | 31 | 31 | 30 | 31 | 367 |
| 1977 | 31 | 30 | 30 | 32 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 371 |
| 1978 | 31 | 31 | 33 | 32 | 31 | 31 | 30 | 30 | 31 | 30 | 30 | 31 | 371 |
| 1979 | 31 | 30 | 30 | 34 | 32 | 30 | 30 | 31 | 31 | 30 | 30 | 31 | 370 |
| 1980 | 30 | 30 | 31 | 31 | 31 | 30 | 30 | 31 | 31 | 30 | 30 | 31 | 366 |
| 1981 | 31 | 30 | 30 | 32 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 369 |
| 1982 | 30 | 31 | 30 | 31 | 30 | 31 | 30 | 30 | 30 | 30 | 30 | 30 | 363 |
| 1983 | 30 | 31 | 30 | 31 | 31 | 31 | 30 | 30 | 30 | 30 | 30 | 30 | 364 |
| 1984 | 30 | 31 | 31 | 30 | 30 | 30 | 30 | 31 | 31 | 30 | 30 | 31 | 365 |
| 1985 | 30 | 32 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 371 |
| 1986 | 31 | 32 | 31 | 31 | 31 | 30 | 30 | 31 | 31 | 30 | 30 | 30 | 368 |
| 1987 | 31 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 370 |
| 1988 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 372 |
| 1989 | 31 | 31 | 30 | 31 | 31 | 30 | 30 | 31 | 31 | 31 | 31 | 30 | 368 |
| 1990 | 30 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 369 |
| 76 - 90 AVG | 31 | 31 | 30 | 31 | 31 | 31 | 30 | 31 | 31 | 31 | 30 | 31 | 368 |

**Greens Landing**
**Flow Study**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2110 | 2301 | 2790 | 2633 | 3580 | 2544 | 2027 | 2400 | 2143 | 2510 | 2419 | 2319 | 29,776 |
| 1977 | 2131 | 2296 | 2774 | 2654 | 3575 | 2549 | 2041 | 2395 | 2140 | 2508 | 2436 | 2328 | 29,827 |
| 1978 | 2136 | 2296 | 2822 | 2659 | 3601 | 2532 | 2012 | 2402 | 2127 | 2503 | 2415 | 2317 | 29,822 |
| 1979 | 2122 | 2299 | 2787 | 2685 | 3612 | 2527 | 2017 | 2403 | 2124 | 2505 | 2419 | 2317 | 29,817 |
| 1980 | 2114 | 2297 | 2810 | 2628 | 3606 | 2518 | 2014 | 2400 | 2131 | 2505 | 2416 | 2319 | 29,758 |
| 1981 | 2120 | 2300 | 2792 | 2647 | 3586 | 2534 | 2020 | 2400 | 2148 | 2511 | 2425 | 2318 | 29,799 |
| 1982 | 2116 | 2312 | 2802 | 2631 | 3594 | 2532 | 2012 | 2402 | 2120 | 2504 | 2416 | 2311 | 29,752 |
| 1983 | 2111 | 2324 | 2800 | 2632 | 3604 | 2531 | 2010 | 2399 | 2110 | 2506 | 2413 | 2309 | 29,749 |
| 1984 | 2112 | 2304 | 2811 | 2610 | 3592 | 2521 | 2017 | 2400 | 2127 | 2503 | 2415 | 2316 | 29,728 |
| 1985 | 2116 | 2328 | 2800 | 2624 | 3583 | 2552 | 2032 | 2397 | 2136 | 2507 | 2424 | 2319 | 29,818 |
| 1986 | 2124 | 2315 | 2807 | 2651 | 3602 | 2519 | 2019 | 2400 | 2135 | 2501 | 2415 | 2316 | 29,804 |
| 1987 | 2119 | 2299 | 2786 | 2632 | 3590 | 2539 | 2026 | 2397 | 2148 | 2508 | 2433 | 2327 | 29,802 |
| 1988 | 2127 | 2301 | 2803 | 2643 | 3591 | 2560 | 2043 | 2396 | 2143 | 2509 | 2430 | 2322 | 29,868 |
| 1989 | 2126 | 2300 | 2786 | 2637 | 3573 | 2538 | 2014 | 2401 | 2132 | 2505 | 2427 | 2314 | 29,753 |
| 1990 | 2115 | 2298 | 2784 | 2636 | 3593 | 2545 | 2032 | 2393 | 2137 | 2507 | 2422 | 2321 | 29,783 |
| 76 - 90 AVG | 2120 | 2304 | 2796 | 2640 | 3590 | 2537 | 2022 | 2399 | 2133 | 2506 | 2422 | 2318 | 29,790 |

**Greens Landing**
**Maximum Flow**
**Electrical Conductivity**
Units are in microsiemens/centimeter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 150 | 150 | 150 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,810 |
| 1977 | 151 | 151 | 150 | 154 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,814 |
| 1978 | 151 | 151 | 155 | 155 | 152 | 152 | 150 | 150 | 151 | 150 | 150 | 151 | 1,818 |
| 1979 | 151 | 150 | 150 | 158 | 154 | 151 | 151 | 151 | 151 | 150 | 151 | 151 | 1,819 |
| 1980 | 150 | 150 | 152 | 152 | 152 | 150 | 151 | 151 | 151 | 151 | 150 | 151 | 1,811 |
| 1981 | 151 | 151 | 151 | 154 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,815 |
| 1982 | 150 | 151 | 151 | 153 | 150 | 152 | 150 | 150 | 150 | 150 | 150 | 150 | 1,807 |
| 1983 | 150 | 152 | 151 | 153 | 152 | 152 | 150 | 150 | 150 | 150 | 150 | 150 | 1,810 |
| 1984 | 150 | 151 | 151 | 151 | 151 | 150 | 151 | 151 | 151 | 150 | 150 | 151 | 1,808 |
| 1985 | 150 | 153 | 151 | 152 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 1,816 |
| 1986 | 151 | 152 | 152 | 154 | 153 | 151 | 151 | 151 | 151 | 150 | 150 | 151 | 1,817 |
| 1987 | 151 | 151 | 150 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,813 |
| 1988 | 151 | 151 | 152 | 153 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,815 |
| 1989 | 151 | 151 | 151 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 150 | 1,813 |
| 1990 | 150 | 150 | 150 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,811 |
| 76 - 90 AVG | 151 | 151 | 151 | 153 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 1,813 |

**Greens Landing**
**Maximum Flow**
**Bromide**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 30 | 30 | 30 | 31 | 31 | 30 | 31 | 31 | 31 | 31 | 30 | 31 | 367 |
| 1977 | 31 | 30 | 30 | 32 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 371 |
| 1978 | 31 | 31 | 33 | 32 | 31 | 31 | 30 | 30 | 31 | 30 | 30 | 31 | 371 |
| 1979 | 31 | 30 | 30 | 34 | 32 | 30 | 30 | 31 | 31 | 30 | 30 | 31 | 370 |
| 1980 | 30 | 30 | 31 | 31 | 31 | 30 | 30 | 31 | 31 | 30 | 30 | 31 | 366 |
| 1981 | 31 | 30 | 30 | 32 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 369 |
| 1982 | 30 | 31 | 30 | 31 | 30 | 31 | 30 | 30 | 30 | 30 | 30 | 30 | 363 |
| 1983 | 30 | 31 | 30 | 31 | 31 | 31 | 30 | 30 | 30 | 30 | 30 | 30 | 364 |
| 1984 | 30 | 31 | 31 | 30 | 30 | 30 | 30 | 31 | 31 | 30 | 30 | 31 | 365 |
| 1985 | 30 | 32 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 371 |
| 1986 | 31 | 32 | 31 | 31 | 31 | 30 | 30 | 31 | 31 | 30 | 30 | 30 | 368 |
| 1987 | 31 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 370 |
| 1988 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 372 |
| 1989 | 31 | 31 | 30 | 31 | 31 | 30 | 30 | 31 | 31 | 31 | 31 | 30 | 368 |
| 1990 | 30 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 369 |
| 76 - 90 AVG | 31 | 31 | 30 | 31 | 31 | 31 | 30 | 31 | 31 | 31 | 30 | 31 | 368 |

**Greens Landing**
**Maximum Flow**
**Dissolved Organic Carbon**
Units are in micrograms/liter

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2110 | 2301 | 2790 | 2633 | 3580 | 2544 | 2027 | 2400 | 2143 | 2510 | 2419 | 2319 | 29,776 |
| 1977 | 2131 | 2296 | 2774 | 2654 | 3575 | 2549 | 2041 | 2395 | 2140 | 2508 | 2436 | 2328 | 29,827 |
| 1978 | 2136 | 2296 | 2822 | 2659 | 3601 | 2532 | 2012 | 2402 | 2127 | 2503 | 2415 | 2317 | 29,822 |
| 1979 | 2122 | 2299 | 2787 | 2685 | 3612 | 2527 | 2017 | 2403 | 2124 | 2505 | 2419 | 2317 | 29,817 |
| 1980 | 2114 | 2297 | 2810 | 2628 | 3606 | 2518 | 2014 | 2400 | 2131 | 2505 | 2416 | 2319 | 29,758 |
| 1981 | 2120 | 2300 | 2792 | 2647 | 3586 | 2534 | 2020 | 2400 | 2146 | 2511 | 2425 | 2318 | 29,799 |
| 1982 | 2116 | 2312 | 2802 | 2631 | 3594 | 2532 | 2012 | 2402 | 2120 | 2504 | 2416 | 2311 | 29,752 |
| 1983 | 2111 | 2324 | 2800 | 2632 | 3604 | 2531 | 2010 | 2399 | 2110 | 2506 | 2413 | 2309 | 29,749 |
| 1984 | 2112 | 2304 | 2811 | 2610 | 3592 | 2521 | 2017 | 2400 | 2127 | 2503 | 2415 | 2316 | 29,728 |
| 1985 | 2116 | 2328 | 2800 | 2624 | 3583 | 2552 | 2032 | 2397 | 2136 | 2507 | 2424 | 2319 | 29,818 |
| 1986 | 2124 | 2315 | 2807 | 2651 | 3602 | 2519 | 2019 | 2400 | 2135 | 2501 | 2415 | 2316 | 29,804 |
| 1987 | 2119 | 2299 | 2786 | 2632 | 3590 | 2539 | 2026 | 2397 | 2146 | 2508 | 2433 | 2327 | 29,802 |
| 1988 | 2127 | 2301 | 2803 | 2643 | 3591 | 2560 | 2043 | 2396 | 2143 | 2509 | 2430 | 2322 | 29,868 |
| 1989 | 2126 | 2300 | 2786 | 2637 | 3573 | 2538 | 2014 | 2401 | 2132 | 2505 | 2427 | 2314 | 29,753 |
| 1990 | 2115 | 2298 | 2784 | 2636 | 3593 | 2545 | 2032 | 2393 | 2137 | 2507 | 2422 | 2321 | 29,783 |
| 76 - 90 AVG | 2120 | 2304 | 2796 | 2640 | 3590 | 2537 | 2022 | 2399 | 2133 | 2506 | 2422 | 2318 | 29,790 |

**Sac River @ Greens Landing, 418**
**Cumulative Impact**
**Electrical Conductivity**

Units are in microsiemens/centimeter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 150 | 150 | 150 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 |
| 1977 | 151 | 151 | 151 | 153 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 |
| 1978 | 151 | 151 | 155 | 155 | 152 | 152 | 150 | 150 | 151 | 150 | 150 | 151 |
| 1979 | 151 | 150 | 150 | 158 | 154 | 151 | 151 | 151 | 151 | 150 | 151 | 151 |
| 1980 | 150 | 150 | 152 | 152 | 152 | 150 | 151 | 151 | 151 | 151 | 150 | 151 |
| 1981 | 151 | 151 | 151 | 154 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 |
| 1982 | 150 | 151 | 151 | 153 | 150 | 152 | 150 | 150 | 150 | 150 | 151 | 150 |
| 1983 | 150 | 152 | 151 | 153 | 152 | 152 | 150 | 150 | 150 | 150 | 150 | 150 |
| 1984 | 150 | 151 | 151 | 151 | 151 | 150 | 151 | 151 | 151 | 150 | 150 | 151 |
| 1985 | 150 | 153 | 151 | 152 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 |
| 1986 | 151 | 152 | 152 | 154 | 153 | 151 | 151 | 151 | 151 | 150 | 150 | 151 |
| 1987 | 151 | 151 | 150 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 |
| 1988 | 151 | 151 | 152 | 153 | 151 | 151 | 151 | 151 | 151 | 151 | 151 | 151 |
| 1989 | 151 | 151 | 151 | 152 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 150 |
| 1990 | 150 | 150 | 150 | 153 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 |
| Average | 151 | 151 | 151 | 153 | 152 | 151 | 151 | 151 | 151 | 151 | 151 | 151 |

**Sac River @ Greens Landing, 418**
**Cumulative Impact**
**Bromide**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 30 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 30 | 31 |
| 1977 | 31 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 |
| 1978 | 31 | 31 | 33 | 32 | 31 | 31 | 30 | 30 | 31 | 30 | 30 | 31 |
| 1979 | 31 | 30 | 30 | 34 | 32 | 30 | 30 | 31 | 31 | 30 | 30 | 31 |
| 1980 | 30 | 30 | 31 | 31 | 31 | 30 | 30 | 31 | 31 | 30 | 30 | 31 |
| 1981 | 31 | 30 | 30 | 32 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 |
| 1982 | 31 | 31 | 30 | 31 | 30 | 31 | 30 | 30 | 30 | 30 | 30 | 30 |
| 1983 | 30 | 31 | 30 | 31 | 31 | 31 | 30 | 30 | 30 | 30 | 30 | 30 |
| 1984 | 30 | 30 | 31 | 30 | 30 | 30 | 30 | 31 | 31 | 30 | 30 | 31 |
| 1985 | 30 | 32 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 |
| 1986 | 31 | 32 | 31 | 32 | 31 | 30 | 30 | 31 | 31 | 30 | 30 | 30 |
| 1987 | 31 | 30 | 30 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 |
| 1988 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 |
| 1989 | 31 | 31 | 30 | 31 | 31 | 30 | 30 | 31 | 31 | 31 | 31 | 30 |
| 1990 | 30 | 30 | 30 | 31 | 31 | 30 | 31 | 31 | 31 | 31 | 31 | 31 |
| Average | 31 | 31 | 30 | 31 | 31 | 31 | 30 | 31 | 31 | 31 | 30 | 31 |

**Sac River @ Greens Landing, 418**
**Cumulative Impact**
**Dissolved Organic Carbon**

Units are in micrograms/liter

| Year | October | November | December | January | February | March | April | May | June | July | August | September |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 2110 | 2301 | 2790 | 2633 | 3579 | 2545 | 2027 | 2400 | 2143 | 2510 | 2420 | 2319 |
| 1977 | 2132 | 2295 | 2773 | 2650 | 3575 | 2549 | 2041 | 2395 | 2140 | 2508 | 2436 | 2328 |
| 1978 | 2138 | 2296 | 2822 | 2659 | 3601 | 2532 | 2013 | 2402 | 2127 | 2504 | 2415 | 2317 |
| 1979 | 2123 | 2298 | 2786 | 2686 | 3612 | 2527 | 2017 | 2403 | 2124 | 2505 | 2418 | 2317 |
| 1980 | 2115 | 2298 | 2810 | 2628 | 3606 | 2519 | 2015 | 2399 | 2130 | 2505 | 2415 | 2319 |
| 1981 | 2121 | 2300 | 2791 | 2647 | 3586 | 2534 | 2021 | 2400 | 2146 | 2511 | 2424 | 2317 |
| 1982 | 2117 | 2312 | 2801 | 2631 | 3594 | 2533 | 2012 | 2402 | 2121 | 2504 | 2417 | 2311 |
| 1983 | 2111 | 2323 | 2800 | 2632 | 3604 | 2531 | 2010 | 2399 | 2110 | 2506 | 2414 | 2309 |
| 1984 | 2112 | 2303 | 2811 | 2610 | 3592 | 2521 | 2018 | 2400 | 2126 | 2503 | 2415 | 2316 |
| 1985 | 2116 | 2328 | 2800 | 2625 | 3583 | 2552 | 2032 | 2397 | 2135 | 2507 | 2424 | 2319 |
| 1986 | 2124 | 2315 | 2807 | 2652 | 3601 | 2519 | 2019 | 2400 | 2135 | 2501 | 2415 | 2316 |
| 1987 | 2120 | 2299 | 2786 | 2632 | 3589 | 2539 | 2027 | 2398 | 2146 | 2508 | 2434 | 2327 |
| 1988 | 2127 | 2301 | 2803 | 2644 | 3591 | 2560 | 2038 | 2396 | 2143 | 2510 | 2432 | 2321 |
| 1989 | 2126 | 2300 | 2786 | 2637 | 3573 | 2538 | 2014 | 2401 | 2132 | 2505 | 2426 | 2314 |
| 1990 | 2115 | 2297 | 2783 | 2637 | 3593 | 2543 | 2032 | 2393 | 2138 | 2509 | 2426 | 2321 |
| Average | 2120 | 2304 | 2797 | 2640 | 3592 | 2536 | 2022 | 2399 | 2133 | 2506 | 2422 | 2318 |

## 2.4.2 Technical Appendix B—Fishery Resources

### 1.1 Anadromous Salmonid Species *(SEE SUBSECTIONS)*

### 1.1.1 Affected Environment **(CHANGES FOLLOW)**

**pg. B-1**

Native anadromous salmonid species currently found in the Trinity River Basin and the Lower Klamath River Basin / Coastal Areas includes spring, fall, and late-fall chinook salmon (*Oncoryhnchus tshawytscha*), coho salmon (*O. kisutch*), and steelhead (*O. mykiss irideus*). In addition, coastal cutthroat trout (*O. clarki clarki*) are found in the Lower Klamath River Basin / Coastal Area. In the Central Valley, chinook salmon (fall, late-fall, spring, and winter) and winter steelhead, but not coho salmon and cutthroat trout, constitute the native anadromous salmonids in that geographical area.

#### 1.1.1.1 Trinity River Basin **(CHANGES FOLLOW)**

**pg. B-2**

**The data in Table B-3 is not relevant to the text that references it on page B-2. Table B-3 has been replaced with a table that accurately represents the data and text. See Section 2.4.2.1 for new Table B-3.**

**Figure B-2 has been modified to more accurately depict downstream migration of juvenile chinook salmon and to include the juvenile rearing periods of chinook and coho salmon and steelhead. See Section 2.4.2.1 for revised Figure B-2.**

**Trinity River Restoration Program Goals**.
**pg. B-6**

Coho Salmon. Coho salmon populations were historically much smaller than chinook salmon in the Trinity River. Holmberg (1972) reported that the estimated number of coho salmon in the Trinity Basin was approximately 8,000. An average annual pre-dam spawner escapement of approximately 5,000 adult coho above Lewiston was cited by CDFG and Service (1956). After construction of Lewiston Dam, coho inriver escapement estimates below Lewiston ranged from approximately 460-2,100 during 1969 through 1971 (Smith, 1975; Rogers, 1972; and Rogers, 1982). Leidy and Leidy (1984) reported that the returns to Trinity River Hatchery for the period 1973-1980 averaged approximately 3,300 adults. ~~total annual average coho basin escapement for the Trinity River below Lewiston Dam for 1973 through 1980 was approximately 3,300 adults.~~

**pgs. B-6 and B-7**

Estimates of the naturally produced coho salmon spawning in the mainstem Trinity River upstream of the Willow Creek weir for the years 1991 through 1995 have been made (U.S. Fish and Wildlife Service, 1998). Table B-4 shows the average estimated spawner escapement of naturally and hatchery-produced coho salmon for the years 1991 through 1995. From 1991 through 1995 naturally produced coho salmon spawning in the Trinity River upstream of the Willow Creek weir averaged 200 fish, ranging from 0-14 percent of the total annual escapement (an annual average of 3 percent). Approximately ~~8,100~~ 98 percent (5,500) of the coho salmon spawning inriver are produced by the hatchery.




**pg. B-8**

**Species Listed and Proposed for Listing under the Endangered Species Act (ESA)**. After a coast-wide status review by the U.S. National Marine Fisheries Service (NMFS), the Southern Oregon / Northern California evolutionarily significant unit (ESU) naturally produced coho salmon was proposed for listing as threatened on July 25, 1995. Under the ESA, an ESU is a population (or group of populations) that:

- Is substantially reproductively isolated from other nonspecific population units
- Represents an important component in the evolutionary legacy of the species

**Factors Influencing Trinity River Basin's Anadromous Salmonid Populations.**
**pg. B-10**

Fish Harvest. The harvest of Klamath River Basin fall chinook salmon (including Trinity River Basin) is managed jointly by the CDFG, Oregon Department of Fish and Wildlife, California Fish and Game Commission, (Commission) Yurok Tribe, HVT, NMFS, and Bureau of Indian Affairs (BIA). The Pacific Fishery Management Council (PFMC) and the Klamath Fishery Management Council (KFMC) are allocation forums for the ocean and ocean / inriver fisheries, respectively. The mixed-stock ocean population is harvested by commercial and sport fisheries; and the inriver population is harvested by tribal (ceremonial, subsistence, and commercial) and sport fisheries. Chinook salmon harvest (both spring and fall runs) includes both naturally and hatchery-produced fish. ~~Coho salmon harvest has been prohibited along virtually the entire west coast since 1994.~~ Coho harvest in the ocean commercial troll fishery has been prohibited in California and Oregon, and reduced in Washington, since 1994. Coho harvest has also been prohibited in the California ocean sport fishery, and reduced in Oregon. Coho harvest is allowed in the tribal inriver fisheries and currently occurs as incidental take during the harvest of chinook salmon. Steelhead are rarely caught in the ocean commercial and sport fisheries, but are harvested by the inriver tribal and sport fisheries. Frederiksen, Kamine, and Associates (1980) stated that ocean harvest of naturally produced salmon stocks had been sufficient to have caused steady declines in Trinity River spawner escapements at the time of their report. Historically, Klamath / Trinity River chinook and coho populations have been harvested in the ocean from Monterey County, California, to the Oregon / Washington border. Ocean harvest of naturally produced salmon may have been sufficient in the late 1970s to cause declines in Klamath River Basin (including Trinity River) populations, but fall chinook harvest management restrictions implemented since 1986 have decreased harvest impacts to levels believed to be sustainable, based on the best available data. A description of sportfishing activity along the Trinity River is presented in the Recreation Resources Technical Appendix D. Information on tribal fisheries is presented in the Tribal Trust section (3.6).

### 1.1.1.2 Lower Klamath River Basin *(NO CHANGE)*

### 1.1.1.3 Coastal Area (CHANGES FOLLOW)

**Harvest.**
**pg. B-19**

Salmon harvest trends have been somewhat different south of the KMZ, with average harvest levels remaining relatively high through the late 1980s. In the Mendocino Region (equivalent to the PFMC and CDFG statistical area of Fort Bragg), commercial harvests have annually averaged 205,000 salmon and 1.9 million pounds between 1971 and 1990. As Table B-9 shows, harvest levels generally declined between 1976 and 1985, but substantially increased between 1986 and 1990. Since 1989, commercial salmon harvest in the region has fallen, almost disappearing between 1992 and 1995, before rebounding to a harvest level of 20,000 salmon in 1996. This harvest level is still 90 percent lower than average levels between 1971 and 1990.

**Gross Value of Commercial Harvest**.
**pg. B-20**

In California, gross revenues from commercial salmon fishing totaled $5.7 million in 1996, which is ~~substantially~~ lower than the $~~22.7~~ 7.8 million (in 1997 dollars) in average gross income generated by the commercial salmon fishing industry between 1971 and 1990. The distribution of gross revenue among California coastal regions in 1996 was as follows: KMZ-California, 3.7 percent; Mendocino, 6.6 percent; San Francisco, 38.5 percent; Monterey, 51.2 percent. Historically, the KMZ-California and Mendocino Regions have registered much larger shares of gross revenues generated statewide by the ocean commercial salmon industry.

**1.1.1.4 Central Valley** *(NO CHANGE)*
**1.1.2 Environmental Consequences** *(NO CHANGE)*

**1.2 Other Native Anadromous Fish** *(SEE SUBSECTIONS)*
**1.2.1 Affected Environment** *(SEE SUBSECTIONS)*
**1.2.1.1 Trinity River Basin** *(NO CHANGE)*

**1.2.1.2 Lower Klamath River Basin** **(CHANGES FOLLOW)**
**pg. B-63**

The main population of eulachon in California occurs in the Klamath River (Moyle, et al., 1995). These native anadromous species spend most of their lives in salt water, migrating into the Klamath in March and April. Eulachon penetrate no more than approximately 6-8 miles upstream of the mouth of the Klamath River. Mass spawning occurs following their arrival during nighttime hours. After hatching, the larvae are swept downstream to the ocean immediately. Eulachon populations in the Klamath estuary have been severely depressed since the mid 1980s.

**1.2.1.3 Coastal Area** *(NO CHANGE)*
**1.2.1.4 Central Valley** *(NO CHANGE)*
**1.2.2 Environmental Consequences** *(NO CHANGE)*

**1.3 Resident Native Fish** *(SEE SUBSECTIONS)*
**1.3.1 Affected Environment** *(SEE SUBSECTIONS)*

**1.3.1.1 Trinity River Basin** *(NO CHANGE)*

**1.3.1.2 Lower Klamath River Basin** **(CHANGES FOLLOW)**
**pg. B-76**

In addition to the native resident species found in the Trinity River Basin, marbled sculpin *(Cottus klamathensis)*, prickly sculpin (*Cottus asper*), threespine stickleback *(Gasterosteous aculeatus)*, staghorn sculpin *(Leptocottus armatus)*, longfin smelt (*Spirinchus thaleichthys*), and starry flounder *(Platichthys stellatus)* are known to occur in the lower Klamath River Basin (Moyle, 1976). Except for marbled sculpins, these fish are species that range into estuarine, marine, and adjacent freshwater habitats. Other marine species such as topsmelt, shiner perch, arrow goby, and sharpnose sculpin may occasionally occur in the lower Klamath River estuary. The abundance and distribution of all of these species and the factors affecting their abundance in the lower Klamath River Basin are not known.

Non-native species known to occur in the lower Klamath are similar to those found in upstream areas including the reservoirs. Some of these species include yellow perch, black crappie, green sunfish, golden shiner, and brown bullhead.

**1.3.1.3 Coastal Area** *(NO CHANGE)*
**1.3.1.4 Central Valley** *(NO CHANGE)*
**1.3.2 Environmental Consequences** *(NO CHANGE)*

**1.4 Non-native Fish** *(SEE SUBSECTIONS)*
**1.4.1 Affected Environment** *(SEE SUBSECTIONS)*

**1.4.1.1 Trinity River Basin and Lower Klamath River Basin/Coastal Area** **(CHANGES FOLLOW)**
**pg. B-91**

American shad were introduced to California from the eastern United States beginning with introductions into the Sacramento River in 1871 through 1881 (Moyle, 1976). This anadromous species has since established populations in the Sacramento and its southernmost tributaries and the San Joaquin River Basin, including the Mokelumne and Stanislaus Rivers. In addition, populations in the Russian, Eel, Klamath, and Trinity River Basins have become established. The adults of this species move into the estuary or fresh water in late spring or early summer and spawn upriver soon thereafter. ~~in the fall months prior to spawning which occurs in March through June.~~

**1.4.1.2 Central Valley** *(NO CHANGE)*
**1.4.2 Environmental Consequences** *(NO CHANGE)*

**1.5 Reservoirs** *(NO CHANGE)*
**1.5.1 Affected Environment** *(NO CHANGE)*
**1.5.2 Environmental Consequences** *(NO CHANGE)*

## 1.6 Bibliography (CHANGES FOLLOW)

**The following reference has been added:**

**pg. B-126**

Rowell, J., U.S. Bureau of Reclamation, Sacramento, CA. 1998. Personal communication with Tim Hamaker, Fisheries Biologist, CH2M HILL, Redding, CA. 10 July.

### 2.4.2.1 Technical Appendix B—Tables and Figures

**Tables**

B-1 Summary of Impact Analysis for Fisheries Resources (Comparing Each Alternative to the No Action Alternative) *(NO CHANGE)*

B-2 Fish Species Found in the Trinity River Basin *(NO CHANGE)*

~~B-3 Life History and Habitat Characteristics of Non-salmonid Native Anadromous Fish in the Trinity River and/or Klamath River Basins~~

B-3 Life History and Habitat Needs for Anadromous Salmonid Fish in the Trinity River Basin.

B-4 Post-dam Chinook and Coho Salmon and Winter Steelhead Run-size, Spawning Escapement, and Angler Harvest Estimates for the Mainstem Trinity River *(NO CHANGE)*

B-5 Fall Chinook Salmon Inriver Spawner Escapement for the Trinity River *(NO CHANGE)*

B-6 Trinity River Salmon and Steelhead Hatchery (TRSSH) Salmonid Introductions into the Trinity River Since 1963 *(NO CHANGE)*

B-7 Trinity River Salmon and Steelhead Hatchery Operational Rearing and Stocking Goals and Constraints for Salmonid Species *(NO CHANGE)*

B-8 Annual Ocean Sport Salmon Fishing Effort by Region and Vessel Type (Thousands of Angler Trips) *(NO CHANGE)*

B-9 Ocean Commercial Salmon Harvest for California and Oregon: Average Annual, 1971-1990 *(NO CHANGE)*

B-10 Trinity River Ecosystem Attributes, Objectives, and Thresholds *(NO CHANGE)*

B-11 Water Temperature Requirements and Approximate Emigration Dates for Steelhead and Coho and Chinook Salmon Smolts *(NO CHANGE)*

B-12 Spawner Escapement Goals of the Trinity River Restoration Program *(NO CHANGE)*

B-13 Fish Harvest Estimates by Alternative *(NO CHANGE)*

B-14 Estimated Regional Ocean Commercial Harvest of Salmon under No Action and With-Project Conditions *(NO CHANGE)*

B-15 Estimated Average Annual Harvesting Sector Gross Revenues under No Action and With-project Conditions *(NO CHANGE)*

B-16 Estimated Average Annual Net Income Generated by Ocean Commercial Salmon Harvests under No-Action and With-Project Conditions *(NO CHANGE)*

B-17 Scoring Results of the Trinity River System Attribute Analysis (TRSAAM) Evaluation *(NO CHANGE)*

**Figures**

~~**Table B-3**~~
~~**Life History and Habitat Characteristics of Non-salmonid Native Anadromous Fish in the Trinity River and/or Klamath River Basins**~~

| ~~**Species**~~ | ~~**Inriver Goals**~~ | ~~**Hatchery Goals**~~ | ~~**Total**~~ |
|---|---|---|---|
| ~~Fall chinook salmon~~ | ~~62,000~~ | ~~9,000~~ | ~~71,000~~ |
| ~~Spring chinook salmon~~ | ~~6,000~~ | ~~3,000~~ | ~~9,000~~ |
| ~~Coho salmon~~ | ~~1,400~~ | ~~2,100~~ | ~~3,500~~ |
| ~~Steelhead~~ | ~~40,000~~ | ~~10,000~~ | ~~50,000~~ |

**TABLE B-3**
Life History and Habitat Needs for Anadromous Salmonid Fish in the Trinity River Basin

| Name | Migration | Spawning | Rearing | Rearing Habitat Description |
|---|---|---|---|---|
| Chinook (spring) | Spring-Summer | Early Fall | Winter-Spring-Summer | Shallow, slow-moving waters adjacent to higher water velocities for feeding. |
| Chinook (fall) | Fall | Fall | Spring-Summer-Fall | Shallow, slow-moving waters adjacent to higher water velocities for feeding. |
| Steelhead (winter) | Fall-winter | February-April | Year round | Areas of clean cobble where there is refuge from high velocities; juveniles overwinter for 1-2 or more years. |
| Steelhead (summer) | Spring-Summer | February-April | Year round | Areas of clean cobble where there is refuge from high velocities; juveniles overwinter for 1-2 or more years. |

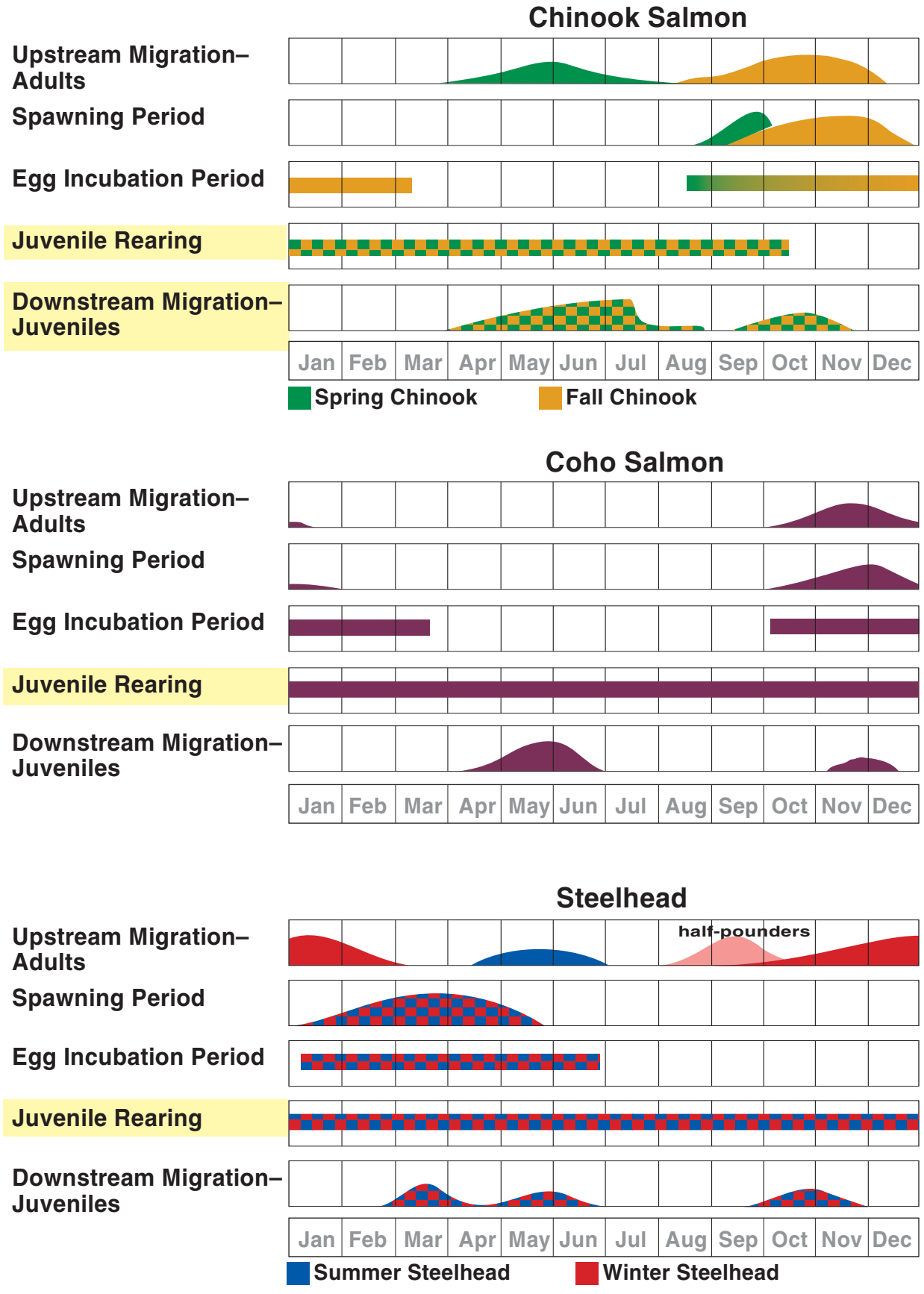


**FIGURE B-2**
**TEMPORAL DISTRIBUTION OF ANADROMOUS SALMONID REPRODUCTION**
TRINITY RIVER MAINSTEM FISHERY RESTORATION EIS/EIR

### 2.4.2.2 Technical Appendix B—Attachments

| | | |
|---|---|---|
| Attachment B1 | Tables B1-1 through B1-10 | *(NO CHANGE)* |
| Attachment B2 | Trinity River Basin Year Type Designations | *(NO CHANGE)* |
| Attachment B3 | Overview of TR FCR Team 12/15/97 Meeting - Draft and Final 1/30/98) - Memo summarizing approach for determining numbers of anadromous fish | *(NO CHANGE)* |
| Attachment B4 | Trinity River Temperature Attribute Scoring Analysis Results | *(NO CHANGE)* |
| Attachment B5 | Weekly Flow Schedules for Each Project Alternative | *(NO CHANGE)* |
| Attachment B6 | Methods Used to Develop Harvest-escapement Ratios for Trinity River EIS | *(NO CHANGE)* |
| Attachment B7 | Alternative Analyses Considered for the Harvest Management Alternative | *(NO CHANGE)* |
| Attachment B8 | Alternative Analyses Considered for the Harvest Management Alternative | *(NO CHANGE)* |
| Attachment B9 | Another Way to Assess the Harvest Management Alternative | *(NO CHANGE)* |
| Attachment B10 | Justification of No Natural Production for the State Permit Alternative | *(NO CHANGE)* |
| Attachment B11 | Summary of Sacramento River Chinook Salmon Spawning Distributions | *(NO CHANGE)* |
| Attachment B12 | Results of Attribute Scoring the Ecosystem Objectives for the Simulated 1922-1990 Hydrology | *(NO CHANGE)* |
| Attachment B13 | Assumptions and Rationale for Scoring the Ecosystem Attributes for the Simulated 1912-1995 Hydrology | *(NO CHANGE)* |
| Attachment B14 | Results of the Reclamation Sacramento River Chinook Salmon Loss of Early Life Stages and Temperature Model Analysis | **(CHANGES FOLLOW)** |

**The incorrect data output tables dated 3/10/98 have been replaced with the correct data output tables dated 7/8/99.**

| | | |
|---|---|---|
| Attachment B15 | Analysis of the Harvest Management Alternative of the Trinity River EIS/EIR | *(NO CHANGE)* |
| Attachment B16 | Assessment of the Ocean Troll Harvest Levels for the Trinity River EIS/EIR | *(NO CHANGE)* |
| Attachment B17 | Reservoir Fisheries Evaluation Report | *(NO CHANGE)* |

# Attachment B14

TRINITY RIVER EIS: PROSIM 2-25-99 - FLOW EVALUATION STUDY (TRN_FES9) - 2020 LEVEL

SACRAMENTO RIVER SALMON LOSS SUMMARY - %

| YEAR | FALL | LATE-FALL | WINTER | SPRING |
|---|---|---|---|---|
| 1922 | 4.675 | 0.241 | 1.733 | 3.725 |
| 1923 | 3.707 | 0.189 | 3.864 | 2.961 |
| 1924 | 29.223 | 1.140 | 67.799 | 96.553 |
| 1925 | 6.655 | 1.516 | 2.890 | 3.847 |
| 1926 | 10.981 | 2.111 | 7.613 | 5.338 |
| 1927 | 5.256 | 0.182 | 1.291 | 3.082 |
| 1928 | 4.356 | 0.511 | 1.334 | 2.495 |
| 1929 | 20.037 | 3.999 | 1.209 | 5.037 |
| 1930 | 6.491 | 0.602 | 1.822 | 3.271 |
| 1931 | 32.868 | 1.301 | 84.914 | 97.980 |
| 1932 | 38.536 | 3.619 | 21.642 | 99.628 |
| 1933 | 41.228 | 3.899 | 9.766 | 99.966 |
| 1934 | 35.514 | 2.541 | 30.988 | 98.956 |
| 1935 | 31.485 | 1.811 | 4.617 | 91.750 |
| 1936 | 41.983 | 5.525 | 3.833 | 90.430 |
| 1937 | 21.804 | 1.098 | 1.249 | 16.517 |
| 1938 | 12.993 | 1.157 | 1.634 | 7.575 |
| 1939 | 11.279 | 1.951 | 1.318 | 3.804 |
| 1940 | 5.451 | 0.846 | 2.367 | 3.038 |
| 1941 | 6.365 | 0.582 | 0.940 | 2.365 |
| 1942 | 5.424 | 0.129 | 1.012 | 2.956 |
| 1943 | 5.377 | 0.359 | 1.092 | 3.050 |
| 1944 | 7.008 | 0.182 | 0.957 | 3.673 |
| 1945 | 9.551 | 0.389 | 1.025 | 3.516 |
| 1946 | 3.735 | 0.210 | 0.482 | 2.160 |
| 1947 | 14.147 | 1.206 | 2.777 | 6.065 |
| 1948 | 7.498 | 0.075 | 0.796 | 3.371 |
| 1949 | 3.113 | 0.851 | 1.207 | 2.046 |
| 1950 | 4.411 | 0.346 | 0.952 | 2.572 |
| 1951 | 5.978 | 0.617 | 1.141 | 3.780 |
| 1952 | 5.477 | 0.278 | 1.135 | 3.754 |
| 1953 | 6.425 | 0.034 | 0.709 | 4.522 |
| 1954 | 8.355 | 0.238 | 0.468 | 3.162 |
| 1955 | 7.265 | 0.485 | 1.975 | 5.315 |
| 1956 | 4.683 | 0.382 | 1.886 | 3.479 |
| 1957 | 5.472 | 0.367 | 1.412 | 3.421 |
| 1958 | 15.476 | 4.251 | 1.254 | 6.687 |
| 1959 | 22.696 | 2.862 | 3.053 | 14.203 |
| 1960 | 9.315 | 0.277 | 1.753 | 5.715 |
| 1961 | 11.059 | 0.316 | 1.144 | 6.196 |
| 1962 | 12.873 | 1.156 | 1.335 | 5.647 |
| 1963 | 11.244 | 1.413 | 2.304 | 7.715 |
| 1964 | 6.851 | 0.192 | 1.341 | 4.435 |
| 1965 | 6.116 | 0.399 | 3.785 | 3.489 |
| 1966 | 6.742 | 0.317 | 0.972 | 4.076 |
| 1967 | 15.214 | 1.478 | 1.015 | 9.351 |
| 1968 | 7.027 | 0.261 | 1.240 | 4.794 |
| 1969 | 4.950 | 0.318 | 1.349 | 4.371 |
| 1970 | 7.062 | 0.485 | 1.496 | 5.009 |
| 1971 | 6.939 | 0.112 | 1.075 | 4.798 |
| 1972 | 4.391 | 0.208 | 0.840 | 3.428 |
| 1973 | 4.139 | 1.161 | 2.667 | 4.194 |
| 1974 | 6.333 | 0.744 | 1.954 | 4.630 |
| 1975 | 10.794 | 0.331 | 1.339 | 8.458 |
| 1976 | 20.543 | 3.327 | 1.572 | 12.124 |
| 1977 | 33.942 | 1.276 | 47.204 | 97.957 |
| 1978 | 6.917 | 0.366 | 3.134 | 4.249 |
| 1979 | 6.244 | 0.597 | 1.309 | 3.552 |
| 1980 | 4.632 | 0.341 | 1.210 | 2.870 |
| 1981 | 7.101 | 0.554 | 1.702 | 4.871 |
| 1982 | 3.159 | 2.059 | 1.993 | 2.862 |
| 1983 | 8.636 | 0.418 | 0.903 | 2.285 |
| 1984 | 5.187 | 0.395 | 1.880 | 4.084 |
| 1985 | 2.918 | 0.551 | 1.366 | 2.968 |
| 1986 | 4.945 | 0.293 | 2.104 | 2.868 |
| 1987 | 7.943 | 0.445 | 0.783 | 4.058 |
| 1988 | 19.153 | 0.879 | 3.888 | 9.746 |
| 1989 | 5.990 | 0.477 | 1.903 | 4.242 |
| 1990 | 23.042 | 1.301 | 1.538 | 17.408 |
| AVERAGE | 11.658 | 1.022 | 5.424 | 15.630 |

# Attachment B14

CVPIA-PEIS: PROSIM 5-4-9 9 - CUMULATIV E IMPACTS (P9 9N_CI2) - 2020 LEVEL

SACRAMENTO RIVER SALMON LOSS SUMMARY - %

| YEAR | FALL | LATE-FALL | WINTER | SPRING |
|---|---|---|---|---|
| 1922 | 3.804 | 0.866 | 2.336 | 3.869 |
| 1923 | 4.469 | 0.256 | 3.918 | 3.063 |
| 1924 | 28.78 | 1.108 | 81.376 | 96.564 |
| 1925 | 9.043 | 2.129 | 3.995 | 4.717 |
| 1926 | 7.396 | 1.725 | 7.724 | 6.638 |
| 1927 | 4.819 | 0.205 | 1.18 | 2.729 |
| 1928 | 13.76 | 1.342 | 1.368 | 3.74 |
| 1929 | 23.29 | 4.5 | 1.731 | 7.297 |
| 1930 | 8.329 | 1.071 | 1.85 | 3.319 |
| 1931 | 33.243 | 1.309 | 91.024 | 98.237 |
| 1932 | 38.909 | 3.328 | 58.242 | 99.75 |
| 1933 | 40.774 | 3.417 | 43.474 | 99.953 |
| 1934 | 34.445 | 2.811 | 88.987 | 98.528 |
| 1935 | 34.542 | 2.496 | 19.077 | 98.847 |
| 1936 | 42.727 | 5.672 | 2.407 | 89.675 |
| 1937 | 23.814 | 1.502 | 1.635 | 29.913 |
| 1938 | 12.945 | 1.178 | 1.565 | 6.529 |
| 1939 | 9.73 | 1.438 | 1.672 | 4.066 |
| 1940 | 18.254 | 1.739 | 2.101 | 7.677 |
| 1941 | 5.43 | 0.498 | 1.215 | 2.176 |
| 1942 | 5.181 | 0.146 | 1.124 | 2.8 |
| 1943 | 4.552 | 0.324 | 0.951 | 2.407 |
| 1944 | 8.132 | 0.253 | 1.406 | 3.768 |
| 1945 | 23.171 | 0.875 | 0.838 | 18.009 |
| 1946 | 11.855 | 0.529 | 0.495 | 3.066 |
| 1947 | 13.368 | 1.299 | 1.707 | 5.745 |
| 1948 | 7.347 | 0.24 | 1.004 | 2.838 |
| 1949 | 2.5 | 0.673 | 1.247 | 2.16 |
| 1950 | 4.686 | 0.39 | 1.003 | 2.234 |
| 1951 | 3.793 | 0.855 | 1.404 | 2.873 |
| 1952 | 6.089 | 0.247 | 1.121 | 3.446 |
| 1953 | 6.341 | 0.095 | 1.023 | 4.546 |
| 1954 | 4.774 | 0.462 | 0.808 | 1.892 |
| 1955 | 6.852 | 0.861 | 2.051 | 4.403 |
| 1956 | 4.068 | 0.45 | 2.099 | 3.075 |
| 1957 | 5.009 | 0.307 | 1.295 | 2.791 |
| 1958 | 15.182 | 4.483 | 1.285 | 6.419 |
| 1959 | 26.198 | 3.302 | 3.573 | 17.235 |
| 1960 | 6.205 | 0.417 | 3.02 | 4.278 |
| 1961 | 6.552 | 0.246 | 1.936 | 4.416 |
| 1962 | 14.417 | 1.473 | 1.334 | 5.231 |
| 1963 | 8.419 | 1.131 | 2.03 | 4.87 |
| 1964 | 6.088 | 0.255 | 1.382 | 3.922 |
| 1965 | 4.79 | 0.573 | 4.997 | 2.97 |
| 1966 | 7.986 | 0.38 | 1.04 | 3.988 |
| 1967 | 14.855 | 1.555 | 0.967 | 8.385 |
| 1968 | 6.728 | 0.363 | 2.096 | 4.149 |
| 1969 | 4.691 | 0.294 | 1.289 | 3.768 |
| 1970 | 5.458 | 0.6 | 2.169 | 3.414 |
| 1971 | 6.737 | 0.149 | 1.039 | 3.988 |
| 1972 | 4.103 | 0.112 | 0.593 | 2.383 |
| 1973 | 3.534 | 0.964 | 2.025 | 3.956 |
| 1974 | 6.932 | 0.645 | 1.946 | 5.396 |
| 1975 | 10.627 | 0.44 | 1.403 | 8.375 |
| 1976 | 18.029 | 2.858 | 2.044 | 8.749 |
| 1977 | 35.313 | 1.114 | 93.602 | 98.701 |
| 1978 | 5.401 | 0.327 | 3.067 | 3.521 |
| 1979 | 6.966 | 0.688 | 1.512 | 3.756 |
| 1980 | 3.87 | 0.25 | 1.144 | 3.108 |
| 1981 | 5.704 | 0.32 | 2.061 | 5.049 |
| 1982 | 2.724 | 1.919 | 1.943 | 2.516 |
| 1983 | 8.185 | 0.401 | 0.918 | 2.213 |
| 1984 | 5.025 | 0.241 | 1.596 | 3.861 |
| 1985 | 3.018 | 0.56 | 1.61 | 3.214 |
| 1986 | 13.273 | 0.95 | 1.78 | 3.233 |
| 1987 | 8.05 | 0.432 | 1.51 | 6.019 |
| 1988 | 18.781 | 0.929 | 4.541 | 9.34 |
| 1989 | 3.888 | 0.509 | 2.038 | 3.729 |
| 1990 | 23.411 | 1.354 | 1.926 | 18.269 |
| AVERAGE | 12.136 | 1.114 | 8.578 | 16.026 |

# Attachment B14

TRINITY RIVER EIS: (STATE PERMIT - NO ACTION) - PROSIM ( 1-4-99) - 2020 LEVEL

SACRAMENTO RIVER SALMON LOSS DIFFERENCE - %

| YEAR | FALL | LATE-FALL | WINTER | SPRING |
|---|---|---|---|---|
| 1922 | -0.176 | 0.013 | -0.123 | 0.105 |
| 1923 | 0.411 | 0.002 | 0.026 | 0.259 |
| 1924 | -2.789 | -0.172 | -10.838 | -22.078 |
| 1925 | -0.796 | -0.057 | 0.01 | 0.229 |
| 1926 | 1.153 | 0.014 | -0.412 | -0.147 |
| 1927 | -2.148 | -0.014 | 0.035 | 0.034 |
| 1928 | -0.124 | -0.022 | 0.022 | 0.236 |
| 1929 | -1.493 | -0.395 | -0.086 | -0.186 |
| 1930 | 0.78 | -0.097 | -1.026 | -0.004 |
| 1931 | -1.424 | -0.099 | -9.801 | -0.943 |
| 1932 | -2.617 | -0.17 | -1.578 | -29.21 |
| 1933 | -0.152 | -0.081 | 0.232 | -0.014 |
| 1934 | -0.179 | -0.173 | 0.906 | -0.077 |
| 1935 | -3.325 | -0.174 | -1.952 | -37.853 |
| 1936 | -7.044 | -0.936 | 1.063 | -47.969 |
| 1937 | -18.864 | -0.808 | -0.146 | -36.52 |
| 1938 | -0.495 | -0.243 | -0.277 | -0.818 |
| 1939 | 3.902 | 0.415 | -0.353 | 0.008 |
| 1940 | -0.33 | 0.127 | 0.227 | 0.193 |
| 1941 | -0.313 | -0.005 | -0.146 | -0.078 |
| 1942 | -0.52 | -0.009 | -0.07 | -0.203 |
| 1943 | -0.481 | -0.006 | 0.016 | 0.178 |
| 1944 | 0.106 | -0.005 | -0.077 | 0.372 |
| 1945 | -1.352 | -0.016 | 0.096 | 0.15 |
| 1946 | -0.077 | -0.005 | 0.023 | 0.136 |
| 1947 | 0.223 | -0.093 | -0.304 | -0.259 |
| 1948 | 0.102 | -0.009 | -0.005 | 0.33 |
| 1949 | 0.516 | 0.05 | 0.079 | 0.212 |
| 1950 | -1.191 | 0.001 | 0.033 | 0.029 |
| 1951 | 0.322 | -0.081 | -0.062 | 0.556 |
| 1952 | -0.603 | -0.016 | -0.07 | -0.403 |
| 1953 | -0.586 | -0.005 | -0.073 | -0.699 |
| 1954 | -0.266 | -0.006 | 0.025 | 0.247 |
| 1955 | 1.244 | -0.038 | -0.072 | 0.509 |
| 1956 | -0.456 | -0.047 | -0.385 | -0.263 |
| 1957 | 0.046 | -0.004 | 0.115 | 0.413 |
| 1958 | -0.449 | -0.024 | -0.009 | -0.637 |
| 1959 | -2.024 | -0.754 | -0.163 | 0.466 |
| 1960 | -0.935 | -0.079 | -0.057 | 0.63 |
| 1961 | 0.322 | -0.047 | 0.131 | 0.864 |
| 1962 | -2.568 | -0.107 | 0.118 | -0.048 |
| 1963 | -0.567 | -0.687 | -0.658 | -0.655 |
| 1964 | 1.47 | 0.006 | -0.216 | 0.078 |
| 1965 | -1.419 | -0.011 | -0.087 | -0.096 |
| 1966 | 0.008 | -0.012 | -0.087 | 0.031 |
| 1967 | -0.689 | -0.051 | -0.038 | -0.916 |
| 1968 | -0.153 | 0.005 | 0.005 | 0.283 |
| 1969 | -0.491 | -0.088 | -0.167 | -0.399 |
| 1970 | 0.348 | 0.027 | 0.028 | 0.381 |
| 1971 | -0.672 | -0.013 | -0.066 | -0.363 |
| 1972 | -0.065 | 0.007 | 0.036 | 0.26 |
| 1973 | 0.345 | -0.42 | -0.48 | 0.255 |
| 1974 | -0.354 | -0.046 | -0.074 | -0.157 |
| 1975 | -1.15 | -0.039 | -0.088 | -1.496 |
| 1976 | 0.94 | 0.12 | -0.088 | 1.774 |
| 1977 | -0.076 | 0.102 | -15.349 | 0.134 |
| 1978 | -0.675 | 0.003 | -0.111 | 0.197 |
| 1979 | -0.204 | -0.15 | -0.08 | 0.191 |
| 1980 | -0.529 | -0.005 | 0.002 | 0.258 |
| 1981 | 0.565 | 0.015 | 0.044 | 0.491 |
| 1982 | -0.446 | -0.647 | -0.389 | -0.289 |
| 1983 | -0.28 | -0.015 | 0 | -0.024 |
| 1984 | 0.318 | 0.004 | -0.102 | 0.616 |
| 1985 | 0.506 | 0.01 | -0.162 | -0.334 |
| 1986 | 0.205 | -0.002 | -0.356 | 0.121 |
| 1987 | -0.319 | -0.016 | -0.149 | -0.206 |
| 1988 | -4.113 | -0.306 | -0.616 | -2.079 |
| 1989 | -1.875 | -0.142 | -0.129 | -0.017 |
| 1990 | -1.567 | -0.076 | -0.139 | -8.354 |
| AVERAGE | -0.806 | -0.096 | -0.644 | -2.646 |

# Attachment B14

TRINITY RIVER EIS: (STATE PERMIT - NO ACTION) - PROSIM ( 1-4-99) - 2020 LEVEL

SACRAMENTO RIVER SALMON LOSS DIFFERENCE - %

| YEAR | FALL | LATE-FALL | WINTER | SPRING |
|---|---|---|---|---|
| 1922 | -0.176 | 0.013 | -0.123 | 0.105 |
| 1923 | 0.411 | 0.002 | 0.026 | 0.259 |
| 1924 | -2.789 | -0.172 | -10.838 | -22.078 |
| 1925 | -0.796 | -0.057 | 0.01 | 0.229 |
| 1926 | 1.153 | 0.014 | -0.412 | -0.147 |
| 1927 | -2.148 | -0.014 | 0.035 | 0.034 |
| 1928 | -0.124 | -0.022 | 0.022 | 0.236 |
| 1929 | -1.493 | -0.395 | -0.086 | -0.186 |
| 1930 | 0.78 | -0.097 | -1.026 | -0.004 |
| 1931 | -1.424 | -0.099 | -9.801 | -0.943 |
| 1932 | -2.617 | -0.17 | -1.578 | -29.21 |
| 1933 | -0.152 | -0.081 | 0.232 | -0.014 |
| 1934 | -0.179 | -0.173 | 0.906 | -0.077 |
| 1935 | -3.325 | -0.174 | -1.952 | -37.853 |
| 1936 | -7.044 | -0.936 | 1.063 | -47.969 |
| 1937 | -18.864 | -0.808 | -0.146 | -36.52 |
| 1938 | -0.495 | -0.243 | -0.277 | -0.818 |
| 1939 | 3.902 | 0.415 | -0.353 | 0.008 |
| 1940 | -0.33 | 0.127 | 0.227 | 0.193 |
| 1941 | -0.313 | -0.005 | -0.146 | -0.078 |
| 1942 | -0.52 | -0.009 | -0.07 | -0.203 |
| 1943 | -0.481 | -0.006 | 0.016 | 0.178 |
| 1944 | 0.106 | -0.005 | -0.077 | 0.372 |
| 1945 | -1.352 | -0.016 | 0.096 | 0.15 |
| 1946 | -0.077 | -0.005 | 0.023 | 0.136 |
| 1947 | 0.223 | -0.093 | -0.304 | -0.259 |
| 1948 | 0.102 | -0.009 | -0.005 | 0.33 |
| 1949 | 0.516 | 0.05 | 0.079 | 0.212 |
| 1950 | -1.191 | 0.001 | 0.033 | 0.029 |
| 1951 | 0.322 | -0.081 | -0.062 | 0.556 |
| 1952 | -0.603 | -0.016 | -0.07 | -0.403 |
| 1953 | -0.586 | -0.005 | -0.073 | -0.699 |
| 1954 | -0.266 | -0.006 | 0.025 | 0.247 |
| 1955 | 1.244 | -0.038 | -0.072 | 0.509 |
| 1956 | -0.456 | -0.047 | -0.385 | -0.263 |
| 1957 | 0.046 | -0.004 | 0.115 | 0.413 |
| 1958 | -0.449 | -0.024 | -0.009 | -0.637 |
| 1959 | -2.024 | -0.754 | -0.163 | 0.466 |
| 1960 | -0.935 | -0.079 | -0.057 | 0.63 |
| 1961 | 0.322 | -0.047 | 0.131 | 0.864 |
| 1962 | -2.568 | -0.107 | 0.118 | -0.048 |
| 1963 | -0.567 | -0.687 | -0.658 | -0.655 |
| 1964 | 1.47 | 0.006 | -0.216 | 0.078 |
| 1965 | -1.419 | -0.011 | -0.087 | -0.096 |
| 1966 | 0.008 | -0.012 | -0.087 | 0.031 |
| 1967 | -0.689 | -0.051 | -0.038 | -0.916 |
| 1968 | -0.153 | 0.005 | 0.005 | 0.283 |
| 1969 | -0.491 | -0.088 | -0.167 | -0.399 |
| 1970 | 0.348 | 0.027 | 0.028 | 0.381 |
| 1971 | -0.672 | -0.013 | -0.066 | -0.363 |
| 1972 | -0.065 | 0.007 | 0.036 | 0.26 |
| 1973 | 0.345 | -0.42 | -0.48 | 0.255 |
| 1974 | -0.354 | -0.046 | -0.074 | -0.157 |
| 1975 | -1.15 | -0.039 | -0.088 | -1.496 |
| 1976 | 0.94 | 0.12 | -0.088 | 1.774 |
| 1977 | -0.076 | 0.102 | -15.349 | 0.134 |
| 1978 | -0.675 | 0.003 | -0.111 | 0.197 |
| 1979 | -0.204 | -0.15 | -0.08 | 0.191 |
| 1980 | -0.529 | -0.005 | 0.002 | 0.258 |
| 1981 | 0.565 | 0.015 | 0.044 | 0.491 |
| 1982 | -0.446 | -0.647 | -0.389 | -0.289 |
| 1983 | -0.28 | -0.015 | 0 | -0.024 |
| 1984 | 0.318 | 0.004 | -0.102 | 0.616 |
| 1985 | 0.506 | 0.01 | -0.162 | -0.334 |
| 1986 | 0.205 | -0.002 | -0.356 | 0.121 |
| 1987 | -0.319 | -0.016 | -0.149 | -0.206 |
| 1988 | -4.113 | -0.306 | -0.616 | -2.079 |
| 1989 | -1.875 | -0.142 | -0.129 | -0.017 |
| 1990 | -1.567 | -0.076 | -0.139 | -8.354 |
| AVERAGE | -0.806 | -0.096 | -0.644 | -2.646 |

# Attachment B14

TRINITY RIVER EIS: (% INFLOW - NO ACTION) - PR OSIM (12-2 1-98) - 2020 LEVEL

SACRAMENTO RIVER SALMON LOSS DIFFERENCE - %

| YEAR | FALL | LATE-FALL | WINTER | SPRING |
|---|---|---|---|---|
| 1922 | -0.008 | 0.033 | 0.053 | 0.17 |
| 1923 | 0.227 | 0.001 | 0.016 | 0.152 |
| 1924 | -0.086 | -0.139 | 1.719 | -0.25 |
| 1925 | -0.541 | -0.086 | -0.17 | 0.412 |
| 1926 | -0.107 | 0.028 | 0.361 | 0.635 |
| 1927 | -0.096 | 0.002 | 0.141 | 0.163 |
| 1928 | 1.068 | 0.112 | 0.173 | 0.215 |
| 1929 | 6.266 | 0.641 | -0.014 | 2.584 |
| 1930 | 1.165 | 0.03 | -0.825 | 0.134 |
| 1931 | -0.568 | -0.088 | 2.177 | -0.261 |
| 1932 | -0.497 | -0.041 | -0.55 | -5.16 |
| 1933 | 0.155 | -0.053 | 1.983 | -0.002 |
| 1934 | -0.341 | -0.129 | -0.107 | -0.15 |
| 1935 | -1.329 | -0.223 | -0.828 | -14.484 |
| 1936 | -1.822 | -0.409 | 0.866 | -4.409 |
| 1937 | -4.046 | -0.203 | -0.225 | -24.531 |
| 1938 | 1.557 | 0.207 | 0.213 | 1.64 |
| 1939 | 0.229 | 0 | 0.014 | 0.226 |
| 1940 | 0.715 | -0.024 | -0.102 | 0.105 |
| 1941 | -0.399 | 0.07 | 0.346 | -0.011 |
| 1942 | -0.479 | 0.035 | 0.168 | -0.042 |
| 1943 | 0.051 | 0.048 | 0.164 | 0.345 |
| 1944 | 0.392 | 0.002 | -0.018 | 0.225 |
| 1945 | 0.56 | -0.002 | -0.039 | 0.215 |
| 1946 | 0.495 | -0.006 | -0.004 | 0.261 |
| 1947 | 1.52 | 0.081 | 0.08 | 0.739 |
| 1948 | 0.723 | 0.007 | 0.062 | 0.422 |
| 1949 | 0.158 | -0.002 | 0.017 | 0.154 |
| 1950 | 0.565 | 0.012 | -0.02 | 0.06 |
| 1951 | 0.131 | 0.096 | 0.044 | 0.35 |
| 1952 | -0.672 | 0.147 | 0.282 | -0.184 |
| 1953 | -0.689 | 0.016 | 0.169 | -0.695 |
| 1954 | 0.481 | 0.005 | -0.006 | 0.237 |
| 1955 | 1.307 | 0.009 | 0.131 | 0.619 |
| 1956 | 0.098 | 0.066 | 0.67 | 0.294 |
| 1957 | 0.537 | 0.175 | 0.213 | 0.459 |
| 1958 | -0.364 | 0.009 | 0.073 | -0.468 |
| 1959 | 5.916 | 0.392 | 0.701 | 4.949 |
| 1960 | 3.481 | 0.169 | 0.063 | 1.811 |
| 1961 | 3.465 | 0.188 | -0.034 | 2.001 |
| 1962 | 1.43 | -0.017 | -0.016 | 0.796 |
| 1963 | 1.381 | 0.127 | 0.071 | 0.648 |
| 1964 | 0.469 | 0.011 | 0.219 | 0.677 |
| 1965 | 0.069 | -0.013 | 0.155 | 0.234 |
| 1966 | 0.833 | 0.078 | 0.062 | 0.061 |
| 1967 | 1.384 | 0.107 | 0.171 | 2.049 |
| 1968 | 0.647 | 0.172 | 1.627 | 0.619 |
| 1969 | -0.159 | 0.089 | 0.207 | 0.208 |
| 1970 | 1.348 | 0.122 | 0.96 | 0.488 |
| 1971 | 1.279 | 0.048 | 0.164 | 0.762 |
| 1972 | 0.417 | 0.004 | 0.3 | 0.196 |
| 1973 | 0.441 | 0.154 | 0.032 | 0.518 |
| 1974 | -0.128 | 0.331 | 0.449 | 0.26 |
| 1975 | -1.208 | 0.101 | 0.214 | -1.482 |
| 1976 | 8.08 | 0.828 | 0.073 | 11.698 |
| 1977 | -0.094 | -0.074 | 3.318 | -0.069 |
| 1978 | -0.135 | 0.018 | 0.181 | 0.295 |
| 1979 | 0.437 | 0.025 | 0.076 | 0.493 |
| 1980 | 0.137 | -0.008 | 0.229 | 0.635 |
| 1981 | 0.247 | 0.03 | 0.075 | 0.289 |
| 1982 | 0.373 | 0.004 | 0.214 | 0.439 |
| 1983 | -0.263 | 0.011 | 0.016 | -0.02 |
| 1984 | 0.382 | 0.003 | 0.959 | 0.479 |
| 1985 | 0.435 | 0.03 | 0.109 | 0.291 |
| 1986 | 0.725 | 0.001 | -0.017 | 0.042 |
| 1987 | 0.992 | 0.057 | 0.367 | 1.135 |
| 1988 | 4.504 | 0.273 | 0.251 | 5.114 |
| 1989 | 0.876 | 0.01 | 0.05 | 0.713 |
| 1990 | 0.802 | 0.027 | 0.255 | 6.84 |
| AVERAGE | 0.651 | 0.054 | 0.271 | 0.048 |

# Attachment B14

TRINITY RIVER EIS: (FLOW EVAL - NO ACTION) - PROSIM (2-25-99) - 2020 LEVEL

SACRAMENTO RIVER SALMON LOSS DIFFERENCE - %

| YEAR | Fall | Late-Fall | Winter | Spring |
|---|---|---|---|---|
| 1922 | -0.3 | 0.032 | -0.018 | 0.015 |
| 1923 | 0.35 | -0.002 | 0.088 | 0.255 |
| 1924 | 0.739 | -0.098 | 51.62 | 1.527 |
| 1925 | 2.436 | 0.473 | 0.322 | 0.838 |
| 1926 | 3.505 | 0.399 | 0.533 | 1.096 |
| 1927 | -0.854 | -0.007 | 0.156 | 0.124 |
| 1928 | 0.578 | 0.085 | 0.194 | 0.268 |
| 1929 | 4.233 | 0.841 | 0.009 | 1.185 |
| 1930 | 1.853 | 0.175 | -1.139 | 0.02 |
| 1931 | -2.11 | -0.456 | 63.566 | -0.975 |
| 1932 | 2.189 | 0.002 | 16.815 | 5.813 |
| 1933 | 0.341 | 0.051 | 4.727 | 0.000 |
| 1934 | -0.233 | 0.6 | 3.502 | -0.096 |
| 1935 | 1.279 | 0.135 | 0.256 | 6.488 |
| 1936 | 2.117 | 0.373 | 0.616 | 4.988 |
| 1937 | -3.578 | -0.175 | -0.223 | -23.285 |
| 1938 | 3.491 | 0.322 | 0.216 | 1.824 |
| 1939 | 4.626 | 1.63 | -0.019 | 0.135 |
| 1940 | 0.951 | -0.053 | -0.21 | -0.011 |
| 1941 | 0.077 | 0.045 | 0.219 | 0.161 |
| 1942 | 0.246 | 0.055 | 0.224 | 0.257 |
| 1943 | -0.216 | 0.045 | 0.13 | 0.263 |
| 1944 | -0.389 | 0.031 | 0.09 | 0.364 |
| 1945 | 1.057 | 0.011 | -0.071 | 0.067 |
| 1946 | 0.691 | -0.006 | 0.008 | 0.325 |
| 1947 | 7.085 | 0.733 | 0.833 | 3.148 |
| 1948 | 0.035 | -0.013 | 0.164 | 0.396 |
| 1949 | 0.631 | 0.235 | 0.319 | 0.46 |
| 1950 | 0.646 | 0.007 | -0.011 | 0.171 |
| 1951 | 1.156 | 0.086 | 0.016 | 0.804 |
| 1952 | 0.331 | 0.172 | 0.327 | 0.469 |
| 1953 | 0.482 | 0.012 | 0.127 | 0.705 |
| 1954 | 2.184 | 0.055 | -0.018 | 0.741 |
| 1955 | 1.677 | 0.011 | 0.464 | 1.506 |
| 1956 | 0.524 | 0.092 | 0.398 | 0.403 |
| 1957 | 0.718 | 0.057 | -0.073 | 0.446 |
| 1958 | 0.425 | 0.126 | 0.235 | 0.689 |
| 1959 | 6.507 | 0.417 | -0.023 | 6.75 |
| 1960 | 0.869 | -0.024 | 0.262 | 1.428 |
| 1961 | 2.112 | 0.138 | 0.257 | 1.702 |
| 1962 | 1.567 | -0.004 | 0.01 | 0.918 |
| 1963 | 1.945 | 0.176 | 0.046 | 0.711 |
| 1964 | -0.515 | 0.036 | 0.464 | 0.609 |
| 1965 | -0.95 | -0.014 | 0.095 | 0.113 |
| 1966 | 0.321 | 0.073 | 0.018 | 0.041 |
| 1967 | 2.561 | 0.103 | 0.208 | 3.441 |
| 1968 | 0.381 | -0.022 | -0.147 | -0.022 |
| 1969 | 0.601 | 0.096 | 0.27 | 0.756 |
| 1970 | 2.09 | -0.062 | -0.311 | 0.349 |
| 1971 | 1.392 | 0.048 | 0.118 | 0.634 |
| 1972 | 0.313 | -0.029 | -0.124 | 0.158 |
| 1973 | 0.592 | 0.148 | 0.167 | 0.707 |
| 1974 | 1.544 | 0.378 | 0.639 | 1.471 |
| 1975 | 0.444 | 0.097 | 0.265 | 0.92 |
| 1976 | 2.234 | 0.448 | 0.174 | 2.988 |
| 1977 | -2.011 | -0.416 | 20.86 | -1.012 |
| 1978 | -0.665 | 0.009 | 0.081 | 0.357 |
| 1979 | 0.418 | 0.024 | 0.055 | 0.26 |
| 1980 | -0.128 | -0.009 | 0.199 | 0.576 |
| 1981 | 0.71 | 0.048 | 0.421 | 0.98 |
| 1982 | 0.502 | 0.007 | 0.183 | 0.411 |
| 1983 | -0.006 | 0.013 | 0.03 | -0.002 |
| 1984 | 0.426 | -0.014 | 0.272 | 0.776 |
| 1985 | -0.194 | 0.275 | 0.643 | 0.611 |
| 1986 | 1.085 | -0.016 | -0.151 | 0.024 |
| 1987 | 0.715 | 0.236 | 0.088 | 0.285 |
| 1988 | 1.936 | 0.17 | 0.191 | 2.26 |
| 1989 | -1.688 | -0.096 | 0.775 | 1.286 |
| 1990 | -4.412 | 0.274 | 0.053 | -20.864 |
| AVERAGE | 0.865 | 0.124 | 2.471 | 0.307 |

# Attachment B14

TRINITY RIVER EIS: (MAX FLOW - NO ACTION) - PROSIM (2-5-99) - 2020 LEVEL

SACRAMENTO RIVER SALMON LOSS DIFFERENCE - %

| Year | Fall | Late Fall | Winter | Spring |
|---|---|---|---|---|
| 1922 | -0.337 | 1.017 | 0.735 | -0.132 |
| 1923 | 2.473 | 0.234 | 0.686 | 0.116 |
| 1924 | -0.022 | -0.232 | 79.802 | 1.473 |
| 1925 | 8.472 | 1.296 | 1.515 | 2.564 |
| 1926 | 9.205 | 1.28 | 1.232 | 2.533 |
| 1927 | 1.61 | 0.094 | -0.112 | -0.082 |
| 1928 | 2.117 | 0.353 | 0.719 | 1.21 |
| 1929 | 8.508 | 0.67 | 1.144 | 3.609 |
| 1930 | 6.444 | 1.084 | -1.206 | -0.008 |
| 1931 | -1.676 | -0.502 | 74.777 | -0.693 |
| 1932 | 1.628 | -0.685 | 75.379 | 5.723 |
| 1933 | -2.527 | -1.95 | 93.626 | -0.613 |
| 1934 | -6.055 | -0.147 | 72.491 | -2.424 |
| 1935 | 3.235 | 1.107 | 34.282 | 13.064 |
| 1936 | -3.652 | -0.409 | -0.459 | -16.24 |
| 1937 | -16.92 | -0.242 | 0.398 | -36.144 |
| 1938 | 4.348 | 0.333 | 0.265 | 2.315 |
| 1939 | 20.025 | 2.75 | 0.22 | 19.523 |
| 1940 | 7.916 | 0.581 | -0.11 | 0.734 |
| 1941 | 4.022 | 0.265 | 0.526 | 0.879 |
| 1942 | 3.371 | 0.167 | 0.281 | 0.301 |
| 1943 | 1.6 | 0.168 | 0.171 | 0.116 |
| 1944 | 6.85 | 0.26 | 0.64 | 3.056 |
| 1945 | 2.218 | 0.166 | 0.229 | 0.437 |
| 1946 | 0.869 | 0.177 | 0.286 | 0.14 |
| 1947 | 4.541 | 0.754 | 1.644 | 1.056 |
| 1948 | 0.484 | -0.006 | 0.11 | 0.366 |
| 1949 | 0.16 | 0.833 | 1.01 | 0.587 |
| 1950 | -0.683 | 0.288 | 0.498 | 0.021 |
| 1951 | -0.043 | 0.354 | 0.24 | -0.178 |
| 1952 | 1.202 | 0.224 | 0.444 | 0.149 |
| 1953 | 2.722 | 0.104 | 0.311 | 0.056 |
| 1954 | 3.96 | 0.196 | 0.297 | 1.411 |
| 1955 | 1.03 | 0.653 | 1.387 | 0.968 |
| 1956 | 1.534 | 0.274 | 0.833 | -0.008 |
| 1957 | 1.125 | 0.067 | 0.238 | 0.043 |
| 1958 | 6.285 | 0.415 | 0.714 | 7.487 |
| 1959 | 4.3 | 0.695 | 1.701 | 1.869 |
| 1960 | -2.304 | 0.346 | 1.595 | -0.229 |
| 1961 | -2.172 | 0.288 | 1.605 | -0.359 |
| 1962 | 0.433 | 0.737 | 1.098 | 0.157 |
| 1963 | 2.812 | 0.274 | 0.008 | 0.072 |
| 1964 | 6.122 | 0.278 | 0.955 | 1.678 |
| 1965 | 0.428 | 0.035 | 0.139 | 0.032 |
| 1966 | 1.724 | 0.484 | 0.579 | 0.103 |
| 1967 | 3.086 | 0.111 | 0.283 | 1.3 |
| 1968 | 1.759 | 0.646 | 2.835 | -0.223 |
| 1969 | 0.234 | 0.205 | 0.287 | -0.026 |
| 1970 | 12.333 | 0.552 | 0.763 | 2.771 |
| 1971 | 1.975 | 0.132 | 0.164 | -0.203 |
| 1972 | 1.709 | 0.163 | 1.998 | -0.448 |
| 1973 | 1.01 | 0.189 | 0.316 | 0.427 |
| 1974 | 3.764 | 0.565 | 0.683 | 1.355 |
| 1975 | 2.213 | 0.262 | 0.359 | 0.906 |
| 1976 | 3.404 | 1.079 | 0.951 | 2.02 |
| 1977 | -5.71 | -0.977 | 73.633 | -3.238 |
| 1978 | -1.348 | 0.048 | 0.009 | -0.476 |
| 1979 | 0.527 | 0.417 | 0.782 | 0.697 |
| 1980 | 0.136 | 0.072 | 0.356 | 0.69 |
| 1981 | -0.262 | 0.208 | 1.12 | 0.902 |
| 1982 | 0.176 | -0.051 | 0.239 | 0.23 |
| 1983 | 8.329 | 0.39 | 0.315 | 5.6 |
| 1984 | 1.267 | 0 | 0.881 | 0.561 |
| 1985 | 0.622 | 0.628 | 1.339 | 0.839 |
| 1986 | 15.757 | 0.751 | -0.197 | 8.408 |
| 1987 | 21.641 | 1.484 | 1.199 | 40.951 |
| 1988 | 14.032 | 0.295 | -0.752 | 60.961 |
| 1989 | -2.34 | 0.202 | 1.199 | 0.89 |
| 1990 | -10.912 | 0.432 | 0.988 | -31.449 |
| AVERAGE | 2.475 | 0.332 | 7.865 | 1.597 |

# Attachment B14

CVPIA-PEIS: PROSIM 12-9-98 - REVISED NO ACTION (NA3_P27M) - 2020 L

SACRAMENTO RIVER SALMON LOSS SUMMARY - %

| YEAR | FALL | LATE-FALL | WINTER | SPRING |
|---|---|---|---|---|
| 1922 | 4.975 | 0.209 | 1.751 | 3.710 |
| 1923 | 3.357 | 0.191 | 3.776 | 2.706 |
| 1924 | 28.484 | 1.238 | 16.179 | 95.026 |
| 1925 | 4.219 | 1.043 | 2.568 | 3.009 |
| 1926 | 7.476 | 1.712 | 7.080 | 4.242 |
| 1927 | 6.110 | 0.189 | 1.135 | 2.958 |
| 1928 | 3.778 | 0.426 | 1.140 | 2.227 |
| 1929 | 15.804 | 3.158 | 1.200 | 3.852 |
| 1930 | 4.638 | 0.427 | 2.961 | 3.251 |
| 1931 | 34.978 | 1.757 | 21.348 | 98.955 |
| 1932 | 36.347 | 3.617 | 4.827 | 93.815 |
| 1933 | 40.887 | 3.848 | 5.039 | 99.966 |
| 1934 | 35.747 | 1.941 | 27.486 | 99.052 |
| 1935 | 30.206 | 1.676 | 4.361 | 85.262 |
| 1936 | 39.866 | 5.152 | 3.217 | 85.442 |
| 1937 | 25.382 | 1.273 | 1.472 | 39.802 |
| 1938 | 9.502 | 0.835 | 1.418 | 5.751 |
| 1939 | 6.653 | 0.321 | 1.337 | 3.669 |
| 1940 | 4.500 | 0.899 | 2.577 | 3.049 |
| 1941 | 6.288 | 0.537 | 0.721 | 2.204 |
| 1942 | 5.178 | 0.074 | 0.788 | 2.699 |
| 1943 | 5.593 | 0.314 | 0.962 | 2.787 |
| 1944 | 7.397 | 0.151 | 0.867 | 3.309 |
| 1945 | 8.494 | 0.378 | 1.096 | 3.449 |
| 1946 | 3.044 | 0.216 | 0.474 | 1.835 |
| 1947 | 7.062 | 0.473 | 1.944 | 2.917 |
| 1948 | 7.463 | 0.088 | 0.632 | 2.975 |
| 1949 | 2.482 | 0.616 | 0.888 | 1.586 |
| 1950 | 3.765 | 0.339 | 0.963 | 2.401 |
| 1951 | 4.822 | 0.531 | 1.125 | 2.976 |
| 1952 | 5.146 | 0.106 | 0.808 | 3.285 |
| 1953 | 5.943 | 0.022 | 0.582 | 3.817 |
| 1954 | 6.171 | 0.183 | 0.486 | 2.421 |
| 1955 | 5.588 | 0.474 | 1.511 | 3.809 |
| 1956 | 4.159 | 0.290 | 1.488 | 3.076 |
| 1957 | 4.754 | 0.310 | 1.485 | 2.975 |
| 1958 | 15.051 | 4.125 | 1.019 | 5.998 |
| 1959 | 16.189 | 2.445 | 3.076 | 7.453 |
| 1960 | 8.446 | 0.301 | 1.491 | 4.287 |
| 1961 | 8.947 | 0.178 | 0.887 | 4.494 |
| 1962 | 11.306 | 1.160 | 1.325 | 4.729 |
| 1963 | 9.299 | 1.237 | 2.258 | 7.004 |
| 1964 | 7.366 | 0.156 | 0.877 | 3.826 |
| 1965 | 7.066 | 0.413 | 3.690 | 3.376 |
| 1966 | 6.421 | 0.244 | 0.954 | 4.035 |
| 1967 | 12.653 | 1.375 | 0.807 | 5.910 |
| 1968 | 6.646 | 0.283 | 1.387 | 4.816 |
| 1969 | 4.349 | 0.222 | 1.079 | 3.615 |
| 1970 | 4.972 | 0.547 | 1.807 | 4.660 |
| 1971 | 5.547 | 0.064 | 0.957 | 4.164 |
| 1972 | 4.078 | 0.237 | 0.964 | 3.270 |
| 1973 | 3.547 | 1.013 | 2.500 | 3.487 |
| 1974 | 4.789 | 0.366 | 1.315 | 3.159 |
| 1975 | 10.350 | 0.234 | 1.074 | 7.538 |
| 1976 | 18.309 | 2.879 | 1.398 | 9.136 |
| 1977 | 35.953 | 1.692 | 26.344 | 98.969 |
| 1978 | 7.582 | 0.357 | 3.053 | 3.892 |
| 1979 | 5.826 | 0.573 | 1.254 | 3.292 |
| 1980 | 4.760 | 0.350 | 1.011 | 2.294 |
| 1981 | 6.391 | 0.506 | 1.281 | 3.891 |
| 1982 | 2.657 | 2.052 | 1.810 | 2.451 |
| 1983 | 8.642 | 0.405 | 0.873 | 2.287 |
| 1984 | 4.761 | 0.409 | 1.608 | 3.308 |
| 1985 | 3.112 | 0.276 | 0.723 | 2.357 |
| 1986 | 3.860 | 0.309 | 2.255 | 2.844 |
| 1987 | 7.228 | 0.209 | 0.695 | 3.773 |
| 1988 | 17.217 | 0.709 | 3.697 | 7.486 |
| 1989 | 7.678 | 0.573 | 1.128 | 2.956 |
| 1990 | 27.454 | 1.027 | 1.485 | 38.272 |
| AVERAGE | 10.793 | 0.898 | 2.953 | 15.323 |

TRINITY RIVER EIS: PROSIM 4-2-99 - EXISTING CONDITIONS (TRN_RECD

SACRAMENTO RIVER SALMON LOSS SUMMARY - %

| YEAR | FALL | LATE-FALL | WINTER | SPRING |
|---|---|---|---|---|
| 1922 | 4.914 | 0.207 | 1.615 | 3.590 |
| 1923 | 3.612 | 0.181 | 3.424 | 2.735 |
| 1924 | 28.024 | 1.263 | 13.236 | 93.873 |
| 1925 | 4.389 | 0.983 | 2.506 | 3.187 |
| 1926 | 7.743 | 1.772 | 6.865 | 4.049 |
| 1927 | 6.252 | 0.185 | 1.109 | 2.955 |
| 1928 | 3.669 | 0.451 | 1.209 | 2.481 |
| 1929 | 12.902 | 2.637 | 1.483 | 3.392 |
| 1930 | 4.311 | 0.311 | 3.434 | 3.365 |
| 1931 | 33.989 | 1.790 | 12.593 | 98.620 |
| 1932 | 35.851 | 3.615 | 3.625 | 85.678 |
| 1933 | 39.069 | 3.707 | 3.112 | 97.684 |
| 1934 | 35.610 | 2.527 | 17.156 | 99.068 |
| 1935 | 24.152 | 1.421 | 1.777 | 28.516 |
| 1936 | 28.895 | 4.151 | 3.924 | 14.664 |
| 1937 | 7.498 | 0.587 | 1.268 | 2.805 |
| 1938 | 9.655 | 0.765 | 1.294 | 5.836 |
| 1939 | 5.973 | 0.397 | 1.240 | 3.445 |
| 1940 | 4.395 | 0.896 | 2.568 | 3.106 |
| 1941 | 6.121 | 0.534 | 0.726 | 2.069 |
| 1942 | 5.050 | 0.070 | 0.742 | 2.569 |
| 1943 | 5.643 | 0.300 | 0.925 | 2.744 |
| 1944 | 6.202 | 0.140 | 0.856 | 3.141 |
| 1945 | 8.041 | 0.355 | 1.094 | 3.453 |
| 1946 | 2.897 | 0.215 | 0.486 | 1.840 |
| 1947 | 7.344 | 0.488 | 1.700 | 2.175 |
| 1948 | 7.512 | 0.087 | 0.677 | 2.922 |
| 1949 | 2.531 | 0.773 | 1.098 | 1.694 |
| 1950 | 3.365 | 0.332 | 1.001 | 2.484 |
| 1951 | 4.552 | 0.566 | 1.152 | 2.809 |
| 1952 | 4.966 | 0.102 | 0.759 | 3.112 |
| 1953 | 5.748 | 0.021 | 0.549 | 3.510 |
| 1954 | 5.833 | 0.192 | 0.530 | 2.232 |
| 1955 | 4.891 | 0.461 | 1.373 | 3.265 |
| 1956 | 3.947 | 0.286 | 1.449 | 2.907 |
| 1957 | 4.312 | 0.316 | 1.558 | 2.946 |
| 1958 | 14.919 | 4.122 | 0.997 | 5.722 |
| 1959 | 15.925 | 2.301 | 2.861 | 7.049 |
| 1960 | 7.809 | 0.379 | 1.600 | 3.762 |
| 1961 | 8.403 | 0.146 | 0.973 | 4.690 |
| 1962 | 9.395 | 1.124 | 1.422 | 4.543 |
| 1963 | 8.891 | 1.237 | 2.239 | 6.568 |
| 1964 | 6.664 | 0.185 | 0.845 | 3.137 |
| 1965 | 7.079 | 0.401 | 3.656 | 3.285 |
| 1966 | 6.042 | 0.234 | 0.903 | 3.718 |
| 1967 | 12.532 | 1.388 | 0.763 | 5.609 |
| 1968 | 6.543 | 0.271 | 1.284 | 4.602 |
| 1969 | 4.200 | 0.210 | 1.031 | 3.455 |
| 1970 | 5.065 | 0.587 | 1.827 | 4.651 |
| 1971 | 5.403 | 0.062 | 0.897 | 3.999 |
| 1972 | 3.882 | 0.220 | 0.807 | 2.801 |
| 1973 | 3.420 | 0.992 | 2.562 | 3.372 |
| 1974 | 4.597 | 0.353 | 1.269 | 3.008 |
| 1975 | 10.082 | 0.224 | 1.024 | 7.173 |
| 1976 | 17.089 | 2.839 | 1.483 | 8.100 |
| 1977 | 36.643 | 1.738 | 22.893 | 99.253 |
| 1978 | 7.321 | 0.355 | 2.871 | 3.673 |
| 1979 | 5.863 | 0.465 | 1.264 | 3.183 |
| 1980 | 4.511 | 0.364 | 1.005 | 2.124 |
| 1981 | 5.986 | 0.357 | 1.022 | 3.659 |
| 1982 | 2.594 | 2.197 | 1.843 | 2.397 |
| 1983 | 8.606 | 0.398 | 0.841 | 2.222 |
| 1984 | 4.581 | 0.422 | 1.591 | 3.206 |
| 1985 | 2.557 | 0.453 | 0.788 | 1.948 |
| 1986 | 3.675 | 0.309 | 2.287 | 2.896 |
| 1987 | 6.005 | 0.184 | 0.484 | 2.893 |
| 1988 | 19.577 | 0.796 | 3.865 | 9.801 |
| 1989 | 5.716 | 0.497 | 1.205 | 2.731 |
| 1990 | 20.772 | 0.849 | 1.567 | 12.405 |
| AVERAGE | 9.887 | 0.866 | 2.494 | 12.269 |

# Attachment B14

TRINITY RIVER EIS: PROSIM 1-4-99 - REVISED STATE PERMIT (TRN_RSP6)

SACRAMENTO RIVER SALMON LOSS SUMMARY - %

| YEAR | FALL | LATE-FALL | WINTER | SPRING |
|---|---|---|---|---|
| 1922 | 4.799 | 0.222 | 1.628 | 3.815 |
| 1923 | 3.768 | 0.193 | 3.802 | 2.965 |
| 1924 | 25.695 | 1.066 | 5.341 | 72.948 |
| 1925 | 3.423 | 0.986 | 2.578 | 3.238 |
| 1926 | 8.629 | 1.726 | 6.668 | 4.095 |
| 1927 | 3.962 | 0.175 | 1.170 | 2.992 |
| 1928 | 3.654 | 0.404 | 1.162 | 2.463 |
| 1929 | 14.311 | 2.763 | 1.114 | 3.666 |
| 1930 | 5.418 | 0.330 | 1.935 | 3.247 |
| 1931 | 33.554 | 1.658 | 11.547 | 98.012 |
| 1932 | 33.730 | 3.447 | 3.249 | 64.605 |
| 1933 | 40.735 | 3.767 | 5.271 | 99.952 |
| 1934 | 35.568 | 1.768 | 28.392 | 98.975 |
| 1935 | 26.881 | 1.502 | 2.409 | 47.409 |
| 1936 | 32.822 | 4.216 | 4.280 | 37.473 |
| 1937 | 6.518 | 0.465 | 1.326 | 3.282 |
| 1938 | 9.007 | 0.592 | 1.141 | 4.933 |
| 1939 | 10.555 | 0.736 | 0.984 | 3.677 |
| 1940 | 4.170 | 1.026 | 2.804 | 3.242 |
| 1941 | 5.975 | 0.532 | 0.575 | 2.126 |
| 1942 | 4.658 | 0.065 | 0.718 | 2.496 |
| 1943 | 5.112 | 0.308 | 0.978 | 2.965 |
| 1944 | 7.503 | 0.146 | 0.790 | 3.681 |
| 1945 | 7.142 | 0.362 | 1.192 | 3.599 |
| 1946 | 2.967 | 0.211 | 0.497 | 1.971 |
| 1947 | 7.285 | 0.380 | 1.640 | 2.658 |
| 1948 | 7.565 | 0.079 | 0.627 | 3.305 |
| 1949 | 2.998 | 0.666 | 0.967 | 1.798 |
| 1950 | 2.574 | 0.340 | 0.996 | 2.430 |
| 1951 | 5.144 | 0.450 | 1.063 | 3.532 |
| 1952 | 4.543 | 0.090 | 0.738 | 2.882 |
| 1953 | 5.357 | 0.017 | 0.509 | 3.118 |
| 1954 | 5.905 | 0.177 | 0.511 | 2.668 |
| 1955 | 6.832 | 0.436 | 1.439 | 4.318 |
| 1956 | 3.703 | 0.243 | 1.103 | 2.813 |
| 1957 | 4.800 | 0.306 | 1.600 | 3.388 |
| 1958 | 14.602 | 4.101 | 1.010 | 5.361 |
| 1959 | 14.165 | 1.691 | 2.913 | 7.919 |
| 1960 | 7.511 | 0.222 | 1.434 | 4.917 |
| 1961 | 9.269 | 0.131 | 1.018 | 5.358 |
| 1962 | 8.738 | 1.053 | 1.443 | 4.681 |
| 1963 | 8.732 | 0.550 | 1.600 | 6.349 |
| 1964 | 8.836 | 0.162 | 0.661 | 3.904 |
| 1965 | 5.647 | 0.402 | 3.603 | 3.280 |
| 1966 | 6.429 | 0.232 | 0.867 | 4.066 |
| 1967 | 11.964 | 1.324 | 0.769 | 4.994 |
| 1968 | 6.493 | 0.288 | 1.392 | 5.099 |
| 1969 | 3.858 | 0.134 | 0.912 | 3.216 |
| 1970 | 5.320 | 0.574 | 1.835 | 5.041 |
| 1971 | 4.875 | 0.051 | 0.891 | 3.801 |
| 1972 | 4.013 | 0.244 | 1.000 | 3.530 |
| 1973 | 3.892 | 0.593 | 2.020 | 3.742 |
| 1974 | 4.435 | 0.320 | 1.241 | 3.002 |
| 1975 | 9.200 | 0.195 | 0.986 | 6.042 |
| 1976 | 19.249 | 2.999 | 1.310 | 10.910 |
| 1977 | 35.877 | 1.794 | 10.995 | 99.103 |
| 1978 | 6.907 | 0.360 | 2.942 | 4.089 |
| 1979 | 5.622 | 0.423 | 1.174 | 3.483 |
| 1980 | 4.231 | 0.345 | 1.013 | 2.552 |
| 1981 | 6.956 | 0.521 | 1.325 | 4.382 |
| 1982 | 2.211 | 1.405 | 1.421 | 2.162 |
| 1983 | 8.362 | 0.390 | 0.873 | 2.263 |
| 1984 | 5.079 | 0.413 | 1.506 | 3.924 |
| 1985 | 3.618 | 0.286 | 0.561 | 2.023 |
| 1986 | 4.065 | 0.307 | 1.899 | 2.965 |
| 1987 | 6.909 | 0.193 | 0.546 | 3.567 |
| 1988 | 13.104 | 0.403 | 3.081 | 5.407 |
| 1989 | 5.803 | 0.431 | 0.999 | 2.939 |
| 1990 | 25.887 | 0.951 | 1.346 | 29.918 |
| AVERAGE | 9.987 | 0.802 | 2.309 | 12.677 |

TRINITY RIVER EIS: PROSIM 12-21-98 - REVISED % INFLOW (TRN_RPIA) -

SACRAMENTO RIVER SALMON LOSS SUMMARY - %

| YEAR | FALL | LATE-FALL | WINTER | SPRING |
|---|---|---|---|---|
| 1922 | 4.967 | 0.242 | 1.804 | 3.880 |
| 1923 | 3.584 | 0.192 | 3.792 | 2.858 |
| 1924 | 28.398 | 1.099 | 17.898 | 94.776 |
| 1925 | 3.678 | 0.957 | 2.398 | 3.421 |
| 1926 | 7.369 | 1.740 | 7.441 | 4.877 |
| 1927 | 6.014 | 0.191 | 1.276 | 3.121 |
| 1928 | 4.846 | 0.538 | 1.313 | 2.442 |
| 1929 | 22.070 | 3.799 | 1.186 | 6.436 |
| 1930 | 5.803 | 0.457 | 2.136 | 3.385 |
| 1931 | 34.410 | 1.669 | 23.525 | 98.694 |
| 1932 | 35.850 | 3.576 | 4.277 | 88.655 |
| 1933 | 41.042 | 3.795 | 7.022 | 99.964 |
| 1934 | 35.406 | 1.812 | 27.379 | 98.902 |
| 1935 | 28.877 | 1.453 | 3.533 | 70.778 |
| 1936 | 38.044 | 4.743 | 4.083 | 81.033 |
| 1937 | 21.336 | 1.070 | 1.247 | 15.271 |
| 1938 | 11.059 | 1.042 | 1.631 | 7.391 |
| 1939 | 6.882 | 0.321 | 1.351 | 3.895 |
| 1940 | 5.215 | 0.875 | 2.475 | 3.154 |
| 1941 | 5.889 | 0.607 | 1.067 | 2.193 |
| 1942 | 4.699 | 0.109 | 0.956 | 2.657 |
| 1943 | 5.644 | 0.362 | 1.126 | 3.132 |
| 1944 | 7.789 | 0.153 | 0.849 | 3.534 |
| 1945 | 9.054 | 0.376 | 1.057 | 3.664 |
| 1946 | 3.539 | 0.210 | 0.470 | 2.096 |
| 1947 | 8.582 | 0.554 | 2.024 | 3.656 |
| 1948 | 8.186 | 0.095 | 0.694 | 3.397 |
| 1949 | 2.640 | 0.614 | 0.905 | 1.740 |
| 1950 | 4.330 | 0.351 | 0.943 | 2.461 |
| 1951 | 4.953 | 0.627 | 1.169 | 3.326 |
| 1952 | 4.474 | 0.253 | 1.090 | 3.101 |
| 1953 | 5.254 | 0.038 | 0.751 | 3.122 |
| 1954 | 6.652 | 0.188 | 0.480 | 2.658 |
| 1955 | 6.895 | 0.483 | 1.642 | 4.428 |
| 1956 | 4.257 | 0.356 | 2.158 | 3.370 |
| 1957 | 5.291 | 0.485 | 1.698 | 3.434 |
| 1958 | 14.687 | 4.134 | 1.092 | 5.530 |
| 1959 | 22.105 | 2.837 | 3.777 | 12.402 |
| 1960 | 11.927 | 0.470 | 1.554 | 6.098 |
| 1961 | 12.412 | 0.366 | 0.853 | 6.495 |
| 1962 | 12.736 | 1.143 | 1.309 | 5.525 |
| 1963 | 10.680 | 1.364 | 2.329 | 7.652 |
| 1964 | 7.835 | 0.167 | 1.096 | 4.503 |
| 1965 | 7.135 | 0.400 | 3.845 | 3.610 |
| 1966 | 7.254 | 0.322 | 1.016 | 4.096 |
| 1967 | 14.037 | 1.482 | 0.978 | 7.959 |
| 1968 | 7.293 | 0.455 | 3.014 | 5.435 |
| 1969 | 4.190 | 0.311 | 1.286 | 3.823 |
| 1970 | 6.320 | 0.669 | 2.767 | 5.148 |
| 1971 | 6.826 | 0.112 | 1.121 | 4.926 |
| 1972 | 4.495 | 0.241 | 1.264 | 3.466 |
| 1973 | 3.988 | 1.167 | 2.532 | 4.005 |
| 1974 | 4.661 | 0.697 | 1.764 | 3.419 |
| 1975 | 9.142 | 0.335 | 1.288 | 6.056 |
| 1976 | 26.389 | 3.707 | 1.471 | 20.834 |
| 1977 | 35.859 | 1.618 | 29.662 | 98.900 |
| 1978 | 7.447 | 0.375 | 3.234 | 4.187 |
| 1979 | 6.263 | 0.598 | 1.330 | 3.785 |
| 1980 | 4.897 | 0.342 | 1.240 | 2.929 |
| 1981 | 6.638 | 0.536 | 1.356 | 4.180 |
| 1982 | 3.030 | 2.056 | 2.024 | 2.890 |
| 1983 | 8.379 | 0.416 | 0.889 | 2.267 |
| 1984 | 5.143 | 0.412 | 2.567 | 3.787 |
| 1985 | 3.547 | 0.306 | 0.832 | 2.648 |
| 1986 | 4.585 | 0.310 | 2.238 | 2.886 |
| 1987 | 8.220 | 0.266 | 1.062 | 4.908 |
| 1988 | 21.721 | 0.982 | 3.948 | 12.600 |
| 1989 | 8.554 | 0.583 | 1.178 | 3.669 |
| 1990 | 28.256 | 1.054 | 1.740 | 45.112 |
| AVERAGE | 11.444 | 0.952 | 3.225 | 15.371 |

# Attachment B14

TRINITY RIVER EIS: PROSIM 2-5-99 - REVISED MAX FLOW (TRN_RM2K) - :

SACRAMENTO RIVER SALMON LOSS SUMMARY - %

| YEAR | FALL | LATE-FALL | WINTER | SPRING |
|---|---|---|---|---|
| 1922 | 4.638 | 1.226 | 2.486 | 3.578 |
| 1923 | 5.830 | 0.425 | 4.462 | 2.822 |
| 1924 | 28.462 | 1.006 | 95.981 | 96.499 |
| 1925 | 12.691 | 2.339 | 4.083 | 5.573 |
| 1926 | 16.681 | 2.992 | 8.312 | 6.775 |
| 1927 | 7.720 | 0.283 | 1.023 | 2.876 |
| 1928 | 5.895 | 0.779 | 1.859 | 3.437 |
| 1929 | 24.312 | 3.828 | 2.344 | 7.461 |
| 1930 | 11.082 | 1.511 | 1.755 | 3.243 |
| 1931 | 33.302 | 1.255 | 96.125 | 98.262 |
| 1932 | 37.975 | 2.932 | 80.206 | 99.538 |
| 1933 | 38.360 | 1.898 | 98.665 | 99.353 |
| 1934 | 29.692 | 1.794 | 99.977 | 96.628 |
| 1935 | 33.441 | 2.783 | 38.643 | 98.326 |
| 1936 | 36.214 | 4.743 | 2.758 | 69.202 |
| 1937 | 8.462 | 1.031 | 1.870 | 3.658 |
| 1938 | 13.850 | 1.168 | 1.683 | 8.066 |
| 1939 | 26.678 | 3.071 | 1.557 | 23.192 |
| 1940 | 12.416 | 1.480 | 2.467 | 3.783 |
| 1941 | 10.310 | 0.802 | 1.247 | 3.083 |
| 1942 | 8.549 | 0.241 | 1.069 | 3.000 |
| 1943 | 7.193 | 0.482 | 1.133 | 2.903 |
| 1944 | 14.247 | 0.411 | 1.507 | 6.365 |
| 1945 | 10.712 | 0.544 | 1.325 | 3.886 |
| 1946 | 3.913 | 0.393 | 0.760 | 1.975 |
| 1947 | 11.603 | 1.227 | 3.588 | 3.973 |
| 1948 | 7.947 | 0.082 | 0.742 | 3.341 |
| 1949 | 2.642 | 1.449 | 1.898 | 2.173 |
| 1950 | 3.082 | 0.627 | 1.461 | 2.422 |
| 1951 | 4.779 | 0.885 | 1.365 | 2.798 |
| 1952 | 6.348 | 0.330 | 1.252 | 3.434 |
| 1953 | 8.665 | 0.126 | 0.893 | 3.873 |
| 1954 | 10.131 | 0.379 | 0.783 | 3.832 |
| 1955 | 6.618 | 1.127 | 2.898 | 4.777 |
| 1956 | 5.693 | 0.564 | 2.321 | 3.068 |
| 1957 | 5.879 | 0.377 | 1.723 | 3.018 |
| 1958 | 21.336 | 4.540 | 1.733 | 13.485 |
| 1959 | 20.489 | 3.140 | 4.777 | 9.322 |
| 1960 | 6.142 | 0.647 | 3.086 | 4.058 |
| 1961 | 6.775 | 0.466 | 2.492 | 4.135 |
| 1962 | 11.739 | 1.897 | 2.423 | 4.886 |
| 1963 | 12.111 | 1.511 | 2.266 | 7.076 |
| 1964 | 13.488 | 0.434 | 1.832 | 5.504 |
| 1965 | 7.494 | 0.448 | 3.829 | 3.408 |
| 1966 | 8.145 | 0.728 | 1.533 | 4.138 |
| 1967 | 15.739 | 1.486 | 1.090 | 7.210 |
| 1968 | 8.405 | 0.929 | 4.222 | 4.593 |
| 1969 | 4.583 | 0.427 | 1.366 | 3.589 |
| 1970 | 17.305 | 1.099 | 2.570 | 7.431 |
| 1971 | 7.522 | 0.196 | 1.121 | 3.961 |
| 1972 | 5.787 | 0.400 | 2.962 | 2.822 |
| 1973 | 4.557 | 1.202 | 2.816 | 3.914 |
| 1974 | 8.553 | 0.931 | 1.998 | 4.514 |
| 1975 | 12.563 | 0.496 | 1.433 | 8.444 |
| 1976 | 21.713 | 3.958 | 2.349 | 11.156 |
| 1977 | 30.243 | 0.715 | 99.977 | 95.731 |
| 1978 | 6.234 | 0.405 | 3.062 | 3.416 |
| 1979 | 6.353 | 0.990 | 2.036 | 3.989 |
| 1980 | 4.896 | 0.422 | 1.367 | 2.984 |
| 1981 | 6.129 | 0.714 | 2.401 | 4.793 |
| 1982 | 2.833 | 2.001 | 2.049 | 2.681 |
| 1983 | 16.971 | 0.795 | 1.188 | 7.887 |
| 1984 | 6.028 | 0.409 | 2.489 | 3.869 |
| 1985 | 3.734 | 0.904 | 2.062 | 3.196 |
| 1986 | 19.617 | 1.060 | 2.058 | 11.252 |
| 1987 | 28.869 | 1.693 | 1.894 | 44.724 |
| 1988 | 31.249 | 1.004 | 2.945 | 68.447 |
| 1989 | 5.338 | 0.775 | 2.327 | 3.846 |
| 1990 | 16.542 | 1.459 | 2.473 | 6.823 |
| AVERAGE | 13.268 | 1.230 | 10.818 | 16.920 |

## 2.4.3 Technical Appendix C—Vegetation, Wildlife, and Wetlands Resources

**1.1 Vegetation** *(SEE SUBSECTIONS)*
**1.1.1 Affected Environment** *(SEE SUBSECTIONS)*
**1.1.1.1 Trinity River Basin** *(NO CHANGE)*
**1.1.1.2 Lower Klamath River Basin/Coastal Area** *(NO CHANGE)*

**1.1.1.3 Central Valley** **(CHANGES FOLLOW)**
**pgs. C-9 and C-10**

**Tables C-2 and C-3 have been modified to more clearly and accurately define the classifications under the California Native Plant Society. See Section 2.4.3.1 for revised tables.**

**1.1.2 Environmental Consequences** **(CHANGES FOLLOW)**

**1.2.2.2 Significance Criteria**
**pgs. C-31 and C-32**

Significance criteria were developed in coordination with the Vegetation and Wildlife Technical Team and with input provided during public scoping meetings. The significance criteria employed for this analysis are based on CEQA and NEPA guidelines. Impacts on wildlife would be significant if project implementation would result in any of the following:

- Potential for reductions in the number, or restrictions of the range, of an endangered or threatened plant species or a plant species that is a candidate for state listing or proposed for federal listing as endangered or threatened
- Potential for substantial reductions in the habitat of any native plant species including those that are listed as endangered or threatened or are candidates (CESA) or proposed (ESA) for endangered or threatened status
- Potential for causing a native plant population to drop below self-sustaining levels
- Potential to eliminate a native plant community
- Substantial adverse effect, either directly or through habitat modifications, on any plant identified as a sensitive or special-status species in local or regional plans, policies, or regulations
- Substantial adverse effect on any riparian habitat or other sensitive natural community identified in local, ~~or~~ regional, or state plans, policies, or regulations
- Substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
- A conflict with any local policies or ordinances protecting vegetation resources
- A conflict with, or violation of, the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, state, or federal habitat conservation plan relating to the protection of plant resources

**1.2 Wildlife** *(SEE SUBSECTIONS)*
**1.2.1 Affected Environment** *(NO CHANGE)*
**1.2.2 Environmental Consequences** *(SEE SUBSECTIONS))*

**1.2.2.4 Maximum Flow** **(CHANGES FOLLOW)**
**pg. C-33**

**Bald Eagle.** Average Trinity Reservoir June 30 levels were seen to drop by 34 feet on average ~~substantially~~ over the period of record. ~~compared to the No Action Alternative.~~ Shasta Reservoir modeled elevation would decrease by ~~9~~ 7 feet on June 30. Increases in anadromous fish populations anticipated from implementation of this alternative would provide an increased prey base for the bald eagle. This could benefit the local population to the extent that it is currently limited by food availability. Trinity and Shasta Reservoir elevations would decrease slightly on average over the analysis period. This small reduction is not likely to affect the bald eagle food supply, and thus is expected to have minimal effects on the local population.

**1.3 Wetlands** *(NO CHANGE)*
**1.3.1 Affected Environment** *(NO CHANGE)*
**1.3.2 Environmental Consequences** *(NO CHANGE)*
**1.3.3 Mitigation** *(NO CHANGE)*

**1.4 References** *(NO CHANGE)*

### 2.4.3.1 Technical Appendix C—Tables and Figures

**Tables**

C-1A Vegetation Impacts Compared to the No Action Alternative *(NO CHANGE)*

C-1B Wildlife Impacts Compared to the No Action Alternative *(NO CHANGE)*

C-1C Wetlands Impacts Compared to the No Action Alternative *(NO CHANGE)*

C-2 Special-status Plant Species Occurring or Potentially Occurring in Riparian, Wetland, and Riverine Habitat along the Trinity and Lower Klamath Rivers **(CHANGES FOLLOW)**

C-3 Special-status Plant Species Potentially Occurring in the Central Valley **(CHANGES FOLLOW)**

C-4 Healthy River Attributes and Associated Riparian Characteristics *(NO CHANGE)*

C-5 Special-status Wildlife Species Occurring or Potentially Occurring in Riparian and Riverine Habitat in the Trinity River Basin *(NO CHANGE)*

C-6 Special-status Wildlife Species Occurring or Potentially Occurring in the Central Valley *(NO CHANGE)*

C-7 Attributes of a Healthy Alluvial River System *(NO CHANGE)*

**Figures**

C-1 Habitat Change Pre-dam versus Post-dam *(NO CHANGE)*

C-2 Idealized Habitat for Special-status Species, Pre-dam and Present Conditions *(NO CHANGE)*

**Table C-2**
**Special-status Plant Species Occurring or Potentially Occurring in Riparian, Wetland, and Riverine Habitat along the Trinity and Lower Klamath Rivers**

| Common Name | Scientific Name | Status | | |
|---|---|---|---|---|
| | | CNPS | CA | Federal |
| Rattan's milk-vetch[a] | *Astragalus rattanii* var. *rattanii* | 4 | — | — |
| Bottlebrush sedge[a] | *Carex histricina* | 2 | — | — |
| Fox sedge | *Carex vulpinoidea* | 2 | — | — |
| California lady's-slipper[a] | *Cypripedium californicum* | 4 | — | — |
| Clustered lady's-slipper[a] | *Cypripedium fasciculatum* | 4 | — | FSC |
| Heckner's lewisia[a] | *Lewisia cotyledon* var. *heckneri* | 1B | — | FSC |
| Showy raillardella[a] | *Raillardella pringlei* | 1B | — | FSC |
| Great burnet[a] | *Sanguisorba officinalis* | 2 | — | — |
| English peak greenbriar[a] | *Smilax jamesii* | 1B | — | — |

[a]Known to occur in the general area of the project.
Status Definitions:
CNPS California Native Plant Society
1B Plants considered rare, threatened, or endangered ~~throughout their range~~ in California and elsewhere
2 Plants considered rare, threatened, or endangered in California, but more common elsewhere
4 Plants of limited distribution
FSC Federal Species of Concern

**Table C-3**
**Special-status Plant Species Potentially Occurring in the Central Valley**

| Common Name | Scientific Name | Status | | |
|---|---|---|---|---|
| | | CNPS | CA | Federal |
| Suisun marsh aster | *Aster lentus* | 1B | — | FSC |
| Fox sedge | *Carex vulpinoidea* | 2 | — | — |
| Suisun thistle | *Cirsium hydrophilum* var. *hydrophilum* | 1B | — | FE |
| Soft bird's beak | *Cordylanthus mollis* ssp. *mollis* | 1B | CR | FE |
| Silky cryptantha | *Crypthantha crinita* | 1B | — | FE |
| Rose-mallow | *Hibiscus lasiocarpus* | 2 | — | — |
| Northern California black walnut | *Juglans californica* var. *hindsii* | 1B | — | FSC |
| Mason's lilaeopsis | *Lilaeopsis masonii* | 1B | CR | FSC |
| Delta mudwort | *Limosella subulata* | 2 | — | — |
| Eel-grass pondweed | *Potamogeton zosteriformes* | 2 | — | — |
| Sandford's arrowhead | *Sagittaria sanfordii* | 1B | — | FSC |

Status Definitions:
FE Listed and endangered under federal Endangered Species Act
FSC Federal Species of Concern
CR Considered as rare by the state of California
CNPS California Native Plant Society
1B ~~List 1B species:~~ Plants considered rare, threatened, or endangered in California ~~throughout their range~~ and elsewhere
2 ~~List 2 species:~~ Plants considered rare, threatened, or endangered in California, but more common elsewhere

## 2.4.4 Technical Appendix D—Recreation Resources

**1.1 Riverine** *(SEE SUBSECTIONS)*
**1.1.1 Affected Environment** *(SEE SUBSECTIONS)*

**1.1.1.1 Trinity River Basin** **(CHANGES FOLLOW)**
**pg. D-1**

**Recreation Resources and Opportunities**. Developed recreation areas along the Trinity River consist of private campgrounds, resorts, and lodges; public campgrounds and picnic areas; and fishing access sites. About 34 developed recreation sites are located within a 0.5-mile corridor of the Trinity River. More than 200 access sites were inventoried in 1979 between Lewiston Dam and Weitchpec (U.S. Bureau of Reclamation, 1994). Recreation activities on the Trinity River that are water-dependent or are directly enhanced by the river include boating, kayaking, canoeing, rafting, inner-tubing, fishing, swimming, wading, camping, gold panning, nature study, picnicking, hiking, and sight-seeing. ~~Except for Burnt Ranch Gorge downstream of China Slide, the river is suitable for rafting.~~ Areas upstream of Junction City are best for rafting in spring when flows are high. More than 100 access points for rafting activities are available along the Trinity River. Preferred river reaches for kay-aking are the 24-mile reach between the North Fork and Cedar Flat and portions of the river downstream of Willow Creek. The most popular reaches for open canoes are the 5-mile reach from the North Fork to Junction City and the 6-mile reach from the South Fork to Willow Creek. Canoeing on the 8.5-mile reach from the North Fork to Big Bar is generally suitable for special white-water canoes with covered decks (U.S. Bureau of Reclamation, 1994).

**pg. D-2**

Federal Wild and Scenic River Designation. The entire mainstem Trinity River was desig-nated into the National Wild and Scenic Rivers System in 1981 (46 FR 7484). All rivers designated as either wild, scenic, or recreational by the federal government or the State of California are regarded as having high scenic quality. The reach of the Trinity River downstream from Trinity Reservoir is classified as having distinctive scenic quality and a high scenic quality (U.S. Bureau of Reclamation, 1994). About 13.5 miles of the river were classified as scenic, and about 97.5 miles of the river were classified as recreational. The river is administered by USFS (Six Rivers National Forest and Shasta-Trinity National Forest), BLM, the California Resources Agency, and the Hoopa Valley Indian Reservation (Palmer, 1993). The primary reason for the designation of this river was its anadromous fishery value (U.S. Forest Service, 1995a). The Shasta-Trinity National Forest classifies the Trinity River from Helena downstream to Cedar Flat as recreational, and from Cedar Flat downstream to the river's confluence with New River as scenic (U.S. Forest Service, 1995c). The Six Rivers National Forest classifies the portions of the Trinity River within its jurisdiction as recrea tional (U.S. Forest Service, 1995a).

**1.1.1.2 Lower Klamath River Basin/Coastal Area** *(NO CHANGE)*
**1.1.1.3 Central Valley** *(NO CHANGE)*
**1.1.2 Environmental Consequences** *(SEE SUBSECTIONS)*

### 1.1.2.1 Methodology (CHANGES FOLLOW)
**pg. D-5**

In addition to evaluating the effects on recreation opportunities and use and benefits, the project alternatives were evaluated for consistency with Trinity and Humboldt County recreation objectives and State / Federal Wild and Scenic River designations. Flow-related impacts to riverine recreation opportunities and use within the Central Valley were considered to be negligible because of the minor effect Trinity River District (TRD) changes would have on Sacramento River[1] and San Joaquin River flows in regards to recreational opportunities and use. As listed in the Programmatic Environmental Impact Study (PEIS) Technical Appendix, the threshold for boating activities on the Sacramento River are 2,500 to 12,000 cfs. These threshold flow ranges are not exceeded under any of the project alternatives. See Section 3.5, Fishery Resources for impacts to Central Valley sportsfishing. Impacts to recreation opportunities, use and benefits in the Central Valley are not discussed under the alternatives.

**Recreation Opportunities Methodology**. The mainstem of the Trinity River is the primary focus of the recreational opportunities analysis. Trinity River flows are most influenced by Lewiston releases in the summer months given tributary flow is generally not much of a factor during this period. Many recreational opportunities, in particular white-water (i.e., kayakers and rafters) are most prevalent downstream of the rivers confluence with the North Fork Trinity River. At this location, Lewiston releases play a minor role in Trinity River flows compared to inflows from the North Fork. Impacts to recreational opportunities within the lower Klamath River Basin, aside from sportfishing, are considered to be less than significant because river levels in these areas are minimally influenced by the Lewiston Dam releases. (Impacts to ocean sportfishing are discussed in Section 3.5.4, Ocean Fishery Economics.)

**pg. D-6**

**Recreation Use and Economics Methodology**. The methodology for determining recreation use and benefits within the Trinity River Basin and the Lower Klamath River Basin / Coastal Area is based on river flow and fish population conditions. Annual recreation use relationships were estimated for four activities that occur along the river: boating, swimming, fishing, and hiking and other river-enhanced activities (i.e., off-river activities). The relationship of river flow and fish populations to these activities was generally found to be positive, implying the greater the flow / fish population, the greater the expected in-river recreation use. Due to model limitations, the recreation use and benefit analyses do not account for species substitution.

### 1.1.2.2 Significance Criteria (CHANGES FOLLOW)
**pg. D-9**

**Table D-2 has been modified to more accurately reflect white-water activities and preferred flow ranges. See Section 2.4.4.1 for revised Table D-2.**

[1] ~~TRD exports to Sacramento River flows amount to .01 percent of the Sacramento River's volume over the long-term.~~

**1.1.2.3 No Action Alternative** **(CHANGES FOLLOW)**
**pgs. D-11 and D-13**

**Table D-3 has been modified to more accurately reflect white-water conditions. See Section 2.4.4.1 for revised Table D-3.**

**1.1.2.4 Maximum Flow Alternative** **(CHANGES FOLLOW)**

**Trinity River Basin.**
**pg. D-17**

White-water activities: The preferred flow range for white-water activities, including kayaking and rafting is ~~300~~450-8,000 cfs. Under the Maximum Flow alternative, white water flows are not constrained during any week of the primary recreation season. All flows on the Trinity River are ~~greater than 300 cfs~~450 cfs or greater, and less than 8,000 cfs during this period for this alternative.

**1.1.2.5 Flow Evaluation Alternative** **(CHANGES FOLLOW)**

**Trinity River Basin.**
**pg. D-19**

White-water activities: The preferred flow range for white-water activities, including kayaking and rafting is ~~300~~450-8,000 cfs. Under the Flow Evaluation Alternative, white-water kayaking and rafting are constrained during the last week of May during the extremely wet water-year class when Trinity River flows exceed the upper preferred threshold of 8,000 cfs. In general, however, those who prefer flows on the higher end of the preferred range would experience improved conditions compared to No Action. ~~Under the Flow Evaluation Alternative, white-water kayaking and rafting are constrained for only one week during the extremely wet water-year class. During this week, flows exceed the 8,000 cfs upper preferred threshold for this activity.~~

**1.1.2.6 Preferred Inflow Alternative** **(CHANGES FOLLOW)**

**Trinity River Basin.**
**pg. D-21**

White-water activities: The preferred flow range for white-water activities, including kayaking and rafting is ~~300~~ 450-8,000 cfs. Under the Percent Flow alternative, white-water kayaking and rafting are constrained for several weeks in each water-year class due to flows less than the ~~300~~ 450 cfs threshold. In extremely wet water years, white water is constrained the last ~~4~~ 6 weeks of the recreation season by low flows. In wet water years, white-water kayaking is constrained the last ~~7~~ 9 weeks of the recreation season due to low flows. In normal water years, white-water kayaking and rafting is constrained the last ~~9~~ 10 weeks of the season due to low flows. In dry water years, white water is constrained the last ~~10~~ 11 weeks of the season, and the last ~~12~~ 14 weeks in extremely dry water years.

**1.1.2.7 Mechanical Restoration Alternative** *(NO CHANGE)*
**1.1.2.8 State Permit Alternative** *(NO CHANGE)*
**1.1.2.9 Existing Conditions versus Preferred Alternative** *(NO CHANGE)*
**1.1.3 Mitigation** *(NO CHANGE)*

**1.2 Reservoirs** *(NO CHANGE)*
**1.2.1 Affected Environment** *(NO CHANGE)*
**1.2.1.1 Trinity River Basin** *(NO CHANGE)*
**1.2.1.2 Central Valley and Lower Klamath Valley/Coastal Areas** *(NO CHANGE)*
**1.2.2 Environmental Consequences** *(SEE SUBSECTIONS)*

**1.2.2.1 Methodology** **(CHANGES FOLLOW)**
**pg. D-29**

**Table D-6 has been modified to correct Trinity River recreation facility availability data. See Section 2.4.4.1 for revised Table D-6.**

**1.2.2.2 Significance Criteria** *(SEE SUBSECTIONS)*

**1.2.2.3 No Action Alternative** **(CHANGES FOLLOW)**
**pg. D-31**

**Trinity River Basin**. Under the No Action Alternative, use of certain boating facilities, such as the Stuart Fork boat ramps, Fairview ramp, and major marinas would continue to be moderately constrained during the recreation season (Table D-6). Recreation use of Trinity Reservoir is expected to be about ~~796,000~~ 803,600 visitor days in 2020. Annual recreation benefits are estimated to be $~~8.7~~ 8.8 million (Table D-7).

**Table D-7 has been modified to more accurately reflect Trinity Reservoir recreation benefits and visitor days under the No Action Alternative. See Section 2.4.4.1 for revised Table D-7.**

**1.2.2.4 Maximum Flow Alternative** **(CHANGES FOLLOW)**
**pg. D-31**

**Trinity River Basin**. Under the Maximum Flow Alternative, Trinity Reservoir levels would generally be lower than No Action levels during the recreation season. A number of major recreation facilities would be less available compared to No Action levels (Table D-6). This decrease in facility availability would be a significant impact. Recreation use and benefits of Trinity Reservoir under the Maximum Flow Alternative are estimated to decrease by ~~4~~ 5 percent in average water years but would increase by ~~36~~ 31 percent in dry water years compared to the No Action Alternative (Table D-7). Although the decreases in use and benefits in average water years are adverse, they are considered less than significant.

**1.2.2.5 Flow Evaluation Alternative** **(CHANGES FOLLOW)**
**pg. D-33**

**Trinity River Basin**. Trinity Reservoir water surface elevations would not be significantly below threshold levels for any of the major facilities under this alternative. ~~Recreation facility availability would increase slightly compared to No Action levels~~.

Recreation use and benefits of Trinity Reservoir under the Flow Evaluation Alternative are estimated to ~~increase by 1 percent~~ be essentially the same as under the No Action Alternative in average water years, and to increase by ~~9~~ 5 percent in dry water years compared to the No Action Alternative (Table D-~~6~~8). ~~These~~ The predicted increase~~s~~ in use ~~are~~ in dry years is considered beneficial.

**1.2.2.6 Percent Inflow Alternative** **(CHANGES FOLLOW)**

**Trinity River Basin**. Under the Percent Inflow Alternative, Trinity Reservoir levels would drop slightly in summer months compared to No Action levels; resulting in a slight decrease in availability of several of the recreation facilities, including the Stuart Fork Ramp, the Fairview Ramp, and the Trinity Center Ramp. However, no significant decrease in facility availability is anticipated. Recreation use and benefits of Trinity Reservoir under the Percent Inflow Alternative ~~are estimated to increase by 2 percent~~ would be essentially the same as under the No Action Alternative in average water years and would increase by ~~13~~ 9 percent in dry water years compared to the No Action Alternative (Table D-8). This increase in use and benefits in dry water years is considered beneficial.

**1.2.2.7 Mechanical Restoration Alternative** *(NO CHANGE)*

**1.2.2.8 State Permit Alternative** **(CHANGES FOLLOW)**
**pg. D-34**

**Trinity River Basin**. Under the State Permit Alternative, Trinity Reservoir levels would be slightly higher during the primary recreation season as compared to the No Action Alternative. The availability of recreation facilities would increase compared to No Action levels, except for Minersville Ramp. Recreation use and benefits of Trinity Reservoir under the State Permit Alternative are estimated to increase by ~~6~~ 5 percent in average water years and by ~~5~~ 2 percent in dry water years compared to the No Action Alternative (Table D-8). Because use and benefits in all water years would increase under this alternative relative to the No Action Alternative, this effect is considered beneficial.

**1.2.2.9 Existing Conditions versus Preferred Alternative**

**Table D-8 has been modified to more accurately reflect Trinity Reservoir recreation benefits and visitor days under the No Action Alternative. See Section 2.4.4.1 for revised Table D-8.**

**1.2.3 Mitigation** *(NO CHANGE)*

**1.3 ~~Riverine~~ References**



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### 2.4.4.1 Technical Appendix D—Tables

**Tables**



**TABLE D-2**

Preferred Recreation Flow Ranges/Thresholds[a]

| Activity | Preferred Flow Ranges (cfs) |
|---|---|
| Canoeing | 200-1,500 |
| Drift-boat and drift-raft fishing | 200-1,500 |
| White-water activities (i.e., kayaking, canoeing, and rafting) | ~~300~~ 450-8,000 |
| Recreational mining | 350-600 |
| Shore fishing | 300-800 |
| Swimming/inner-tubing | 150-800 |
| Wading | 300-800 |
| **Campground Use Precluded** | **Flow Threshold** |
| Steel Bridge, Douglas City | 8,000 or greater |
| Steiner Flat, North Fork | 10,000 or greater |
| Poker Bar | 12,000 or greater |

[a] Trinity River flows in the Preferred Flow/Threshold range during the primary recreation season (Memorial Day to Labor Day) as measured at the Lewiston gage.

**TABLE D-3**
Riverine Recreation Opportunities – Trinity River

| | | Recreation Opportunity Constraints During the Primary Recreation Season[a, b] | | | | | |
|---|---|---|---|---|---|---|---|
| **Resource Concern** | **Preferred Flow Range (cfs)** | **No Action/Existing Conditions** | **Maximum Flow** | **Flow Evaluation** | **Percent Inflow** | **Mechanical Restoration** | **State Permit** |
| Canoeing | 200-1,500 | No constraint[c] | Constrained 8 weeks in **extremely wet** and **wet** years.<br>Constrained 6 weeks in **normal** and **dry** years.<br>Constrained 5 weeks in **critically dry** years. | Constrained 7 weeks in **extremely wet**, **wet** years and **normal** years.<br>Constrained 1 week in **dry** years.<br>Not constrained during **critically dry** years. | Constrained 8 weeks in **extremely wet**, **wet**, **normal**, and **dry** years.<br>Constrained 10 weeks in **critically dry** years. | No constraint | Constrained 15 weeks (the entire primary recreation season) in **all** water-year classes. |
| Camping | | | | | | | |
| Steel Bridge, Douglas City | 8,000 or less | No constraint | No constraint | Constrained 1 week in **extremely wet** years. | No constraint | No constraint | No constraint |
| Steiner Flat, North Fork | 10,000 or less | No constraint | No constraint | No constraint | No constraint | No constraint | No constraint |
| Poker Bar | 12,000 or less | No constraint | No constraint | No constraint | No constraint | No constraint | No constraint |
| Drift-boat fishing | 300-1,500 | No constraint | Constrained 8 weeks in **extremely wet** and **wet** years.<br>Constrained 6 weeks in **normal** and **dry** years.<br>Constrained 5 weeks in **critically dry** years. | Constrained 7 weeks in **extremely wet**, **wet** and **normal** years.<br>Constrained 1 week in **dry** years.<br>Not constrained during **critically dry** years. | Constrained 9 weeks in **extremely wet, wet** and **normal** years.<br>Constrained 10 weeks during **dry** years.<br>Constrained 12 weeks during **critically dry** years. | No constraint | Constrained 15 weeks (the entire primary recreation season) in **all** water-year classes. |
| Drift-raft fishing | 200-1,500 | No constraint | Constrained 8 weeks in **extremely wet** and **wet** years.<br>Constrained 6 weeks in **normal** and **dry** years.<br>Constrained 5 weeks in **critically dry** years. | Constrained 7 weeks in **extremely wet**, **wet** and **normal** years.<br>Constrained 1 week in **dry** years.<br>Not constrained during **critically dry** years. | Constrained 8 weeks in **extremely wet, wet, normal,** and **dry** years.<br>Constrained 10 weeks in **critically dry** years. | No constraint | Constrained 15 weeks (the entire primary recreation season) in **all** water-year classes. |
| White-water (i.e., kayaking, canoeing, and rafting) | ~~300~~450-8,000 | No constraint | No constraint | Constrained 1 week in extremely **wet** years.[g]<br>Not constrained in wet, normal, dry, and critically dry years. | Constrained ~~4~~ 6 weeks in **extremely wet** years.<br>Constrained ~~7~~ 9 weeks in **wet** years.<br>Constrained ~~9~~ 10 weeks in **normal** years.<br>Constrained ~~10~~ 11 weeks in **dry** years.<br>Constrained ~~12~~ 14 weeks in **critically dry** years. | No constraint | Constrained 15 weeks (the entire primary recreation season) in **all** water-year classes. |
| Recreational mining | 350-600 | Constrained 3 weeks in **all** water-year classes. | Constrained 10 weeks in **extremely wet** years.<br>Constrained 15 weeks (entire recreation season) in **wet, normal, dry,** and **critically dry** years. | Constrained 8 weeks in **extremely wet**, **wet**, and **normal** years.<br>Constrained 3 weeks in **dry** and **critically dry** years. | Constrained 13 weeks in **extremely wet**, **wet**, **dry**, and **critically dry** years.<br>Constrained 14 weeks in **normal** years. | Constrained 3 weeks in **all** water-year classes. | Constrained 15 weeks (the entire primary recreation season) in **all** water-year classes. |
| Swimming/inner-tubing | 150-800 | Constrained 2 weeks in **all** water-year classes. | Constrained 9 weeks in **extremely wet** years.<br>Constrained 11 weeks in **wet** years.<br>Constrained 8 weeks in **normal** and **dry** years.<br>Constrained 15 weeks (entire recreation season) in **critically dry** years. | Constrained 7 weeks in **extremely wet**, **wet**, and **normal** years.<br>Constrained 3 weeks in **dry** and **critically dry** years. | Constrained 9 weeks in **extremely wet** years and **dry** years.<br>Constrained 10 weeks in **wet, normal** and **critically dry** years. | Constrained 2 weeks in **all** water-year classes. | No constraint |

**TABLE D-3**
Riverine Recreation Opportunities – Trinity River

| Recreation Opportunity Constraints During the Primary Recreation Season[a, b] | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Resource Concern** | **Preferred Flow Range (cfs)** | **No Action/Existing Conditions** | **Maximum Flow** | **Flow Evaluation** | **Percent Inflow** | **Mechanical Restoration** | **State Permit** |
| Shore fishing | 300-800 | Constrained 2 weeks in **all** water-year classes. | Constrained 9 weeks in **extremely wet** years.<br>Constrained 11 weeks in **wet** years.<br>Constrained 8 weeks in **normal** and **dry** years.<br>Constrained 15 weeks in **critically dry** years. | Constrained 7 weeks in **extremely wet**, **wet**, and **normal** years.<br>Constrained 3 weeks in **dry** and **critically dry** years. | Constrained 12 weeks in **all** water-year classes. | Constrained 2 weeks in **all** water-year classes. | Constrained 15 weeks (the entire primary recreation season) in **all** water-year classes. |
| Wading | 300-800 | Constrained 2 weeks in **all** water-year classes. | Constrained 9 weeks in **extremely wet** years.<br>Constrained 11 weeks in **wet** years.<br>Constrained 8 weeks in **normal** and **dry** years.<br>Constrained 15 weeks in **critically dry** years. | Constrained 7 weeks in **extremely wet**, **wet**, and **normal** years.<br>Constrained 3 weeks in **dry** and **critically dry** years. | Constrained 12 weeks in **all** water-year classes. | Constrained 2 weeks in **all** water-year classes. | Constrained 15 weeks (the entire primary recreation season) in all water-year classes. |

[a]See Recreation Resources Technical Appendix D for more specific information about weekly flows impacts to recreation opportunities.

[b]The primary recreation season is defined as Memorial Day to Labor Day (approximately the last week in May to the end of the first week in September).

[c]Flows within preferred range during the entire primary recreation season for all year classes.

[d]White-water kayaking and rafting are constrained during the last week of May during the extremely wet water-year class when the Trinity River flows exceed the upper preferred threshold of 8,000 cfs. In general, however, those who prefer flows on the higher end of the preferred range would experience improved conditions compared to No Action.

**TABLE D-6**
Impacts to Trinity and Shasta Reservoir Recreation Opportunities

| Facility and Threshold Elevation (msl) | Projected Recreation Facility Availability During the Recreation Season[a] Facility Availability (percent) | | | | | | |
|---|---|---|---|---|---|---|---|
| | No Action | Maximum Flow | Flow Evaluation | Percent Inflow | Mechanical Restoration | State Permit | Existing Conditions |
| **Trinity Reservoir** | | | | | | | |
| Stuart Fork Ramps (2,320) | ~~42~~ 45 | 9 | 42 | 41 | 42 | 56 | 46 |
| Fairview Ramp & Major Marina Relocations Required (2,310) | ~~52~~ 54 | 18 | 52 | 50 | 52 | 62 | 55 |
| Trinity Center Ramp (2,295) | ~~62~~ 63 | 35 | 63 | 59 | 62 | 72 | 63 |
| Campground Use (2,270) | ~~74~~ 78 | 64 | 79 | 80 | 74 | 84 | 80 |
| Minersville Ramp (2,170) | ~~99~~ 100 | 99 | 100 | 100 | 99 | 100 | 100 |
| **Shasta Reservoir** | | | | | | | |
| McCloud Arm Ramps (952) | 92 | 89 | 90 | 90 | 92 | 92 | 93 |
| Sacramento Arm Ramps (950) | 92 | 89 | 91 | 92 | 92 | 92 | 94 |
| Sacramento Arm Marina (937) | 93 | 89 | 93 | 94 | 93 | 94 | 95 |
| Pit Arm Ramps (907) | 98 | 93 | 96 | 98 | 98 | 99 | 98 |
| Centimudi Ramp (844) | 100 | 97 | 100 | 100 | 100 | 100 | 100 |
| **Folsom Reservoir** | | | | | | | |
| Last boat ramp out of operation (360) | 98 | 99 | 98 | 98 | 98 | 98 | 99 |
| Limited lake surface area (boating constrained at 400) | 87 | 89 | 83 | 86 | 87 | 89 | 89 |
| Marina closes (405) | 80 | 82 | 76 | 79 | 80 | 83 | 82 |
| Decline in campground/picnicking use (430) | 56 | 56 | 53 | 54 | 56 | 55 | 56 |
| Beach area inundated (450) | 31 | 32 | 30 | 30 | 31 | 31 | 32 |

**TABLE D-7**
Impacts to Reservoir Use and Benefits[a]

| Resource Concern | No Action | Maximum Flow Amount | Maximum Flow Percent Change from No Action | Flow Evaluation Amount | Flow Evaluation Percent Change from No Action | Percent Inflow Amount | Percent Inflow Percent Change from No Action | Mechanical Restoration | State Permit Amount | State Permit Percent Change from No Action | Existing Conditions[b] Amount | Existing Conditions[b] Preferred Alternative Percent Change from Existing Conditions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Trinity Reservoir** | | | | | | | | | | | | |
| Recreation Benefits (million $) | ~~8.7~~ 8.8 | 8.4 | ~~-4~~ -5 | ~~8.7~~ 8.8 | ~~-1~~ 0 | 8.8 | ~~-2~~ 1 | Same as No Action | 9.2 | ~~-6~~ 5 | 5.3 | 66 |
| Visitor Days | ~~796,200~~ 803,600 | 766,200 | ~~-4~~ -5 | 802,800 | ~~-1~~ 0 | 809,700 | ~~-2~~ 1 | Same as No Action | 841,000 | ~~-6~~ 5 | 484,900 | 66 |
| **Shasta Reservoir** | | | | | | | | | | | | |
| Recreation Benefits (million $) | 61.9 | 56.9 | -8 | 60.9 | -2 | 61.8 | 0 | Same as No Action | 63.1 | 2 | 38.0 | 60 |
| Visitor Days | 5,682,700 | 5,216,500 | -8 | 5,583,400 | -2 | 5,673,600 | 0 | Same as No Action | 5,786,800 | 2 | 3,483,100 | 60 |

[a] Long-term average water conditions only.
[b] 1995 existing conditions.

Notes:
Impacts shown for long-term average water conditions only. See Table D-8 ~~Recreational Technical Appendix D~~ for dry water conditions.
All benefits are expressed in 1997 dollars.

**TABLE D-8**

~~Trinity, Shasta, and Folsom~~ Reservoir Recreation Opportunities, Use and Benefits[a]

| | Existing Conditions | No Action | Maximum Flow | | Flow Evaluation | | Percent Inflow | | Mechanical Restoration | | State Permit | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Recreation Facility Availability During the Recreation Season** | | | | | | | | | | | | |
| | Facility Availability (Percentage) | Facility Availability (Percentage) | Facility Availability (Percentage) | Percent Change from No Action | Facility Availability (Percentage) | Percent Change from No Action | Facility Availability (Percentage) | Percent Change from No Action | Facility Availability (Percentage) | Percent Change from No Action | Facility Availability (Percentage) | Percent Change from No Action |
| **Trinity Reservoir** | | | | | | | | | | | | |
| Stuart Fork Ramps (2,320 msl) | 46 | ~~42~~ 45 | 9 | ~~-33~~ -36 | 42 | ~~0~~ -3 | 41 | ~~-1~~ -4 | ~~42~~ 45 | 0 | 56 | ~~14~~ 11 |
| Fairview Ramp & major marina relocations (2,310 msl) | 55 | ~~52~~ 54 | 18 | ~~-34~~ -36 | 52 | ~~0~~ -2 | 50 | ~~-2~~ -4 | ~~52~~ 54 | 0 | 62 | ~~10~~ 8 |
| Trinity Center Ramp (2,295 msl) | 63 | ~~62~~ 63 | 35 | ~~-27~~ -28 | 63 | ~~1~~ 0 | 59 | ~~-3~~ -4 | ~~62~~ 63 | 0 | 72 | ~~10~~ 9 |
| Campground Use (2,270 msl) | 80 | ~~74~~ 78 | 64 | ~~-10~~ -14 | 79 | ~~5~~ 1 | 80 | ~~6~~ 2 | ~~74~~ 78 | 0 | 84 | ~~10~~ 6 |
| Minersville Ramp (2,170 msl) | 100 | ~~99~~ 100 | 99 | ~~0~~ -1 | 100 | ~~1~~ 0 | 100 | ~~1~~ 0 | ~~99~~ 100 | 0 | 100 | ~~1~~ 0 |
| **Shasta Reservoir** | | | | | | | | | | | | |
| McCloud Arm Ramps (952 msl) | 93 | 92 | 89 | -3 | 90 | -2 | 90 | -2 | 92 | 0 | 92 | 0 |
| Sacramento Arm Ramps (950 msl) | 94 | 92 | 89 | -3 | 91 | -1 | 92 | 0 | 92 | 0 | 92 | 0 |
| Sacramento Arm Marina (937 msl) | 95 | 93 | 89 | -4 | 93 | 0 | 94 | 1 | 93 | 0 | 94 | 1 |
| Pit Arm Ramps (907 msl) | 98 | 98 | 93 | -5 | 96 | -2 | 98 | 0 | 98 | 0 | 99 | 1 |
| Centimudi Ramp (844 msl) | 100 | 100 | 97 | -3 | 100 | 0 | 100 | 0 | 100 | 0 | 100 | 0 |
| **Folsom Reservoir** | | | | | | | | | | | | |
| Last boat ramp out of operation (360 msl) | 99 | 98 | 95 | -3 | 98 | 0 | 98 | 0 | 98 | 0 | 98 | 0 |
| Limited lake surface area (boating constrained at 400 msl) | 89 | 87 | 77 | -10 | 83 | -4 | 86 | -1 | 87 | 0 | 89 | 2 |
| Marina closes (405 msl) | 82 | 80 | 72 | -8 | 76 | -4 | 79 | -1 | 80 | 0 | 83 | 3 |
| Decline in campground/picnicking use (430 msl) | 56 | 56 | 53 | -3 | 53 | -3 | 54 | -2 | 56 | 0 | 55 | -1 |
| Beach area inundated (450 msl) | 32 | 31 | 29 | -2 | 30 | -1 | 30 | -1 | 31 | 0 | 31 | 0 |
| **Oroville Reservoir** | | | | | | | | | | | | |
| Decline in campground/picnicking use (700 msl) | 94 | 91 | 92 | 1 | 91 | 0 | 91 | 0 | 91 | 0 | 91 | 0 |
| Limited boat ramp availability and relocation of marina (710 msl) | 92 | 89 | 90 | 1 | 90 | 1 | 90 | 1 | 89 | 0 | 89 | 0 |
| Limited lake surface area/boating constrained (750 msl) | 84 | 79 | 82 | 3 | 80 | 1 | 79 | 0 | 79 | 0 | 81 | 2 |
| Beach area closed (819 msl) | 63 | 53 | 51 | 2 | 52 | -1 | 52 | 0 | 53 | 0 | 54 | 1 |
| Decline in beach use (840 msl) | 55 | 45 | 43 | -2 | 45 | 0 | 45 | 0 | 45 | 0 | 47 | 2 |
| **San Luis Reservoir** | | | | | | | | | | | | |
| 340 msl – Last boat ramp out of operation | 98 | 99 | 100 | 1 | 98 | -1 | 100 | 1 | 99 | 0 | 99 | 0 |
| 360 msl – Limited lake surface/decline in campground use | 87 | 91 | 92 | 1 | 90 | -1 | 91 | 0 | 91 | 0 | 92 | 1 |
| **Whiskeytown Reservoir** | | | | | | | | | | | | |
| 1198 msl | 100 | 100 | 100 | 0 | 100 | 0 | 100 | 0? | 100 | 0 | 100 | 0 |
| 1195 msl | 100 | 100 | 100 | 0 | 100 | 0 | 100 | 0 | 100 | 0 | 100 | 0 |
| 1190 msl | 100 | 100 | 100 | 0 | 100 | 0 | 100 | 0 | 100 | 0 | 100 | 0 |

| | Existing Conditions | No Action | Maximum Flow | | Flow Evaluation | | | Percent Inflow | | Mechanical Restoration | | State Permit | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Estimated Annual Recreation Use and Change in Benefits Compared to No Action** | | | | | | | | | | | | | |
| | Amount | Amount | Amount | Percent Change from No Action | Amount | Percent Change from No Action | Percent Change from Existing Conditions | Amount | Percent Change from No Action | Amount | Percent Change from No Action | Amount | Percent Change from No Action |
| **Trinity Reservoir Benefits—Average Water-year Conditions** | | | | | | | | | | | | | |
| Recreations Benefits (million $) | 5.3 | ~~8.7~~ 8.8 | 8.4 | ~~-4~~ -5 | 8.8 | ~~66~~ 0 | 66 | 8.8 | ~~2~~ 1 | ~~8.7~~ 8.8 | 0 | 9.2 | ~~6~~ 5 |
| Visitor Days[eb] | 484,900 | ~~796,200~~ 803,600 | 766,200 | ~~-4~~ -5 | 802,800 | ~~66~~ 0 | 66 | 809,700 | ~~2~~ 1 | ~~796,200~~ 803,600 | 0 | 841,000 | ~~6~~ 5 |

**TABLE D-8**

~~Trinity, Shasta, and Folsom~~ Reservoir Recreation Opportunities, Use and Benefits[a]

| Estimated Annual Recreation Use and Change in Benefits Compared to No Action | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Existing Conditions | No Action | Maximum Flow | | Flow Evaluation | | | Percent Inflow | | Mechanical Restoration | | State Permit | |
| | Amount | Amount | Amount | Percent Change from No Action | Amount | Percent Change from No Action | Percent Change from Existing Conditions | Amount | Percent Change from No Action | Amount | Percent Change from No Action | Amount | Percent Change from No Action |
| **Shasta Reservoir Benefits—Average Water-year Conditions** | | | | | | | | | | | | | |
| Recreations Benefits (million $) | 38.0 | 61.9 | 56.9 | -8 | 60.4 | ~~60~~ -2 | 60 | 61.8 | 0 | 61.9 | 0 | 63.1 | 2 |
| Visitor Days[~~a~~b] | 3,483,100 | 5,682,700 | 5,216,500 | -8 | 5,583,400 | ~~60~~ -2 | 60 | 5,673,600 | 0 | 5,682,700 | 0 | 5,786,800 | 2 |
| **Trinity Reservoir – Dry water-year conditions** | | | | | | | | | | | | | |
| Recreations Benefits (million $) | 3.8 | ~~6.0~~ 6.3 | 8.2 | ~~36~~ 31 | 6.6 | ~~9~~ 5 | 75 | 6.8 | ~~13~~ 9 | ~~6.0~~ 6.3 | 0 | 6.4 | ~~5~~ 1 |
| Visitor Days[~~a~~b] | 346,500 | ~~555,300~~ 574,700 | 752,800 | ~~36~~ 31 | 604,900 | ~~9~~ 5 | 75 | 625,000 | ~~13~~ 9 | ~~555,300~~ 574,700 | 0 | 585,000 | ~~5~~ 2 |
| **Shasta Reservoir – Dry water-year conditions** | | | | | | | | | | | | | |
| Recreations Benefits (million $) | 28 | 44.6 | 30.7 | -31 | 41.9 | -6 | 50 | 44.3 | -1 | 44.6 | 0 | 45.3 | 2 |
| Visitor Days[~~a~~b] | 2,567,800 | 4,090,300 | 2,812,800 | -31 | 3,841,600 | -6 | 50 | 4,064,200 | -1 | 4,090,300 | 0 | 4,159,400 | 2 |

[a] Estimated annual recreation use and change in benefits were identified for only Trinity and Shasta Reservoirs given they were assumed to be the reservoirs most directly affected by the change in Trinity and Shasta Division operations.

~~[b] Long-term average water conditions.~~

[~~a~~b] Number of recreation visitor days (RVD).

### 2.4.4.2 Technical Appendix D—Attachments

D1 Recreation Technical Appendix – Attachment A *(NO CHANGE)*

D2 Trinity River Average Weekly Flow Data **(CHANGES FOLLOW)**

**Trinity River average weekly flow data for whitewater (query 300-8,000 cfs threshold) has been replaced with data for 450-8,000 cfs threshold (pg. 8).**

D3 Recreation Use and Economics Data **(CHANGES FOLLOW)**

**Table REC-3 has been modified to more accurately present Trinity Lake data (pg. 5).**

D4 Reservoir Data for Recreation Opportunities Analysis

TRINITY RESERVOIR DATA **(CHANGES FOLLOW)**

Trinity Reservoir 2320 msl Recreation Activity Threshold

**Page 1, No Action data, has been replaced with data based on revised elevation levels.**

Trinity Reservoir 2310 msl Recreation Activity Threshold

**Page 1, No Action data, has been replaced with data based on revised elevation levels.**

Trinity Reservoir 2295 msl Recreation Activity Threshold

**Page 1, No Action data, has been replaced with data based on revised elevation levels.**

Trinity Reservoir 2270 msl Recreation Activity Threshold

**Page 1, No Action data, has been replaced with data based on revised elevation levels.**

Trinity Reservoir 2170 msl Recreation Activity Threshold

**Page 1, No Action data, has been replaced with data based on revised elevation levels.**

SHASTA RESERVOIR DATA *(NO CHANGE)*

Shasta Reservoir 952 msl Recreation Activity Threshold

Shasta Reservoir 950 msl Recreation Activity Threshold

Shasta Reservoir 937 msl Recreation Activity Threshold

Shasta Reservoir 907 msl Recreation Activity Threshold

Shasta Reservoir 844 msl Recreation Activity Threshold

FOLSOM RESERVOIR DATA *(NO CHANGE)*

Folsom Reservoir 450 msl Recreation Activity Threshold

Folsom Reservoir 430 msl Recreation Activity Threshold

Folsom Reservoir 405 msl Recreation Activity Threshold

Folsom Reservoir 400 msl Recreation Activity Threshold



Main TOC Next Page

Folsom Reservoir 360 msl Recreation Activity Threshold

WHISKEYTOWN RESERVOIR DATA **(CHANGES FOLLOW)**

Whiskeytown Reservoir 1198 msl Recreation Activity Threshold

**Page 6, Existing Conditions data, has been replaced with data based on revised elevation levels.**

Whiskeytown Reservoir 1195 msl Recreation Activity Threshold

**Page 6, Existing Conditions data, has been replaced with data based on revised elevation levels.**

Whiskeytown Reservoir 1190 msl Recreation Activity Threshold

**Page 6, Existing Conditions data, has been replaced with data based on revised elevation levels.**

OROVILLE RESERVOIR DATA *(NO CHANGE)*

Oroville Reservoir 840 msl Recreation Activity Threshold

Oroville Reservoir 819 msl Recreation Activity Threshold

Oroville Reservoir 750 msl Recreation Activity Threshold

Oroville Reservoir 710 msl Recreation Activity Threshold

Oroville Reservoir 700 msl Recreation Activity Threshold

SAN LUIS RESERVOIR DATA *(NO CHANGE)*

San Luis Reservoir 360 msl Recreation Activity Threshold

San Luis Reservoir 340 msl Recreation Activity Threshold

**Attachment D2** **Average Weekly Flow Data[1] (cfs) Used for Recreation Opportunities Analysis - Proposed Trinity River Mainstem Fishery Restoration EIS/EIR Flow Alternatives**

## Totals for Whitewater Query (Preferred Threshold = 450-8,000 cfs)

| | No Action/ | Maximum Flow Alternative | | | | | Flow Evaluation Alternative | | | | | Percent Inflow Alternative | | | | | State |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Existing | Refined | | | | | Refined | | | | | | | | | | Permit |
| | Conditions | Ex. Wet | Wet | Normal | Dry | Crit. Dry | Ex. Wet | Wet | Normal | Dry | Crit. Dry | Ex. Wet | Wet | Normal | Dry | Crit. Dry | Alternative |
| 30-Sep | 450 | 300 | 300 | 300 | 300 | 300 | 450 | 450 | 450 | 450 | 450 | 111 | 82 | 70 | 54 | 61 | 200 |
| 7-Oct | 450 | 300 | 300 | 300 | 300 | 300 | 450 | 450 | 450 | 450 | 450 | 111 | 75 | 77 | 69 | 88 | 200 |
| 14-Oct | 328 | 300 | 300 | 300 | 300 | 300 | 321 | 321 | 321 | 321 | 321 | 271 | 200 | 82 | 86 | 75 | 200 |
| 21-Oct | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 177 | 126 | 129 | 78 | 70 | 200 |
| 28-Oct | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 429 | 149 | 93 | 158 | 65 | 200 |
| 4-Nov | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 266 | 366 | 134 | 122 | 116 | 250 |
| 11-Nov | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 982 | 289 | 194 | 169 | 127 | 250 |
| 18-Nov | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 1845 | 375 | 291 | 312 | 122 | 250 |
| 25-Nov | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 1055 | 590 | 275 | 230 | 99 | 250 |
| 2-Dec | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 937 | 726 | 284 | 232 | 111 | 200 |
| 9-Dec | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 593 | 868 | 263 | 383 | 171 | 200 |
| 16-Dec | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 1410 | 900 | 227 | 358 | 187 | 200 |
| 23-Dec | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 1661 | 1595 | 324 | 268 | 118 | 200 |
| 30-Dec | 300 | 3000 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 1238 | 1019 | 311 | 241 | 125 | 200 |
| 6-Jan | 300 | 3000 | 3000 | 3000 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 826 | 820 | 313 | 256 | 142 | 150 |
| 13-Jan | 300 | 3000 | 3000 | 3000 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 1064 | 859 | 770 | 273 | 149 | 150 |
| 20-Jan | 300 | 3000 | 3000 | 3000 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 3123 | 1307 | 634 | 271 | 140 | 150 |
| 27-Jan | 300 | 3000 | 3000 | 3000 | 1900 | 300 | 300 | 300 | 300 | 300 | 300 | 1421 | 1345 | 558 | 384 | 169 | 150 |
| 3-Feb | 300 | 3000 | 3000 | 3000 | 1950 | 300 | 300 | 300 | 300 | 300 | 300 | 1231 | 1316 | 635 | 314 | 212 | 150 |
| 10-Feb | 300 | 3000 | 3000 | 3000 | 2000 | 300 | 300 | 300 | 300 | 300 | 300 | 1666 | 1454 | 835 | 519 | 408 | 150 |
| 17-Feb | 300 | 3000 | 3000 | 3000 | 2000 | 300 | 300 | 300 | 300 | 300 | 300 | 1872 | 1469 | 738 | 617 | 246 | 150 |
| 24-Feb | 300 | 3000 | 3000 | 3000 | 2000 | 300 | 300 | 300 | 300 | 300 | 300 | 2132 | 1349 | 1110 | 513 | 245 | 150 |
| 3-Mar | 300 | 3000 | 3000 | 3000 | 2000 | 300 | 300 | 300 | 300 | 300 | 300 | 2456 | 1401 | 1120 | 565 | 210 | 150 |
| 10-Mar | 300 | 3000 | 3000 | 3000 | 2000 | 300 | 300 | 300 | 300 | 300 | 300 | 1788 | 1156 | 1311 | 763 | 381 | 150 |
| 17-Mar | 300 | 3000 | 3000 | 3000 | 2000 | 300 | 300 | 300 | 300 | 300 | 300 | 1660 | 1038 | 1296 | 792 | 429 | 150 |
| 24-Mar | 300 | 3000 | 3000 | 3000 | 2000 | 300 | 300 | 300 | 300 | 300 | 300 | 1582 | 1018 | 1156 | 770 | 567 | 150 |
| 31-Mar | 300 | 3000 | 3000 | 3000 | 2000 | 300 | 300 | 300 | 300 | 300 | 300 | 2087 | 1429 | 1306 | 880 | 491 | 150 |
| 7-Apr | 300 | 4441 | 3631 | 3000 | 2100 | 300 | 300 | 300 | 300 | 300 | 300 | 1982 | 1393 | 1406 | 1085 | 565 | 150 |
| 14-Apr | 300 | 5882 | 4262 | 3000 | 2500 | 300 | 300 | 300 | 300 | 300 | 300 | 1788 | 1635 | 1563 | 1235 | 542 | 150 |
| 21-Apr | 300 | 7323 | 4893 | 3000 | 2900 | 300 | 500 | 500 | 500 | 557 | 1243 | 1949 | 1873 | 1740 | 1282 | 518 | 150 |
| 28-Apr | 300 | 8764 | 5524 | 4215 | 3800 | 300 | 1500 | 2000 | 2500 | 4071 | 1500 | 2202 | 2068 | 1551 | 1266 | 578 | 150 |
| 5-May | 1714 | 10205 | 6155 | 5429 | 2500 | 300 | 2000 | 2500 | 5683 | 3788 | 1500 | 2613 | 1994 | 1569 | 1306 | 696 | 150 |
| 12-May | 2000 | 11643 | 6786 | 4000 | 2300 | 1250 | 2000 | 5857 | 5006 | 2783 | 1500 | 2968 | 2287 | 1613 | 1234 | 608 | 150 |
| 19-May | 1700 | 27857 | 6429 | 2714 | 2100 | 2000 | 7786 | 7071 | 3867 | 2045 | 1500 | 3164 | 2476 | 1555 | 1198 | 562 | 150 |
| **PRIMARY RECREATION SEASON FLOWS:** | | | | | | | | | | | | | | | | | |
| 26-May | **1086** | **7929** | **4286** | **2300** | **2000** | **2000** | **9810** [2] | **5285** | **2988** | **1503** | **1445** | **3745** | **2335** | **1241** | **1051** | **574** | 150 |
| 2-Jun | **1000** | **5000** | **3714** | **2000** | **2000** | **2000** | **6476** | **3362** | **2309** | **1104** | **1104** | **3394** | **1813** | **1200** | **969** | 392 | 150 |
| 9-Jun | **628** | **4286** | **2714** | **2000** | **2000** | **2000** | **5104** | **2179** | **2000** | **811** | **811** | **2805** | **1414** | **1041** | **723** | 303 | 150 |
| 16-Jun | **450** | **2643** | **2400** | **2000** | **2000** | **2000** | **3464** | **2000** | **2000** | **596** | **596** | **2257** | **1088** | **745** | **573** | 267 | 150 |
| 23-Jun | **450** | **2000** | **2000** | **2000** | **2000** | **2000** | **2355** | **2000** | **2000** | **461** | **461** | **1751** | **857** | **488** | 416 | 273 | 150 |
| 30-Jun | **450** | **2000** | **2000** | **2000** | **2000** | **900** | **2000** | **2000** | **2000** | **450** | **450** | **1400** | **593** | 342 | 285 | 146 | 150 |
| 7-Jul | **450** | **2000** | **2000** | **1500** | **1500** | **900** | **1543** | **1543** | **1543** | **450** | **450** | **1116** | 430 | 248 | 202 | 99 | 150 |
| 14-Jul | **450** | **1700** | **1800** | **1200** | **1100** | **900** | **696** | **696** | **696** | **450** | **450** | **818** | 313 | 189 | 150 | 73 | 150 |
| 21-Jul | **450** | **1200** | **1000** | **800** | **700** | **900** | **450** | **450** | **450** | **450** | **450** | **579** | 237 | 147 | 118 | 61 | 150 |
| 28-Jul | **450** | **629** | **900** | **650** | **700** | **900** | **450** | **450** | **450** | **450** | **450** | 443 | 181 | 115 | 93 | 51 | 150 |
| 4-Aug | **450** | **450** | **900** | **650** | **700** | **900** | **450** | **450** | **450** | **450** | **450** | 312 | 145 | 96 | 83 | 42 | 150 |
| 11-Aug | **450** | **450** | **800** | **650** | **700** | **900** | **450** | **450** | **450** | **450** | **450** | 233 | 118 | 84 | 72 | 38 | 150 |
| 18-Aug | **450** | **450** | **670** | **650** | **700** | **900** | **450** | **450** | **450** | **450** | **450** | 187 | 102 | 75 | 65 | 34 | 150 |
| 25-Aug | **450** | **450** | **650** | **650** | **700** | **900** | **450** | **450** | **450** | **450** | **450** | 172 | 93 | 70 | 58 | 33 | 150 |
| 1-Sep | **450** | **450** | **650** | **650** | **700** | **900** | **450** | **450** | **450** | **450** | **450** | 148 | 97 | 64 | 55 | 33 | 150 |
| 8-Sep | 450 | 300 | 650 | 650 | 700 | 900 | 450 | 450 | 450 | 450 | 450 | 150 | 84 | 58 | 52 | 30 | 150 |
| 15-Sep | 450 | 300 | 300 | 300 | 300 | 300 | 450 | 450 | 450 | 450 | 450 | 168 | 81 | 55 | 50 | 29 | 150 |
| 22-Sep | 450 | 300 | 300 | 300 | 300 | 300 | 450 | 450 | 450 | 450 | 450 | 116 | 92 | 73 | 50 | 50 | 150 |
| **# Weeks Out of Preferred** | **0** | **0** | **0** | **0** | **0** | **0** | **1** | **0** | **0** | **0** | **0** | **6** | **9** | **10** | **11** | **14** | **15** |
| **# Weeks In Preferred Range** | **15** | **15** | **15** | **15** | **15** | **15** | **14** | **15** | **15** | **15** | **15** | **9** | **6** | **5** | **4** | **1** | **0** |

[1] Average weekly flows are shown for the entire year. However, whitewater flows are only evaluated in the DEIS/EIR for the Primary Recreation Season because this is the period in which Lewiston releases play the greatest role in Trinity River flows. Tributary inflows play a much greater role in Trinity River Flows during the remainder of the year.

[2] Whitewater kayaking and rafting are constrained during the last week of May during the extremely wet water-year class when the Trinity River flows exceed the upper preferred threshold of 8,000 cfs for white-water activities. In general, however, those who prefer flows on the higher end of the preferred range would experience improved conditions compared to No Action.

## Attachment D3

### Table REC-3. Estimated Visitor Days and Recreation Benefits at Lake Shasta and Trinity Lake, by Alternative (Average and Dry Water Year Conditions)

**AVERAGE WATER-YEAR CONDITIONS**

| NEPA Analysis | No Action Alternative | | Maximum Flow | | Flow Study | | Percent Inflow | | Mech. Restoration | | State Permit | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Visitor Days | Benefits | Visitor Days | Benefits | Visitor Days | Benefits | Visitor Days | Benefits | Visitor Days | Benefits | Visitor Days | Benefits |
| Lake Shasta | 5,682,700 | $61,941,430 | 5,216,500 | $56,859,850 | 5,583,400 | $60,859,060 | 5,673,600 | $61,842,240 | 5,682,700 | $61,941,430 | 5,786,800 | $63,076,120 |
| Net change /a | | | -466,200 | -$5,081,580 | -99,300 | -$1,082,370 | -9,100 | -$99,190 | 0 | $0 | 104,100 | $1,134,690 |
| Percent change/a | | | -8% | -8% | -2% | -2% | 0% | 0% | 0% | 0% | 2% | 2% |
| Trinity Lake | 803,600 | $8,759,240 | 766,200 | $8,351,580 | 802,800 | $8,750,520 | 809,700 | $8,825,730 | 803,600 | $8,759,240 | 841,000 | $9,166,900 |
| Net change/a | | | -37,400 | -$407,660 | -800 | -$8,720 | 6,100 | $66,490 | 0 | $0 | 37,400 | $407,660 |
| Percent change/a | | | -5% | -5% | 0% | 0% | 1% | 1% | 0% | 0% | 5% | 5% |

| CEQA Analysis | 1995 Existing Conditions | | Preferred Alternative | |
|---|---|---|---|---|
| | Visitor Days | Benefits | Visitor Days | Benefits |
| Lake Shasta | 3,483,100 | $37,965,790 | 5,583,400 | $60,859,060 |
| Net change/b | | | 2,100,300 | $22,893,270 |
| Percent change/b | | | 60% | 60% |
| Trinity Lake | 484,900 | $5,285,410 | 802,800 | $8,750,520 |
| Net change/b | | | 317,900 | $3,465,110 |
| Percent change/b | | | 66% | 66% |

**DRY WATER-YEAR CONDITIONS**

| NEPA Analysis | No Action Alternative | | Maximum Flow | | Flow Study | | Percent Inflow | | Mech. Restoration | | State Permit | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Visitor Days | Benefits | Visitor Days | Benefits | Visitor Days | Benefits | Visitor Days | Benefits | Visitor Days | Benefits | Visitor Days | Benefits |
| Lake Shasta | 4,090,300 | $44,584,270 | 2,812,800 | $30,659,520 | 3,841,600 | $41,873,440 | 4,064,200 | $44,299,780 | 4,090,300 | $44,584,270 | 4,159,400 | $45,337,460 |
| Net change /a | | | -1,277,500 | -$13,924,750 | -248,700 | -$2,710,830 | -26,100 | -$284,490 | 0 | $0 | 69,100 | $753,190 |
| Percent change/a | | | -31% | -31% | -6% | -6% | -1% | -1% | 0% | 0% | 2% | 2% |
| Trinity Lake | 574,700 | $6,264,230 | 752,800 | $8,205,520 | 604,900 | $6,593,410 | 625,000 | $6,812,500 | 574,700 | $6,264,230 | 585,000 | $6,376,500 |
| Net change/a | | | 178,100 | $1,941,290 | 30,200 | $329,180 | 50,300 | $548,270 | 0 | $0 | 10,300 | $112,270 |
| Percent change/a | | | 31% | 31% | 5% | 5% | 9% | 9% | 0% | 0% | 2% | 2% |

| CEQA Analysis | 1995 Existing Conditions | | Preferred Alternative | |
|---|---|---|---|---|
| | Visitor Days | Benefits | Visitor Days | Benefits |
| Lake Shasta | 2,567,800 | $27,989,020 | 3,841,600 | $41,873,440 |
| Net change/b | | | 1,273,800 | $13,884,420 |
| Percent change/b | | | 50% | 50% |
| Trinity Lake | 346,500 | $3,776,850 | 604,900 | $6,593,410 |
| Net change/b | | | 258,400 | $2,816,560 |
| Percent change/b | | | 75% | 75% |

Notes:
All benefits are expressed in 1997 dollars.
Benefits were estimated based on an average value of $10.90 per recreation visitor day as derived from a study of recreation benefits at Lake Isabella in Califonia Loomis 1995).
a/ Change as compared to levels under the No Action Alternative.
b/ Change as compared to levels under the 1995 Existing Conditions.

**Attachment D4**

Trinity Elevation (ft)
No Action

On average, how many of these months (recreation season May - Sept.) does the reservoir drop below the Stuart Forks Ramp threshold of 2320 msl?

| Year | MAY | JUN | JUL | AUG | SEP | **Months** | **% of Season** |
|---|---|---|---|---|---|---|---|
| 1922 | 2344 | 2345 | 2334 | 2327 | 2320 | 1 | 20% |
| 1923 | 2327 | 2314 | 2296 | 2275 | 2272 | 4 | 80% |
| 1924 | 2228 | 2219 | 2211 | 2190 | 2182 | 5 | 100% |
| 1925 | 2299 | 2300 | 2289 | 2284 | 2282 | 5 | 100% |
| 1926 | 2311 | 2294 | 2273 | 2248 | 2243 | 5 | 100% |
| 1927 | 2349 | 2351 | 2342 | 2336 | 2329 | 0 | 0% |
| 1928 | 2357 | 2344 | 2329 | 2312 | 2299 | 2 | 40% |
| 1929 | 2286 | 2271 | 2256 | 2248 | 2241 | 5 | 100% |
| 1930 | 2279 | 2270 | 2255 | 2249 | 2244 | 5 | 100% |
| 1931 | 2235 | 2219 | 2209 | 2184 | 2178 | 5 | 100% |
| 1932 | 2230 | 2208 | 2184 | 2179 | 2173 | 5 | 100% |
| 1933 | 2224 | 2228 | 2218 | 2192 | 2184 | 5 | 100% |
| 1934 | 2238 | 2220 | 2202 | 2184 | 2179 | 5 | 100% |
| 1935 | 2255 | 2245 | 2239 | 2232 | 2217 | 5 | 100% |
| 1936 | 2261 | 2258 | 2244 | 2238 | 2231 | 5 | 100% |
| 1937 | 2269 | 2270 | 2257 | 2252 | 2246 | 5 | 100% |
| 1938 | 2364 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1939 | 2316 | 2300 | 2279 | 2255 | 2251 | 5 | 100% |
| 1940 | 2336 | 2326 | 2311 | 2292 | 2285 | 3 | 60% |
| 1941 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1942 | 2368 | 2369 | 2358 | 2351 | 2338 | 0 | 0% |
| 1943 | 2360 | 2355 | 2344 | 2338 | 2329 | 0 | 0% |
| 1944 | 2322 | 2309 | 2292 | 2270 | 2264 | 4 | 80% |
| 1945 | 2310 | 2314 | 2303 | 2285 | 2274 | 5 | 100% |
| 1946 | 2332 | 2323 | 2311 | 2292 | 2287 | 3 | 60% |
| 1947 | 2296 | 2288 | 2266 | 2241 | 2236 | 5 | 100% |
| 1948 | 2296 | 2310 | 2301 | 2294 | 2291 | 5 | 100% |
| 1949 | 2335 | 2325 | 2309 | 2290 | 2286 | 3 | 60% |
| 1950 | 2311 | 2303 | 2291 | 2276 | 2272 | 5 | 100% |
| 1951 | 2358 | 2348 | 2333 | 2317 | 2314 | 2 | 40% |
| 1952 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1953 | 2366 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1954 | 2358 | 2349 | 2335 | 2319 | 2315 | 2 | 40% |
| 1955 | 2320 | 2309 | 2294 | 2276 | 2272 | 5 | 100% |
| 1956 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1957 | 2355 | 2353 | 2340 | 2334 | 2330 | 0 | 0% |
| 1958 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1959 | 2338 | 2327 | 2311 | 2292 | 2289 | 3 | 60% |
| 1960 | 2316 | 2311 | 2300 | 2285 | 2282 | 5 | 100% |
| 1961 | 2334 | 2329 | 2314 | 2295 | 2292 | 3 | 60% |
| 1962 | 2320 | 2315 | 2304 | 2285 | 2280 | 5 | 100% |
| 1963 | 2367 | 2367 | 2356 | 2351 | 2339 | 0 | 0% |
| 1964 | 2314 | 2301 | 2283 | 2261 | 2258 | 5 | 100% |
| 1965 | 2348 | 2344 | 2333 | 2328 | 2325 | 0 | 0% |
| 1966 | 2359 | 2348 | 2335 | 2319 | 2314 | 2 | 40% |
| 1967 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1968 | 2342 | 2330 | 2313 | 2295 | 2288 | 3 | 60% |
| 1969 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1970 | 2337 | 2328 | 2312 | 2296 | 2290 | 3 | 60% |
| 1971 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1972 | 2351 | 2341 | 2326 | 2309 | 2301 | 2 | 40% |
| 1973 | 2361 | 2353 | 2339 | 2333 | 2329 | 0 | 0% |
| 1974 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1975 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1976 | 2334 | 2320 | 2303 | 2284 | 2281 | 4 | 80% |
| 1977 | 2230 | 2200 | 2184 | 2179 | 2176 | 5 | 100% |
| 1978 | 2330 | 2342 | 2335 | 2330 | 2328 | 0 | 0% |
| 1979 | 2352 | 2341 | 2325 | 2310 | 2305 | 2 | 40% |
| 1980 | 2361 | 2353 | 2344 | 2338 | 2334 | 0 | 0% |
| 1981 | 2349 | 2336 | 2319 | 2301 | 2297 | 3 | 60% |
| 1982 | 2367 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1983 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1984 | 2362 | 2354 | 2343 | 2338 | 2334 | 0 | 0% |
| 1985 | 2328 | 2314 | 2296 | 2275 | 2271 | 4 | 80% |
| 1986 | 2343 | 2333 | 2317 | 2298 | 2295 | 3 | 60% |
| 1987 | 2315 | 2300 | 2280 | 2257 | 2252 | 5 | 100% |
| 1988 | 2288 | 2280 | 2267 | 2251 | 2244 | 5 | 100% |
| 1989 | 2302 | 2293 | 2283 | 2278 | 2275 | 5 | 100% |
| 1990 | 2290 | 2277 | 2263 | 2236 | 2229 | 5 | 100% |
| 1991 | 2231 | 2217 | 2211 | 2193 | 2184 | 5 | 100% |
| | | | | | | 191 | 55% |
| | | | | | Percent Availability During Recreation Season | | 45% |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1922 | 2344 | 2345 | 2334 | 2327 | 2320 | 0 | 0% |
| 1923 | 2327 | 2314 | 2296 | 2275 | 2272 | 3 | 60% |
| 1924 | 2228 | 2219 | 2211 | 2190 | 2182 | 5 | 100% |
| 1925 | 2299 | 2300 | 2289 | 2284 | 2282 | 5 | 100% |
| 1926 | 2311 | 2294 | 2273 | 2248 | 2243 | 4 | 80% |

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**Attachment D4**

Trinity Elevation (ft)
No Action

On average, how many of these months (recreation season May - Sept.) does the reservoir drop below the Stuart Forks Ramp threshold of 2320 msl?

| Year | MAY | JUN | JUL | AUG | SEP | **Months** | **% of Season** |
|---|---|---|---|---|---|---|---|
| 1927 | 2349 | 2351 | 2342 | 2336 | 2329 | 0 | 0% |
| 1928 | 2357 | 2344 | 2329 | 2312 | 2299 | 1 | 20% |
| 1929 | 2286 | 2271 | 2256 | 2248 | 2241 | 5 | 100% |
| 1930 | 2279 | 2270 | 2255 | 2249 | 2244 | 5 | 100% |
| 1931 | 2235 | 2219 | 2209 | 2184 | 2178 | 5 | 100% |
| 1932 | 2230 | 2208 | 2184 | 2179 | 2173 | 5 | 100% |
| 1933 | 2224 | 2228 | 2218 | 2192 | 2184 | 5 | 100% |
| 1934 | 2238 | 2220 | 2202 | 2184 | 2179 | 5 | 100% |
| 1935 | 2255 | 2245 | 2239 | 2232 | 2217 | 5 | 100% |
| 1936 | 2261 | 2258 | 2244 | 2238 | 2231 | 5 | 100% |
| 1937 | 2269 | 2270 | 2257 | 2252 | 2246 | 5 | 100% |
| 1938 | 2364 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1939 | 2316 | 2300 | 2279 | 2255 | 2251 | 4 | 80% |
| 1940 | 2336 | 2326 | 2311 | 2292 | 2285 | 2 | 40% |
| 1941 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1942 | 2368 | 2369 | 2358 | 2351 | 2338 | 0 | 0% |
| 1943 | 2360 | 2355 | 2344 | 2338 | 2329 | 0 | 0% |
| 1944 | 2322 | 2309 | 2292 | 2270 | 2264 | 4 | 80% |
| 1945 | 2310 | 2314 | 2303 | 2285 | 2274 | 4 | 80% |
| 1946 | 2332 | 2323 | 2311 | 2292 | 2287 | 2 | 40% |
| 1947 | 2296 | 2288 | 2266 | 2241 | 2236 | 5 | 100% |
| 1948 | 2296 | 2310 | 2301 | 2294 | 2291 | 5 | 100% |
| 1949 | 2335 | 2325 | 2309 | 2290 | 2286 | 3 | 60% |
| 1950 | 2311 | 2303 | 2291 | 2276 | 2272 | 4 | 80% |
| 1951 | 2358 | 2348 | 2333 | 2317 | 2314 | 0 | 0% |
| 1952 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1953 | 2366 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1954 | 2358 | 2349 | 2335 | 2319 | 2315 | 0 | 0% |
| 1955 | 2320 | 2309 | 2294 | 2276 | 2272 | 4 | 80% |
| 1956 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1957 | 2355 | 2353 | 2340 | 2334 | 2330 | 0 | 0% |
| 1958 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1959 | 2338 | 2327 | 2311 | 2292 | 2289 | 2 | 40% |
| 1960 | 2316 | 2311 | 2300 | 2285 | 2282 | 3 | 60% |
| 1961 | 2334 | 2329 | 2314 | 2295 | 2292 | 2 | 40% |
| 1962 | 2320 | 2315 | 2304 | 2285 | 2280 | 3 | 60% |
| 1963 | 2367 | 2367 | 2356 | 2351 | 2339 | 0 | 0% |
| 1964 | 2314 | 2301 | 2283 | 2261 | 2258 | 4 | 80% |
| 1965 | 2348 | 2344 | 2333 | 2328 | 2325 | 0 | 0% |
| 1966 | 2359 | 2348 | 2335 | 2319 | 2314 | 0 | 0% |
| 1967 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1968 | 2342 | 2330 | 2313 | 2295 | 2288 | 2 | 40% |
| 1969 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1970 | 2337 | 2328 | 2312 | 2296 | 2290 | 2 | 40% |
| 1971 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1972 | 2351 | 2341 | 2326 | 2309 | 2301 | 2 | 40% |
| 1973 | 2361 | 2353 | 2339 | 2333 | 2329 | 0 | 0% |
| 1974 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1975 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1976 | 2334 | 2320 | 2303 | 2284 | 2281 | 3 | 60% |
| 1977 | 2230 | 2200 | 2184 | 2179 | 2176 | 5 | 100% |
| 1978 | 2330 | 2342 | 2335 | 2330 | 2328 | 0 | 0% |
| 1979 | 2352 | 2341 | 2325 | 2310 | 2305 | 2 | 40% |
| 1980 | 2361 | 2353 | 2344 | 2338 | 2334 | 0 | 0% |
| 1981 | 2349 | 2336 | 2319 | 2301 | 2297 | 2 | 40% |
| 1982 | 2367 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1983 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1984 | 2362 | 2354 | 2343 | 2338 | 2334 | 0 | 0% |
| 1985 | 2328 | 2314 | 2296 | 2275 | 2271 | 3 | 60% |
| 1986 | 2343 | 2333 | 2317 | 2298 | 2295 | 2 | 40% |
| 1987 | 2315 | 2300 | 2280 | 2257 | 2252 | 4 | 80% |
| 1988 | 2288 | 2280 | 2267 | 2251 | 2244 | 5 | 100% |
| 1989 | 2302 | 2293 | 2283 | 2278 | 2275 | 5 | 100% |
| 1990 | 2290 | 2277 | 2263 | 2236 | 2229 | 5 | 100% |
| 1991 | 2231 | 2217 | 2211 | 2193 | 2184 | 5 | 100% |
| | | | | | | 161 | 46% |
| | | | | | Percent Availability During Recreation Season | | 54% |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1922 | 2344 | 2345 | 2334 | 2327 | 2320 | 0 | 0% |
| 1923 | 2327 | 2314 | 2296 | 2275 | 2272 | 2 | 40% |
| 1924 | 2228 | 2219 | 2211 | 2190 | 2182 | 5 | 100% |
| 1925 | 2299 | 2300 | 2289 | 2284 | 2282 | 3 | 60% |
| 1926 | 2311 | 2294 | 2273 | 2248 | 2243 | 4 | 80% |
| 1927 | 2349 | 2351 | 2342 | 2336 | 2329 | 0 | 0% |
| 1928 | 2357 | 2344 | 2329 | 2312 | 2299 | 0 | 0% |
| 1929 | 2286 | 2271 | 2256 | 2248 | 2241 | 5 | 100% |
| 1930 | 2279 | 2270 | 2255 | 2249 | 2244 | 5 | 100% |
| 1931 | 2235 | 2219 | 2209 | 2184 | 2178 | 5 | 100% |

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**Attachment D4**

Trinity Elevation (ft)
No Action

On average, how many of these months (recreation season May - Sept.) does the reservoir drop below the Stuart Forks Ramp threshold of 2320 msl?

| Year | MAY | JUN | JUL | AUG | SEP | **Months** | **% of Season** |
|---|---|---|---|---|---|---|---|
| 1932 | 2230 | 2208 | 2184 | 2179 | 2173 | 5 | 100% |
| 1933 | 2224 | 2228 | 2218 | 2192 | 2184 | 5 | 100% |
| 1934 | 2238 | 2220 | 2202 | 2184 | 2179 | 5 | 100% |
| 1935 | 2255 | 2245 | 2239 | 2232 | 2217 | 5 | 100% |
| 1936 | 2261 | 2258 | 2244 | 2238 | 2231 | 5 | 100% |
| 1937 | 2269 | 2270 | 2257 | 2252 | 2246 | 5 | 100% |
| 1938 | 2364 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1939 | 2316 | 2300 | 2279 | 2255 | 2251 | 3 | 60% |
| 1940 | 2336 | 2326 | 2311 | 2292 | 2285 | 2 | 40% |
| 1941 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1942 | 2368 | 2369 | 2358 | 2351 | 2338 | 0 | 0% |
| 1943 | 2360 | 2355 | 2344 | 2338 | 2329 | 0 | 0% |
| 1944 | 2322 | 2309 | 2292 | 2270 | 2264 | 3 | 60% |
| 1945 | 2310 | 2314 | 2303 | 2285 | 2274 | 2 | 40% |
| 1946 | 2332 | 2323 | 2311 | 2292 | 2287 | 2 | 40% |
| 1947 | 2296 | 2288 | 2266 | 2241 | 2236 | 4 | 80% |
| 1948 | 2296 | 2310 | 2301 | 2294 | 2291 | 2 | 40% |
| 1949 | 2335 | 2325 | 2309 | 2290 | 2286 | 2 | 40% |
| 1950 | 2311 | 2303 | 2291 | 2276 | 2272 | 3 | 60% |
| 1951 | 2358 | 2348 | 2333 | 2317 | 2314 | 0 | 0% |
| 1952 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1953 | 2366 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1954 | 2358 | 2349 | 2335 | 2319 | 2315 | 0 | 0% |
| 1955 | 2320 | 2309 | 2294 | 2276 | 2272 | 3 | 60% |
| 1956 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1957 | 2355 | 2353 | 2340 | 2334 | 2330 | 0 | 0% |
| 1958 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1959 | 2338 | 2327 | 2311 | 2292 | 2289 | 2 | 40% |
| 1960 | 2316 | 2311 | 2300 | 2285 | 2282 | 2 | 40% |
| 1961 | 2334 | 2329 | 2314 | 2295 | 2292 | 2 | 40% |
| 1962 | 2320 | 2315 | 2304 | 2285 | 2280 | 2 | 40% |
| 1963 | 2367 | 2367 | 2356 | 2351 | 2339 | 0 | 0% |
| 1964 | 2314 | 2301 | 2283 | 2261 | 2258 | 3 | 60% |
| 1965 | 2348 | 2344 | 2333 | 2328 | 2325 | 0 | 0% |
| 1966 | 2359 | 2348 | 2335 | 2319 | 2314 | 0 | 0% |
| 1967 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1968 | 2342 | 2330 | 2313 | 2295 | 2288 | 2 | 40% |
| 1969 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1970 | 2337 | 2328 | 2312 | 2296 | 2290 | 1 | 20% |
| 1971 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1972 | 2351 | 2341 | 2326 | 2309 | 2301 | 0 | 0% |
| 1973 | 2361 | 2353 | 2339 | 2333 | 2329 | 0 | 0% |
| 1974 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1975 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1976 | 2334 | 2320 | 2303 | 2284 | 2281 | 2 | 40% |
| 1977 | 2230 | 2200 | 2184 | 2179 | 2176 | 5 | 100% |
| 1978 | 2330 | 2342 | 2335 | 2330 | 2328 | 0 | 0% |
| 1979 | 2352 | 2341 | 2325 | 2310 | 2305 | 0 | 0% |
| 1980 | 2361 | 2353 | 2344 | 2338 | 2334 | 0 | 0% |
| 1981 | 2349 | 2336 | 2319 | 2301 | 2297 | 0 | 0% |
| 1982 | 2367 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1983 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1984 | 2362 | 2354 | 2343 | 2338 | 2334 | 0 | 0% |
| 1985 | 2328 | 2314 | 2296 | 2275 | 2271 | 2 | 40% |
| 1986 | 2343 | 2333 | 2317 | 2298 | 2295 | 1 | 20% |
| 1987 | 2315 | 2300 | 2280 | 2257 | 2252 | 3 | 60% |
| 1988 | 2288 | 2280 | 2267 | 2251 | 2244 | 5 | 100% |
| 1989 | 2302 | 2293 | 2283 | 2278 | 2275 | 4 | 80% |
| 1990 | 2290 | 2277 | 2263 | 2236 | 2229 | 5 | 100% |
| 1991 | 2231 | 2217 | 2211 | 2193 | 2184 | 5 | 100% |
| | | | | | | 131 | 37% |
| | | | | | Percent Availability During Recreation Season | | 63% |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1922 | 2344 | 2345 | 2334 | 2327 | 2320 | 0 | 0% |
| 1923 | 2327 | 2314 | 2296 | 2275 | 2272 | 0 | 0% |
| 1924 | 2228 | 2219 | 2211 | 2190 | 2182 | 5 | 100% |
| 1925 | 2299 | 2300 | 2289 | 2284 | 2282 | 0 | 0% |
| 1926 | 2311 | 2294 | 2273 | 2248 | 2243 | 2 | 40% |
| 1927 | 2349 | 2351 | 2342 | 2336 | 2329 | 0 | 0% |
| 1928 | 2357 | 2344 | 2329 | 2312 | 2299 | 0 | 0% |
| 1929 | 2286 | 2271 | 2256 | 2248 | 2241 | 3 | 60% |
| 1930 | 2279 | 2270 | 2255 | 2249 | 2244 | 4 | 80% |
| 1931 | 2235 | 2219 | 2209 | 2184 | 2178 | 5 | 100% |
| 1932 | 2230 | 2208 | 2184 | 2179 | 2173 | 5 | 100% |
| 1933 | 2224 | 2228 | 2218 | 2192 | 2184 | 5 | 100% |
| 1934 | 2238 | 2220 | 2202 | 2184 | 2179 | 5 | 100% |
| 1935 | 2255 | 2245 | 2239 | 2232 | 2217 | 5 | 100% |
| 1936 | 2261 | 2258 | 2244 | 2238 | 2231 | 5 | 100% |

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**Attachment D4**

Trinity Elevation (ft)
No Action

On average, how many of these months (recreation season May - Sept.) does the reservoir drop below the Stuart Forks Ramp threshold of 2320 msl?

| Year | MAY | JUN | JUL | AUG | SEP | **Months** | **% of Season** |
|---|---|---|---|---|---|---|---|
| 1937 | 2269 | 2270 | 2257 | 2252 | 2246 | 5 | 100% |
| 1938 | 2364 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1939 | 2316 | 2300 | 2279 | 2255 | 2251 | 2 | 40% |
| 1940 | 2336 | 2326 | 2311 | 2292 | 2285 | 0 | 0% |
| 1941 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1942 | 2368 | 2369 | 2358 | 2351 | 2338 | 0 | 0% |
| 1943 | 2360 | 2355 | 2344 | 2338 | 2329 | 0 | 0% |
| 1944 | 2322 | 2309 | 2292 | 2270 | 2264 | 2 | 40% |
| 1945 | 2310 | 2314 | 2303 | 2285 | 2274 | 0 | 0% |
| 1946 | 2332 | 2323 | 2311 | 2292 | 2287 | 0 | 0% |
| 1947 | 2296 | 2288 | 2266 | 2241 | 2236 | 3 | 60% |
| 1948 | 2296 | 2310 | 2301 | 2294 | 2291 | 0 | 0% |
| 1949 | 2335 | 2325 | 2309 | 2290 | 2286 | 0 | 0% |
| 1950 | 2311 | 2303 | 2291 | 2276 | 2272 | 0 | 0% |
| 1951 | 2358 | 2348 | 2333 | 2317 | 2314 | 0 | 0% |
| 1952 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1953 | 2366 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1954 | 2358 | 2349 | 2335 | 2319 | 2315 | 0 | 0% |
| 1955 | 2320 | 2309 | 2294 | 2276 | 2272 | 0 | 0% |
| 1956 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1957 | 2355 | 2353 | 2340 | 2334 | 2330 | 0 | 0% |
| 1958 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1959 | 2338 | 2327 | 2311 | 2292 | 2289 | 0 | 0% |
| 1960 | 2316 | 2311 | 2300 | 2285 | 2282 | 0 | 0% |
| 1961 | 2334 | 2329 | 2314 | 2295 | 2292 | 0 | 0% |
| 1962 | 2320 | 2315 | 2304 | 2285 | 2280 | 0 | 0% |
| 1963 | 2367 | 2367 | 2356 | 2351 | 2339 | 0 | 0% |
| 1964 | 2314 | 2301 | 2283 | 2261 | 2258 | 2 | 40% |
| 1965 | 2348 | 2344 | 2333 | 2328 | 2325 | 0 | 0% |
| 1966 | 2359 | 2348 | 2335 | 2319 | 2314 | 0 | 0% |
| 1967 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1968 | 2342 | 2330 | 2313 | 2295 | 2288 | 0 | 0% |
| 1969 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1970 | 2337 | 2328 | 2312 | 2296 | 2290 | 0 | 0% |
| 1971 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1972 | 2351 | 2341 | 2326 | 2309 | 2301 | 0 | 0% |
| 1973 | 2361 | 2353 | 2339 | 2333 | 2329 | 0 | 0% |
| 1974 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1975 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1976 | 2334 | 2320 | 2303 | 2284 | 2281 | 0 | 0% |
| 1977 | 2230 | 2200 | 2184 | 2179 | 2176 | 5 | 100% |
| 1978 | 2330 | 2342 | 2335 | 2330 | 2328 | 0 | 0% |
| 1979 | 2352 | 2341 | 2325 | 2310 | 2305 | 0 | 0% |
| 1980 | 2361 | 2353 | 2344 | 2338 | 2334 | 0 | 0% |
| 1981 | 2349 | 2336 | 2319 | 2301 | 2297 | 0 | 0% |
| 1982 | 2367 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1983 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1984 | 2362 | 2354 | 2343 | 2338 | 2334 | 0 | 0% |
| 1985 | 2328 | 2314 | 2296 | 2275 | 2271 | 0 | 0% |
| 1986 | 2343 | 2333 | 2317 | 2298 | 2295 | 0 | 0% |
| 1987 | 2315 | 2300 | 2280 | 2257 | 2252 | 2 | 40% |
| 1988 | 2288 | 2280 | 2267 | 2251 | 2244 | 3 | 60% |
| 1989 | 2302 | 2293 | 2283 | 2278 | 2275 | 0 | 0% |
| 1990 | 2290 | 2277 | 2263 | 2236 | 2229 | 3 | 60% |
| 1991 | 2231 | 2217 | 2211 | 2193 | 2184 | 5 | 100% |
| | | | | | | 76 | 22% |
| | | | | | Percent Availability During Recreation Season | | 78% |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1922 | 2344 | 2345 | 2334 | 2327 | 2320 | 0 | 0% |
| 1923 | 2327 | 2314 | 2296 | 2275 | 2272 | 0 | 0% |
| 1924 | 2228 | 2219 | 2211 | 2190 | 2182 | 0 | 0% |
| 1925 | 2299 | 2300 | 2289 | 2284 | 2282 | 0 | 0% |
| 1926 | 2311 | 2294 | 2273 | 2248 | 2243 | 0 | 0% |
| 1927 | 2349 | 2351 | 2342 | 2336 | 2329 | 0 | 0% |
| 1928 | 2357 | 2344 | 2329 | 2312 | 2299 | 0 | 0% |
| 1929 | 2286 | 2271 | 2256 | 2248 | 2241 | 0 | 0% |
| 1930 | 2279 | 2270 | 2255 | 2249 | 2244 | 0 | 0% |
| 1931 | 2235 | 2219 | 2209 | 2184 | 2178 | 0 | 0% |
| 1932 | 2230 | 2208 | 2184 | 2179 | 2173 | 0 | 0% |
| 1933 | 2224 | 2228 | 2218 | 2192 | 2184 | 0 | 0% |
| 1934 | 2238 | 2220 | 2202 | 2184 | 2179 | 0 | 0% |
| 1935 | 2255 | 2245 | 2239 | 2232 | 2217 | 0 | 0% |
| 1936 | 2261 | 2258 | 2244 | 2238 | 2231 | 0 | 0% |
| 1937 | 2269 | 2270 | 2257 | 2252 | 2246 | 0 | 0% |
| 1938 | 2364 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1939 | 2316 | 2300 | 2279 | 2255 | 2251 | 0 | 0% |
| 1940 | 2336 | 2326 | 2311 | 2292 | 2285 | 0 | 0% |
| 1941 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |

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**Attachment D4**

Trinity Elevation (ft)
No Action

On average, how many of these months (recreation season May - Sept.) does the reservoir drop below the Stuart Forks Ramp threshold of 2320 msl?

| Year | MAY | JUN | JUL | AUG | SEP | **Months** | **% of Season** |
|---|---|---|---|---|---|---|---|
| 1942 | 2368 | 2369 | 2358 | 2351 | 2338 | 0 | 0% |
| 1943 | 2360 | 2355 | 2344 | 2338 | 2329 | 0 | 0% |
| 1944 | 2322 | 2309 | 2292 | 2270 | 2264 | 0 | 0% |
| 1945 | 2310 | 2314 | 2303 | 2285 | 2274 | 0 | 0% |
| 1946 | 2332 | 2323 | 2311 | 2292 | 2287 | 0 | 0% |
| 1947 | 2296 | 2288 | 2266 | 2241 | 2236 | 0 | 0% |
| 1948 | 2296 | 2310 | 2301 | 2294 | 2291 | 0 | 0% |
| 1949 | 2335 | 2325 | 2309 | 2290 | 2286 | 0 | 0% |
| 1950 | 2311 | 2303 | 2291 | 2276 | 2272 | 0 | 0% |
| 1951 | 2358 | 2348 | 2333 | 2317 | 2314 | 0 | 0% |
| 1952 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1953 | 2366 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1954 | 2358 | 2349 | 2335 | 2319 | 2315 | 0 | 0% |
| 1955 | 2320 | 2309 | 2294 | 2276 | 2272 | 0 | 0% |
| 1956 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1957 | 2355 | 2353 | 2340 | 2334 | 2330 | 0 | 0% |
| 1958 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1959 | 2338 | 2327 | 2311 | 2292 | 2289 | 0 | 0% |
| 1960 | 2316 | 2311 | 2300 | 2285 | 2282 | 0 | 0% |
| 1961 | 2334 | 2329 | 2314 | 2295 | 2292 | 0 | 0% |
| 1962 | 2320 | 2315 | 2304 | 2285 | 2280 | 0 | 0% |
| 1963 | 2367 | 2367 | 2356 | 2351 | 2339 | 0 | 0% |
| 1964 | 2314 | 2301 | 2283 | 2261 | 2258 | 0 | 0% |
| 1965 | 2348 | 2344 | 2333 | 2328 | 2325 | 0 | 0% |
| 1966 | 2359 | 2348 | 2335 | 2319 | 2314 | 0 | 0% |
| 1967 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1968 | 2342 | 2330 | 2313 | 2295 | 2288 | 0 | 0% |
| 1969 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1970 | 2337 | 2328 | 2312 | 2296 | 2290 | 0 | 0% |
| 1971 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1972 | 2351 | 2341 | 2326 | 2309 | 2301 | 0 | 0% |
| 1973 | 2361 | 2353 | 2339 | 2333 | 2329 | 0 | 0% |
| 1974 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1975 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1976 | 2334 | 2320 | 2303 | 2284 | 2281 | 0 | 0% |
| 1977 | 2230 | 2200 | 2184 | 2179 | 2176 | 0 | 0% |
| 1978 | 2330 | 2342 | 2335 | 2330 | 2328 | 0 | 0% |
| 1979 | 2352 | 2341 | 2325 | 2310 | 2305 | 0 | 0% |
| 1980 | 2361 | 2353 | 2344 | 2338 | 2334 | 0 | 0% |
| 1981 | 2349 | 2336 | 2319 | 2301 | 2297 | 0 | 0% |
| 1982 | 2367 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1983 | 2368 | 2369 | 2358 | 2351 | 2339 | 0 | 0% |
| 1984 | 2362 | 2354 | 2343 | 2338 | 2334 | 0 | 0% |
| 1985 | 2328 | 2314 | 2296 | 2275 | 2271 | 0 | 0% |
| 1986 | 2343 | 2333 | 2317 | 2298 | 2295 | 0 | 0% |
| 1987 | 2315 | 2300 | 2280 | 2257 | 2252 | 0 | 0% |
| 1988 | 2288 | 2280 | 2267 | 2251 | 2244 | 0 | 0% |
| 1989 | 2302 | 2293 | 2283 | 2278 | 2275 | 0 | 0% |
| 1990 | 2290 | 2277 | 2263 | 2236 | 2229 | 0 | 0% |
| 1991 | 2231 | 2217 | 2211 | 2193 | 2184 | 0 | 0% |
| | | | | | | 0 | 0% |
| | | | | | Percent Availability During Recreation Season | | 100% |

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**Attachment D4**

**Whiskeytown Elevation (ft)**
**Existing Conditions**

On average, how many of these months (recreation season May - Sept.) does the reservoir drop below the Oak Bottom Marina threshold of 1198?

| Year | MAY | JUN | JUL | AUG | SEP | **Months** | **% of Season** |
|---|---|---|---|---|---|---|---|
| 1922 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1923 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1924 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1925 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1926 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1927 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1928 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1929 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1930 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1931 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1932 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1933 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1934 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1935 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1936 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1937 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1938 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1939 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1940 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1941 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1942 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1943 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1944 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1945 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1946 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1947 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1948 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1949 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1950 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1951 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1952 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1953 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1954 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1955 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1956 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1957 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1958 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1959 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1960 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1961 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1962 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1963 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1964 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1965 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1966 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1967 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1968 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1969 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1970 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1971 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1972 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1973 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1974 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1975 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1976 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1977 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1978 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1979 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1980 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1981 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1982 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1983 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1984 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1985 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1986 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1987 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1988 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1989 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1990 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1991 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| | | | | | | 0 | 0% |
| | | | | | Percent Availability During Recreation Season | | 100% |
| 1922 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1923 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1924 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1925 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1926 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |

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**Attachment D4**

**Whiskeytown Elevation (ft)**
**Existing Conditions**

On average, how many of these months (recreation season May - Sept.) does the reservoir drop below the Oak Bottom Marina threshold of 1198?

| Year | MAY | JUN | JUL | AUG | SEP | **Months** | **% of Season** |
|---|---|---|---|---|---|---|---|
| 1927 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1928 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1929 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1930 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1931 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1932 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1933 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1934 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1935 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1936 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1937 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1938 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1939 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1940 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1941 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1942 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1943 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1944 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1945 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1946 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1947 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1948 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1949 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1950 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1951 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1952 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1953 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1954 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1955 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1956 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1957 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1958 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1959 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1960 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1961 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1962 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1963 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1964 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1965 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1966 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1967 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1968 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1969 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1970 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1971 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1972 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1973 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1974 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1975 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1976 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1977 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1978 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1979 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1980 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1981 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1982 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1983 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1984 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1985 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1986 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1987 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1988 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1989 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1990 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1991 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| | | | | | | 0 | 0% |
| Percent Availability During Recreation Season | | | | | | | 100% |
| 1922 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1923 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1924 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1925 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1926 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1927 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1928 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1929 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1930 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1931 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |

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**Attachment D4**

**Whiskeytown Elevation (ft)**
**Existing Conditions**

On average, how many of these months (recreation season May - Sept.) does the reservoir drop below the Oak Bottom Marina threshold of 1198?

| Year | MAY | JUN | JUL | AUG | SEP | **Months** | **% of Season** |
|---|---|---|---|---|---|---|---|
| 1932 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1933 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1934 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1935 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1936 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1937 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1938 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1939 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1940 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1941 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1942 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1943 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1944 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1945 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1946 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1947 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1948 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1949 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1950 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1951 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1952 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1953 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1954 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1955 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1956 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1957 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1958 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1959 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1960 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1961 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1962 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1963 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1964 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1965 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1966 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1967 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1968 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1969 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1970 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1971 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1972 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1973 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1974 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1975 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1976 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1977 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1978 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1979 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1980 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1981 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1982 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1983 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1984 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1985 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1986 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1987 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1988 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1989 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1990 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| 1991 | 1209 | 1209 | 1209 | 1209 | 1208 | 0 | 0% |
| | | | | | | 0 | 0% |
| | | | | | Percent Availability During Recreation Season | | 100% |

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## 2.4.5 Technical Appendix E—Land Use

**1.1 Residential/Municipal and Industrial** *(SEE SUBSECTIONS)*
**1.1.1 Affected Environment** *(NO CHANGE)*

**1.1.2 Environmental Consequences** **(CHANGES FOLLOW)**
**pg. E-18**

**The following new section has been added immediately following 1.1.2.9 Existing Conditions versus Preferred Alternative (see Section 2.4.5.1 for new Table E-18A) :**

**1.1.2.10 Cumulative Impacts**

**M&I Land Use.** Surface-water deliveries to municipal water service contractors north and south of the Delta could be influenced by future demands for water as well as CVP and SWP operational limitations in meeting other needs (Table E-18A).

Impacts Relative to the No Action Alternative. Average M&I surface-water delivery is estimated to decrease by 6,800 af in the Sacramento Valley Region. Groundwater, other local supplies, and a small amount of price-induced conservation are projected to be used to eliminate this shortfall at a cost of $1.1 to $1.9 million annually. The average retail price increase needed to cover these costs would not be significant. In the dry condition, CVP contract deliveries would be reduced by 15,800 af compared to the No Action Alternative. Some of the resulting shortage is projected to be eliminated using yield from water supplies acquired for the average condition. It is assumed that drought conservation would be used to manage the remaining shortage. The costs of drought conservation would increase about $3.6 million annually compared to the No Action Alternative[1].

In the Bay Area, average M&I surface-water delivery is estimated to decrease by 17,200 af. Conservation, reclamation, and a small amount of price-induced conservation (i.e., conservation resulting from an increase in the retail price) are assumed to be used to eliminate this shortfall at a cost of $2.7 to $4.5 million annually. The average retail price increase needed to cover these costs would not be significant. In the dry condition, CVP contract deliveries would be reduced by 41,100 af compared to the No Action Alternative. Some of the resulting shortage would be eliminated using yield from water supplies acquired for the average condition. It is assumed that drought water supplies would be acquired to eliminate the remaining shortage. The costs of these dry-condition supplies would increase about $44 to $76 million annually compared to the No Action Alternative.

In the San Joaquin Valley, average M&I surface-water delivery is estimated to decrease by 2,100 af. Groundwater, other local supplies, and a small amount of price-induced conservation are assumed to be used to eliminate this shortfall at a cost of $0.3 to $0.7 million annually. The average retail price increase needed to cover these costs would not be significant. In the dry condition, CVP contract deliveries are projected to be reduced by 2,900 af compared to the No Action Alternative. Some of the resulting shortage would be eliminated using yield from water supplies acquired for the average condition. It is assumed that drought conservation would be used to manage the remaining shortage. The

[1] Dry-condition costs are in addition to the average-condition costs and occur only in dry years (1928 through 1934, or about once every 5 years on average).



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costs of drought conservation would increase about $0.2 million annually compared to the No Action Alternative.

Impacts Relative to Existing Conditions. Average surface-water delivery for municipal use is estimated to increase by 18,600 af in the Sacramento Valley Region. Average-condition shortfall is projected to increase from zero to 10,100 af. The shortfall occurs because the increase in surface-water delivery is not enough to meet increased demand in 2020 in affected service areas. Groundwater, other local supplies, and a small amount of price-induced conservation is assumed to be used to eliminate this shortfall at a cost of $1.7 to $2.7 million annually. The average retail price increase needed to cover these costs would be more than 1 percent on average, which is significant. However, as evidenced above in the comparison of the cumulative condition to No Action, the majority of gap between supply and demand is associated with assumed increased population growth. In the dry condition, CVP contract deliveries would be increased by 2,200 af compared to existing conditions, but shortage would increase by 11,900 af. Some of the resulting shortage would be eliminated using yield from water supplies acquired for the average condition. It is assumed that drought conservation would be used to manage the remaining shortage. The costs of drought conservation would increase about $0.8 million annually compared to existing conditions.

In the Bay Area, average surface-water delivery is estimated to increase by 5,200 af. Average-condition shortfall is projected to increase from zero to 8,400 af. The shortfall is projected to occur because the increase in surface-water delivery is not enough to meet 2020 demand in affected service areas. Conservation, reclamation, and a small amount of price-induced conservation would be used to eliminate this shortfall at a cost of $3.9 to $6.5 million annually. The average retail price increase needed to cover these costs would not be significant. In the dry condition, CVP contract deliveries are projected to be reduced by 36,100 af compared to existing conditions. Some of the resulting shortage is assumed to be eliminated using the water acquired for the average condition. It is assumed that drought water supplies would be acquired to eliminate the remaining shortage. The cost of dry-condition supplies would increase about $78 to $198 million annually compared to existing conditions.

In the San Joaquin Valley, average surface-water delivery is estimated to increase by 900 af. Average-condition shortfall is projected to increase from zero to 2,400 af. The shortfall is projected to occur because the increase in surface-water delivery is not enough to meet 2020 demand in affected service areas. Groundwater, other local supplies, and a small amount of price-induced conservation are assumed to be used to eliminate this shortfall at a cost of $0.4 to $0.8 million annually. The average retail price increase needed to cover these costs would not be significant. In the dry condition, CVP contract deliveries are projected to be increased by 100 af compared to existing conditions. Some of the resulting shortage is assumed to be eliminated using water acquired for the average condition. It is assumed that drought conservation would be used to manage the remaining shortage. The costs of drought conservation would increase about $0.8 million annually compared to the existing conditions.

**1.2 Agriculture** *(NO CHANGE)*

**1.2.1 Affected Environment** *(NO CHANGE)*

**1.2.2 Environmental Consequences** *(NO CHANGE)*

**1.3 Real Estate** **(CHANGES FOLLOW)**
**pg. E-36**

Residential ~~and commercial~~ properties can be found in the general vicinity of the reservoirs and rivers being studied in this EIS. The value of these properties could be affected by changing water elevations and instream flows. As a result, the basic question from a property value perspective is how would fluctuations in reservoir water elevations and river instream flows affect property values. This section provides a qualitative discussion of the potential impacts to residential ~~and commercial~~ reservoir property values of varying Trinity, Whiskeytown, and Shasta Reservoir water elevations ~~and Trinity and Sacramento River instream flows~~ associated with the various Trinity River EIS alternatives. River properties were not evaluated due to the ambiguous nature of the overall impact. Since some river properties may benefit from the improved fishery and others may suffer from flooding, no clear relationship could be assumed.

**1.3.1 Affected Environment** **(CHANGES FOLLOW)**
**pg. E-37**

~~**1.3.1.1 Reservoir-oriented Properties**~~

~~**1.3.1.2 River-oriented Properties**~~

~~**Trinity River Basin**. The section of the Trinity River affected by the alternatives consists of the area downstream of Lewiston Reservoir to the confluence with the Klamath River. The last stage of the Trinity River, prior to combining with the Klamath River, is found on the Hoopa Valley Indian Reservation. Since the concept of property values is foreign to the tribes, the real estate analysis excluded this area. A number of relatively small communities are found along the river downstream of Lewiston Dam; they include: Lewiston, Douglas City, Junction City, Big Bar, Del Loma, Burnt Ranch, Salyer, and Willow Creek.~~

~~**Lower Klamath River Basin/Coastal Area**. The lower Klamath River, reflecting the area downstream of the confluence with the Trinity River, consists entirely of the Yurok Indian Reservation. Since the concept of property values is foreign to the tribes, the real estate analysis excluded this area.~~

~~**Central Valley**. The Central Valley reflects a vast geographic area with numerous towns and cities of various sizes. Since the alternatives under consideration are not expected to create a perceptual change in instream flows, no discernible impacts to Central Valley river-side properties is expected. As a result, Central Valley residential property values impacts will not be addressed in any detail.~~

**1.3.2 Environmental Consequences** *(SEE SUBSECTIONS)*

**1.3.2.1 Methodology** **(CHANGES FOLLOW)**
**pg. E-38**

A literature review on the affect of water bodies on property values was conducted with the objective of obtaining a sufficient number of relevant studies for presentation of a range of possible property value impacts (elaboration on the literature review can be found in Attachment E2). This goal proved overly optimistic since only a few relevant studies were located. The studies that were obtained generally indicated a positive relationship between

property values and the existence of and proximity to water bodies. The studies focusing on property value impacts related to reservoir water level fluctuation also revealed a positive relationship—as water levels drop, so do property values. This relationship was assumed to hold for the reservoirs under consideration in this study. ~~Because of the lack of relevant literature, a~~ A comparative analysis is presented that includes rankings of a series of water level factors ~~(e.g., water levels and fish populations)~~ deemed to be of potential interest to ~~the various~~ reservoir property owners~~ groups~~.

**~~1.3.2.2 Reservoir-oriented Properties~~**

**pg. E-39**

~~Methodology:~~ Water level information from the PROSIM hydrologic model was used to evaluate the magnitude of possible drawdowns and annual/monthly fluctuations for each alternative. PROSIM estimates end-of-month reservoir water levels by alternative for each year in the 69-year hydrologic period of record (1922-1990) by superimposing alternative-specific operating criteria on historic water supply data. End-of-month water levels provide the basis for the reservoir property value comparison. While fluctuation in end-of-month water levels is somewhat less than that of daily water levels, a comparison of monthly and daily actual historic water level data indicated the difference to be fairly minor. The PROSIM data were used to calculate average monthly water levels across the entire 69-year period (represents the average water year), and for each of the five water-year classes: critically dry, dry, normal, wet, and extremely wet. The monthly averages were used to calculate annual average water levels for the average year and for each water-year class. In addition, the data were used to calculate annual averages for each of the 69 years in the hydrologic record as well as ranges in monthly water levels for each year.

**1.3.2.2 Reservoir Property Impacts** **(CHANGES FOLLOW)**

**pgs. E-40 and E-41**

**Trinity River Basin.**

Trinity Reservoir.

**Tables E-45 and E-46 have been revised to correct inaccurate data. See Section 2.4.5.1 for revised Tables E-45 and E-46.**

Summary Results: From the short-term drawdown perspective, regardless of whether one considers the entire year or only the high-use recreation season, the State Permit Alternative is estimated to result in the greatest gain in average water levels as compared to the No Action Alternative (additional ~~13~~9 feet for full year and ~~16~~ 10 feet for high recreation season). However, this gain still does not achieve historical average water levels experienced during the 1963-1998 period[2]. The Flow Evaluation and Percent Inflow Alternatives ~~are also estimated to produce gains~~ proved to be essentially the same in terms of average water levels as ~~compared to~~ the No Action Alternative~~, although to a lesser degree (in the range of 3-6 additional feet)~~. The Maximum Flow Alternative is the only alternative where average water levels are expected to experience substantial declines (~~14~~ 18-foot drop for full year and ~~20~~26-foot drop for high season) compared to the No Action Alternative.

[2] Trinity Dam was completed in 1962. The 1963 water year reflects the first year after the reservoir filled.

From the long-term perspective of annual fluctuation, the Maximum Flow Alternative consistently results in the smallest range between high and low water levels considering either the entire year or the high-use recreation season. The 102-foot range in average annual values across all years associated with the Maximum Flow Alternative falls well below the ~~159~~155-foot range associated with the No Action Alternative and the historical range in annual fluctuation from 1963-1998 of 138 feet. All alternatives are expected to result in a tighter range in annual fluctuation as compared to the No Action, with the Flow Evaluation and Percent Inflow Alternatives generally tighter than the State Permit Alternative.

From the long-term perspective of monthly fluctuation, again the Maximum Flow Alternative consistently results in the tightest water level ranges regardless of whether one considers the entire year or the high-use recreation season. The monthly fluctuation ranges associated with the Maximum Flow Alternative are noticeably tighter than the No Action Alternative and the actual historical ranges experienced during the 1963-1998 period. Depending on the monthly fluctuation measure, the Flow Evaluation and Percent Inflow Alternatives ~~either~~ generally result in a sizable drop ~~or a minor increase~~ in water level ranges compared to the No Action Alternative.

~~Aggregating ranks across all three categories of water level measures results in the Flow Evaluation Alternative ranking first overall from the entire year and high recreation season perspectives. The Flow Evaluation Alternative came in second of five for the high recreation season. This ranks fourth out of the five alternatives (surpassing only the Maximum Flow Alternative), under the premise that the higher the water level the better. Both the entire year and high season values are much lower than the 2,326 actual historical average water level experienced during the 1963-1998 period.~~

Aggregating ranks across all three categories of water level measures results in the Flow Evaluation/Preferred Alternative ranking first overall from both the entire year and high recreation season perspectives. The Flow Evaluation Alternative came in second in five of the seven water level categories from both full year and high recreation season perspectives. The Maximum Flow Alternative tied for first based on the high recreation season and second overall in the entire year comparison. This alternative consistently ranked first in terms of long-term annual and monthly fluctuation, but last in terms of drawdown. The State Permit Alternative came in third from both full year and high recreation season perspectives, ranking first in drawdown but last in annual and monthly fluctuation. The Percent Inflow Alternative came in fourth from the full year perspective, but second for the high recreation season. The No Action/Mechanical Restoration Alternatives ranked last from both full year and high recreation season perspectives.

*No Action (and Mechanical Restoration) Alternatives*.

Drawdown: Average water level predicted for the No Action Alternative was estimated at 2,302 for the entire year and 2,307 for the high recreation season. This ranks third and tied for second (with Flow Evaluation Alternative) respectively, from the full year and high recreation season perspectives, based on the premise that the higher the water level the better. Both the entire year and high recreation season values are much lower than the 2,326 actual historic average water level experienced during the 1963-1998 period.

Annual Fluctuation: Reviewing the range between high and low annual averages across water-year classes and all years individually, the No Action Alternative ranked last with the largest ranges of any alternative from both the full year and high recreation season perspectives. The expected range across individual years of ~~159~~ 155 feet from the full year perspective exceeded the historical range of 138 feet.

Monthly Fluctuation: Based on the range/averages for the four monthly fluctuation measures, the No Action Alternative ranked tied for fourth, ~~surpassing only~~ (with the State Permit Alternative) from ~~both~~ the full year ~~and high recreation season~~ perspectives~~.~~ and third from the high recreation season perspective. In comparison with historical monthly fluctuation, the No Action Alternative is expected to achieve lower ranges in monthly fluctuation. The most pronounced reduction in range occurs within individual monthly values across all years where the No Action Alternative is expected to experience a range of ~~204~~ 200 feet (high of 2,369 and low of ~~2,165~~ 2,169) compared to the historically experienced range of 253 feet.

**pg. E-42**

Aggregating ranks across the drawdown, annual fluctuation, and monthly fluctuation measures resulted in the No Action Alternative being ranked last from both full year and high recreation season perspectives.

*Maximum Flow Alternative*.

Annual Fluctuation: Reviewing the range between high and low annual averages across water-year classes and all years individually, the Maximum Flow Alternative ranked first with the smallest ranges of any alternative from both the full year and high recreation season perspectives. The expected range across individual years of 102 feet from the full year perspective fell well below the No Action Alternative range of ~~159~~ 155 feet and the 1963-1998 historical range of 138 feet.

*Flow Evaluation Alternative*.
**pgs. E-42 and E-43**

Annual Fluctuation: Reviewing the range between high and low annual averages across water-year classes and all years individually, the Flow Evaluation Alternative ranked second (tied with Percent Inflow Alternative from the full year perspective). The expected range across individual years of 123 feet from the full year perspective fell below the ~~159~~ 155-foot range of the No Action Alternative and the 1963-1998 historical range of 138 feet.

Monthly Fluctuation: Based on the range/averages for the four monthly fluctuation measures, the Flow Evaluation Alternative ranked second from both the full year and ~~perspective and third from the~~ high recreation season perspectives (tied with Percent Inflow Alternative for the high recreation season). The range in monthly water levels across individual months was estimated at ~~41~~ 37 and 39 feet below the No Action Alternative, respectively, from full year and high recreation season perspectives.

Aggregating ranks across the drawdown, annual fluctuation, and monthly fluctuation measures resulted in the Flow Evaluation Alternative being ranked first from ~~the~~ both full year and ~~perspective and tied for first (with the Maximum Flow Alternative) for the~~ high

recreation season perspectives (tied with Maximum Flow Alternative for high recreation season). From both perspectives, the Flow Evaluation Alternative came in second ~~for~~ in five of the seven water level measures.

*Percent Inflow Alternative*.
**pg. E-43**

Drawdown: Average water level predicted for the Percent Inflow Alternative was estimated at 2,301 for the entire year and 2,306 for the high recreation season. This ranks ~~third out of the five alternatives~~ fourth from the full year perspective, but third from the high recreation season perspective. Both the entire year and high season values are much lower than the 2,326 actual historical average water level experienced during the 1963-1998 period.

Annual Fluctuation: Reviewing the range between high and low annual averages across water-year classes and all years individually, the Percent Inflow Alternative ranked tied for second (with the Flow Evaluation Alternative) from the full year perspective and third from the recreation season perspective. The expected range across individual years of 125 feet from the full year perspective fell below the ~~159~~ 155-foot range associated with the No Action Alternative and the historical range of 138 feet.

Monthly Fluctuation: Based on the range / averages for the four monthly fluctuation measures, the Percent Inflow Alternative ranked third for the entire year and ~~second~~ tied for second (with Flow Evaluation Alternative) for the high recreation season. The range in monthly water levels across individual months was estimated at ~~38~~ 34 and 33 feet below the No Action Alternative, respectively, from full year and high recreation season perspectives.

Aggregating ranks across the drawdown, annual fluctuation, and monthly fluctuation measures resulted in the Percent Inflow Alternative being ranked ~~third; tied with the State Permit Alternative~~ fourth from the full year perspective and second from the high recreation season perspective (although two alternatives were tied for first under the high recreation season).

*State Permit Alternative*.
**pg. E-44**

Annual Fluctuation: Reviewing the range between high and low annual averages across water-year classes and all years individually, the State Permit Alternative ranked next to last, slightly undercutting the ranges of only the No Action Alternative from both the full year and high recreation season perspectives. The expected range across individual years of 151 feet from the full year perspective exceeded the historical range of 138 feet.

Monthly Fluctuation: Based on the range / averages for the four monthly fluctuation measures, the State Permit Alternative ranked last from both ~~entire~~ full year and high recreation season perspectives (tied with No Action for full year).

Aggregating ranks across the drawdown, annual fluctuation, and monthly fluctuation measures resulted in the State Permit Alternative being ranked third~~; tied with the Percent Inflow Alternative~~ from both the full year ~~perspective and third from the~~ and high recreation season perspective (although two alternatives were tied for first under the high recreation season).

*Existing Conditions versus Preferred Alternative*.
**pg. E-45**

**Central Valley.**

Shasta Reservoir.

Summary Results: From the short-term drawdown perspective, regardless of whether one considers the entire year or only the high-use recreation season, the State Permit Alternative is estimated to result in the only gain, albeit minor, in average water levels as compared to the No Action Alternative. The State Permit average water level of 1,018 slightly exceeds the historical average water level experienced during the 1945-1998 period[3]. The No Action Alternative comes in a close second at 1,016 feet. The Maximum Flow Alternative is the only alternative where average water levels are expected to decline noticeably compared to the No Action (average water level is expected to be 10 feet for both entire year and high recreation season perspectives). As a result, the Maximum Flow Alternative ranks last in terms of drawdown. From the long-term perspective of annual fluctuation, the No Action Alternative consistently results in the smallest range between high and low water levels considering either the entire year or the high-use recreation season. The 109-foot range in average annual values across all years associated with the No Action Alternative falls well below the historical range in annual fluctuation of 146 feet. The State Permit and Percent Inflow Alternatives rank second and third from both entire year and high recreation season perspectives, with ranges only slightly higher than those of the No Action Alternative. The Maximum Flow Alternative ranks last in terms of annual fluctuation.

**pgs. E-49 through E-51**

~~**1.3.2.3 River- and Ocean-oriented Properties**~~

~~**Trinity River Basin.** Most of the reviewed literature focused on the property value effects of lakes as opposed to rivers; therefore, there was little to extrapolate from in attempting to discuss impacts on riverside properties. Of the river-oriented studies reviewed (Connor et al., 1973; Epp and Al-Ani, 1979; Rich and Moffitt, 1982; and Garrod and Willis, 1991), none of them dealt with the issue of fluctuating instream flows.~~

~~The flood control analysis illustrates the negative impacts to commercial and residential properties for instream flows above flood stage.~~

~~Methodology: The purpose of this section is to discuss the potential property value impacts of changing instream flows from the No Action Alternative levels to those levels suggested by the various alternatives. It is hypothesized that the relationship between increased instream flows up to the flood condition would have a positive influence on property values. Instream flows resulting in flood damages along certain sections of the Trinity River may simultaneously create positive effects elsewhere. Therefore, flood conditions may not automatically imply property value losses basinwide (minor flood damages in one location could be offset by widespread gains associated with higher flows).~~

[3] The 1945 water year reflects the first year after the reservoir filled.

~~Given the breakeven point in terms of flow levels between flood damages and property value benefits is unknown, we cannot speculate at what point flows result in negative property value effects basinwide. To avoid this issue, this analysis assumes mitigation for potentially flooded properties. As a result, this analysis focuses upon the more positive aspects associated with instream flows. Given the ambiguity involved in relating property values to instream flows, changes in salmon and steelhead populations and harvests as compared to the No Action Alternative are used to rank the alternatives.~~

~~While the estimated populations should only be considered moderately accurate, they were deemed reasonable for ranking alternatives. One of the purposes of greater instream flows is to help restore the native fisheries, implying potential recreational fishing benefits to property owners (another recreational benefit from higher instream flows may be improved boating conditions). While not every property owner is assumed to be an angler, the activity is quite popular among locals. As a result, increased fish populations are assumed to reflect a positive factor associated with living along the river. Sustainable fish populations and harvests are generally seen as one indicator of a "healthy" river. The conclusion was made that the movement toward a healthy river could manifest itself through increased natural fish populations and harvest, thereby positively affecting property values. Table E-49 presents information on Trinity River natural fish harvests by species and alternative, the change in population as compared to the No Action Alternative and existing conditions, and the relative rank. Since flow is just one factor influencing fish populations, separate fish harvests were estimated for alternatives with the same instream flow but different inriver and watershed habitat restoration activities.~~

~~Results: Reviewing harvest estimates by alternative, either for salmon or steelhead, results in the same overall ranking of the alternatives. The Maximum Flow Alternative ranks first, estimated to result in over 16,000 additional harvested fish as compared to the No Action Alternative. The Flow Evaluation Alternative is expected to be nearly as productive with over 13,000 additional fish harvested and, therefore, ranks a close second.~~

~~The Percent Inflow and Mechanical Restoration Alternatives represent a second tier in alternative ranking. Both alternatives are expected to result in additional harvests in the 2,000-4,000 range as compared to No Action. While still exceeding the No Action Alternative harvest, these alternatives fall considerably short of the harvest levels estimated for the Maximum Flow and Flow Evaluation Alternatives.~~

~~The State Permit Alternative results in zero inriver harvest and, therefore, ranks last.~~

~~No Action Alternative. This alternative ranks fifth out of the six alternatives, surpassing only the State Permit Alternative in expected inriver natural harvest.~~

~~Maximum Flow Alternative. This alternative ranks first, generating more inriver natural harvest than any other alternative. Total harvest estimated for this alternative is 10 times that of the No Action Alternative.~~

~~Flow Evaluation Alternative. Inriver natural harvests for the Preferred Alternative were estimated to be approximately equal to those of the Flow Evaluation Alternative. These alternatives rank a close second to the Maximum Flow Alternative, generating over 13,000 additional harvested fish compared to the No Action Alternative.~~

~~Percent Inflow Alternative. While this alternative ranks third, it is not nearly as productive as the Maximum Flow and Flow Evaluation Alternatives, generating only an additional 3,400 inriver natural harvested fish over the No Action Alternative.~~

~~Mechanical Restoration Alternative. This alternative ranks fourth, generating 2,000 additional inriver natural harvested fish compared to the No Action Alternative.~~

~~State Permit Alternative. By assuming zero harvest of inriver natural fish, this alternative clearly ranks last.~~

~~Existing Conditions versus Preferred Alternative. In contrast to the NEPA comparison of each alternative to the No Action Alternative, the state-required CEQA analysis compares the Preferred Alternative to existing conditions. The assumption was made by the fisheries team that harvest levels under existing conditions would be essentially equal to those estimated for the No Action Alternative. In addition, harvest levels for the Preferred Alternative were deemed to be equivalent with those estimated for the Flow Evaluation Alternative despite the additional watershed elements associated with the Preferred Alternative. As a result, the CEQA analysis of the Preferred Alternative is equivalent to the NEPA analysis of the Preferred Alternative. The Preferred Alternative is expected to generate over 13,000 additional inriver natural harvested fish as compared to existing conditions.~~

~~Lower Klamath River Basin / Coastal Area. The lower Klamath River consists of the Yurok Tribe reservation. Due to the communal nature of tribal land ownership and management, individual property values are generally not of primary concern to tribal members; therefore, real estate impacts are not considered for this area.~~

~~Central Valley. Since the alternatives are not expected to create a perceptually significant change in instream flows, no discernible impact is expected for riverside residential properties.~~

**pg. E-51** **(CHANGES FOLLOW)**

### ~~1.3.2.4~~ 1.3.2.3 Ranking Summary

Table E-~~50~~ 49 summarizes the overall ranks by alternative presented for the various reservoirs~~ and inriver reaches. Since the ranking of each alternative depends on the individual indicator, it is impossible to provide a clear overall rank for each alternative.~~

## 1.4 Bibliography *(NO CHANGE)*

### 2.4.5.1 Technical Appendix E—Tables and Figures

**Tables**

E-1A Land Use Impacts—Residential / Municipal & Industrial Comparison of Alternatives *(NO CHANGE)*

E-1B Land Use Impacts—Agriculture Comparison of Alternatives *(NO CHANGE)*

E-1C Land Use Impacts—Real Estate Comparison of Alternatives *(NO CHANGE)*

E-2 1990 Populations for the Largest Communities in the Trinity River Basin *(NO CHANGE)*

E-3 Parcels Located in Flood Areas along the Trinity River *(NO CHANGE)*

E-4 Population, Urban Applied Water, and Gallons per Capita per Day—Selected Years *(NO CHANGE)*

E-5 Population of Metropolitan Statistical Areas 1980 and 1990 *(NO CHANGE)*

E-6 CVP M&I Contract Water Deliveries (af) Fiscal Years 1983-1997 *(NO CHANGE)*

E-7 Existing Conditions Water Costs and Water Balance for Provider Groups *(NO CHANGE)*

E-8 Supply Cost Data Used to Estimate Alternative Supply Cost Functions in the Bay Area *(NO CHANGE)*

E-9 Municipal Water Supply Economics, No Action Alternative *(NO CHANGE)*

E-10 M&I Providers Included in the Analysis, 2020 Contract Amounts and Shares, No Action Deliveries, and Change in Deliveries by Alternative—Sacramento Valley *(NO CHANGE)*

E-11 M&I Providers Included in the Analysis, 2020 Contract Amounts and Shares, No Action Deliveries, and Change in Deliveries by Alternative—San Joaquin Valley *(NO CHANGE)*

E-12 M&I Providers Included in the Analysis, 2020 Contract Amounts and Shares, No Action Deliveries, and Change in Deliveries by Alternative—Bay Area *(NO CHANGE)*

E-13 Parcels and Bridges Inundated by Alternative and Site *(NO CHANGE)*

E-14 Municipal Water Supply Economics, Maximum Flow Alternative Minus No Action Alternative *(NO CHANGE)*

E-15 2020 Estimated Service Area Connections and Population for Selected Providers and Dollar Cost of Alternatives per Capita per Year in Each *(NO CHANGE)*

E-16 Municipal Water Supply Economics, Flow Evaluation Alternative Minus No Action Alternative *(NO CHANGE)*




E-17 Municipal Water Supply Economics, Percent Inflow Alternative Minus No Action Alternative *(NO CHANGE)*

E-18 Municipal Water Supply Economics, State Permit Alternative Minus No Action Alternative *(NO CHANGE)*

E-18A Municipal Water Supply Economics, Cumulative Impacts Alternative Minus No Action Alternative

E-19 Area and Commercial Forest Land in National Forests *(NO CHANGE)*

E-20 Ranking of Central Valley Counties by Total Value of Production in *(NO CHANGE)*

E-21 Crop Mix, Value per Acre, and Total Value of Crops Produced on Land Receiving Some CVP Water (1988) *(NO CHANGE)*

E-22 Central Valley Agricultural Land Use, Water Use, and Revenue *(NO CHANGE)*

E-23 Agriculture Alternative Summary, Average Year (1922-1990) *(NO CHANGE)*

E-24 Agriculture Alternative Summary, Dry Year (1928-1934) *(NO CHANGE)*

E-25 Irrigated Acreage in No Action Alternative *(NO CHANGE)*

E-26 Gross Revenue in No Action Alternative *(NO CHANGE)*

E-27 Net Revenue in the No Action Alternative *(NO CHANGE)*

E-28 Irrigation Water Applied in the No Action Alternative *(NO CHANGE)*

E-29 Irrigated Acreage in Maximum Flow Alternative as Compared to No Action Alternative *(NO CHANGE)*

E-30 Gross Revenue in Maximum Flow Alternative as Compared to No Action Alternative *(NO CHANGE)*

E-31 Change in Net Revenue in Maximum Flow Alternative as Compared to No Action Alternative *(NO CHANGE)*

E-32 Irrigation Water Applied in Maximum Flow Alternative as Compared to No Action Alternative *(NO CHANGE)*

E-33 Irrigated Acreage in Flow Evaluation Alternative as Compared to No Action Alternative *(NO CHANGE)*

E-34 Gross Revenue in Flow Evaluation Alternative as Compared to No Action Alternative *(NO CHANGE)*

E-35 Change in Net Revenue in Flow Evaluation Alternative as Compared to No Action Alternative *(NO CHANGE)*

E-36 Irrigation Water Applied in Flow Evaluation Alternative as Compared to No Action Alternative *(NO CHANGE)*

E-37 Irrigated Acreage in Percent Inflow Alternative as Compared to No Action Alternative *(NO CHANGE)*

E-38 Gross Revenue in Percent Inflow Alternative as Compared to No Action Alternative *(NO CHANGE)*

E-39 Change in Net Revenue in Percent Inflow Alternative as Compared to No Action Alternative *(NO CHANGE)*

E-40 Irrigation Water Applied in Percent Inflow Alternative as Compared to No Action Alternative *(NO CHANGE)*

E-41 Irrigated Acreage in State Permit Alternative as Compared to No Action Alternative *(NO CHANGE)*

E-42 Gross Revenue in State Permit Alternative as Compared to No Action Alternative *(NO CHANGE)*

E-43 Change in Net Revenue in State Permit Alternative as Compared to No Action Alternative *(NO CHANGE)*

E-44 Irrigation Water Applied in State Permit Alternative as Compared to No Action Alternative *(NO CHANGE)*

E-45 Trinity Reservoir Property Value Impact Ranking—Full Year Comparison **(CHANGES FOLLOW)**

E-46 Trinity Reservoir Property Value Impact Ranking—High Recreation Season (May-September) Comparison **(CHANGES FOLLOW)**

E-47 Shasta Reservoir Property Value Impact Ranking—Full Year Comparison *(NO CHANGE)*

E-48 Shasta Reservoir Property Value Impact Ranking—High Recreation Season (May-September) Comparison *(NO CHANGE)*

~~E-49 Trinity River Property Value Impact Ranking~~

**Table E-49 was deleted along with its supporting text, Section 1.3.2.3 River- and Ocean-oriented Properties.**

E-~~49~~50 Property Value Impact NEPA Ranking Summary **(CHANGES FOLLOW)**

**Table E-50 (now Table E-49) has been modified (in accordance with the text) to represent only reservoir-based property value rankings.**

**Figures**

E-1 Trinity River Basin Land Ownership *(NO CHANGE)*

E-2 1990 Agricultural Land Use in the Central Valley and San Felipe Unit *(NO CHANGE)*

E-3 1990 Normalized Irrigated Acres and Central Valley Irrigation Water Deliveries by Source from 1985-1992 *(NO CHANGE)*

E-4 Flood Damage Study Site Locations *(NO CHANGE)*




**Table E-18A**
**Municipal Water Supply Economics, Cumulative Impacts**
**Alternative Minus No Action Alternative [a]**

| | Sacramento Valley | Bay Area | San Joaquin Valley |
|---|---|---|---|
| **Average Condition** | | | |
| Demand (taf/yr) | 0.0 | 0.0 | 0.0 |
| Supplies (taf/yr) | (6.8) | (17.2) | (2.1) |
| Shortfall (taf/yr) | 6.8 | 17.2 | 2.1 |
| New Supplies (taf/yr)[a] | 6.0 | 7.3 | 1.7 |
| New Supply Cost (million $/yr)[b] | $1.1-1.9 | $2.7-4.5 | $0.4-$0.6 |
| New Supply Cost $/af | 0.00 | $97-$161 | $26-$44 |
| Percent Retail Price Increase [c] | 0.8% | 0.6% | 0.8% |
| Demand Reduction (taf/yr) [d] | 0.9 | 0.7 | 0.3 |
| New 2020 Demand (taf/yr) | (0.9) | (0.7) | (0.3) |
| **Dry Condition (1928-1934 average hydrology)** | | | |
| Demand (taf/yr) | (0.9) | (0.7) | (0.3) |
| Supplies (taf/yr) | (10.1) | (33.8) | (1.3) |
| Shortfall (taf/yr) | 9.2 | 33.1 | 1.0 |
| Percent RGO Shortage (minimum)[e] | 1.28% | 0.00% | 0.44% |
| Percent RGO Shortage (maximum)[f] | 2.72% | 0.00% | 0.44% |
| Shortfall Allocation (taf/yr) | | | |
| RGO Drought Conservation | 9.2 | 0.0 | 1.0 |
| Comm/Ind Drought Conservation[g] | 0.0 | 0.0 | 0.0 |
| Drought Supplies | 0.0 | 33.1 | 0.0 |
| Drought Cost (million $/yr) | | | |
| Drought Supplies[g] | $0.0 | $48-$80 | $0.0 |
| Drought Conservation[h] | $0.2 | $0.0 | $0.0 |
| Comm/Ind Economic Surplus[i] | $0.0 | $0.0 | $0.0 |
| Comm/Ind Sales Revenue[j] | $0.0 | $0.1 | $0.0 |
| RGO Economic Surplus | $2.4 | $0.1 | $0.2 |
| RGO Sales Revenue | $1.6 | $0.1 | $0.1 |
| Water Cost Savings[k] | ($0.6) | ($4.2) | ($0.1) |
| **Total Cost/yr (million $)[g]** | $3.6 | $45-$75 | $0.2 |

[a]1997 dollars. Each region only includes the portion of the geographic region potentially affected.

[b]Supplies needed to achieve supply-demand balance. Cost measured at the treatment plant. Costs are plus or minus 25 percent to reflect uncertainty. In the Bay Area, new supplies are needed in just one subregion.

[c]Percent increase in retail price due to acquisition of more expensive supplies.

[d]Demand reduction caused by price increase.

[e]Percent mandatory drought conservation required of residential, government and "other" users (not commerce and industry). Minimum and maximum is the range for water provider groups within this region.

[f]Mandatory drought conservation in commercial/industrial sector is limited to 5 percent of demand.

[g]A range of plus or minus 25 percent is used to reflect uncertainty.

[h]Mandatory drought conservation program costs.

[i]Willingness to pay above water cost that is lost because of mandatory conservation.

[j]Sales revenue lost because of drought conservation.

[k]Costs of water supply saved because of shortage.

**Table E-45**
**Trinity Reservoir Property Value Impact Ranking—Full Year Comparison**

| Reservoir Water Levels<br>Data in each cell reflect: Item Value, Difference from No Action Alternative or Existing Conditions, and Rank (in parenthesis) | NEPA Comparison to No Action Alternative | | | | | CEQA Comparison to Existing Conditions | |
|---|---|---|---|---|---|---|---|
| | No Action/Mechanical Restoration Alternatives | Maximum Flow Alternative | Flow Evaluation Alternative | Percent Inflow Alternative | State Permit Alternative | Existing Conditions | Preferred Alternative |
| **Drawdown** | | | | | | | |
| Annual Average (average year): | ~~2,298, 0, (4)~~ 2,302, 0, (3) | ~~2,284, -14, (5)~~ 2,284, -18, (5) | ~~2,303, +5, (2)~~ 2,303, +1, (2) | ~~2,301, +3, (3)~~ 2,301, -1, (4) | ~~2,311, +13, (1)~~ 2,311, +9, (1) | 2,302 | 2,303, +1 |
| **Annual Fluctuation** | | | | | | | |
| Annual Average (across water-year classes): High: | ~~2,328, 0, (4)~~ 2,331, 0, (2) | ~~2,299, -29, (5)~~ 2,299, -32, (5) | ~~2,329, +1, (3)~~ 2,329, -2, (4) | ~~2,330, +2, (2)~~ 2,330, -1, (3) | ~~2,334, +6, (1)~~ 2,334, +3, (1) | 2,331 | 2,329, -2 |
| Low: | ~~2,253, 0, (4)~~ 2,263, 0, (4) | ~~2,269, +16, (3)~~ 2,269, +6, (3) | ~~2,271, +18, (2)~~ 2,271, +8, (2) | ~~2,275, +22, (1)~~ 2,275, +12, (1) | ~~2,275, +22, (1)~~ 2,275, +12, (1) | 2,265 | 2,271, +6 |
| Range: | ~~75, 0, (5)~~ 68, 0, (5) | ~~30, -45, (1)~~ 30, -38, (1) | ~~58, -17, (3)~~ 58, -10, (3) | ~~55, -20, (2)~~ 55, -13, (2) | ~~59, -16, (4)~~ 59, -9, (4) | 66 | 58, -8 |
| Annual Average (across individual years): High: | 2,346, 0, (1) | 2,331, -15, (2) | 2,346, 0, (1) | 2,346, 0, (1) | 2,346, 0, (1) | 2,346 | 2,346, 0 |
| Low: | ~~2,187, 0, (5)~~ 2,191, 0, (5) | ~~2,229, +42, (1)~~ 2,229, +38, (1) | ~~2,223, +36, (2)~~ 2,223, +32, (2) | ~~2,221, +34, (3)~~ 2,221, +30, (3) | ~~2,195, +8, (4)~~ 2,195, +4 (4) | 2,192 | 2,223, +31 |
| Range: | ~~159, 0, (5)~~155, 0, (5) | ~~102, -57, (1)~~ 102, -53, (1) | ~~123, -36, (2)~~ 123, -32, (2) | ~~125, -34, (3)~~ 125, -30, (3) | ~~151, -8, (4)~~ 151, -4, (4) | 154 | 123, -31 |
| Annual Fluctuation - Overall Rank (rank sum – range): | 10, (4) | 2, (1) | 5, (2) | 5, (2) | 8, (3) | n / a | n / a |
| **Monthly Fluctuation** | | | | | | | |
| Monthly Average (average year): High: | ~~2,321, 0, (4)~~ 2,326, 0, (3) | ~~2,293, -28, (5)~~ 2,293, -33, (5) | ~~2,327, +6, (2)~~ 2,327, +1, (2) | ~~2,322, +1, (3)~~ 2,322, -4, (4) | ~~2,336, +15, (1)~~ 2,336, +10, (1) | 2,327 | 2,327, 0 |
| Low: | ~~2,281, 0, (4)~~ 2,282, 0, (4) | ~~2,275, -6, (5)~~ 2,275, -7, (5) | ~~2,283, +2, (3)~~ 2,283, +1, (3) | ~~2,284, +3, (2)~~ 2,284, +2, (2) | ~~2,290, +9, (1)~~ 2,290, +8, (1) | 2,282 | 2,283, +1 |
| Range: | ~~40, 0, (3)~~ 44, 0, (3) | ~~18, -22, (1)~~ 18, -26, (1) | ~~44, +4, (4)~~ 44, 0, (3) | ~~38, -2, (2)~~ 38, -6, (2) | ~~46, +6, (5)~~ 46, +2, (4) | 45 | 44, -1 |
| Monthly Average (across water-year classes): High: | ~~2,358, 0, (4)~~ 2,366, 0, (2) | ~~2,315, -43, (5)~~ 2,315, -51, (5) | ~~2,359, +1, (3)~~ 2,359, -7, (4) | ~~2,361, +3, (2)~~ 2,361, -5, (3) | ~~2,367, +9, (1)~~ 2,367, +1, (1) | 2,366 | 2,359, -7 |
| Low: | ~~2,213, 0, (5)~~ 2,218, 0, (5) | ~~2,248, +35, (1)~~ 2,248, +30, (1) | ~~2,236, +23, (2)~~ 2,236, +18, (2) | ~~2,235, +22, (3)~~ 2,235, +17, (3) | ~~2,227, +14, (4)~~ 2,227, +9, (4) | 2,221 | 2,236, +15 |
| Range: | ~~145, 0, (5)~~ 148, 0, (5) | ~~67, -78, (1)~~ 67, -81, (1) | ~~123, -22, (2)~~ 123, -25, (2) | ~~126, -19, (3)~~ 126, -22, (3) | ~~140, -5, (4)~~ 140, -8, (4) | 145 | 123, -22 |

**Table E-45**
**Trinity Reservoir Property Value Impact Ranking—Full Year Comparison**

| **Reservoir Water Levels**<br>**Data in each cell reflect: Item Value, Difference from No Action Alternative or Existing Conditions, and Rank (in parenthesis)** | **NEPA Comparison to No Action Alternative** | | | | | **CEQA Comparison to Existing Conditions** | |
|---|---|---|---|---|---|---|---|
| | **No Action/Mechanical Restoration Alternatives** | **Maximum Flow Alternative** | **Flow Evaluation Alternative** | **Percent Inflow Alternative** | **State Permit Alternative** | **Existing Conditions** | **Preferred Alternative** |
| Monthly Values (across all years): High: | 2,369, 0, (1) | 2,344, -25, (2) | 2,369, 0, (1) | 2,369, 0, (1) | 2,369, 0, (1) | 2,369 | 2,369, 0 |
| Low: | ~~2,165, 0, (5)~~ 2169, 0, (4) | ~~2,208, +43, (1)~~ 2,208, +39, (1) | ~~2,206, +41, (2)~~ 2,206, +37, (2) | ~~2,203, +38, (3)~~ 2,203, +34, (3) | ~~2,168, +3, (4)~~ 2,168, -1, (5) | 2,169 | 2,206, +37 |
| Range: | ~~204, 0, (5)~~ 200, 0, (4) | ~~136, -68, (1)~~ 136, -64, (1) | ~~163, -41, (2)~~ 163, -37, (2) | ~~166, -38, (3)~~ 166, -34, (3) | ~~201, 3, (4)~~ 201, +1, (5) | 200 | 163, -37 |
| Monthly Range within Each Year (across all years) High: | ~~145, 0, (4)~~ 167, 0, (4) | ~~101, -44, (1)~~ 101, -66, (1) | ~~126, -19, (3)~~ -126, -41, (3) | ~~125, -20, (2)~~ 125, -42, (2) | ~~174, +29, (5)~~ 174, +7, (5) | 170 | 126, -44 |
| Low: | ~~31, 0, (4)~~ 25, 0, (2) | ~~12, -19, (1)~~ 12, -13, (1) | ~~26, +5, (3)~~ 26, +1, (3) | ~~25, -6, (2)~~ 25, 0, (2) | ~~31, 0, (4)~~ 31, +6, (4) | 24 | 26, +2 |
| Average: | ~~61, 0, (3)~~ 66, 0, (5) | ~~36, -25, (1)~~ 36, -30, (1) | ~~60, -1, (2)~~ 60, -6, (2) | ~~62, +1, (4)~~ 62, -4, (3) | ~~64, +3, (5)~~ 64, -2 (4) | 66 | 60, -6 |
| Monthly Fluctuation - Overall Rank (rank sum - range / average): | ~~16, (4)~~ 17, (4) | 4, (1) | ~~10, (2)~~ 9, (2) | ~~12, (3)~~ 11, (3) | ~~18, (5)~~ 17, (4) | n / a | n / a |
| **Rank Sum: Drawdown, Annual Fluctuation, Monthly Fluctuation** | ~~12, (4)~~ **11, (5)** | **7, (2)** | **6, (1)** | ~~8, (3)~~ **9, (4)** | **8, (3)** | **n/a** | **n/a** |

**Table E-46**
**Trinity Reservoir Property Value Impact Ranking—High Recreation Season (May-September) Comparison**

| Reservoir Water Levels<br>Data in each cell reflect: Item Value, Difference from No Action Alternative or Existing Conditions, and Rank (in parenthesis) | | NEPA Comparison to No Action Alternative | | | | | CEQA Comparison to Existing Conditions | |
|---|---|---|---|---|---|---|---|---|
| | | No Action/ Mechanical Restoration Alternatives | Maximum Flow Alternative | Flow Evaluation Alternative | Percent Inflow Alternative | State Permit Alternative | Existing Conditions | Preferred Alternative |
| **Drawdown** | | | | | | | | |
| Annual Average (average year): | | ~~2,301, 0, (4)~~ 2,307, 0, (2) | ~~2,281, -20, (5)~~ 2,281, -26, (4) | ~~2,307, +6, (2)~~ 2,307, 0 (2) | ~~2,306, +5, (3)~~ 2,306, -1, (3) | ~~2,317, +16, (1)~~ 2,317, +10, (1) | 2,307 | 2,307, 0 |
| **Annual Fluctuation** | | | | | | | | |
| Annual Average (across water-year classes): | High: | ~~2,349, 0, (3)~~ 2,354, 0, (2) | ~~2,298, -51, (5)~~ 2,298, -56, (5) | ~~2,348, -1, (4)~~ 2,348, -6, (4) | ~~2,351, +2, (2)~~ 2,351, -3, (3) | ~~2,355, +6, (1)~~ 2,355, +1, (1) | 2,354 | 2,348, -6 |
| | Low: | ~~2,233, 0, (5)~~ 2,242, 0, (5) | ~~2,264, +31, (1)~~ 2,264, +22, (1) | ~~2,261, +28, (2)~~ 2,261, +19, (2) | ~~2,260, +27, (3)~~ 2,260, +18, (3) | ~~2,259, +26, (4)~~ 2,259, +17, (4) | 2,245 | 2,261, +16 |
| | Range: | ~~116, 0, (5)~~ 112, 0, (5) | ~~34, -82, (1)~~ 34, -78, (1) | ~~87, -29, (2)~~ 87, -25, (2) | ~~91, -25, (3)~~ 91, -21, (3) | ~~96, -20, (4)~~ 96, -16, (4) | 109 | 87, -22 |
| Annual Average (across individual years): | High: | 2,357, 0, (1) | 2,334, -23, (2) | 2,357, 0, (1) | 2,357, 0, (1) | 2,357, 0, (1) | 2,357 | 2,357, 0 |
| | Low: | ~~2,183, 0, (5)~~ 2,194, 0, (5) | ~~2,220, +37, (2)~~ 2,220, +26, (2) | ~~2,223, +40, (1)~~ 2,223, +29, (1) | ~~2,219, +36, (3)~~ 2,219, +25, (3) | ~~2,195, +12, (4)~~ 2,195, +1, (4) | 2,194 | 2,223, +29 |
| | Range: | ~~174, 0, (5)~~ 163, 0, (5) | ~~114, -60, (1)~~ 114, -49, (1) | ~~134, -40, (2)~~ 134, -29, (2) | ~~138 , -36, (3)~~ 138, -25, (3) | ~~162, -12, (4)~~ 162, -1, (4) | 163 | 134, -29 |
| Annual Fluctuation—Overall Rank (rank sum-range): | High: | 10, (5) | 2,(1) | 4, (2) | 6, (3) | 8, (4) | n / a | n / a |
| **Monthly Fluctuation** | | | | | | | | |
| Monthly Average (average year): | High: | ~~2,321, 0, (4)~~ 2,326, 0, (2) | ~~2,288, -33, (5)~~ 2,288, -38, (5) | ~~2,324, +3, (2)~~ 2,324, -2, (2) | ~~2,322, +1, (3)~~ 2,322, -4, (3) | ~~2,336, +15, (1)~~ 2,336, +10, (1) | 2,327 | 2,324, -3 |
| | Low: | ~~2,283, 0, (4)~~ 2,287, 0, (2) | ~~2,275, -8, (5)~~ 2,275, -12, (4) | ~~2,285, +2, (3)~~ 2,285, -2, (3) | ~~2,287, +4, (2)~~ 2,287, 0, (2) | ~~2,295, +12, (1)~~ 2,295, +8, (1) | 2,288 | 2,285, -3 |
| | Range: | ~~38, 0, (3)~~ 39, 0, (3) | ~~13, -25, (1)~~ 13, -26, (1) | ~~39, +1, (4)~~ 39, 0, (3) | ~~35, -3, (2)~~ 35, -4, (2) | ~~41, +3, (5)~~ 41, +2, (4) | 39 | 39, 0 |
| Monthly Average (across water-year classes): | High: | ~~2,358, 0, (4)~~ 2,366, 0, (2) | ~~2,305, -53, (5)~~ 2,305, -61, (5) | ~~2,359, +1, (3)~~ 2,359, -7, (4) | ~~2,361, +3, (2)~~ 2,361, -5, (3) | ~~2,367, +9, (1)~~ 2,367, +1, (1) | 2,366 | 2,359, -7 |
| | Low: | ~~2,213, 0, (5)~~ 2,218, 0, (5) | ~~2,255, +42, (1)~~ 2,255, +37, (1) | ~~2,236, +23, (3)~~ 2,236, +18, (2) | ~~2,235, +22, (3)~~ 2,235, +17, (3) | ~~2,227, +14, (4)~~ 2,227, +9, (4) | 2,221 | 2,236, +15 |

**Table E-46**
**Trinity Reservoir Property Value Impact Ranking—High Recreation Season (May-September) Comparison**

| Reservoir Water Levels<br>Data in each cell reflect: Item Value, Difference from No Action Alternative or Existing Conditions, and Rank (in parenthesis) | | NEPA Comparison to No Action Alternative | | | | | CEQA Comparison to Existing Conditions | |
|---|---|---|---|---|---|---|---|---|
| | | No Action/ Mechanical Restoration Alternatives | Maximum Flow Alternative | Flow Evaluation Alternative | Percent Inflow Alternative | State Permit Alternative | Existing Conditions | Preferred Alternative |
| | Range: | ~~145, 0, (5)~~ 148, 0, (5) | ~~50, -95, (1)~~<br>50, -98, (1) | ~~123, -22, (2)~~<br>123, -25, (2) | ~~126, -19, (3)~~<br>126, -22, (3) | ~~140, -5, (4)~~<br>140, -8, (4) | 145 | 123, -22 |
| Monthly Values (across all years): | High: | 2,369, 0, (1) | 2,338, -31, (2) | 2,369, 0, (1) | 2,369, 0, (1) | 2,369, 0, (1) | 2,369 | 2,369, 0 |
| | Low: | ~~2,165, 0, (5)~~ 2,173, 0, (4) | ~~2,208, +43, (2)~~<br>2,208, +35, (2) | ~~2,212, +47, (1)~~<br>2,212, +39, (1) | ~~2,206, +41, (3)~~<br>2,206, +33, (3) | ~~2,170, +5, (4)~~<br>2,170, -3, (5) | 2,173 | 2,212, +39 |
| | Range: | ~~204, 0, (5)~~ 196, 0, (4) | ~~130, -74, (1)~~<br>130, -66, (1) | ~~157, -47, (2)~~<br>157, -39, (2) | ~~163, -41, (3)~~<br>163, -33, (3) | ~~199, -5, (4)~~<br>199, +3, (5) | 196 | 157, -39 |
| Monthly Range within Each Year (across all years): | High: | ~~67, 0, (2)~~ 68, 0, (2) | ~~44, -23, (1)~~<br>44, -24, (1) | ~~77, +10, (4)~~<br>77, +9, (4) | ~~71, +4, (3)~~<br>71, +3, (3) | ~~82, +15, (5)~~<br>82, +14, (5) | 70 | 77, +7 |
| | Low: | ~~8, 0, (2)~~ 14, 0, (2) | ~~4, -4, (1)~~<br>4, -10, (1) | ~~20, +12, (5)~~<br>20, +6, (4) | ~~14, +6, (3)~~<br>14, 0, (2) | ~~17, +9, (4)~~<br>17, +3, (3) | 14 | 20, +6 |
| | Range: | ~~38, 0, (2)~~ 41, 0, (3) | ~~16, -22, (1)~~<br>16, -25, (1) | ~~41, +3, (3)~~<br>41, 0, (3) | ~~38, 0, (2)~~<br>38, -3, (2) | ~~43, +5, (4)~~<br>43, +2, (4) | 40 | 41, +1 |
| Monthly Fluctuation - Overall Rank (rank sum - range / average): | | ~~15, (4)~~ 15, (3) | 4, (1) | ~~11, (3)~~<br>10, (2) | 10, (2) | ~~17, (5)~~ 17, (4) | n / a | n / a |
| **Rank Sum: Drawdown, Annual Fluctuation, Monthly Fluctuation** | | ~~13, (4)~~ **10, (4)** | ~~7, (1)~~ **6, (1)** | ~~7, (1)~~ **6, (1)** | **8, (2)** | ~~10, (3)~~ **9, (3)** | **n/a** | **n/a** |

**Table E-49**
**Trinity River Property Value Impact Ranking**

| Alternatives | Inriver Salmon Harvest (Chinook & Coho) | Change from No Action/ Existing Conditions | Rank | Inriver Steelhead Harvest | Change from No Action/ Existing Conditions | Rank |
|---|---|---|---|---|---|---|
| **NEPA Comparison to No Action Alternative** | | | | | | |
| No Action | -820 | 0 | 5 | -1,000 | 0 | 5 |
| Maximum Flow | 7,800 | +6,980 | 1 | 10,400 | +9,400 | 1 |
| Flow Evaluation / Preferred Alternative | 6,400 | +5,580 | 2 | -8,700 | +7,700 | 2 |
| Percent Inflow | 2,250 | +1,430 | 3 | -3,000 | +2,000 | 3 |
| Mechanical Restoration | 1,630 | +810 | 4 | -2,200 | +1,200 | 4 |
| State Permit | —0 | -820 | 7 | —0 | -1,000 | 6 |
| **CEQA Comparison to Existing Conditions** | | | | | | |
| Existing Conditions | 820 | 0 | n/a | 1,000 | 0 | n/a |
| Preferred Alternative | 6,400 | +5,580 | n/a | 8,700 | +7,700 | n/a |

**Table E-~~50~~ 49**
**Property Value Impact NEPA Ranking Summary**

| | Alternatives | | | | | |
|---|---|---|---|---|---|---|
| | **No Action** | **Maximum Flow** | **Flow Evaluation** | **Percent Inflow** | **Mechanical Restoration** | **State Permit** |
| **Reservoir Ranking**[a] | | | | | | |
| Trinity River Basin<br>- Trinity Reservoir | 4 | 2 | 1 | 3 ~~(tie)~~ | 4 | 4 ~~(tie)~~ |
| Central Valley<br>- Shasta Reservoir | 2 | 5 | 4 | 3 | 2 | 1 |
| ~~Rivers Ranking~~ | | | | | | |
| ~~Trinity River Basin~~<br>~~- Trinity River~~ | ~~5~~ | ~~1~~ | ~~2~~ | ~~3~~ | ~~4~~ | ~~6~~ |

[a]Data in each cell reflects overall ranks

### 2.4.5.2 Technical Appendix E—Attachments

**E1** **CVPM Output Files** *(NO CHANGE)*

**E2** **Summary of Literature Review** *(NO CHANGE)*

**E3** **Flood Damage Assessment of Proposed Trinity River Fish and Wildlife Restoration Flow Alternatives** *(NO CHANGE)*

## 2.4.6 Technical Appendix F—Power Resources

**1.1 No Action Alternative Compared to Trinity EIS/EIR Alternatives** *(SEE SUBSECTIONS)*

**1.1.1 Modeling Background** *(NO CHANGE)*

**1.1.2 Impact Assessment Methodology** **(CHANGES FOLLOW)**

**pg. F-2**

The impacts associated with each alternative were viewed from the perspective of the change in available CVP power, rather than attempting to estimate the total cost of the power supply requirements for the CVP preference power customers under each of the various alternatives studied. The difference in on- and off-peak energy production and the differences in monthly firm load-carrying ~~generating~~ capability between the alternatives and the No Action Alternative was evaluated to estimate the impacts associated with each alternative.

**1.1.2.1 CVP Operations** *(NO CHANGE)*

**1.1.2.2 Market Value of Power** **(CHANGES FOLLOW)**

**pg. F-3**

The PROSYM electric production cost model used the output from the PROSIM model and power module to develop an estimate of the monthly ~~annual~~ change in the market value of CVP power production for each alternative, as compared to the No Action Alternative. The CVP energy generation and associated generating capacity availability under average and adverse dry hydrologic conditions were developed for use with PROSYM.

Energy ~~G~~generation in an average year was based on a monthly average of the generation at each CVP powerplant over the 69 years of simulation from the PROSIM model. For example, the average January generation at Shasta was the average of the Shasta generation in each of the 69 Januarys; the average February generation at Shasta was the average of the Shasta generation at each of the 69 Februarys; and so on. Average project use and available CVP generating capabilities at each powerplant were calculated using the same process.

To determine the dry-year generation and firm load-carrying capabilities ~~capacities~~ that provide a high level of system reliability, a level of hydroelectric production was chosen such that the CVP capacity would be available at least 90 percent of the time for any given month, barring equipment failure. To create this synthetic year, the energy generated in each month, over the 69-year simulation, was sorted into ascending order. A month and year were then selected such that the generation in that month would be exceeded 90 percent of the time. This was done by month such that the generation in the dry-year January would be exceeded in 90 percent of the Januarys, the generation in the dry-year February would be exceeded in 90 percent of the Februarys, and continued throughout the year. The capacity available from each powerplant and the required project use were defined to be the capacity and project use as reported by the PROSIM power model for each of the 90 percent exceedance months.

The resulting 12 months of adverse-year energy levels developed for the EIS/EIR alternative analysis comprise a synthetic year that does not resemble any specific operating or chronological year within the 69-year simulation period. Similarity to a specific hydrologic

year was not assumed to be important when the market value of the CVP capacity (i.e., level of capacity supported with energy) is being determined, since each month is evaluated independently of other months and the market will value the capacity available, and hence, the potential to offset additional capital expenditures in any month based on the applicable reliability criteria (i.e., 90 percent exceedance).

**pg. F-4**

Separation of capacity prices and energy prices have been eliminated within the current deregulated industry structure within California. Given that the current market structure has only been in place for about 14 months, it is difficult to clearly determine the price impact of capacity shortages on an ongoing basis. Therefore, this analysis assumes that the decrease in CVP firm load-carrying capacity will ultimately result in construction of new generating capacity.

**pg. F-5**

CVP power generation is predominantly peaking in nature, and the system is energy-constrained during adverse water conditions. For this reason and since long-term load resource balance was assumed, capacity from the CVP was valued based on the assumption that any change in the CVP power capacity would be offset by a corresponding change in the level of construction of combined-cycle combustion turbines. As a result of the industry restructuring, it was assumed that future capacity additions would be made by private generation companies and that very little public financing would be involved in future capacity additions. Based on these assumptions, the value of capacity was estimated to be $8.99 per kilowatt-month (1997 dollars). A detailed description of the assumptions regarding how the capacity value was estimated is presented in the TEIS Impacts Study conducted by Western (Western, 1999).

Capacity without energy (available capacity less capacity supported with energy) was also valued based on its ability to provide certain ancillary services, primarily ~~spinning~~ operating and installed reserves. The pricing history for these ancillary services in the new market environment has been very volatile, leading to substantial restructuring of these markets. Therefore, this analysis assumes to value ancillary service capacity at 20 percent of the value used for the capacity supported with energy. The value of energy produced by the CVP was estimated based on a marginal heat rate approach. To the extent that CVP power output is increased or decreased in a particular time period, an opposite change will occur in the output of the marginal unit that is operating at that same time.

### 1.1.3 Model Results *(SEE SUBSECTIONS)*

#### 1.1.3.1 No Action Alternative **(CHANGES FOLLOW)**

**pg. F-7**

**Power Generation.** Simulated average annual generation at CVP powerplants in the Shasta and Trinity River Divisions for the 69-year simulation period is shown on Figure F-1 and presented in Table F-2. Simulated average annual generation at CVP powerplants in the American River and West San Joaquin Divisions for the 69-year simulation period is shown on Figure F-2 and presented in Table F-2. Total CVP power generation includes generation at Trinity Reservoir, Judge Francis Carr (Carr), Spring Creek Tunnel (Spring Creek), Shasta

Reservoir, Keswick Reservoir (Keswick), Folsom Lake, Lake Natoma (Nimbus), New Melones Lake, and San Luis Reservoir powerplants and adjustments for ~~includes estimated~~ transmission losses for delivery to Tracy. Simulated average monthly total CVP generation for the long-term average, calendar years 1922-1990, and dry period, calendar years 1929-1934, is shown on Figures F-3 and F-4 and presented in Table F-3. The average annual total CVP generation for the long-term average for the No Action Alternative is 5,169 gigawatt-hours (GWh). The average annual total CVP generation for the dry period for the No Action Alternative is 2,946 GWh.

**pg. F-8**

**Market Value of Power.** For the evaluation of the market value of ~~power~~energy, the long-term average energy available from PROSIM was used. The capacity values were based on the synthetic dry year discussed earlier in this section. PROSIM generation and Project Use values used in the synthetic year for the No Action Alternative analysis are presented in Tables F-10 through F-12. The annual energy available and capacity available for sale, based on the synthetic year, are presented in Table F-13. The average annual energy available for sale under the No Action Alternative is 3,779 GWh. Based on the 90 percent exceedance synthetic dry year, the average monthly capacity for sale with energy for the No Action Alternative is 747 MW and the average monthly capacity for sale without energy was 739 MW.

### 1.1.3.2 Maximum Flow Alternative (CHANGES FOLLOW)

**pg. F-9**

**Market Value of Power.** PROSIM generation and project use values used in the synthetic year for the Maximum Flow Alternative analysis are presented in Tables F-10 through F-12. The annual energy available and capacity available for sale, based on the synthetic year, are presented in Table F-13. The average annual energy available for sale decreases by 32 percent compared to the No Action Alternative, resulting in a reduction in energy value. Based on the 90 percent exceedance synthetic dry year, the average monthly capacity for sale with energy decreases by 10 percent, and the average monthly capacity for sale without energy increases by 3 percent. Table F-14 presents the change in the average annual market value of CVP power for the Maximum Flow Alternative as compared to the No Action Alternative. Based on the market value of power analysis, the net decrease in the value of CVP power production is approximately $26,036,000 per year. The allocation of the net decrease in the value of CVP power generation to the counties with preference power customers is presented in Table F-15. The cost of replacement power and the net effect on an “average” and a “high-allocation” Western customer is presented in Table F-16. A detailed discussion of the results of the value of power analysis is presented in the TEIS Impacts Study (Attachment F1).

### 1.1.3.3 Flow Evaluation Alternative (CHANGES FOLLOW)

**pg. F-10**

**Market Value of Power.** PROSIM generation and project use values used in the synthetic year for the Flow Evaluation Alternative analysis are presented in Tables F-10 through F-12. The annual energy available and capacity available for sale, based on the synthetic year, are presented in Table F-13. The average annual energy available for sale decreases by 7 percent compared to the No Action Alternative, resulting in a reduction in energy value.

Based on the 90 percent exceedance synthetic dry year, the average monthly capacity for sale with energy remains approximately the same, and the average monthly capacity for sale without energy increases by 8 percent. Table F-14 presents the change in the average annual market value of CVP power for the Flow Evaluation Alternative as compared to the No Action Alternative. Based on the market value of power analysis, the net decrease in the value of CVP power production is approximately $5,564,000 per year. The allocation of the net decrease in the value of CVP power generation to the counties with preference power customers is presented in Table F-15. The cost of replacement power and the net effect on an "average" and a "high-allocation" Western customer is presented in Table F-16.

**1.1.3.4 Percent Inflow** **(CHANGES FOLLOW)**
**pg. F-11**

**Market Value of Power.** PROSIM generation and project use values used in the synthetic year for the Flow Evaluation Alternative analysis are presented in Tables F-10 through F-12. The annual energy available and capacity available for sale, based on the synthetic year, are presented in Table F-13. The average annual energy available for sale decreases by 7 percent compared to the No Action Alternative, resulting in a reduction in energy value. Based on the 90 percent exceedance synthetic dry year, the average monthly capacity for sale with energy remains approximately the same, and the average monthly capacity for sale without energy increases by 8 percent. Table F-14 presents the change in the average annual market value of CVP power for the Flow Evaluation Alternative as compared to the No Action Alternative. Based on the market value of power analysis, the net decrease in the value of CVP power production is approximately $5,564,000 per year. The allocation of the net decrease in the value of CVP power generation to the counties with preference power customers is presented in Table F-15. The cost of replacement power and the net effect on an "average" and a "high-allocation" Western customer is presented in Table F-16.

**1.1.3.5 State Permit Alternative** **(CHANGES FOLLOW)**
**pg. F-12**

**Market Value of Power.** PROSIM generation and project use values used in the synthetic year for the State Permit Alternative analysis are presented in Tables F-10 through F-12. The annual energy available and capacity available for sale, based on the synthetic year, are presented in Table F-13. The average annual energy available for sale increases by 5 percent compared to the No Action Alternative, resulting in a reduction in energy value. Based on the 90 percent exceedance synthetic dry year, the average monthly capacity for sale with energy remains approximately the same, and the average monthly capacity for sale without energy increases by 3 percent. Table F-14 presents the change in the average annual market value of CVP power for the State Permit Alternative as compared to the No Action Alternative. Based on the market value of power analysis, the net increase in the value of CVP power production is approximately $5,937,000 per year. The allocation of the net increase in the value of CVP power generation to the counties with preference power customers is presented in Table F-15. The cost of replacement power and the net effect on an "average" and a "high-allocation" Western customer is presented in Table F-16.

### 1.1.4 Criteria for Determining Significance (CHANGES FOLLOW)
**pg. F-13**

A significant power resource related impact was determined to occur when the implementation of an alternative would result in:

- A reduction in the dry year firm load-carrying capacity (CVP hydroelectric capacity supported with CVP hydroelectric energy available for sale) to preference customers of 50 MW or greater occurring during January, February, March, June, July, August, September, or December
- A reduction of 5 percent or more in the annual energy available for sale to preference customers during an average year
- A reduction of 5 percent or more in the average energy available for sale to preference customers during any month of an average year
- Any decrease in the value of CVP power resulting in an increase in a preference customer's average power cost by $0.50 per MWh

**1.2 Existing Conditions Compared to the Flow Evaluation Alternative** *(NO CHANGE)*
**1.2.1 Modeling Background** *(NO CHANGE)*
**1.2.2 Impact Assessment Methodology** *(NO CHANGE)*
**1.2.2.1 CVP Operations** *(NO CHANGE)*
**1.2.3 Model Results** *(NO CHANGE)*
**1.2.3.1 Existing Conditions** *(NO CHANGE)*
**1.2.3.2 Flow Evaluation Alternative** *(NO CHANGE)*

**1.3 References** *(NO CHANGE)*

### 2.4.6.1 Technical Appendix F—Tables and Figures

**Tables**

| | | |
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| F-1 | Estimated Delivered Price for Marginal Energy | *(NO CHANGE)* |
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| F-3 | Comparison of Simulated Average Monthly CVP Generation | *(NO CHANGE)* |
| F-4 | Comparison of Simulated Average Monthly Available Capacity | *(NO CHANGE)* |
| F-5 | Comparison of Simulated Average Monthly CVP Project Use | *(NO CHANGE)* |
| F-6 | Comparison of Simulated Average Monthly On- and Off-peak CVP Project Use Energy Long-term Average - Calendar Years 1922-1990 | *(NO CHANGE)* |
| F-7 | Comparison of Simulated Average Monthly On- and Off-peak CVP Project Use Energy Dry Period - Calendar Years 1929-1934 | *(NO CHANGE)* |
| F-8 | Comparison of Simulated Average Monthly On- and Off-peak CVP Project Use Capacity Long-term Average - Calendar years 1922-1990 | *(NO CHANGE)* |
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| F-13 | CVP Energy and Capacity Available For Sale | *(NO CHANGE)* |
| F-14 | Annual Change in Market Value of CVP Power Compared to the No Action Alternative | *(NO CHANGE)* |
| F-15 | Trinity EIS/EIR Preference Customer Benefit (Cost) Allocation by County Based on Contract Rate of Deliveries (CRD) | *(NO CHANGE)* |
| F-16 | Cost of Replacement Power and the Effects on the “Average” and “High-Allocation” Western Customer | *(NO CHANGE)* |
| F-17 | Comparison of Simulated Average Annual Generation at CVP Powerplants | *(NO CHANGE)* |
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F-16 Simulated Average Monthly Off-peak CVP Project Use Capacity Dry Period 1929-1934 *(NO CHANGE)*

F-17 Simulated Average Annual Generation at CVP Powerplants in the Shasta and Trinity River Divisions *(NO CHANGE)*

F-18 Simulated Average Annual Generation at CVP Powerplants in the American River and West San Joaquin Divisions *(NO CHANGE)*

F-19 Simulated Average Monthly CVP Generation Long-term Average 1922-1990 *(NO CHANGE)*

F-20 Simulated Average Monthly CVP Generation Dry Period 1929-1934 *(NO CHANGE)*

F-21 Simulated Average Monthly Available Capacity Long-term Average 1922-1990 *(NO CHANGE)*

F-22 Simulated Average Monthly Available Capacity Dry Period 1929-1934 *(NO CHANGE)*

F-23 Simulated Average Monthly Project Use Energy Long-Term Average 1922-1990 *(NO CHANGE)*

F-24 Simulated Average Monthly Project Use Energy Dry Period 1929-1934 *(NO CHANGE)*

F-25 Simulated Average Monthly On-peak CVP Project Use Energy Long-Term Average 1922-1990 *(NO CHANGE)*

F-26 Simulated Average Monthly Off-peak CVP Project Use Energy Long-Term Average1922-19904 *(NO CHANGE)*

F-27 Simulated Average Monthly On-peak CVP Project Use Energy Dry Period 1929-1934 *(NO CHANGE)*

F-28 Simulated Average Monthly Project Off-Peak CVP Project Use Energy Dry Period 1929-1934 *(NO CHANGE)*

F-29 Simulated Average Monthly On-peak CVP Project Use Capacity Long-term Average 1922-1990 *(NO CHANGE)*

F-30 Simulated Average Monthly Off-peak CVP Project Use Capacity Long-term Average1922-1990 *(NO CHANGE)*

F-31 Simulated Average Monthly On-peak CVP Project Use Capacity Dry Period 1929-1934 *(NO CHANGE)*

F-32 Simulated Average Monthly Off-peak CVP Project Use Capacity Dry Period 1929-1934 *(NO CHANGE)*

### 2.4.6.2 Technical Appendix F—Attachments

**F1 TEIS Impacts Study (Western, 1999)** *(NO CHANGE)*

## 2.4.7 Technical Appendix G—Socioeconomics and Environmental Justice

**SOCIOECONOMICS** *(SEE SUBSECTIONS)*
**INTRODUCTION** *(NO CHANGE)*
**AFFECTED ENVIRONMENT** *(NO CHANGE)*
**TRINITY RIVER BASIN** *(NO CHANGE)*
**LOWER KLAMATH RIVER BASIN/COASTAL AREA** *(NO CHANGE)*
**CENTRAL VALLEY** *(NO CHANGE)*
**ENVIRONMENTAL CONSEQUENCES** *(NO CHANGE)*
**METHODOLOGY AND IMPACT EVALUATION CRITERIA** *(NO CHANGE)*
**NO ACTION ALTERNATIVE** *(NO CHANGE)*

**Maximum Flow Alternative** **(CHANGES FOLLOW)**

**Trinity River Basin**

***Annual Impacts***
**pg. 99**

***2020 Economic Impacts.—***Under the Maximum Flow Alternative, the Trinity Shasta County regional economy would be negatively affected by decreases in spending associated with water-oriented recreation. Although recreation-related spending associated with use of the Trinity River would increase, these effects would be more than offset by decreases in recreation-related spending associated with use of Trinity and Shasta Reservoirs. Annual regional economic output would decrease by an estimated ~~$6.3~~ 6.6 million, place of work income by ~~$2.6~~ 2.7 million, and employment by ~~66~~ 70 jobs (Table TA-54). These changes are not considered substantial. Revenues specific to businesses in Trinity County are estimated to increase $2.0 million annually.

The economic sectors most affected by recreation activity are wholesale trade, retail trade, and lodging places. Annual employment in these sectors is estimated to decrease by ~~39~~ 41 jobs, with ~~25~~ 26 of those occurring in the retail trade sector. These impacts are not considered substantial. Businesses that primarily cater to persons recreating at Trinity and Shasta Reservoirs, or along the Trinity River, would be most impacted by this alternative. These businesses include concessionaires, marina operators and other service providers at the lakes, and guiding and recreation services along the river. Adverse, but not substantial, impacts would be experienced by businesses that serve recreationists at Trinity and Shasta Reservoirs. Businesses that primarily serve persons recreating along the Trinity River would experience a substantial positive impact.

**FLOW EVALUATION ALTERNATIVE** **(CHANGES FOLLOW)**

**Trinity River Basin**

***Annual Impacts***
**pg. 106**

***2020 Economic Impacts—***Under the Flow Evaluation Alternative, the Trinity / Shasta County regional economy would be positively affected by increases in spending associated with increases in water-oriented recreation. Recreation-related spending associated with increases in use of the Trinity River and Trinity Reservoir would more than offset the

decreases in recreation-related spending associated with projected declines in use at Shasta Reservoir. Annual regional economic output would increase by an estimated ~~$3.2~~ 3.0 million, place of work income would increase by ~~$2.0~~ 1.8 million, and employment would increase by ~~66~~ 62 jobs (Table TA-54). These increases are not considered substantial. Revenues specific to businesses in Trinity County are estimated to increase $1.7 million annually.

The economic sectors most affected by recreation activity are wholesale trade, retail trade, and lodging places. Annual employment in these sectors is estimated to increase by ~~43~~ 41 jobs, with ~~41~~ 39 of those occurring in the retail trade and lodging sectors. These impacts are not considered substantial.

**PERCENT INFLOW ALTERNATIVE** **(CHANGES FOLLOW)**

**Trinity River Basin**

***Annual Impacts***
**pg. 112**

***2020 Economic Impacts***.—Under the Percent Inflow Alternative, the Trinity / Shasta County regional economy would be negatively affected by decreases in spending associated with declines in water-oriented recreation. Although recreation-related spending associated with use of Trinity Reservoir would increase, these effects would be more than offset by decreases in recreation-related spending associated with declines in use at Shasta Reservoir and along the Trinity River. Annual regional economic output would decrease by an estimated ~~$500,000~~ 800,000, place of work income would decrease by ~~$300,000~~ 400,000, and employment would decrease by ~~8~~ 12 jobs (Table TA-54). These decreases, however, are not considered substantial. Revenues specific to businesses in Trinity County are estimated to increase by less than $10,000 annually.

The economic sectors most affected by recreation activity are wholesale trade, retail trade, and lodging places. Annual employment in these sectors is estimated to decrease by ~~5~~ 7 jobs, with ~~3~~ 4 of those occurring in the retail trade sector. These impacts are not considered substantial.

**MECHANICAL RESTORATION ALTERNATIVE** **(CHANGES FOLLOW)**

**Trinity River Basin**

***Annual Impacts***
**pg. 117**

***2020 Economic Impacts—***The Trinity / Shasta County regional economy would be positively affected by the Mechanical Restoration Alternative. The only changes in recreation-related spending would be associated with slight increases in use of the Trinity River for sport-fishing. Annual regional economic output would increase by an estimated ~~$110,000~~ 130,000, place of work income would increase by ~~$60,000~~ 70,000, and employment would increase by 2 jobs (Table TA-54). These increases are not considered substantial. Revenues specific to businesses in Trinity County are estimated to increase by less than $50,000 annually.

**STATE PERMIT ALTERNATIVE**

**Trinity River Basin**

***Annual Impacts***
**pg. 121**

**2020 Economic Impacts**—Under the State Permit Alternative, the Trinity / Shasta County regional economy would be negatively affected by decreases in spending associated with declines in Trinity River recreation. Although recreation-related spending associated with use of Trinity and Shasta Reservoirs would increase, these effects would be more than offset by decreases in recreation-related spending along the Trinity River. Annual regional economic output would decrease by ~~$5.9~~ 6.2 million, place of work income would decrease by ~~$3.5~~ 3.6 million, and employment would decrease by ~~115~~ 119 (Table TA-54) jobs. These changes are not substantial. Revenues specific to businesses in Trinity County are estimated to decrease by $1.8 million annually.

The economic sectors most affected by recreation activity are wholesale trade, retail trade, and lodging places. Annual employment in these sectors is estimated to decrease by ~~74~~ 76 jobs, with ~~70~~ 72 of those occurring in the retail trade and lodging sectors. The adverse impacts on the lodging sector are substantial.

**NO ACTION VERSUS PREFERRED ALTERNATIVE** *(NO CHANGE)*

**EXISTING CONDITIONS VERSUS PREFERRED ALTERNATIVE** **(CHANGES FOLLOW)**

**Trinity River Basin**

***Economic Impacts***
**pg. 128**

***Annual Impacts.—***Under the Preferred Alternative, the Trinity / Shasta County regional economy would be positively affected by increases in spending associated with increases in water-oriented recreation. Annual regional economic output would increase by $2.6 billion, place of work income would increase by ~~$1.4~~ 1.5 billion, and employment would increase by 35,900 jobs (Table TA-54). More than 99 percent of these changes in economic activity are attributable to the effects of increased population on recreation use and spending associated with the Trinity River and Trinity and Shasta Reservoirs. Project-related effects are not substantial.

**Table TA-54 has been modified to more accurately represent annual impacts under each alternative. Table TA-55 has been modified to more accurately represent the data pertaining to the Northern/Central Oregon Coastal Area. See Section 2.4.7.1 for revised Tables TA-54 and TA-55.**

| | |
|---|---|
| **ENVIRONMENTAL JUSTICE** | *(NO CHANGE)* |
| **AFFECTED ENVIRONMENT** | *(NO CHANGE)* |
| **ENVIRONMENTAL CONSEQUENCES** | *(NO CHANGE)* |
| **METHODOLOGY** | *(NO CHANGE)* |
| **NO ACTION** | *(NO CHANGE)* |
| **MAXIMUM FLOW** | *(NO CHANGE)* |
| **FLOW EVALUATION/PREFERRED ALTERNATIVE** | *(NO CHANGE)* |
| **PERCENT INFLOW** | *(NO CHANGE)* |
| **MECHANICAL RESTORATION** | *(NO CHANGE)* |
| **STATE PERMIT** | *(NO CHANGE)* |
| **EXISTING CONDITIONS VERSUS PREFERRED ALTERNATIVE** | *(NO CHANGE)* |

### 2.4.7.1 Technical Appendix G—Tables

**Tables—Socioeconomics**

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| TA-1 | Economic Regions by County | *(NO CHANGE)* |
| TA-2a | Employment Data for Trinity River Basin | *(NO CHANGE)* |
| TA-2b | Employment Data for Lower Klamath River Basin / Coastal Area Region, 1992 | *(NO CHANGE)* |
| TA-3 | 1991 Existing Conditions Data for the San Francisco Bay Region, Million 1997 Dollars | *(NO CHANGE)* |
| TA-4 | Subregional Distribution of the California and Oregon Ocean Commercial Salmon Harvest in 1996 | *(NO CHANGE)* |
| TA-5 | Employment Data for Central Valley Regions, 1991 | *(NO CHANGE)* |
| TA-6 | 1991 Existing Conditions Data for the Sacramento River Region, Million 1997 Dollar | *(NO CHANGE)* |
| TA-7 | 1991 Existing Conditions Data for the San Joaquin River Region, Million 1997 Dollars | *(NO CHANGE)* |
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| TA-9 | Impact Thresholds by Analysis Type and Region | *(NO CHANGE)* |
| TA-10 | Spawning Gravel Cost Comparison | *(NO CHANGE)* |
| TA-11 | Total Costs by Alternative | *(NO CHANGE)* |
| TA-12 | Cost Comparison to No Action Alternative | *(NO CHANGE)* |
| TA-13 | Dam Modification Construction Costs by Alternative | *(NO CHANGE)* |
| TA-14 | Summary of Trinity County Costs | *(NO CHANGE)* |
| TA-14a1 | Construction Costs for New River Restoration Sites – Construction costs for the new river rehabilitation sites are defined as temporary annual costs | *(NO CHANGE)* |
| TA-14a2 | Construction Costs for New River Restoration Sites – Annual construction costs for years 4 and 5 ($2,100,000 of construction costs would be incurred annually comprised of 7 channel restoration sites at $300,000 each) | *(NO CHANGE)* |
| TA-14a3 | Construction Costs for New River Restoration Sites – Annual construction costs for year 6 ($1,800,000 of construction costs would be incurred annually comprised of 6 channel restoration sites at $300,000 each) | *(NO CHANGE)* |
| TA-14b | page 41 | *(NO CHANGE)* |

| | | |
|---|---|---|
| TA-14c | Maintenance Costs for New River Restoration Sites | *(NO CHANGE)* |
| TA-14d1 | Maintenance Costs for Spawning Gravel (weighted averages across all water year types) | *(NO CHANGE)* |
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| TA-14e | Expanded Dredging Program Costs | *(NO CHANGE)* |
| TA-14f | Expanded Watershed Protection Program Costs | *(NO CHANGE)* |
| TA-15a | In-Region Total Dam Modification Costs by Industry (Temporary Up-Front Costs) | *(NO CHANGE)* |
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| TA-15c | In-Region Annual Expanded Watershed Program Costs by Industry (Mechanical Restoration and Preferred Alternatives) | *(NO CHANGE)* |
| TA-16 | Projected 2001 Trinity County Employment Information | *(NO CHANGE)* |
| TA-17 | Regional Impacts by Alternative and Cost Type | *(NO CHANGE)* |
| TA-18 | Potential Range in Annual Total Industry Output by Alternative (Change from No Action Alternative) | *(NO CHANGE)* |
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| TA-21 | Projected 1995 Trinity County Employment Information | *(NO CHANGE)* |
| TA-22 | Estimated Average Spending per Day by Persons Recreating along the Trinity and Lower Klamath Rivers (1997 dollars) | *(NO CHANGE)* |
| TA-23 | Trinity River Recreation Spending Effects of the Project Alternatives | *(NO CHANGE)* |
| TA-24 | Average Trip-Related Expenditures per Recreation Visitor Day for Trinity and Shasta Lakes (1997 dollars) | *(NO CHANGE)* |
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| TA-27 | Spending Effects from Sport Fishing on the Lower Klamath River | *(NO CHANGE)* |
| TA-28 | Average per Person per Trip Spending for Ocean Sport Salmon Fishing (1997 dollars) | *(NO CHANGE)* |

| | | |
|---|---|---|
| TA-29a | Ocean Salmon Sport Fishing Spending: North / Central Oregon Region | *(NO CHANGE)* |
| TA-29b | Ocean Salmon Sport Fishing Spending: KMZ-Oregon Region | *(NO CHANGE)* |
| Tz-29c | Ocean Salmon Sport Fishing Spending: KMZ-CA Region | *(NO CHANGE)* |
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| TA-31 | Direct Effects on Regional Economics from Hydropower, Change to Personal Consumption Expenditure, Million $ Annually | *(NO CHANGE)* |
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| TA-39 | Economic Impacts of Maximum Flow Alternative, Sacramento Region, by Industry | *(NO CHANGE)* |
| RM-40 | Economic Impacts of Maximum Flow Alternative, San Joaquin Region, by Industry | *(NO CHANGE)* |
| TA-41 | Economic Impacts of Maximum Flow Alternative, Tulare Region, by Industry | *(NO CHANGE)* |
| TA-42 | Economic Impacts of Flow Evaluation Alternative, Bay Region by Industry | *(NO CHANGE)* |
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**TABLE TA-54**

Trinity River Basin Region (Defined as Trinity County for Up-front Impacts, and Trinity and Shasta Counties for Annual Impacts ~~These Analyses~~)

| Time of Impact/ Impact Measures/ Economic Sectors | Units | Comparison Bases | | Action Alternatives | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Existing Conditions | No Action Alternative | Maximum Flow | Flow Evaluation | Percent Inflow | Mechanical Restoration | State Permit | Preferred Alternative | |
| | | | | Change from No Action Alternative in 2020 | | | | | | Change from Existing Conditions |
| **Up-front Impacts** | | **Year 1995 Totals** | **Year 2001 Totals** | | | | | | | |
| Output/Sales | M$ | 344.2 | 350.6 | 6.2/5.5/3.6[a] | 1.28 | 1.23 | 2.14 | 0 | 2.14 | 8.54 |
| Income | M$ | 186.1 | 189.5 | 2.95/2.65/1.75[a] | 0.66 | 0.63 | 1.11 | 0 | 1.10 | 4.5 |
| Employment | Jobs | 4,955 | 5,045 | 77/70/45[a] | 22 | 21 | 37 | 0 | 37 | 127 |
| Most Impacted Sectors: | | | | | | | | | | |
| Construction | Jobs | 375 | 380 | 18/16/11 | 0 | 0 | 0 | 0 | 0 | 5 |
| Wholesale trade | Jobs | 105 | 105 | 7/6/4[a] | 1 | 1 | 2 | 0 | 2 | 2 |
| Eating & drinking | Jobs | 225 | 230 | 8/7/4[a] | 3 | 3 | 5 | 0 | 5 | 10 |
| Auto & service stations | Jobs | 55 | 55 | 11/10/6[a] | 0 | 0 | 0 | 0 | 0 | 0 |
| **Annual Impacts** | | **Year 1995 Totals** | **Year 2020 Totals** | | | | | | | |
| Output/Sales | M$ | 6,078.2 | 8,693.7 | ~~-6.3~~ -6.6 | ~~3.2~~ 3.0 | ~~-0.5~~ -0.8 | ~~-0.11~~ 0.13 | ~~-5.9~~ -6.2 | ~~3.2~~ 3.0 | ~~2,618.7~~ 2,618.5 |
| Income | M$ | 3,377.4 | 4,830.7 | ~~-2.6~~ -2.7 | ~~2.0~~ 1.8 | ~~-0.3~~ -0.4 | ~~-0.06~~ 0.07 | ~~-3.5~~ -3.6 | ~~2.0~~ 1.8 | ~~1,455.3~~ 1,455.1 |
| Employment | Jobs | 83,280 | 119,110 | ~~-66~~ -70 | ~~66~~ 6.2 | ~~-8~~ -12 | 2 | ~~-115~~ -119 | ~~66~~ 62 | ~~35,896~~ 35,892 |
| Most Impacted Sectors: | | | | | | | | | | |
| Wholesale trade | Jobs | 4,900 | 7,010 | -9 | 2 | -1 | 0 | -4 | 2 | 2,112 |
| Retail trade | Jobs | 15,880 | 22,710 | ~~-25~~ -26 | ~~21~~ 20 | ~~-3~~ -4 | 1 | ~~-38~~ -39 | ~~21~~ 20 | ~~6,851~~ 6,850 |
| Lodging places | Jobs | 1,440 | 2,060 | ~~-5~~ -6 | ~~20~~ 19 | ~~-1~~ -2 | 1 | ~~-32~~ -33 | ~~20~~ 19 | ~~640~~ 639 |

[a]Three estimates reflect dam modification options. See Section 2.1.3.
M$ = million dollars.

**TABLE TA-55**
Lower Klamath River Basin/Coastal Area Regions

| Impact Subregion/Impact Measures/Economic Sectors | Units | Comparison Bases | | Action Alternatives | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Existing Conditions (1995) | No Action Alternative (2020) | Maximum Flow | Flow Evaluation | Percent Inflow | Mechanical Restoration | State Permit | Preferred Alternative | |
| | | | | Change from No Action Alternative in 2020 | | | | | | Change from Existing Conditions |
| **Monterey Coastal Area** | | | | | | | | | | |
| Total output | M$ | 34,214.6 | 51,714.2 | 0 | 0 | 0 | 0 | -13.3 | 0 | 17,499.6 |
| Income | M$ | 19,297.0 | 29,166.8 | 0 | 0 | 0 | 0 | -5.4 | 0 | 9,869.8 |
| Employment | Jobs | 473,210 | 715,190 | 0 | 0 | 0 | 0 | -166 | 0 | 241,980 |
| Most Impacted Sectors: | | | | | | | | | | |
| Commercial fishing | Jobs | 210 | 210 | 0 | 0 | 0 | 0 | -27 | 0 | 0 |
| Seafood processing | Jobs | 2,450 | 2,450 | 0 | 0 | 0 | 0 | -57 | 0 | 0 |
| Wholesale trade | Jobs | 18,920 | 28,600 | 0 | 0 | 0 | 0 | -8 | 0 | 9,680 |
| Retail trade | Jobs | 77,010 | 116,390 | 0 | 0 | 0 | 0 | -24 | 0 | 39.380 |
| Lodging places | Jobs | 12,390 | 18,720 | 0 | 0 | 0 | 0 | -2 | 0 | 6,330 |
| **San Francisco Coastal Area** | | | | | | | | | | |
| Total output | M$ | 351,700 | 430,900 | -159.6 | -32.6 | -12.3 | 2.28 | 13.2 | -32.6 | 79,167 |
| Income | M$ | 199,900 | 245,000 | -79.2 | -16.2 | -6.4 | 0.91 | 7.9 | -16.2 | 45,084 |
| Employment | Jobs | 3,652,600 | 4,560,500 | -1,540 | -310 | -120 | 25 | 110 | -310 | 907,590 |
| Most Impacted Sectors: | | | | | | | | | | |
| Vegetables | Jobs | 1,423 | 1,776 | -165 | -1 | -9 | 0 | 27 | -1 | 352 |
| Canned fruit and vegetables | Jobs | 3,281 | 4,097 | -125 | -24 | -7 | 0 | 21 | -24 | 792 |
| Retail and wholesale trade | Jobs | 746,600 | 932,218 | -327 | -65 | -30 | 6 | 21 | -65 | 185,553 |
| Services | Jobs | 1,154,925 | 1,441,977 | -420 | -85 | -41 | 6 | 38 | -85 | 286,967 |
| Commercial Fishing | Jobs | 1,276 | 1,593 | 3 | 0 | -3 | 3 | -20 | 0 | 317 |
| **Mendocino Coastal Area** | | | | | | | | | | |
| Total output | M$ | 3,111.5 | 4,267.1 | 11.1 | 9.6 | 4.9 | 4.3 | -2.1 | 9.6 | 1,165.2 |
| Income | M$ | 1,560.4 | 2,140.0 | 5.1 | 4.4 | 2.3 | 2.0 | -1.0 | 4.4 | 584.0 |
| Employment | Jobs | 43,630 | 59,835 | 127 | 110 | 57 | 50 | -25 | 110 | 16,315 |

**TABLE TA-55**
Lower Klamath River Basin/Coastal Area Regions

| Impact Subregion/Impact Measures/Economic Sectors | Units | Comparison Bases | | Action Alternatives | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Existing Conditions (1995) | No Action Alternative (2020) | Maximum Flow | Flow Evaluation | Percent Inflow | Mechanical Restoration | State Permit | Preferred Alternative | |
| | | Change from No Action Alternative in 2020 | | | | | | | | Change from Existing Conditions |
| Most Impacted Sectors: | | | | | | | | | | |
| Commercial fishing | Jobs | 180 | 180 | 33 | 29 | 14 | 13 | -5 | 29 | 29 |
| Seafood processing | Jobs | 180 | 180 | 31 | 27 | 13 | 12 | -5 | 27 | 27 |
| Wholesale trade | Jobs | 1,360 | 1,870 | 6 | 5 | 3 | 2 | -1 | 5 | 515 |
| Retail trade | Jobs | 8,130 | 11,150 | 18 | 15 | 8 | 7 | -5 | 15 | 3,035 |
| Lodging places | Jobs | 1,710 | 2,350 | 2 | 2 | 1 | 1 | -1 | 2 | 642 |
| **KMZ-California Coastal Area** | | | | | | | | | | |
| Total Output | M$ | 5,086.9 | 6,072.5 | 3.0 | 2.9 | 2.0 | 1.9 | -0.3 | 2.9 | 988.5 |
| Income | M$ | 2,752.4 | 3,285.7 | 1.5 | 1.5 | 1.0 | 0.9 | -0.2 | 1.5 | 534.8 |
| Employment | Jobs | 73,760 | 88,050 | 37 | 36 | 24 | 23 | -4 | 36 | 14,326 |
| Most Impacted Sectors: | | | | | | | | | | |
| Commercial fishing | Jobs | 520 | 520 | 8 | 7 | 5 | 5 | -1 | 7 | 7 |
| Seafood processing | Jobs | 460 | 460 | 7 | 6 | 4 | 4 | -1 | 6 | 6 |
| Wholesale trade | Jobs | 3,210 | 3,830 | 2 | 2 | 2 | 1 | 0 | 2 | 622 |
| Retail trade | Jobs | 13,820 | 16,490 | 8 | 8 | 5 | 5 | -1 | 8 | 2,678 |
| Lodging places | Jobs | 1,390 | 1,650 | 2 | 2 | 1 | 1 | 0 | 2 | 262 |
| **KMZ-Oregon Coastal Area** | | | | | | | | | | |
| Total Output | M$ | 572.4 | 848.4 | 3.9 | 3.7 | 2.8 | 2.6 | -0.5 | 3.7 | 279.7 |
| Income | M$ | 289.9 | 429.7 | 1.7 | 1.6 | 1.2 | 1.0 | -0.2 | 1.6 | 141.4 |
| Employment | Jobs | 9,100 | 13,490 | 62 | 58 | 45 | 43 | -8 | 58 | 4,448 |
| Most Impacted Sectors: | | | | | | | | | | |
| Commercial fishing | Jobs | 130 | 130 | 13 | 12 | 9 | 8 | -1 | 12 | 12 |
| Seafood processing | Jobs | 110 | 110 | 9 | 8 | 6 | 6 | -1 | 8 | 8 |
| Wholesale trade | Jobs | 330 | 490 | 4 | 3 | 3 | 3 | 0 | 3 | 163 |
| Retail trade | Jobs | 2,080 | 3,080 | 18 | 17 | 14 | 13 | -3 | 17 | 1,017 |
| Lodging places | Jobs | 500 | 740 | 3 | 3 | 3 | 2 | -1 | 3 | 243 |

**TABLE TA-55**
Lower Klamath River Basin/Coastal Area Regions

| Impact Subregion/Impact Measures/Economic Sectors | Units | Comparison Bases | | Action Alternatives | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Existing Conditions (1995) | No Action Alternative (2020) | Maximum Flow | Flow Evaluation | Percent Inflow | Mechanical Restoration | State Permit | Preferred Alternative | |
| | | | | Change from No Action Alternative in 2020 | | | | | | Change from Existing Conditions |
| **Northern/Central Oregon Coastal Area** | | | | | | | | | | |
| Total output | M$ | 20,757.5 | 27,094.0 | ~~50.6~~ 51.1 | ~~47.1~~ 47.5 | ~~35.6~~ 36.0 | ~~35.4~~ 35.7 | ~~-41.3~~ -41.8 | ~~47.1~~ 47.5 | ~~6,383.6~~ 6,384.0 |
| Income | M$ | 10,549.2 | 13,768.8 | ~~19.0~~ 19.3 | ~~17.7~~ 17.9 | ~~13.4~~ 13.6 | ~~13.2~~ 15.4 | ~~-15.5~~ -15.8 | ~~17.7~~ 17.9 | ~~3,237.3~~ 3,237.5 |
| Employment | Jobs | 290,960 | 379,760 | ~~593~~ 601 | ~~552~~ 559 | ~~418~~ 423 | ~~413~~ 419 | ~~-484~~ -494 | ~~552~~ 559 | ~~89,352~~ 89,559 |
| Most Impacted Sectors: | | | | | | | | | | |
| Commercial fishing | Jobs | 900 | 900 | 109 | 102 | 77 | 74 | -89 | 102 | 102 |
| Seafood processing | Jobs | 1,730 | 1,730 | 181 | 168 | 127 | 127 | -147 | 168 | 168 |
| Wholesale trade | Jobs | 11,260 | 14,700 | 36 | 34 | 26 | 26 | -30 | 34 | 3,474 |
| Retail trade | Jobs | 56,410 | 73,630 | ~~88~~ 92 | ~~82~~ 86 | ~~62~~ 65 | ~~61~~ 64 | ~~-73~~ -77 | ~~82~~ 86 | ~~17,302~~ 17,306 |
| Lodging places | Jobs | 6,370 | 8,320 | ~~5~~ 6 | 5 | 4 | 4 | ~~-4~~ -5 | 5 | 1,955 |

M$ = million dollars.

### 2.4.8 Technical Appendix H—Air Quality

| | | |
|---|---|---|
| **1.1** | **Air Quality** | *(NO CHANGE)* |
| **1.1.1** | **Climate** | *(NO CHANGE)* |
| **1.1.2** | **Air Quality Standards** | *(NO CHANGE)* |
| **1.1.3** | **Environmental Consequences** | *(NO CHANGE)* |
| **1.1.4** | **Mitigation** | *(NO CHANGE)* |

#### 2.4.8.1 Technical Appendix H—Tables

| | | |
|---|---|---|
| H-1 | Representative Historical Climate Data in Proximity to Project Site | *(NO CHANGE)* |
| H-2 | State of California and National Ambient Air Quality Standards | *(NO CHANGE)* |
| H-3 | Summary of Monitored $PM_{10}$ Data at Visalia—North Church Street Station | *(NO CHANGE)* |
| H-4 | Air Quality Thresholds of Significance | *(NO CHANGE)* |
| H-5 | Emission Estimates for Regular (non-construction) Operations for each Alternative | *(NO CHANGE)* |
| H-6 | Summary of Each Alternative's Potential Significant Impacts | *(NO CHANGE)* |