

## Final California 2010 Integrated Report( 303(d) List/305(b) Report)

### Supporting Information

#### Regional Board 5 - Central Valley Region

**Water Body Name:**

[Tule Canal \(Yolo County\)](#)

**Water Body ID:**

CAR511200020080731222809

**Water Body Type:**

River & Stream

**DECISION ID**

11626

Region 5

**Tule Canal (Yolo County)**

**Pollutant:**  
**Final Listing Decision:**  
**Last Listing Cycle's Final Listing Decision:**  
**Revised**  
**Impairment from Pollutant or Pollution:**

**DDD (Dichlorodiphenyldichloroethane)  
Do Not List on 303(d) list (TMDL required list)  
New Decision**

Revised  
Pollutant

**Conclusion:**

This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. None of 4 samples exceeded the California Toxic Rule/USEPA (CTR/USEPA) criteria limit of 0.00083 µg/L for DDD based on a human health carcinogenic risk level of 10-6 for consumption of water and aquatic organisms and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**RWQCB Board Staff**

**Decision:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**SWRCB Board Staff**

**Decision:**

After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.

**USEPA Action (if applicable):**

**Line of Evidence (LOE) for Decision ID 11626, DDD  
(Dichlorodiphenyldichloroethane)**

**Region 5**

**Tule Canal (Yolo County)**

**LOE ID:**

23402

Pollutant: DDD (Dichlorodiphenyldichloroethane)  
 LOE Subgroup: Pollutant-Water  
 Matrix: Water  
 Fraction: Total

Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 4  
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING  
 Data Used to Assess Water Quality: Four grab samples were collected from Tule Canal in 2004 over a 6-month period. None of the Four samples exceeded the California Toxic Rule/USEPA (CTR/USEPA) criteria limit of 0.00083 ug/L for DDD based on a human health carcinogenic risk level of 10-6 for consumption of water and aquatic organisms.-

Data Reference: The Four samples had a high Reporting Limit hence the data could not be used in the analysis for exceedance (Listing Policy, Section 6.5.1.1) (SWRCB, 2004).  
[Yolo Bypass Water Quality Management Plan Report. Prepared under CALFED Watershed Grant. Agreement # 4600001691 for the City of Woodland](#)

Water Quality Objective/Criterion: Sacramento/San Joaquin River Basin Plan (CVRWQCB, 2007) Pesticides: Total identifiable persistent chlorinated hydrocarbon pesticides shall not be present in the water column at concentrations detectable within the accuracy of analytical methods approved by the Environmental Protection Agency or the Executive Officer. - California Toxics Rule Criteria (USEPA, 2000)Inland Surface Waters based on drinking water and aquatic organism consumption. The criteria are based on human health protection for carcinogenicity at 1-in-a-million risk level (30-day average) with a limit of 0.00083 ug/L for DDD.  
 Objective/Criterion Reference: [Water Quality Standards 2000. Establishment of numeric criteria for priority toxic pollutants for the State of California. Rules and regulations. Federal Register Vol. 65, No. 97. Washington, D.C.: Environmental Protection Agency](#)  
[Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed](#)

Evaluation Guideline: Samples were collected from an input channel of Tule Canal in Yolo County, California.  
 Guideline Reference: Samples were collected between April 2004 and September 2004 on these dates 04/23, 6/26, 8/20 and 9/21.

Spatial Representation: Data quality: Good. Monitoring was conducted in accordance with the Quality Assurance Project Plan For Water Quality Monitoring For The Yolo Bypass Watershed Planning Project, 2003-2004

Temporal Representation:

Environmental Conditions: QAPP Information Reference(s):

QAPP Information Reference(s):

11627

Region 5

DECISION ID 11627  
 Tule Canal (Yolo County)  
 Pollutant: DDE (Dichlorodiphenyldichloroethylene)  
 Final Listing Decision: Do Not List on 303(d) list (TMDL required list)  
 Last Listing Cycle's Final Listing Decision: New Decision  
 Revision Status: Revised  
 Impairment from Pollutant or Pollutant: Pollutant

Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to

assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. None of 6 samples exceeded the California Toxic Rule/USEPA (CTR/USEPA) criteria limit of 0.00059 µg/L for DDE based on a human health carcinogenic risk level of 10-6 for consumption of water and aquatic organisms and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

#### **RWQCB Board Staff**

**Decision:** After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

#### **SWRCB Board Staff**

**Decision:** After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.

#### **USEPA Action (if applicable):**

#### **Line of Evidence (LOE) for Decision ID 11627, DDE (Dichlorodiphenyldichloroethylene)**

**Region 5**

#### **Tule Canal (Yolo County)**

**LOE ID:** 23417

**Pollutant:** DDE (Dichlorodiphenyldichloroethylene)

**LOE Subgroup:** Pollutant-Water

**Matrix:** Water

**Fraction:** Total

**Beneficial Use:** Commercial or recreational collection of fish, shellfish, or organisms

**Number of Samples:** 6

**Number of Exceedances:** 0

#### **Data and Information Type: Data Used to Assess Water Quality:**

**PHYSICAL/CHEMICAL MONITORING**  
Six grab samples were collected from Tule Canal in 2004 over a 6-month period. None of the Six water samples exceeded the California Toxic Rule/USEPA (CTR/USEPA) criteria limit of 0.00059 µg/L for DDE based on a human health carcinogenic risk level of 10-6 for consumption of water and aquatic organisms. - Eight samples had a high Reporting Limit hence the data could not be used in the analysis for exceedance (Listing Policy, Section 6.5.1.1) (SWRCB, 2004).

**Data Reference:** [Yolo Bypass Water Quality Management Plan Report. Prepared under CALFED Watershed Grant, Agreement # 4600001691 for the City of Woodland](#)

#### **Water Quality Objective/Criterion:**

Sacramento/San Joaquin River Basin Plan (CVRWQCB, 2007) Pesticides: Total identifiable persistent chlorinated hydrocarbon pesticides shall not be present in the water column at concentrations detectable within the accuracy of analytical methods approved by the Environmental Protection Agency or the Executive Officer. - California Toxics Rule Criteria (USEPA, 2000)Inland Surface

**Objective/Criterion Reference:**

Waters based on drinking water and aquatic organism consumption. The criteria are based on human health protection for carcinogenicity at 1-in-a-million risk level (30-day average) with a limit of <0.00059 ug/L for DDE. [Water Quality Standards 2000: Establishment of numeric criteria for priority toxic pollutants for the State of California: Rules and regulations: Federal Register Vol. 65, No. 97, Washington, D.C.: Environmental Protection Agency Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed](#)

**Evaluation Guideline:  
Guideline Reference:****Spatial Representation:**

Samples were collected from an input channel of Tule Canal in Yolo County, California.

**Temporal Representation:**

Samples were collected between April 2004 and September 2004 on these dates 04/23, 6/26, 8/20 and 9/21.

**Environmental Conditions:  
QAPP Information:**

Data quality: Good: Monitoring was conducted in accordance with the Quality Assurance Project Plan For Water Quality Monitoring For The Yolo Bypass Watershed Planning Project, 2003-2004

**QAPP Information Reference(s):**

**DECISION ID** 11628  
**Tule Canal (Yolo County)**

**Region 5**

**Pollutant:**  
**Final Listing Decision:**  
**Last Listing Cycle's Final Listing Decision:**  
**Revision Status**  
**Impairment from Pollutant or Pollution:**

**DDT (Dichlorodiphenyltrichloroethane)**  
**Do Not List on 303(d) list (TMDL required list)**  
New Decision  
Revised  
Pollutant

**Conclusion:**

This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quantity requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. None of 4 samples exceeded the California Toxic Rule/USEPA (CTR/USEPA) criteria limit of 0.00059 ug/L for DDT based on a human health carcinogenic risk level of 10-6 for consumption of water and aquatic organisms and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**RWQCB Board Staff****Decision:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**SWRCB Board Staff****Decision:**

After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.



**USEPA Action (if applicable):****Line of Evidence (LOE) for Decision ID 11628, DDT (Dichlorodiphenyltrichloroethane)****Region 5****Tule Canal (Yolo County)**

LOE ID:	23418
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	4
Number of Exceedances:	0

**Data and Information Type: Data Used to Assess Water Quality:****PHYSICAL/CHEMICAL MONITORING**

Four grab samples were collected from Tule Canal in 2004 over a 6-month period (April-September). None of the Four samples exceeded the California Toxic Rule/USEPA (CTR/USEPA) criteria limit of 0.00059 ug/L for DDT based on a human health carcinogenic risk level of 10-6 for consumption of water and aquatic organisms. - The Four samples had a high Reporting Limit hence the data could not be used in the analysis for exceedance (Listing Policy, Section 6.5.1.1) (SWRCB, 2004).

**Data Reference:** [Yolo Bypass Water Quality Management Plan Report, Prepared under CALFED Watershed Grant, Agreement # 4600001691 for the City of Woodland](#)

**Water Quality Objective/Criterion:**

Sacramento/San Joaquin River Basin Plan (CVRWQCB, 2007) Pesticides: Total identifiable persistent chlorinated hydrocarbon pesticides shall not be present in the water column at concentrations detectable within the accuracy of analytical methods approved by the Environmental Protection Agency or the Executive Officer. - California Toxics Rule Criteria (USEPA, 2000)Inland Surface Waters based on drinking water and aquatic organism consumption. The criteria are based on human health protection for carcinogenicity at 1-in-a-million risk level (30-day average) with a limit of 0.00059 ug/L for DDT.

**Objective/Criterion Reference:**

[Water Quality Standards 2000, Establishment of numeric criteria for priority toxic pollutants for the State of California: Rules and regulations, Federal Register Vol. 65, No. 97, Washington, D.C.: Environmental Protection Agency](#)  
[Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins, 4th ed](#)

**Evaluation Guideline: Guideline Reference:**

Samples were collected from an input channel of Tule Canal in Yolo County, California.

**Spatial Representation:**

Samples were collected between April 2004 and September 2004 on these dates 04/23, 6/26, 8/20 and 9/21.

**Temporal Representation:****Environmental Conditions: QAPP Information:**

Data quality: Good. Monitoring was conducted in accordance with the Quality Assurance Project Plan For Water Quality Monitoring For The Yolo Bypass Watershed Planning Project, 2003-2004

**QAPP Information Reference(s):****DECISION ID 14928****Region 5**

## Tule Canal (Yolo County)

**Pollutant:** **Dichlorvos**  
**Final Listing Decision:** **Do Not List on 303(d) list (TMDL required list)**  
**Last Listing Cycle's Final Listing Decision:** **New Decision**  
**Revision Status:** **Revised**  
**Impairment from Pollutant or Pollution:** **Pollutant**

**Conclusion:**

This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of the samples exceed the water quality objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of 6 usable water sample results for dichlorvos exceeded the Evaluation Guideline (0.0085 ug/L, one-tenth the 96-hour LC50 for *Daphnia magna*, a freshwater invertebrate species) and, therefore, no samples exceeded the narrative toxicity objective, and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**RWQCB Board Staff Decision:** After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**SWRCB Board Staff Decision:** After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.

**USEPA Action (if applicable):**

**Line of Evidence (LOE) for Decision ID 14928, Dichlorvos** **Region 5**  
**Tule Canal (Yolo County)**

**LOE ID:** 26196

**Pollutant:** Dichlorvos  
**LOE Subgroup:** Pollutant-Water  
**Matrix:** Water  
**Fraction:** Total

**Beneficial Use:** Warm Freshwater Habitat

**Number of Samples:** 6

**Number of Exceedances:** 0

**Data and Information Type:**  
**Data Used to Assess Water Quality:**

**PHYSICAL/CHEMICAL MONITORING**  
 Fifteen water samples were collected from Tule Canal, under the Irrigated Lands Regulatory Program, between January 2005 and September 2006. Nine of the 15 water samples had concentrations less than the quantitation limits (0.01 ug/L), which is greater than the water quality Evaluation Guideline value of 0.0085 ug/L and, therefore, could not be used for this assessment.

Zero of the 6 remaining usable water samples had concentrations that exceeded the Evaluation Guideline of 0.0085 ug/L and, therefore, were not used in this assessment.

Data Reference: [Revised Draft of the 2007 Review of the Monitoring Data for the Irrigated Lands Regulatory Conditional Waiver Program](#)

Water Quality Objective/Criterion: Where valid testing has developed 96 hour LC50 values for aquatic organisms (the concentration that kills one half of the test organisms in 96 hours), the Board will consider one tenth of this value for the most sensitive species tested as the upper limit (daily maximum) for the protection of aquatic life. Other available technical information on the pesticide (such as Lowest Observed Effect Concentrations and No Observed Effect Levels), the water bodies and the organisms involved will be evaluated to determine if lower concentrations are required to meet the narrative objectives (CVRWQCB, 2007).

Objective/Criterion Reference: [Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed](#)

Evaluation Guideline: The 96-hour LC50 value for the most sensitive freshwater species to dichlorvos (DDVP), based on toxicity to *Daphnia magna* (water flea, and invertebrate species) is 0.085 ug/L. The one-tenth of the LC50 value (0.0085 ug/L) is used as the Evaluation Guideline value for dichlorvos.  
[Ecotox database](#)

Guideline Reference:

Spatial Representation: Water samples were collected from Tule Canal at Highway 80.  
Temporal Representation: Water samples were collected monthly between January 2005 and September 2006.

Environmental Conditions:  
QAPP Information:

Data Quality: Good. Monitoring was conducted in accordance with Central Valley Water Board Monitoring and Reporting Program (order number R5-2003-0826).

QAPP Information Reference(s):

DECISION ID 11629

Region 5

Tule Canal (Yolo County)

**Pollutant:** **Diuron**  
**Final Listing Decision:** **Do Not List on 303(d) list (TMDL required list)**  
**Last Listing Cycle's Final Listing Decision:** **New Decision**  
**Revision Status:** **Revised**  
**Impairment from Pollutant or Pollution:** **Pollutant**

**Conclusion:** This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. One of the samples exceed the water quality objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of 11 samples exceeded the narrative toxicity objective using the 96-hour EC50 for the most sensitive species, *Chlorella pyrenoidosa*, of 1.3 µg/L (ECOTOX, 2008 and Ma et al. 2001) and this does not exceed the allowable frequency listed in Table 3.1 of

the Listing Policy.  
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**RWQCB Board Staff Decision:** After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**SWRCB Board Staff Decision:** After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.

**USEPA Action (if applicable):**

**Line of Evidence (LOE) for Decision ID 11629, Diuron** **Region 5**  
**Tule Canal (Yolo County)**

LOE ID: 23399  
Pollutant: Diuron  
LOE Subgroup: Pollutant-Water  
Matrix: Water  
Fraction: Total

Beneficial Use: Warm Freshwater Habitat  
Aquatic Life Use: Warm Freshwater Habitat

Number of Samples: 11  
Number of Exceedances: 1

**Data and Information Type:** PHYSICAL/CHEMICAL MONITORING  
**Data Used to Assess Water Quality:** Eleven water samples were collected from Tule Canal from June 2005 to September 2006, representing 11 concentrations. One of 11 available concentrations exceeded the maximum concentration of 1.3 ug/L.

**Data Reference:** [Revised Draft of the 2007 Review of the Monitoring Data for the Irrigated Lands Regulatory Conditional Waiver Program](#)  
[Monitoring and Reporting Program, Order Nos. R5-2003-0826, R5-2005-0833, and R5-2008-0005 for Coalition Groups Under Resolution No. R5-2003-0105, Conditional Waiver of Waste Discharge Requirements for Discharges From Irrigated Lands Within the Central Valley Region](#)

**Water Quality Objective/Criterion:** No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses (CVRWQCB, 2007). All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life (CVRWQCB, 2007).

**Objective/Criterion Reference:** [Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed](#)

**Evaluation Guideline:** The Board will use the best available technical information to evaluate compliance with the narrative objectives. Other available technical information on the pesticide (such as Lowest Observed Effect Concentrations and No Observed Effect Levels), the water bodies and organisms involved will be evaluated to determine if lower concentrations are required to meet the narrative objectives. (CRWQCB, 2006). The 96 hour EC50 for the most sensitive species, *Chlorella pyrenoidosa* is 1.3 ug/L (ECOTOX, 2008 and Ma et al. 2001).  
[Ecotox database](#)

**Guideline Reference:** [Acute toxicity of 33 herbicides to the green alga \*Chlorella pyrenoidosa\*. Bulletin of Environmental Contamination and Toxicology. 66:536-541. Springer-Verlag New York Inc.](#)



Spatial Representation:  
Temporal Representation:

Samples were collected from Tule Canal at I-80.  
Samples were collected from June 2005 through September 2006 at monthly interval.

Environmental Conditions:  
QAPP Information:

Data quality: Good. Monitoring was conducted in accordance with Central Valley Water Board Monitoring and Reporting Program (order number R5-2003-0826) requirements (CVRWQCB, 2003)

QAPP Information Reference(s):

**DECISION ID**  
Tule Canal (Yolo County)

11633

Region 5

**Pollutant:**  
**Final Listing Decision:**  
**Last Listing Cycle's Final Listing Decision:**  
**Revision Status**  
**Impairment from Pollutant or Pollution:**

**Selenium**  
**Do Not List on 303(d) list (TMDL required list)**  
New Decision

Revised  
Pollutant

**Conclusion:**

This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. None of the samples exceed the water quality objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. None of 6 samples exceeded the California Toxics Rule (CTR) criterion and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**RWQCB Board Staff Decision:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.

**SWRCB Board Staff Decision:**

After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.

**USEPA Action (if applicable):**

**Line of Evidence (LOE) for Decision ID 11633, Selenium**  
Tule Canal (Yolo County)

Region 5

LOE ID:

23189

Pollutant:  
LOE Subgroup:  
Matrix:  
Fraction:

Selenium  
Pollutant-Water  
Water  
Total

Beneficial Use: Warm Freshwater Habitat  
 Aquatic Life Use: Warm Freshwater Habitat

Number of Samples: 6  
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING  
 Data Used to Assess Water Quality: Water samples were collected on 6 occasions and analyzed for total recoverable and dissolved Se. The range of concentrations in total recoverable samples was 0.7- ?g/L. The range of concentrations in dissolved samples was also 0.7-2??g/L.  
 Data Reference: [Yolo Bypass Water Quality Management Plan Report. Prepared under CALFED Watershed Grant. Agreement # 4600001691 for the City of Woodland](#)

Water Quality Objective/Criterion: CTR criterion of 5 ug/L, total recoverable Se, for the protection of freshwater aquatic life (4-day average concentration to protect from extended period of exposure).

Objective/Criterion Reference: [Water Quality Standards 2000. Establishment of numeric criteria for priority toxic pollutants for the State of California: Rules and regulations. Federal Register Vol. 65, No. 97. Washington, D.C.: Environmental Protection Agency Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed](#)

Evaluation Guideline: Samples were collected from the Tule Canal in the Yolo Bypass near the northeast corner of the Interstate 80 causeway.  
 Guideline Reference: Samples were collected on: 11/22/03, 1/23/04, 4/23/04, 6/26/04, 8/20/04, and 9/22/04.

Spatial Representation: Environmental Conditions: Data quality: Good. Monitoring was conducted in accordance with the Quality Assurance Project Plan For Water Quality Monitoring For The Yolo Bypass Watershed Planning Project, 2003-2004

Temporal Representation: QAPP Information Reference(s):

QAPP Information Reference(s):

DECISION ID 11625

Region 5

Tule Canal (Yolo County)  
**Pollutant:** Boron  
**Final Listing Decision:** List on 303(d) list (TMDL required list)  
**Last Listing Cycle's Final Listing Decision:** New Decision  
**Revision Status:** Revised  
**Sources:** Agriculture | Natural Sources  
**Expected TMDL:** 2021  
**Completion Date:**  
**Impairment from Pollutant or Pollution:** Pollutant

**Conclusion:** This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Nine of the samples exceed the water quality objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Four of 6 samples exceeded the water quality objective for dissolved concentrations and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy. Five of 6 samples exceeded the water quality objective for total concentrations and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

#### **RWQCB Board Staff**

##### **Decision:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

#### **SWRCB Board Staff**

##### **Decision:**

After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.

##### **USEPA Action (if applicable):**

USEPA approved the listing of this water body as a water quality limited segment requiring a TMDL for this pollutant.

#### **Line of Evidence (LOE) for Decision ID 11625, Boron Tule Canal (Yolo County)**

#### **Region 5**

##### **LOE ID:**

23400

##### **Pollutant:**

Boron

##### **LOE Subgroup:**

Pollutant-Water

##### **Matrix:**

Water

##### **Fraction:**

Total

##### **Beneficial Use:**

Agricultural Supply

##### **Number of Samples:**

6

##### **Number of Exceedances:**

5

##### **Data and Information Type: Data Used to Assess Water Quality:**

PHYSICAL/CHEMICAL MONITORING  
Five of 6 samples collected from Tule Canal between November 22 2003 and September 22 2004 contained total Boron at concentrations that exceeded the evaluation guideline for Boron.

##### **Data Reference:**

[Yolo Bypass Water Quality Management Plan Report. Prepared under CALFED Watershed Grant. Agreement # 4600001691 for the City of Woodland](#)

##### **Water Quality Objective/Criterion:**

All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life (CVRWQCB, 2007).

##### **Objective/Criterion Reference:**

[Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed](#)

##### **Evaluation Guideline:**

Boron levels should not exceed the Agricultural Water Quality Goal for Boron of 700 ug/L (Ayers and Westcott, 1985).

##### **Guideline Reference:**

[Water Quality for Agriculture, Food and Agriculture Organization of the United Nations - Irrigation and Drainage Paper No. 29, Rev 1, Rome \(1985\)](#)

##### **Spatial Representation:**

Samples were collected from Tule Canal at NE corner of I-80.

##### **Temporal Representation:**

Samples were collected approximately bimonthly from November 22 2003 to September 22 2004. Tule Canal extends southward from Fremont Weir to Toe Drain, within the eastern side of Yolo Bypass.

##### **Environmental Conditions:**

##### **QAPP Information:**

Data quality: Good. Monitoring was conducted in accordance with the Quality Assurance Project Plan For Water Quality Monitoring For The Yolo Bypass Watershed Planning Project, 2003-2004

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 11625, Boron**

**Region 5**

**Tule Canal (Yolo County)**

LOE ID: 23401

Pollutant: Boron  
LOE Subgroup: Pollutant-Water  
Matrix: Water  
Fraction: Dissolved

Beneficial Use: Agricultural Supply

Number of Samples: 6  
Number of Exceedances: 4

**Data and Information Type: PHYSICAL/CHEMICAL MONITORING**

**Data Used to Assess Water Quality:** Four of 6 samples collected from Tule Canal between November 22 2003 and September 22 2004 contained dissolved Boron at concentrations that exceeded the evaluation guideline for Boron.

**Data Reference:** [Yolo Bypass Water Quality Management Plan Report, Prepared under CALFED Watershed Grant, Agreement # 4600001691 for the City of Woodland](#)

**Water Quality Objective/Criterion:**

All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life (CVRWQCB, 2007).

**Objective/Criterion Reference:** [Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed](#)

**Evaluation Guideline:** Boron levels should not exceed the Agricultural Water Quality Goal for Boron of 700 ug/L (Ayers and Westcott, 1985).

**Guideline Reference:** [Water Quality for Agriculture, Food and Agriculture Organization of the United Nations - Irrigation and Drainage Paper No. 29, Rev 1, Rome \(1985\)](#)

**Spatial Representation:** Samples were collected from Tule Canal at NE corner of I-80.

**Temporal Representation:** Samples were collected approximately bimonthly from November 22 2003 to September 22 2004. Tule Canal extends southward from Fremont Weir to Toe Drain, within the eastern side of Yolo Bypass.

**Environmental Conditions:**

Data quality: Good. Monitoring was conducted in accordance with the Quality Assurance Project Plan For Water Quality Monitoring For The Yolo Bypass Watershed Planning Project, 2003-2004

QAPP Information:

QAPP Information Reference(s):

DECISION ID 11630

Region 5

**Tule Canal (Yolo County)**

**Pollutant:** **Escherichia coli (E. coli)**  
**Final Listing Decision:** **List on 303(d) list (TMDL required list)**  
**Last Listing Cycle's Final Listing Decision:** New Decision

**Revision Status:** Revised

**Sources:** Agriculture | Nonpoint Source | Source Unknown

2021

**Expected TMDL Completion Date:**



**Impairment from Pollutant or Pollution:** Pollutant

**Conclusion:** This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Twelve of the samples exceed the water quality objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Twelve of 38 samples exceeded the E. Coli objective and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**RWQCB Board Staff****Decision:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

**SWRCB Board Staff****Decision:**

After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.

**USEPA Action (if applicable):** USEPA approved the listing of this water body as a water quality limited segment requiring a TMDL for this pollutant.

**Line of Evidence (LOE) for Decision ID 11630, Escherichia coli (E. coli) Tule Canal (Yolo County) Region 5**

LOE ID: 23419

Pollutant: Escherichia coli (E. coli)

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 38

Number of Exceedances: 12

**Data and Information Type:** PHYSICAL/CHEMICAL MONITORING  
**Data Used to Assess Water Quality:** The Yolo Bypass Watershed Planning Program collected 38 samples from November 2003 to October 2004. Twelve of the 38 samples exceeded the evaluation objective.

**Data Reference:** [Yolo Bypass Water Quality Management Plan Report. Prepared under CALFED Watershed Grant. Agreement # 4600001691 for the City of Woodland](#)

**Water Quality Objective/Criterion:** All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. The objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.

**Objective/Criterion Reference:** [Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed](#)

**Evaluation Guideline:**

In waters designated for contact recreation (REC-1), the E. coli concentration, based on a minimum of not less than five samples equally spaced over a 30-day period, shall not exceed a geometric mean of 126 MPN/100 mL and shall not exceed 235 MPN /100 mL in any single sample.

**Guideline Reference:**

[Ambient Water Quality Criteria for Bacteria - 1986. EPA440/5-84-002](#)

**Spatial Representation:**

Samples were collected from three locations: Woodland R1 and Woodland R2 and the north-east corner of I-80.

**Temporal Representation:**

Sampling occurred from November 2003 to October 2004.

**Environmental Conditions:**

Data quality: Good. Monitoring was conducted in accordance with the Quality Assurance Project Plan For Water Quality Monitoring For The Yolo Bypass Watershed Planning Project, 2003-2004

**QAPP Information:****QAPP Information Reference(s):**

**DECISION ID**  
Tule Canal (Yolo County)

11631

Region 5

**Pollutant:**

**Fecal Coliform**  
**List on 303(d) list (TMDL required list)**

**Final Listing Decision:**

New Decision

**Last Listing Cycle's Final Listing Decision:****Revision Status**

Revised

**Sources:**Agriculture | Source Unknown  
2021**Expected TMDL****Completion Date:****Impairment from Pollutant or Pollution:**

Pollutant

**Conclusion:**

This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Nineteen of the samples exceed the water quality objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Nineteen of 36 calculated geometric means exceeded the fecal coliform objective and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**RWQCB Board Staff Decision:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

**SWRCB Board Staff Decision:**

After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.

**USEPA Action (if applicable):**

USEPA approved the listing of this water body as a water quality limited segment requiring a TMDL for this pollutant.

**Line of Evidence (LOE) for Decision ID 11631, Fecal Coliform**  
Tule Canal (Yolo County)

Region 5

LOE ID: 23420

Pollutant: Fecal Coliform  
LOE Subgroup: Pollutant-Water  
Matrix: Water  
Fraction: None

Beneficial Use: Water Contact Recreation

Number of Samples: 36  
Number of Exceedances: 19

Data and Information Type: PATHOGEN MONITORING  
Data Used to Assess Water Quality: The Yolo Bypass Watershed Planning Program collected 36 samples from November 2003 to October 2004. The geometric mean per month per site was calculated from the samples and 19 out of the 36 calculated geometric means exceeded the evaluation objective.

Data Reference: [Yolo Bypass Water Quality Management Plan Report. Prepared under CALFED Watershed Grant. Agreement # 4600001691 for the City of Woodland](#)

Water Quality Objective/Criterion: In waters designated for contact recreation (REC-1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.

Objective/Criterion Reference: [Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed](#)

Evaluation Guideline:  
Guideline Reference:

Spatial Representation: Samples were collected at the Tule Canal at north east corner of Highway 1-80, site Woodland R1 and site Woodland R2  
Temporal Representation: Sampling occurred from November 2003 to October 2004

Environmental Conditions: Data quality: Good. Monitoring was conducted in accordance with the Quality Assurance Project Plan For Water Quality Monitoring For The Yolo Bypass Watershed Planning Project, 2003-2004

QAPP Information Reference(s):

DECISION ID 11632

Region 5

Tule Canal (Yolo County)

<b>Pollutant:</b>	<b>Salinity</b>
<b>Final Listing Decision:</b>	<b>List on 303(d) list (TMDL required list)</b>
<b>Last Listing Cycle's Final Listing Decision:</b>	New Decision
<b>Revision Status</b>	Revised
<b>Sources:</b>	Agriculture
<b>Expected TMDL</b>	2021
<b>Completion Date:</b>	
<b>Impairment from Pollutant or Pollution:</b>	Pollutant

**Conclusion:** This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. Eleven of the samples exceed the water quality objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification in favor of placing this water segment-pollutant combination on the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Eleven of 49 samples exceeded the water quality objectives for electrical conductivity and total dissolved solids (collectively ?salinity?) and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

#### **RWQCB Board Staff**

**Decision:** After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

#### **SWRCB Board Staff**

**Decision:** After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.

**USEPA Action (if applicable):** USEPA approved the listing of this water body as a water quality limited segment requiring a TMDL for this pollutant.

### **Line of Evidence (LOE) for Decision ID 11632, Salinity Tule Canal (Yolo County) Region 5**

LOE ID: 23438

Pollutant: Salinity  
LOE Subgroup: Pollutant-Water  
Matrix: Water  
Fraction: Total

Beneficial Use: Municipal & Domestic Supply

Number of Samples: 8

Number of Exceedances: 2

Data and Information Type:  
Data Used to Assess Water Quality:

PHYSICAL/CHEMICAL MONITORING  
Eight measurements were taken from Tule Canal between 2003 and 2004. Two of the eight samples exceed the California Secondary MCL for TDS in surface water.

Data Reference: [Yolo Bypass Water Quality Management Plan Report. Prepared under CALFED Watershed Grant, Agreement # 4600001691 for the City of Woodland](#)

Water Quality Objective/Criterion:

The water quality objective used was the California Secondary MCL recommended level of 500 mg/L. The Basin Plan includes chemical constituent water quality objectives that include (by reference) secondary maximum contaminant levels (MCLs) protective of MUN (CVRWQCB, 2007a). The secondary MCLs for TDS provide a range of values including a recommended level (500 mg/L), upper level (1000 mg/L) and a short-term level (1500 mg/L). The recommended concentration was used as it is intended to be protective of all drinking water uses. Though individual listing evaluations did not look at the water supply source serving the given geographic area, there are certain areas that receive supply waters (such as the Delta Mendota Canal) that at times may be elevated above the recommended level of the secondary MCL. Where future information is made available to document this to be the case, these water bodies may be re-evaluated in future listing cycles. TDS levels should not exceed 500 mg/L (CVRWQCB, 2007a).

Objective/Criterion Reference:



[Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins, 4th ed](#)  
[California Code of Regulations, Title 22, Division 4, Chapter 15. Domestic Water Quality and Monitoring.](#)  
<http://www.cdph.ca.gov/certific/drinkingwater/Pages/Lawbook.aspx>

Evaluation Guideline:  
 Guideline Reference:

Spatial Representation:  
 Temporal Representation:

TDS was measured in Tule Canal at I-80, in Yolo County. TDS was measured between November 2003 and October 2004. Measurements were made typically at intervals ranging from monthly to quarterly. Tule Canal extends southward from Fremont Weir to Toe Drain, within the eastern side of Yolo Bypass.

Environmental Conditions:  
 QAPP Information:

Data quality: Good. Monitoring was conducted in accordance with the Quality Assurance Project Plan For Water Quality Monitoring For The Yolo Bypass Watershed Planning Project, 2003-2004

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 11632, Salinity  
 Tule Canal (Yolo County)**

**Region 5**

LOE ID: 23437

Pollutant: Salinity  
 LOE Subgroup: Pollutant-Water  
 Matrix: Water  
 Fraction: Total

Beneficial Use: Municipal & Domestic Supply

Number of Samples: 15  
 Number of Exceedances: 5

Data and Information Type:  
 Data Used to Assess Water Quality:

PHYSICAL/CHEMICAL MONITORING  
 Fifteen measurements of TDS were taken from Tule Canal between 2005 and 2006. Five of the 15 measurements exceed the California Secondary MCL for TDS in surface water.

Data Reference:

[Revised Draft of the 2007 Review of the Monitoring Data for the Irrigated Lands Regulatory Conditional Waiver Program](#)  
[Monitoring and Reporting Program, Order Nos. R5-2003-0826, R5-2005-0833, and R5-2008-0005 for Coalition Groups Under Resolution No. R5-2003-0105.](#)  
[Conditional Waiver of Waste Discharge Requirements for Discharges From Irrigated Lands Within the Central Valley Region](#)

Water Quality Objective/Criterion:

The water quality objective used was the California Secondary MCL of 500 mg/L. The Basin Plan includes chemical constituent water quality objectives that include (by reference) secondary maximum contaminant levels (MCLs) protective of MUN (CVRWQCB, 2007a). The secondary MCLs for TDS provide a range of values including a recommended level (500 mg/L), upper level (1000 mg/L) and a short-term level (1500 mg/L). The recommended concentration was used as it is intended to be protective of all drinking water uses. Though individual listing evaluations did not look at the water supply source serving the given geographic area, there are certain areas that receive supply waters (such as the Delta Mendota Canal) that at times may be elevated above the recommended level of the secondary MCL. Where future information is made available to document this to be the case, these water bodies may be re-evaluated in future listing cycles. TDS levels should not exceed 500 mg/L (CVRWQCB, 2007a).

Objective/Criterion Reference:

[Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed](#)  
[California Code of Regulations, Title 22, Division 4, Chapter 15. Domestic Water Quality and Monitoring.](#)  
<http://www.cdph.ca.gov/certific/drinkingwater/Pages/Lawbook.aspx>

Evaluation Guideline:  
 Guideline Reference:

Spatial Representation: Total Dissolved Solids (TDS) was measured in Tule Canal at I-80, in Yolo County.

Temporal Representation: TDS was measured between January 2005 and September 2006. Measurements were made typically at intervals ranging from monthly to quarterly, but occasionally semi-annually. Tule Canal extends southward from Fremont Weir to Toe Drain, within the eastern side of Yolo Bypass.

Environmental Conditions:  
 QAPP Information: Data quality: Good. Monitoring was conducted in accordance with Central Valley Water Board Monitoring and Reporting Program (order number R5-2003-0826) requirements (CVRWQCB, 2003)

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 11632, Salinity  
 Tule Canal (Yolo County)**

**Region 5**

LOE ID: 23436

Pollutant: Salinity  
 LOE Subgroup: Pollutant-Water  
 Matrix: Water  
 Fraction: Total

Beneficial Use: Municipal & Domestic Supply

Number of Samples: 14

Number of Exceedances: 4

Data and Information Type:  
 Data Used to Assess Water Quality:

PHYSICAL/CHEMICAL MONITORING  
 Fourteen measurements of Specific Conductivity were taken from Tule Canal between 2005 and 2006. Four of the 14 measurements exceed the California Secondary MCL for Electrical Conductivity in surface water.

Data Reference: [Revised Draft of the 2007 Review of the Monitoring Data for the Irrigated Lands](#)

[Regulatory Conditional Waiver Program](#)  
[Monitoring and Reporting Program, Order Nos. R5-2003-0826, R5-2005-0833, and R5-2008-0005 for Coalition Groups Under Resolution No. R5-2003-0105.](#)  
[Conditional Waiver of Waste Discharge Requirements for Discharges From Irrigated Lands Within the Central Valley Region](#)

Water Quality Objective/Criterion:

The water quality objective used was the California Secondary MCL recommended level of 900 uS/cm. The Basin Plan includes chemical constituent water quality objectives that include (by reference) secondary maximum contaminant levels (MCLs) protective of MUN (CVRWQCB, 2007a). The secondary MCLs for electrical conductivity provide a range of values including a recommended level (900 uS/cm), an upper level (1600 uS/cm), and a short-term level (2200 uS/cm). The recommended concentration was used as it is intended to be protective of all drinking water uses. Though individual listing evaluations did not look at the water supply source serving the given geographic area, there are certain areas that receive supply waters (such as the Delta Mendota Canal) that at times may be elevated above the recommended level of the Secondary MCL. Where future information is made available to document this to be the case, these water bodies may be re-

**Objective/Criterion Reference:**

evaluated in future listing cycles. Specific (Electrical) Conductivity levels should not exceed 900 uS/cm (CVRWQCB, 2007a).  
[Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed](#)  
[California Code of Regulations, Title 22, Division 4, Chapter 15. Domestic Water Quality and Monitoring.](#)  
<http://www.cdph.ca.gov/certific/drinkingwater/Pages/Lawbook.aspx>

**Evaluation Guideline:**  
**Guideline Reference:****Spatial Representation:**  
**Temporal Representation:**

Specific Conductivity was measured in Tule Canal at I-80, in Yolo County. Specific Conductivity was measured between January 2005 and September 2006. Measurements were made typically at intervals ranging from monthly to quarterly, but occasionally semi-annually. Tule Canal extends southward from Fremont Weir to Toe Drain, within the eastern side of Yolo Bypass.

**Environmental Conditions:**  
**QAPP Information:**

Data quality: Good. Monitoring was conducted in accordance with Central Valley Water Board Monitoring and Reporting Program (order number R5-2003-0826) requirements (CVRWQCB, 2003)

**QAPP Information Reference(s):****Line of Evidence (LOE) for Decision ID 11632, Salinity  
Tule Canal (Yolo County)****Region 5**

LOE ID: 23188

Pollutant: Salinity  
 LOE Subgroup: Pollutant-Water  
 Matrix: Water  
 Fraction: Total

Beneficial Use: Municipal &amp; Domestic Supply

Number of Samples: 12

Number of Exceedances: 0

**Data and Information Type:**  
**Data Used to Assess Water Quality:**

**PHYSICAL/CHEMICAL MONITORING**  
 Twelve measurements of Electrical Conductivity were taken from Tule Canal between 2003 and 2004. Zero of the 12 measurements exceed the California Secondary MCL for Electrical Conductivity in surface water.

**Data Reference:** [Yolo Bypass Water Quality Management Plan Report. Prepared under CALFED Watershed Grant, Agreement # 460000169.1 for the City of Woodland](#)

**Water Quality Objective/Criterion:**

The water quality objective used was the California Secondary MCL recommended level of 900 uS/cm. The Basin Plan includes chemical constituent water quality objectives that include (by reference) secondary maximum contaminant levels (MCLs) protective of MUN (CVRWQCB, 2007a). The secondary MCLs for electrical conductivity provide a range of values including a recommended level (900 uS/cm), an upper level (1600 uS/cm), and a short-term level (2200 uS/cm). The recommended concentration was used as it is intended to be protective of all drinking water uses. Though individual listing evaluations did not look at the water supply source serving the given geographic area, there are certain areas that receive supply waters (such as the Delta Mendota Canal) that at times may be elevated above the recommended level of the Secondary MCL. Where future information is made available to document this to be the case, these water bodies may be re-evaluated in future listing cycles. Electrical Conductivity levels should not exceed 900 uS/cm (CVRWQCB, 2007a).

**Objective/Criterion Reference:**

[Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins, 4th ed](#)

[California Code of Regulations, Title 22, Division 4, Chapter 15. Domestic Water Quality and Monitoring.](#)

<http://www.cdph.ca.gov/certific/drinkingwater/Pages/Lawbook.aspx>

Evaluation Guideline:  
Guideline Reference:

Spatial Representation:  
Temporal Representation:

Electrical Conductivity was measured in Tule Canal at I-80, in Yolo County. Electrical Conductivity was measured monthly between November 2003 and October 2004. Tule Canal extends southward from Fremont Weir to Toe Drain, within the eastern side of Yolo Bypass.

Environmental Conditions:  
QAPP Information:

Data quality: Good. Monitoring was conducted in accordance with the Quality Assurance Project Plan For Water Quality Monitoring For The Yolo Bypass Watershed Planning Project, 2003-2004

QAPP Information Reference(s):