

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

### Supporting Information

#### Regional Board 2 - San Francisco Bay Region

**Water Body Name:** [Suisun Bay](#)  
**Water Body ID:** CAB2071002020011017135055  
**Water Body Type:** Bay & Harbor

**DECISION ID** 6076 **Region 2**  
 Suisun Bay

**Pollutant:** Nickel  
**Final Listing Decision:** Delist from 303(d) list (TMDL required list)  
**Last Listing Cycle's Final Listing Decision:** List on 303(d) list (TMDL required list)(2006)  
**Revision Status** Revised  
**Sources:** Source Unknown  
**Reason for Delisting:** State determines water quality standard is being met  
**Impairment from Pollutant or Pollution:** Pollutant

**Conclusion:** None of the 96 samples from Suisun Bay exceeded the objective.

**RWQCB Board Staff Decision:** After review of the available data and information, Water Board staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards have not been 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 6076, Nickel** **Region 2**  
 Suisun Bay

**LOE ID:** 5195

**Pollutant:** Nickel  
**LOE Subgroup:** Pollutant-Water  
**Matrix:** Water  
**Fraction:** Dissolved

**Beneficial Use:** Estuarine Habitat  
**Aquatic Life Use:** Estuarine Habitat

**Number of Samples:** 96  
**Number of Exceedances:** 0

**Data and Information Type:** Highest quality fixed-station P/C (conventional plus toxicants)  
**Data Used to Assess Water Quality:** Data are dissolved nickel measurements of grab samples collected through two monitoring programs. The first is the ongoing Regional Monitoring Program (RMP) in San Francisco Bay. The second set of data was from a special discharger-funded study to develop copper and nickel site-specific objectives (SSOs) that began in 2001. These data were taken throughout San

Francisco Bay, but the bulk of the data are from the deepwater ?spine? of the Bay.

Data Reference: [Spreadsheet of nickel data for San Francisco Bay from Regional Monitoring Program and Special copper/nickel study \(1993-2005\)](#)

Water Quality Objective/Criterion: The Basin Plan contains water quality objectives of 8.2 microgram/Liter as a 4-day average and, 74 microgram/Liter as a 1-hour average. These objectives were approved by USEPA in January 2005 and are contained in the Regional Board Basin Plan in Table 3-3.

Objective/Criterion Reference: [Water Quality Control Plan \(Basin Plan\) - San Francisco Bay Region \(Region 2\)](#)

Evaluation Guideline:  
Guideline Reference:

Spatial Representation: 21 sampling locations for Suisun Bay.  
Temporal Representation: Samples were taken from 1993 to 2005 in all seasons.  
Environmental Conditions:  
QAPP Information: Regional Monitoring Program QA/QC program is documented at [http://sfei.org/rmp/rmp\\_data\\_index.html](http://sfei.org/rmp/rmp_data_index.html).

QAPP Information Reference(s):

<b>DECISION ID</b>	<b>6075</b>	<b>Region 2</b>
<b>Suisun Bay</b>		
<b>Pollutant:</b>	<b>Mercury</b>	
<b>Final Listing Decision:</b>	<b>List on 303(d) list (being addressed by USEPA approved TMDL)</b>	
<b>Last Listing Cycle's Final Listing Decision:</b>	List on 303(d) list (TMDL required list)(2006)	
<b>Revision Status</b>	Revised	
<b>Sources:</b>	Atmospheric Deposition   Industrial Point Sources   Natural Sources   Nonpoint Source   Resource Extraction	
<b>TMDL Name:</b>	San Francisco Bay Mercury	
<b>TMDL Project Code:</b>	6	
<b>Date TMDL Approved by USEPA:</b>	02/12/2008	
<b>Impairment from Pollutant or Pollution:</b>	Pollutant	
<b>Conclusion:</b>	<p>303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.</p> <p>A Bay-wide Hg TMDL has been developed and approved by USEPA (2/12/2008) and an approved implementation plan is expected to result in attainment of the standard. This provides a sufficient justification in favor of placing this water segment-pollutant combination in the Water Quality Limited Segments Being Addressed portion of the section 303(d) list.</p>	
<b>RWQCB Board Staff Decision:</b>	Water Board staff conclude that the water body should be placed in the Water Quality Limited Segments Being Addressed category of the section 303(d) list because a TMDL has been approved by USEPA and an approved implementation plan is in place.	
<b>SWRCB Board Staff Decision:</b>	After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.	
<b>USEPA Action (if applicable):</b>		

**Line of Evidence (LOE) for Decision ID 6075, Mercury  
Suisun Bay**

**Region 2**

LOE ID: 3703

Pollutant: Mercury  
LOE Subgroup: Pollutant-Tissue  
Matrix: Tissue  
Fraction: Not Recorded

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

Number of Samples: 0  
Number of Exceedances: 0

Data and Information Type: Not Specified  
Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.  
Data Reference: [Placeholder reference pre-2006 303\(d\)](#)

Water Quality Objective/Criterion: Unspecified  
Objective/Criterion Reference: [Placeholder reference pre-2006 303\(d\)](#)

Evaluation Guideline: Unspecified  
Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified  
Temporal Representation: Unspecified  
Environmental Conditions: Unspecified  
QAPP Information: Unspecified  
QAPP Information Reference(s):

**DECISION ID 4265  
Suisun Bay**

**Region 2**

**Pollutant:** Diazinon  
**Final Listing Decision:** Delist from 303(d) list (TMDL required list)  
**Last Listing Cycle's Final Listing Decision:** Delist from 303(d) list (TMDL required list)(2006)  
**Revision Status:** Original  
**Sources:** Source Unknown  
**Reason for Delisting:** State determines water quality standard is being met  
**Impairment from Pollutant or Pollution:** Pollutant

**Conclusion:** This pollutant is being considered for removal from the 303(d) list under section 4.1 of the Listing Policy. Under section 4.1 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. The basis for listing in 1998 was ambient water toxicity and detections of diazinon in Bay waters. In the current assessment, the evaluation guideline available may not satisfy the requirements of the Listing Policy but even if the guideline were used all measurements are much lower than the recommended concentration. Recent measures of toxicity show that ambient water toxicity no longer exists in Bay waters. The RWQCB is also developing a Water Quality Attainment Strategy that calls for preventive actions to keep diazinon from entering the Bay.

Based on the readily available data and information, the weight of evidence indicates

that there is sufficient justification available in favor of removing this water segment-pollutant combination from the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The evaluation guideline may not comply with the requirements of section 6.1.3 of the Policy.
2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
3. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
4. None of samples exceeded the draft guideline and ambient water toxicity in the Bay appears to have disappeared. These frequencies do not exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
5. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

**RWQCB Board Staff Decision:**

No new data were assessed for 2008. The Regional Board will update this decision when new data and information become available and are assessed.

**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 4265, Diazinon  
Suisun Bay**

**Region 2**

LOE ID:	75
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Estuarine Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Seventeen samples, pollutant range: 540-58,350 pg/l, average: 7,332.4 (SFEI, 2001).
Data Reference:	<a href="#">Placeholder reference 2006 303(d)</a>
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species. There shall be no acute toxicity in ambient waters. There shall be no chronic toxicity in ambient waters.
Objective/Criterion Reference:	<a href="#">Placeholder reference 2006 303(d)</a>
Evaluation Guideline:	For salt water, USEPA has developed a draft water quality criteria of 820 ng/L (acute) and 400 ng/L (chronic). The use of these values may not comply with all the requirements of section 6.1.3 of the Listing Policy.
Guideline Reference:	<a href="#">Placeholder reference 2006 303(d)</a>
Spatial Representation:	One sample site.
Temporal Representation:	Date Range: 03/05/93-08/08/01.
Environmental Conditions:	

QAPP Information: SFEI RMP QA/QC program.  
 QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 4265, Diazinon  
 Suisun Bay**

**Region 2**

LOE ID: 73

Pollutant: Diazinon  
 LOE Subgroup: Narrative Description Data  
 Matrix: -N/A  
 Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 0  
 Number of Exceedances: 0

Data and Information Type: Not Specified  
 Data Used to Assess Water Quality: In response to the RMP observations of ambient water toxicity, and given the linkage established between similar toxicity and pesticides in upstream ambient water, the SFBRWQCB identified all San Francisco Bay segments as being impaired due to 'Pesticides' in 1998:

'Pesticides have been added as a cause of impairment to all Bay segments. The pesticide diazinon has been measured at levels that cause water column toxicity. The pesticide chlorpyrifos may also be a problem. This listing is consistent with listing of the Delta for these pesticides by the Central Valley Regional Water Quality Control Board.' This listing was subsequently made specific for the organophosphate pesticide diazinon by the USEPA.

Data Reference: [Placeholder reference 2006 303\(d\)](#)

Water Quality Objective/Criterion:  
 Objective/Criterion Reference:

Evaluation Guideline:  
 Guideline Reference:

Spatial Representation:  
 Temporal Representation:  
 Environmental Conditions:  
 QAPP Information: QA Info Missing  
 QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 4265, Diazinon  
 Suisun Bay**

**Region 2**

LOE ID: 72

Pollutant: Diazinon  
 LOE Subgroup: Toxicity  
 Matrix: Water  
 Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 0  
 Number of Exceedances: 0

Data and Information Type: TOXICITY TESTING

Data Used to Assess Water Quality: Ambient water toxicity in San Francisco Bay appears to have disappeared. The results of ambient water toxicity monitoring at Mallard Island indicate a significant reduction in the frequency, duration, and magnitude of toxicity: 4-5% of the ambient water samples were toxic in 1998-99 (34 total samples) and 1999-2000 (23 samples), relative to 14% toxicity frequency observed in 1997-98 (27 samples); none of the 28 samples collected during the 2000-2001 season were significantly toxic.

In addition, the 1998-2000 and 2000-2001 monitoring at Mallard Island did not document any sets of consecutively toxic samples indicative of an extended period of ambient water toxicity, such as were observed in February and May of 1998. Moreover, the magnitude of toxicity (as reflected by the degree [or percentage] of test organism mortality) is also markedly reduced in the later years, again suggesting a reduction in the degree of ambient water toxicity. Subsequent RMP monitoring of ambient water toxicity in water samples collected from October 2001 through April 2003, also indicated an absence of toxicity to the test organisms (Ogle, 2004).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

Water Quality Objective/Criterion: Basin Plan: There shall be no acute toxicity in ambient waters. There shall be no chronic toxicity in ambient waters.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:  
Guideline Reference:

Spatial Representation:  
Temporal Representation:  
Environmental Conditions:  
QAPP Information: QA Info Missing  
QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 4265, Diazinon  
Suisun Bay**

**Region 2**

LOE ID: 74

Pollutant: Diazinon  
LOE Subgroup: Pollutant-Water  
Matrix: Water  
Fraction: None

Beneficial Use: Estuarine Habitat

Number of Samples: 0  
Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING  
Data Used to Assess Water Quality: Seventeen samples, pollutant range: 540-58,000 pg/l, average: 7,288.6 (SFEI, 2001).

Data Reference: [Placeholder reference 2006 303\(d\)](#)

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms. Detrimental responses include, but are not limited to, decreased growth rate and decreased reproductive success of resident or indicator species. There shall be no acute toxicity in ambient waters. There shall be no chronic toxicity in ambient waters.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)

Evaluation Guideline:

For salt water, USEPA has developed a draft water quality criteria of 820 ng/L (acute) and 400 ng/L (chronic). The use of these values may not comply with all the requirements of section 6.1.3 of the Listing Policy.

Guideline Reference:

[Placeholder reference 2006 303\(d\)](#)

Spatial Representation:

One sample site.

Temporal Representation:

Date Range: 03/05/93-08/08/01.

Environmental Conditions:

QAPP Information:

SFEI RMP QA/QC program.

QAPP Information Reference(s):

**DECISION ID**

**4266**

**Region 2**

**Suisun Bay**

**Pollutant:**

**Polybrominated Diphenyl Ethers (PBDEs)**

**Final Listing Decision:**

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

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

Do Not List on 303(d) list (TMDL required list)(2006)

**Revision Status**

Original

**Sources:**

Source Unknown

**Impairment from Pollutant or Pollution:**

Pollutant

**Conclusion:**

This pollutant is being considered for listing under sections 2.1 and 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. It cannot be determined if the pollutant is likely to exceed the narrative water quality objective.

Based on the readily available data and information, the weight of evidence indicates that there is not 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. An evaluation guideline is not available that complies with the requirements of section 6.1.3 of the Policy.
2. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
3. The data used satisfies the data quantity requirements of section 6.1.5 of the 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:**

No new data were assessed for 2008. The Regional Board will update this decision when new data and information become available and are assessed.

**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 4266, Polybrominated Diphenyl Ethers (PBDEs)**

**Region 2**

**Suisun Bay**

LOE ID:

71

Pollutant:

Polybrominated Diphenyl Ethers (PBDEs)

LOE Subgroup:	Testimonial Evidence
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	2002 List Fact Sheet Information:  PBDEs research literature will be reviewed by the RWQCB to ascertain any new information on actual effects thresholds for these persistent bioaccumulative substances in the next listing cycle. These actions can be conducted regionally through the RMP, the Bay Area Pollution Prevention Group, or other association of dischargers. During the subsequent listing cycle, RWQCB staff evaluation of current research, applicable water quality criteria, and local actions to characterize sources and pollution prevention of PBDEs will determine whether a listing is needed.
Data Reference:	<a href="#">Placeholder reference 2006 303(d)</a>
Water Quality Objective/Criterion:	Basin Plan Narrative Objectives:  "Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish or other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered."  "Controllable water quality factors shall not cause a detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life."
Objective/Criterion Reference:	<a href="#">Placeholder reference 2006 303(d)</a>
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	
Temporal Representation:	
Environmental Conditions:	
QAPP Information:	QA Info Missing
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 4266, Polybrominated Diphenyl Ethers (PBDEs)**

**Region 2**

**Suisun Bay**

LOE ID:	70
Pollutant:	Polybrominated Diphenyl Ethers (PBDEs)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	



## 2004 Comments on List:

Numeric information, along with circumstantial, anecdotal, and non-specific referenced evidence, was submitted in 2004 with the request that the San Francisco Bay (presumably San Pablo Bay; San Francisco Bay, Central; San Francisco Bay, South; San Francisco Bay, Lower; and/or Suisun Bay) be listed for the PBDE family of flame retardant chemicals.

Otherwise informative studies based on findings from other states and other countries (Sweden) cannot, by themselves, provide sufficient evidence to list a pollutant for a California water body. Instead, this data provides background information only.

Data on contamination by PBDEs of human (breast) tissue from residents in and around the Bay is not usable for listing those water bodies due to the fact that there is no way to meaningfully link such contamination directly to water quality and to a particular water body.

Similarly, the presence of PBDEs in eggs and seal tissues is unfortunately inadequate to list. Again, the problem is the relationship between PBDEs and any human health effects. SWRCB staff is unable to determine exactly where birds nests and seal carcasses were sampled in relation to the five Bay area water bodies. Even if specific sample sites could be established, the question remains: how direct is the relationship between the presence of a pollutant, in this case PBDEs in the tissues of a widely ranging species, and the water of a specific water body. This is not the case when filter-feeding organisms (e.g., mussels and clams) or organisms that forage locally exclusively are used.

While some data presented was from local fish species, the volume and reliability of the data is questionable. Leopard shark, halibut, striped bass, and other species may move considerable distances before captured, blurring the relationship between pollutants in the body and the water body of capture. The 'tainted catch' report summarized the problem facing water quality investigators: 'PBDE levels varied widely among fish species and between individuals of the same species,' in part due to 'location in the Bay.'

## Data Reference:

[Placeholder reference 2006 303\(d\)](#)

## Water Quality Objective/Criterion:

Basin Plan: Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish or other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.

## Objective/Criterion Reference:

[Placeholder reference 2006 303\(d\)](#)

## Evaluation Guideline:

None available. SWRCB remains unaware of any reliable criterion or guideline of use in evaluating the magnitude of the data provided.

## Guideline Reference:

[Placeholder reference 2006 303\(d\)](#)

## Spatial Representation:

## Temporal Representation:

Multiple studies are cited (e.g., California studies: She et al., 2002). PBDEs in the San Francisco Bay Area: measurements in harbor seal blubber and human breast adipose tissue. *Chemosphere* 46(2002): 697-707; Petreas et al., 2003. High Body Burdens of 2,2',4,4'-Tetrabromodiphenyl Ether (BDE-47) in California Women. *Environ. Health Perspect.* 111(9): 1175-1179; She et al., 2003. High PBDE Levels in Shorebird Eggs from the San Francisco Bay and Washington State. *Proceedings. 2003 Georgia Basin/Puget Sound Research Conference.*)

## Environmental Conditions:

## QAPP Information:

QA Info Missing

## QAPP Information Reference(s):

**DECISION ID** 6045 **Region 2**  
**Suisun Bay**

**Pollutant:** Chlordane  
**Final Listing Decision:** List on 303(d) list (TMDL required list)  
**Last Listing Cycle's Final Listing Decision:** List on 303(d) list (TMDL required list)(2006)  
**Revision Status:** Original  
**Sources:** Nonpoint Source  
**Expected TMDL Completion Date:** 2013  
**Impairment from Pollutant or Pollution:** Pollutant

**Conclusion:** 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

**RWQCB Board Staff Decision:** No new data were assessed for 2008. The decision has not changed.

**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 6045, Chlordane** **Region 2**  
**Suisun Bay**

**LOE ID:** 3697

**Pollutant:** Chlordane  
**LOE Subgroup:** Pollutant-Tissue  
**Matrix:** Tissue  
**Fraction:** Not Recorded

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

**Number of Samples:** 0  
**Number of Exceedances:** 0

**Data and Information Type:** Not Specified  
**Data Used to Assess Water Quality:** Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

**Data Reference:** [Placeholder reference pre-2006 303\(d\)](#)

**Water Quality Objective/Criterion:**  
**Objective/Criterion Reference:**

**Evaluation Guideline:**  
**Guideline Reference:**

**Spatial Representation:** Unspecified  
**Temporal Representation:** Unspecified  
**Environmental Conditions:** Unspecified  
**QAPP Information:** Unspecified  
**QAPP Information Reference(s):**

**DECISION ID** 6046 **Region 2**  
**Suisun Bay**

**Pollutant:** DDT (Dichlorodiphenyltrichloroethane)  
**Final Listing Decision:** List on 303(d) list (TMDL required list)  
**Last Listing Cycle's Final Listing Decision:** List on 303(d) list (TMDL required list)(2006)  
**Revision Status:** Original  
**Sources:** Nonpoint Source  
**Expected TMDL:** 2013  
**Completion Date:**  
**Impairment from Pollutant or Pollution:** Pollutant

**Conclusion:** 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

**RWQCB Board Staff Decision:** No new data were assessed for 2008. The decision has not changed.

**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 6046, DDT (Dichlorodiphenyltrichloroethane)** **Region 2**  
**Suisun Bay**

**LOE ID:** 3698

**Pollutant:** DDT (Dichlorodiphenyltrichloroethane)  
**LOE Subgroup:** Pollutant-Tissue  
**Matrix:** Tissue  
**Fraction:** Not Recorded

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

**Number of Samples:** 0  
**Number of Exceedances:** 0

**Data and Information Type:** Not Specified  
**Data Used to Assess Water Quality:** Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.  
**Data Reference:** [Placeholder reference pre-2006 303\(d\)](#)

**Water Quality Objective/Criterion:** Unspecified  
**Objective/Criterion Reference:** [Placeholder reference pre-2006 303\(d\)](#)

**Evaluation Guideline:** Unspecified  
**Guideline Reference:** [Placeholder reference pre-2006 303\(d\)](#)

**Spatial Representation:** Unspecified  
**Temporal Representation:** Unspecified  
**Environmental Conditions:** Unspecified

QAPP Information: Unspecified  
 QAPP Information Reference(s):

**DECISION ID** 6047

**Region 2**

**Suisun Bay**

**Pollutant:** Dieldrin  
**Final Listing Decision:** List on 303(d) list (TMDL required list)  
**Last Listing Cycle's Final Listing Decision:** List on 303(d) list (TMDL required list)(2006)  
**Revision Status** Original  
**Sources:** Nonpoint Source  
**Expected TMDL** 2013  
**Completion Date:**  
**Impairment from Pollutant or Pollution:** Pollutant

**Conclusion:** 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

**RWQCB Board Staff Decision:** No new data were assessed for 2008. The decision has not changed.

**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 6047, Dieldrin**

**Region 2**

**Suisun Bay**

**LOE ID:** 3699

**Pollutant:** Dieldrin  
**LOE Subgroup:** Pollutant-Tissue  
**Matrix:** Tissue  
**Fraction:** Not Recorded

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

**Number of Samples:** 0  
**Number of Exceedances:** 0

**Data and Information Type:** Not Specified  
**Data Used to Assess Water Quality:** Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

**Data Reference:** [Placeholder reference pre-2006 303\(d\)](#)

**Water Quality Objective/Criterion:**  
**Objective/Criterion Reference:**

**Evaluation Guideline:**  
**Guideline Reference:**

**Spatial Representation:** Unspecified  
**Temporal Representation:** Unspecified

Environmental Conditions: Unspecified  
 QAPP Information: Unspecified  
 QAPP Information Reference(s):

**DECISION ID** 6048

**Region 2**

**Suisun Bay**

**Pollutant:** Dioxin compounds (including 2,3,7,8-TCDD)  
**Final Listing Decision:** List on 303(d) list (TMDL required list)  
**Last Listing Cycle's Final Listing Decision:** List on 303(d) list (TMDL required list)(2006)  
**Revision Status** Original  
**Sources:** Atmospheric Deposition  
**Expected TMDL** 2019  
**Completion Date:**  
**Impairment from Pollutant or Pollution:** Pollutant

**Conclusion:** 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

**RWQCB Board Staff Decision:** No new data were assessed for 2008. The Regional Board will update this decision when new data and information become available and are assessed.

**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 6048, Dioxin compounds (including 2,3,7,8-TCDD)**

**Region 2**

**Suisun Bay**

**LOE ID:** 3700

**Pollutant:** Dioxin compounds (including 2,3,7,8-TCDD)  
**LOE Subgroup:** Pollutant-Tissue  
**Matrix:** Tissue  
**Fraction:** Not Recorded

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

**Number of Samples:** 0  
**Number of Exceedances:** 0

**Data and Information Type:** Not Specified  
**Data Used to Assess Water Quality:** Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

**Data Reference:** [Placeholder reference pre-2006 303\(d\)](#)

**Water Quality Objective/Criterion:** Unspecified  
**Objective/Criterion Reference:** [Placeholder reference pre-2006 303\(d\)](#)

**Evaluation Guideline:** Unspecified  
**Guideline Reference:** [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified  
 Temporal Representation: Unspecified  
 Environmental Conditions: Unspecified  
 QAPP Information: Unspecified  
 QAPP Information Reference(s):

**DECISION ID** 6074

**Region 2**

**Suisun Bay**

**Pollutant:** Furan Compounds  
**Final Listing Decision:** List on 303(d) list (TMDL required list)  
**Last Listing Cycle's Final Listing Decision:** List on 303(d) list (TMDL required list)(2006)  
**Revision Status:** Original  
**Sources:** Atmospheric Deposition  
**Expected TMDL:** 2019  
**Completion Date:**  
**Impairment from Pollutant or Pollution:** Pollutant

**Conclusion:** 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

**RWQCB Board Staff Decision:** No new data were assessed for 2008. The Regional Board will update this decision when new data and information become available and are assessed.

**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 6074, Furan Compounds**

**Region 2**

**Suisun Bay**

**LOE ID:** 3702

**Pollutant:** Furan Compounds  
**LOE Subgroup:** Pollutant-Tissue  
**Matrix:** Tissue  
**Fraction:** Not Recorded

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

**Number of Samples:** 0  
**Number of Exceedances:** 0

**Data and Information Type:** Not Specified  
**Data Used to Assess Water Quality:** Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

**Data Reference:** [Placeholder reference pre-2006 303\(d\)](#)

**Water Quality Objective/Criterion:** Unspecified  
**Objective/Criterion Reference:** [Placeholder reference pre-2006 303\(d\)](#)

**Evaluation Guideline:** Unspecified  
**Guideline Reference:** [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified  
 Temporal Representation: Unspecified  
 Environmental Conditions: Unspecified  
 QAPP Information: Unspecified  
 QAPP Information Reference(s):

**DECISION ID**                      **6049**

**Region 2**

**Suisun Bay**

**Pollutant:**                      **Invasive Species**  
**Final Listing Decision:**    **List on 303(d) list (TMDL required list)**  
**Last Listing Cycle's Final Listing Decision:** List on 303(d) list (TMDL required list)(2006)  
**Revision Status**                Original  
**Sources:**                        Ballast Water  
**Expected TMDL**                2019  
**Completion Date:**  
**Impairment from Pollutant or Pollution:** Pollutant

**Conclusion:**                    303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

**RWQCB Board Staff Decision:**                      No new data were assessed for 2008. The decision has not changed.

**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 6049, Invasive Species**

**Region 2**

**Suisun Bay**

**LOE ID:**                              3701

**Pollutant:**                        Invasive Species  
**LOE Subgroup:**                Population/Community Degradation  
**Matrix:**                            Water  
**Fraction:**                        Not Recorded

**Beneficial Use:**                      Estuarine Habitat

**Number of Samples:**            0  
**Number of Exceedances:**      0

**Data and Information Type:**    Not Specified  
**Data Used to Assess Water Quality:** Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

**Data Reference:**                      [Placeholder reference pre-2006 303\(d\)](#)

**Water Quality Objective/Criterion:**  
**Objective/Criterion Reference:**

**Evaluation Guideline:**

## Guideline Reference:

Spatial Representation: Unspecified  
 Temporal Representation: Unspecified  
 Environmental Conditions: Unspecified  
 QAPP Information: Unspecified  
 QAPP Information Reference(s):

**DECISION ID 6077****Region 2****Suisun Bay**

**Pollutant:** PCBs (Polychlorinated biphenyls)  
**Final Listing Decision:** List on 303(d) list (TMDL required list)  
**Last Listing Cycle's Final Listing Decision:** List on 303(d) list (TMDL required list)(2006)  
**Revision Status:** Original  
**Sources:** Unknown Point Source  
**Expected TMDL:** 2008  
**Completion Date:**  
**Impairment from Pollutant or Pollution:** Pollutant

**Conclusion:** 303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

**RWQCB Board Staff Decision:** No new data were assessed for 2008. The decision has not changed.

**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 6077, PCBs (Polychlorinated biphenyls)****Region 2****Suisun Bay**

LOE ID: 3705

**Pollutant:** PCBs (Polychlorinated biphenyls)  
**LOE Subgroup:** Pollutant-Tissue  
**Matrix:** Tissue  
**Fraction:** Not Recorded

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

**Number of Samples:** 0  
**Number of Exceedances:** 0

**Data and Information Type:** Not Specified  
**Data Used to Assess Water Quality:** Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

**Data Reference:** [Placeholder reference pre-2006 303\(d\)](#)

**Water Quality Objective/Criterion:** Unspecified  
**Objective/Criterion Reference:** [Placeholder reference pre-2006 303\(d\)](#)



Evaluation Guideline: Unspecified  
 Guideline Reference: [Placeholder reference pre-2006 303\(d\)](#)

Spatial Representation: Unspecified  
 Temporal Representation: Unspecified  
 Environmental Conditions: Unspecified  
 QAPP Information: Unspecified  
 QAPP Information Reference(s):

**DECISION ID**                      **6078**  
**Suisun Bay**

**Region 2**

**Pollutant:**                      **PCBs (Polychlorinated biphenyls) (dioxin-like)**  
**Final Listing Decision:**      **List on 303(d) list (TMDL required list)**  
**Last Listing Cycle's Final**      List on 303(d) list (TMDL required list)(2006)  
**Listing Decision:**  
**Revision Status**                  Original  
**Sources:**                          Unknown Nonpoint Source  
**Expected TMDL**                      2008  
**Completion Date:**  
**Impairment from Pollutant**      Pollutant  
**or Pollution:**

**Conclusion:**                      303(d) listing decisions made prior to 2006 were not held in an assessment database. The Regional Boards will update this decision when new data and information become available and are assessed.

**RWQCB Board Staff**              No new data were assessed for 2008. The decision has not changed.  
**Decision:**

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

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

**Line of Evidence (LOE) for Decision ID 6078, PCBs (Polychlorinated biphenyls)**  
**(dioxin-like)**

**Region 2**

**Suisun Bay**

LOE ID:                                  3706

Pollutant:                              PCBs (Polychlorinated biphenyls) (dioxin-like)  
 LOE Subgroup:                      Pollutant-Tissue  
 Matrix:                                  Tissue  
 Fraction:                                Not Recorded

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

Number of Samples:                  0  
 Number of Exceedances:            0

Data and Information Type:          Not Specified  
 Data Used to Assess Water Quality: Unspecified--This LOE is a placeholder to support a 303(d) listing decision made prior to 2006.

Data Reference:                      [Placeholder reference pre-2006 303\(d\)](#)

Water Quality Objective/Criterion: Unspecified



Water Quality Objective/Criterion: Objective/Criterion Reference:	Unspecified <a href="#">Placeholder reference pre-2006 303(d)</a>
Evaluation Guideline: Guideline Reference:	Unspecified <a href="#">Placeholder reference pre-2006 303(d)</a>
Spatial Representation:	Unspecified
Temporal Representation:	Unspecified
Environmental Conditions:	Unspecified
QAPP Information:	Unspecified
QAPP Information Reference(s):	