

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

### Supporting Information

#### Regional Board 5 - Central Valley Region

**Water Body Name:** [Colusa Basin Drain](#)  
**Water Body ID:** CAR5202100019980813170249  
**Water Body Type:** River & Stream

**DECISION ID** 6113

**Region 5**

Colusa Basin Drain

**Pollutant:** Methyl Parathion  
**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  
**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 section 303(d) list under section 4.1 of the Listing Policy. Under this section 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. None of samples exceeded the water quality objective.

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for removing this water segment-pollutant combination from the section 303(d) list.

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 95 samples exceeded the interim water quality criterion and this does not exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 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 removed from the section 303(d) list because applicable water quality standards for the pollutant 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 6113, Methyl Parathion**

**Region 5**

Colusa Basin Drain

**LOE ID:** 21783

**Pollutant:** Methyl Parathion

LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Warm Freshwater Habitat
Number of Samples:	68
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	68 Water sample was collected from Colusa Basin Drain from April 2000 through July 2002, representing 68 concentrations. 0 of 68 available concentrations exceeded the interim water quality criterion 0.08 ug/L.
Data Reference:	<a href="#">Surface Water database (SWDB) for Central Valley waterbodies, 2000-2005 Correspondence between the Department of Pesticide Regulation and Central Valley Regional Water Quality Control Board regarding water quality data for waterbodies in the Central Valley</a>
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:	<a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
Evaluation Guideline:	California Department of Fish and Game Hazard Assessment Criteria - Interim water quality criterion is 0.08 ug/L (Menconi and Harrington, 1992).
Guideline Reference:	<a href="#">Hazard Assessment of the Insecticide Methyl Parathion to Aquatic Organisms in the Sacramento River System. California Department of Fish and Game, Environmental Services Division. Administrative Report 92-1</a>
Spatial Representation:	Samples were collected from Colusa Basin Drain at location (lat. 39.1833 and Long. -122.05)
Temporal Representation:	Samples were collected at variable intervals (e.g. every other day, 5-day) from April 2000 through July 2002.
Environmental Conditions:	
QAPP Information:	Minimum requirements for the CDPR Surface Water Database are: Name of the sampling agency or organization, Date that each sample was collected, Date of each sample analysis, County where samples were taken, Detailed sampling location information (including latitude and longitude or township/range/section if available), detailed map or description of each sampling site (i.e., address, cross roads, etc.), Name or description of water body sampled, Name of the active ingredient analyzed for; concentration detected (with unit of measurement), and limit of quantitation, Description of analytical QA/QC plan, or statement that no formal plan exists. Additional optional requirements are included on DPR's webpage at <a href="http://www.cdpr.ca.gov/docs/emon/surfwtr/caps/req.htm">http://www.cdpr.ca.gov/docs/emon/surfwtr/caps/req.htm</a>
QAPP Information Reference(s):	<a href="#">Standard Operating Procedure for Conducting Surface Water Monitoring for Pesticides</a>

**Line of Evidence (LOE) for Decision ID 6113, Methyl Parathion  
Colusa Basin Drain**

**Region 5**

LOE ID:	4301
Pollutant:	Methyl Parathion
LOE Subgroup:	Pollutant-Water
Matrix:	Water

Fraction:	Not Recorded
Beneficial Use:	Cold Freshwater 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:	<a href="#">Placeholder reference pre-2006 303(d)</a>
Water Quality Objective/Criterion:	Unspecified
Objective/Criterion Reference:	<a href="#">Placeholder reference pre-2006 303(d)</a>
Evaluation Guideline:	Unspecified
Guideline Reference:	<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):	

**Line of Evidence (LOE) for Decision ID 6113, Methyl Parathion  
Colusa Basin Drain**

**Region 5**

LOE ID:	21784
Pollutant:	Methyl Parathion
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Warm Freshwater Habitat
Number of Samples:	27
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	27 water samples were collected from Colusa Basin Drain between June 1999 and May 2002, representing 27 concentrations. 0 of 27 available concentrations exceeded the interim water quality criterion, 0.015 ug/L.
Data Reference:	<a href="#">Sacramento River Watershed Program Annual Reports for 1999-2000, 2000-2001, 2001-2002, 2002-2003, and 2003-2004; and BDAT data 1998-2003</a>
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:	<a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
Evaluation Guideline:	California Department of Fish and Game Hazard Assessment Criteria - Interim water quality criterion is 0.08 ug/L (Menconi and Harrington, 1992).
Guideline Reference:	<a href="#">Hazard Assessment of the Insecticide Methyl Parathion to Aquatic Organisms in the Sacramento River System. California Department of Fish and Game. Environmental Services Division. Administrative Report 92-1</a>



**USEPA Action (if applicable):****Line of Evidence (LOE) for Decision ID 6114, Molinate****Region 5****Colusa Basin Drain**

LOE ID:	26509
Pollutant:	Molinate
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	31
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Thirty-four water samples (representing 31 daily samples) were collected under the Irrigated Lands Regulatory Program from three locations in Colusa Basin Drain, between March and July 2006. Zero of the daily-averaged molinate concentrations exceeded the Evaluation Guideline of 13 ug/L.
Data Reference:	<a href="#">Revised Draft of the 2007 Review of the Monitoring Data for the Irrigated Lands Regulatory Conditional Waiver Program</a>
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
Objective/Criterion Reference:	<a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
Evaluation Guideline:	California Department of Fish and Game Hazard Assessment molinate criterion for freshwater aquatic life protection maximum concentration of 13 ug/L.
Guideline Reference:	<a href="#">Hazard Assessment of the Rice Herbicides Molinate and Thiobencarb to Aquatic Organisms in the Sacramento River System. Administrative Report 90-1. California Department of Fish and Game, Environmental Services Division</a>
Spatial Representation:	Fifteen water samples (representing 14 daily average molinate concentrations) were collected from the Colusa Basin Drain (CBD) at Drain #5 (CBD5). Sixteen water samples (representing 14 daily average molinate concentrations) were collected from the CBD above Knights Landing (CBD1). Three water samples were collected from the CBD near Maxwell Road.
Temporal Representation:	Water samples were collected from CBD5 and CBD1 on: 25 April 2006; 16, 23, and 30 May 2006; 1, 6, 8, 13, 15, 20, 22, and 27 June 2006; and 5 and 11 July 2006. Water samples were collected from CBD near Maxwell Road on: 17 March 2006; 21 June 2006; and 18 July 2006.
Environmental Conditions:	
QAPP Information:	Good. Data collected in accordance with the Irrigated Lands Regulatory Program requirements.
QAPP Information Reference(s):	<a href="#">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</a>

**Line of Evidence (LOE) for Decision ID 6114, Molinate****Region 5**

**Colusa Basin Drain**

LOE ID:	26513
Pollutant:	Molinate
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Two water samples were collected from the Colusa Basin Drain for the Sacramento River Watershed Program (SRWP) on 19 June 2003 and on 24 June 2004 as part of "Year 6". Neither of the samples exceeded the Evaluation Guideline for molinate.
Data Reference:	<a href="#">Sacramento River Watershed Program Annual Reports for 1999-2000, 2000-2001, 2001-2002, 2002-2003, and 2003-2004; and BDAT data 1998-2003</a>
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
Objective/Criterion Reference:	<a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
Evaluation Guideline:	California Department of Fish and Game Hazard Assessment molinate criterion for freshwater aquatic life protection maximum concentration of 13 ug/L.
Guideline Reference:	<a href="#">Hazard Assessment of the Rice Herbicides Molinate and Thiobencarb to Aquatic Organisms in the Sacramento River System. Administrative Report 90-1. California Department of Fish and Game, Environmental Services Division</a>
Spatial Representation:	Two water samples were collected for the SRWP at an "SRWP-045-COLDR-302".
Temporal Representation:	Two water samples were collected for the SRWP, one on 19 June 2003 and one on 24 June 2004.
Environmental Conditions:	
QAPP Information:	Good. Data collected in SRWP requirements.
QAPP Information Reference(s):	<a href="#">Sacramento River Watershed Program Annual Reports for 1999-2000, 2000-2001, 2001-2002, 2002-2003, and 2003-2004; and BDAT data 1998-2003</a>

**Line of Evidence (LOE) for Decision ID 6114, Molinate****Region 5****Colusa Basin Drain**

LOE ID:	26516
Pollutant:	Molinate
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	54
Number of Exceedances:	8

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Sixty-six water samples (representing 54 daily samples and daily-average molinate concentrations) were collected from the Colusa Basin Drain under the Department of Pesticide Regulation's (DPR) Rice Pesticides Program Monitoring in 2000, 2001, and 2002, as reported in the DPR Surface Water Database (SWDB). Eight of the daily-averaged molinate concentrations exceeded the Evaluation Guideline for molinate.
Data Reference:	<a href="#">National Water Quality Assessment database, Sacramento Study Unit data Department of Pesticide Regulation (DPR), 2003. Surface Water Database, April 2003. Accessed July 8, 2007</a>
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
Objective/Criterion Reference:	<a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins, 4th ed</a>
Evaluation Guideline:	California Department of Fish and Game Hazard Assessment molinate criterion for freshwater aquatic life protection maximum concentration of 13 ug/L.
Guideline Reference:	<a href="#">Hazard Assessment of the Rice Herbicides Molinate and Thiobencarb to Aquatic Organisms in the Sacramento River System. Administrative Report 90 -1. California Department of Fish and Game, Environmental Services Division</a>
Spatial Representation:	The water samples were collected from "Colusa Basin Drain #5" (Latitude = 39.18333, Longitude = -122.05).
Temporal Representation:	Water samples were collected from the Colusa Basin Drain on: 16, 18, 23, 25 and 30 May 2000; 1, 6, 8, 13 and 15 June 2000; 3 April 2001; 1, 10, 15, 17, 22, 24, 29 and 31 May 2001; 5, 7, 12, 14, 19, 21, 26 and 28 June 2001; 3, 5, 10 and 12 July 2001; 9 April 2001; 7, 9, 14, 16, 21, 23, 28 and 30 May 2002; 4, 6, 11, 13, 18, 20, 25 and 27 June 2002; and 2, 5, 9, 11, 16 and 18 July 2002.
Environmental Conditions:	
QAPP Information:	Good. Water samples were collected from Colusa Basin Drain under Department of Pesticide Regulation sampling protocols.
QAPP Information Reference(s):	<a href="#">Standard Operating Procedure for Conducting Surface Water Monitoring for Pesticides</a> <a href="#">Standard Operating Procedure, Chemistry Laboratory Quality Control</a>

**Line of Evidence (LOE) for Decision ID 6114, Molinate  
Colusa Basin Drain**

**Region 5**

LOE ID:	26512
Pollutant:	Molinate
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One water sample was collected from the Colusa Basin Drain for the Sacramento River Watershed Program (SRWP) on 15 May 2002, and did not exceed the Evaluation Guideline for molinate.



Data Reference:	<a href="#">Sacramento River Watershed Program Annual Reports for 1999-2000, 2000-2001, 2001-2002, 2002-2003, and 2003-2004; and BDAT data 1998-2003</a>
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
Objective/Criterion Reference:	<a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
Evaluation Guideline:	California Department of Fish and Game Hazard Assessment molinate criterion for freshwater aquatic life protection maximum concentration of 13 ug/L.
Guideline Reference:	<a href="#">Hazard Assessment of the Rice Herbicides Molinate and Thiobencarb to Aquatic Organisms in the Sacramento River System. Administrative Report 90-1. California Department of Fish and Game, Environmental Services Division</a>
Spatial Representation:	One water sample was collected for the SRWP at an unidentified location.
Temporal Representation:	One water sample was collected from Colusa Basin Drain on 15 May 2002.
Environmental Conditions:	
QAPP Information:	Good. Data collected in SRWP requirements.
QAPP Information Reference(s):	<a href="#">Sacramento River Watershed Program Annual Reports for 1999-2000, 2000-2001, 2001-2002, 2002-2003, and 2003-2004; and BDAT data 1998-2003</a>

**Line of Evidence (LOE) for Decision ID 6114, Molinate****Region 5****Colusa Basin Drain**

LOE ID:	26514
Pollutant:	Molinate
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Two water samples were collected from the Colusa Basin Drain for the Sacramento River Watershed Program (SRWP) on 6 July 2006 and on 6 June 2007 under a Prop. 50 grant. Neither of the samples exceeded the Evaluation Guideline for molinate.
Data Reference:	<a href="#">Final Proposition 50 Grant Monitoring Report. 2005 - 2007. Includes Quality Assurance Project Plan (QAPP) Revision 1.2.0, Appendix A, March 2006</a>
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
Objective/Criterion Reference:	<a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
Evaluation Guideline:	California Department of Fish and Game Hazard Assessment molinate criterion for freshwater aquatic life protection maximum concentration of 13 ug/L.
Guideline Reference:	



[Hazard Assessment of the Rice Herbicides Molinate and Thiobencarb to Aquatic Organisms in the Sacramento River System. Administrative Report 90 -1. California Department of Fish and Game, Environmental Services Division](#)

Spatial Representation: Two water samples were collected for the SRWP at "Colusa Basin Drain above KL" [Knights Landing].

Temporal Representation: Two water samples were collected from the Colusa Basin Drain, one on 6 July 2006 and one on 6 June 2007.

Environmental Conditions: Good. Data collected in SRWP requirements.

QAPP Information: [Final Proposition 50 Grant Monitoring Report, 2005 - 2007. Includes Quality Assurance Project Plan \(QAPP\) Revision 1.2.0, Appendix A, March 2006](#)

QAPP Information Reference(s):

#### Line of Evidence (LOE) for Decision ID 6114, Molinate

Region 5

##### Colusa Basin Drain

LOE ID: 26515

Pollutant: Molinate

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 21

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Twenty-one water samples were collected from the Colusa Basin Drain by the USGS under the NAWQA program, between 7 November 1996 and 15 April 1998. None of the samples exceeded the Evaluation Guideline for molinate.

Data Reference: [National Water Quality Assessment database, Sacramento Study Unit data](#)

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

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: California Department of Fish and Game Hazard Assessment molinate criterion for freshwater aquatic life protection maximum concentration of 13 ug/L.

Guideline Reference: [Hazard Assessment of the Rice Herbicides Molinate and Thiobencarb to Aquatic Organisms in the Sacramento River System. Administrative Report 90 -1. California Department of Fish and Game, Environmental Services Division](#)

Spatial Representation: The water samples were collected from "COLUSA BASIN DR A RD 99E NR KNIGHTS LANDING CA" [Colusa Basin Drain at Road 99E near Knights Landing].

Temporal Representation: Water samples were collected from the Colusa Basin Drain on: 7 November 1996; 3 December 1996; 14 January 1997; 18 February 1997; 18 March 1997; 9 and 24 April 1997; 9 and 23 May 1997; 17 June 1997; 10 and 28 July 1997; 26 August 1997; 18 September 1997; 30 October 1997; 12 November 1997; 17 December 1997; 21 January 1998; 26 February 1998; 11 March 1998; and 15 April 1998.

Environmental Conditions: Good. Data collected under USGS protocols.

QAPP Information: [National Water Quality Assessment database, Sacramento Study Unit data](#)

QAPP Information Reference(s):

**DECISION ID** 5095  
**Colusa Basin Drain**

**Region 5**

**Pollutant:** Diazinon  
**Final Listing Decision:** Do Not Delist from 303(d) list (TMDL required list)  
**Last Listing Cycle's Final Listing Decision:** Do Not Delist from 303(d) list (TMDL required list)(2006)  
**Revision Status:** Revised  
**Sources:** Agriculture  
**Expected TMDL:** 2008  
**Completion Date:**  
**Impairment from Pollutant or Pollution:** Pollutant

**Conclusion:** This pollutant is being considered for removal from the section 303(d) list under section 4.1 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Four lines of evidence are available in the administrative record to assess pollutant. Three of 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 removing this water segment-pollutant combination from the section 303(d) list.

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. Three of 39 available 4-day average concentrations exceeded the 4-day average maximum concentration criterion and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. In addition, 2 of 56 available 1-hour average concentrations exceeded the 1-hour average concentration criterion and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. 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:** After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be removed from the section 303(d) list because applicable water quality standards for the pollutant are 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):** 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 5095, Diazinon**  
**Colusa Basin Drain**

**Region 5**

**LOE ID:** 2671  
**Pollutant:** Diazinon  
**LOE Subgroup:** Pollutant-Water  
**Matrix:** Water  
**Fraction:** None  
**Beneficial Use:** Cold Freshwater Habitat

Number of Samples:	14
Number of Exceedances:	2
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Two of 14 samples exceeded the CDFG acute criteria. None of 8 samples exceeded the chronic criteria (Calanchini et al., 2004).
Data Reference:	<a href="#">Placeholder reference 2006 303(d)</a>
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses. 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. Waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of pesticides in excess of the Maximum Contaminant Levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15.
Objective/Criterion Reference:	<a href="#">Placeholder reference 2006 303(d)</a>
Evaluation Guideline:	CDFG Hazard Assessment Criterion - 0.16 ug/L 1-hour average (acute), 0.10 ug/L 4-day average (chronic) (Siepman & Finlayson, 2000; Finlayson, 2004).
Guideline Reference:	<a href="#">Placeholder reference 2006 303(d)</a>
Spatial Representation:	Samples taken at Colusa Basin Drain near Knight's Landing.
Temporal Representation:	Two storm events were sampled for the 2004 TMDL project in the Sacramento River Basin. The first storm event (Storm 1) was the period 28 January to 6 February 2004. The second storm event (Storm 2) was the period 15-23 February, 2004. For storm 1 sampling was conducted from 28 January to 3 February at most sites, and as late as 6 February at the Tower Bridge at Sacramento site. For storm 2 the sampling period began on 16 February and extended until 22 February.
Environmental Conditions:	
QAPP Information:	Data from CDFA laboratories are considered of adequate quality.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 5095, Diazinon****Region 5****Colusa Basin Drain**

LOE ID:	2670
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	115
Number of Exceedances:	11
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Data analysis consisted of ELISA and GC/ECD/TSD. Nine samples were considered of "questionable" quality due to a possible bias (higher diazinon conc) from the ELISA method. Data from 1996-98 was from the NWIS Web data for the nation. Therefore, these samples were not included as part of this assessment. Of the remaining 115 samples, 11 exceeded the acute criteria. When the chronic criteria could be applied, 2 out of 9 data set averages (4-day) exceeded the chronic criteria (Dileanis et al., 2002).
Data Reference:	<a href="#">Placeholder reference 2006 303(d)</a>

Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses. 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. Waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of pesticides in excess of the Maximum Contaminant Levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15.
Objective/Criterion Reference:	<a href="#">Placeholder reference 2006 303(d)</a>
Evaluation Guideline:	CDFG Hazard Assessment Criterion: 0.16 ug/L 1-hour average (acute), 0.10 ug/L 4-day average (Siepman & Finlayson, 2002).
Guideline Reference:	<a href="#">Placeholder reference 2006 303(d)</a>
Spatial Representation:	Samples taken at Colusa Basin Drain at Road 99E near Knights Landing and Clarks Ditch.
Temporal Representation:	Samples taken in 2000. Additional samples taken from 1996-1998. Samples from 1999-2003 resulted in non-detects based on EPA 8141A analysis methodology. Samples in 1994 taken in Feb. from Clarks Ditch, trib. to Colusa Basin Drain.
Environmental Conditions: QAPP Information:	Data from USGS reports are considered of adequate quality per section 6.1.4 of the Policy. Data from the Sacramento River Watershed Program (SRWP) Waters Quality Database (Larry Walker Associates, April 2002) are considered adequate.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 5095, Diazinon****Region 5****Colusa Basin Drain**

LOE ID:	21797
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	11
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Twelve water samples were collected from Colusa Basin Drain between May 2005 and September 2006, representing eleven calculated 4-day average concentrations and twelve 1-hour average concentrations. Zero of the eleven calculated 4-day average concentrations exceeded the 4-day average criterion of 0.1 ug/L. Zero of the twelve 1-hour average concentrations exceeded the 1-hour average criterion of 0.16 ug/L.
Data Reference:	<a href="#">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</a>
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. All waters shall be

Objective/Criterion Reference:	maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. <a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
Evaluation Guideline:	California Fish and Game Hazard Assessment diazinon criteria for freshwater aquatic life protection: 0.100 ug/L (4-day average) and 0.160 ug/L (1-hour average), not to be exceeded more than once every three years.
Guideline Reference:	<a href="#">Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game</a> <a href="#">Water quality for diazinon. Memorandum to J. Karkoski. Central Valley RWQCB. Rancho Cordova, CA: Pesticide Investigation Unit, CA Department of Fish and Game</a>
Spatial Representation:	Samples were collected from Colusa Drain near Maxwell Road.
Temporal Representation:	Samples were collected monthly from May 2005 through September 2006.
Environmental Conditions:	
QAPP Information:	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 5095, Diazinon  
Colusa Basin Drain**

**Region 5**

LOE ID:	21795
Pollutant:	Diazinon
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	9
Number of Exceedances:	3
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Fifteen water samples were collected from Colusa Basin Drain between January and February 2004, representing nine calculated 4-day average concentrations and fifteen 1-hour average concentrations. Three of the nine calculated 4-day average concentrations exceeded the 4-day average criterion of 0.1 ug/L. Two of the fifteen available 1-hour average concentrations exceeded the 1-hour average criterion of 0.16 ug/L.
Data Reference:	<a href="#">Zipped file of Central Valley Waterways Pesticide TMDL monitoring data spreadsheets and reports</a>
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
Objective/Criterion Reference:	<a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
Evaluation Guideline:	California Fish and Game Hazard Assessment diazinon criteria for freshwater aquatic life protection: 0.100 ug/L (4-day average) and 0.160 ug/L (1-hour average), not to be exceeded more than once every three years.
Guideline Reference:	

[Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game](#)  
[Water quality for diazinon. Memorandum to J. Karkoski. Central Valley RWQCB. Rancho Cordova, CA: Pesticide Investigation Unit, CA Department of Fish and Game](#)

Spatial Representation: Samples were collected from Colusa Basin Drain, probably near Knights Landing.

Temporal Representation: Samples were collected daily during two storms in January and February 2004.

Environmental Conditions:  
 QAPP Information: Calanchini, H. 2006. Quality Assurance Project Plan, Sacramento and San Joaquin River Basins and Sacramento-San Joaquin Delta TMDL Monitoring for Organophosphorus Pesticides and Other Pesticides Identified as Posing a High Risk to Surface Waters. John Muir Institute of the Environment, U.C. Davis. Davis, CA.

QAPP Information Reference(s): [Quality Assurance Project Plan. Sacramento and San Joaquin River Basins and Sacramento-San Joaquin Delta TMDL Monitoring for Organophosphorus Pesticides and Other Pesticides Identified as Posing a High Risk to Surface Waters. Final. SWAMP Project ID 02TM5001 \(Revision 0.0\). John Muir Institute of the Environment, U.C. Davis. Davis, CA. January 26, 2006](#)

#### Line of Evidence (LOE) for Decision ID 5095, Diazinon

Region 5

##### Colusa Basin Drain

LOE ID: 21794

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

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 11  
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING  
 Data Used to Assess Water Quality: Eighteen water samples were collected from Colusa Basin Drain between January and February 2003, representing eleven calculated 4-day average concentrations and eighteen 1-hour average concentrations. Zero of the eleven calculated 4-day average concentrations exceeded the 4-day average criterion of 0.1 ug/L. Zero of the eighteen 1-hour average concentrations exceeded the 1-hour average criterion of 0.16 ug/L.

Data Reference: [Zipped file of Central Valley Waterways Pesticide TMDL monitoring data spreadsheets and reports](#)

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

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: California Fish and Game Hazard Assessment diazinon criteria for freshwater aquatic life protection: 0.100 ug/L (4-day average) and 0.160 ug/L (1-hour average), not to be exceeded more than once every three years.

Guideline Reference:



[Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game](#)  
[Water quality for diazinon. Memorandum to J. Karkoski. Central Valley RWQCB. Rancho Cordova, CA: Pesticide Investigation Unit, CA Department of Fish and Game](#)

Spatial Representation: Samples were collected from Colusa Basin Drain.  
 Temporal Representation: Samples were collected daily during two storm events in January and February 2003 .  
 Environmental Conditions:  
 QAPP Information: Calanchini, H. 2006. Quality Assurance Project Plan, Sacramento and San Joaquin River Basins and Sacramento-San Joaquin Delta TMDL Monitoring for Organophosphorus Pesticides and Other Pesticides Identified as Posing a High Risk to Surface Waters. John Muir Institute of the Environment, U.C. Davis. Davis, CA.  
 QAPP Information Reference(s): [Quality Assurance Project Plan. Sacramento and San Joaquin River Basins and Sacramento-San Joaquin Delta TMDL Monitoring for Organophosphorus Pesticides and Other Pesticides Identified as Posing a High Risk to Surface Waters. Final. SWAMP Project ID 02TM5001 \(Revision 0.0\). John Muir Institute of the Environment, U.C. Davis. Davis, CA. January 26, 2006](#)

#### Line of Evidence (LOE) for Decision ID 5095, Diazinon

Region 5

#### Colusa Basin Drain

LOE ID: 21796  
 Pollutant: Diazinon  
 LOE Subgroup: Pollutant-Water  
 Matrix: Water  
 Fraction: Total  
 Beneficial Use: Warm Freshwater Habitat  
 Number of Samples: 8  
 Number of Exceedances: 0  
 Data and Information Type: PHYSICAL/CHEMICAL MONITORING  
 Data Used to Assess Water Quality: Eleven water samples were collected from Colusa Basin Drain in February 2005, representing eight calculated 4-day average concentrations and eleven 1-hour average concentrations. Zero of the eight calculated 4-day average concentrations exceeded the 4-day average criterion of 0.1 ug/L. Zero of the eleven 1-hour average concentrations exceeded the 1-hour average criterion of 0.16 ug/L.  
 Data Reference: [Zipped file of Central Valley Waterways Pesticide TMDL monitoring data spreadsheets and reports](#)  
 Water Quality Objective/Criterion: No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.  
 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: California Fish and Game Hazard Assessment diazinon criteria for freshwater aquatic life protection: 0.100 ug/L (4-day average) and 0.160 ug/L (1-hour average), not to be exceeded more than once every three years.  
 Guideline Reference: [Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game](#)



[Water quality for diazinon. Memorandum to J. Karkoski, Central Valley RWQCB. Rancho Cordova, CA: Pesticide Investigation Unit, CA Department of Fish and Game](#)

Spatial Representation: Samples were collected from Colusa Basin Drain, probably near Knights Landing.

Temporal Representation: Samples were collected daily from 15 to 25 February, 2005.

Environmental Conditions:

QAPP Information: Calanchini, H. 2006. Quality Assurance Project Plan, Sacramento and San Joaquin River Basins and Sacramento-San Joaquin Delta TMDL Monitoring for Organophosphorus Pesticides and Other Pesticides Identified as Posing a High Risk to Surface Waters. John Muir Institute of the Environment, U.C. Davis. Davis, CA.

QAPP Information Reference(s): [Quality Assurance Project Plan. Sacramento and San Joaquin River Basins and Sacramento-San Joaquin Delta TMDL Monitoring for Organophosphorus Pesticides and Other Pesticides Identified as Posing a High Risk to Surface Waters. Final. SWAMP Project ID 02TM5001 \(Revision 0.0\). John Muir Institute of the Environment, U.C. Davis. Davis, CA. January 26, 2006](#)

**DECISION ID** 14781 **Region 5**

**Colusa Basin Drain**

**Pollutant:** Aldicarb  
**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. Two lines of evidence are 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 27 daily-maximum water sample aldicarb concentrations exceeded the Evaluation Guideline of 2.0 ug/L (one-tenth the LC50 for Chironomus tentans, a freshwater midge), and this does not exceed the narrative toxicity objective, nor does it 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 14781, Aldicarb  
Colusa Basin Drain**

**Region 5**

LOE ID:	21751
Pollutant:	Aldicarb
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Warm Freshwater Habitat
Number of Samples:	26
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Twenty-seven water samples were collected from Colusa Basin Drain from June 1999 through May 2002, representing 26 daily-maximum aldicarb concentrations. Zero of the 26 daily-maximum aldicarb concentrations exceeded the Evaluation Guideline value (2.0 ug/L).
Data Reference:	<a href="#">Sacramento River Watershed Program Annual Reports for 1999-2000, 2000-2001, 2001-2002, 2002-2003, and 2003-2004; and BDAT data 1998-2003</a>
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:	<a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
Evaluation Guideline:	The 48-hour LC50 for aldicarb tested on Chironomus tentans, a midge, is 20 ug/L; therefore, the Evaluation Guideline is 2.0 ug/L (one-tenth the LC50 value).
Guideline Reference:	<a href="#">ECOTOX database, aquatic data. U. S. Environmental Protection Agency</a>
Spatial Representation:	Samples were collected from Colusa Basin Drain above Knights Landing.
Temporal Representation:	Samples were collected from June 1999 to May 2002 at intervals including from twice per day, every two weeks, monthly, every other month, or every 3 months.
Environmental Conditions:	
QAPP Information:	Data quality: Good. Monitoring was conducted in accordance with the Quality Assurance Project Plan for Monitoring prepared for the Sacramento River Watershed Program (SRWP 1999a, 1999b, 2000b, 2001b, 2002b, 2003b, 2006).
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 14781, Aldicarb  
Colusa Basin Drain**

**Region 5**

LOE ID:	21750
Pollutant:	Aldicarb
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat

Aquatic Life Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One water sample was collected from Colusa Basin Drain at Maxwell Road on March 1, 2006. Aldicarb was not detected in the sample at a concentration above the Evaluation Guideline (2.0 ug/L).
Data Reference:	<a href="#">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</a>
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:	<a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
Evaluation Guideline:	The 48-hour LC50 for aldicarb tested on Chironomus tentans, a midge, is 20 ug/L; therefore, the Evaluation Guideline is 2.0 ug/L (one-tenth the LC50 value).
Guideline Reference:	<a href="#">ECOTOX database, aquatic data. U. S. Environmental Protection Agency</a>
Spatial Representation:	One water sample was collected from Colusa Basin Drain near Maxwell Road.
Temporal Representation:	One water sample was collected from Colusa Basin Drain on March 1, 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) requirements (CVRWQCB, 2003)
QAPP Information Reference(s):	

**DECISION ID** 14302 **Region 5**  
**Colusa Basin Drain**

**Pollutant:** Chlordane  
**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 sections 3.1 and 3.5 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 two composite fish tissue samples exceeded the OEHHA Fish Contaminant Goals for chlordane of 5.6 ug/L and, therefore, none of the 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 14302, Chlordane  
Colusa Basin Drain**

**Region 5**

LOE ID:	26074
Pollutant:	Chlordane
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish whole body
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	2
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	White Catfish and Carp were taken from Colusa Basin Drain on 25 August 2005 for the Sacramento River Watershed Program. Nine analyses from one composite White Catfish sample and nine analyses from one composite sample for Carp were examined for different forms of Chlordane. The forms of chlordane analyzed included: cis-Chlordane, trans-Chlordane, alpha-Chlordane, gamma-Chlordane, Heptachlor, Heptachlor epoxide, cis-Nonachlor, trans-Nonachlor and Oxychlordane. None of the nine samples for either fish species exceeded the OEHHA screening value of 5.6 ug/kg for chlordane in fish tissue.
Data Reference:	<a href="#">Sacramento River Watershed Program Annual Reports for 1999-2000, 2000-2001, 2001-2002, 2002-2003, and 2003-2004; and BDAT data 1998-2003</a>
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
Objective/Criterion Reference:	<a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
Evaluation Guideline:	OEHHA 2008 Fish Contaminant Goals (FCG) are based on cancer risk assessments using an 8-Ounce/Week (prior to cooking) consumption rate of 32 g/day. The FCG used as a screening value for total chlordane (with a cancer slope factor of 1.3 mg/kg/day) should be less than 5.6 ug/kg.
Guideline Reference:	

[Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)

Spatial Representation: Fish samples were collected from Colusa Basin Drain at Road 99E.  
 Temporal Representation: Fish samples were collected on 25 August 2005.  
 Environmental Conditions:  
 QAPP Information: Data Quality: Good. Monitoring was conducted in accordance with Sacramento River Watershed Program QAPP requirements (SRWP, 2001).  
 QAPP Information Reference(s):

**DECISION ID** 5094 **Region 5**

**Colusa Basin Drain**

**Pollutant:** Chlorpyrifos  
**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** 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.

Six lines of evidence are 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 46 available 4-day average concentrations exceeded the 4-day average maximum concentration criterion and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy and also does not exceed the criterion more than once every three years (Section 3.11 of the listing policy). In addition, 1 of 66 available 1-hour average concentrations exceeded the 1-day average concentration criterion and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy and also does not exceed the criterion more than once every three years (Section 3.11 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 5094, Chlorpyrifos**

**Region 5**

**Colusa Basin Drain**

LOE ID:	2668
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Water
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat
Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Data was obtained from the USGS NWISweb data and SRWP database. None of the concentrations from the samples from this site exceeded the CDFG criteria; the SRWP samples were non-detects. (USGS, 2005), (LWA, 2002b).
Data Reference:	<a href="#">Placeholder reference 2006 303(d)</a>
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses. 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. Waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of pesticides in excess of the Maximum Contaminant Levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15.
Objective/Criterion Reference:	<a href="#">Placeholder reference 2006 303(d)</a>
Evaluation Guideline:	CDFG Hazard Assessment Criteria - 14 ng/L 4-day average and 25 ng/L 1-hour average
Guideline Reference:	<a href="#">Placeholder reference 2006 303(d)</a>
Spatial Representation:	Samples taken at Colusa Basin Drain at Road 99E near Knights Landing.
Temporal Representation:	Samples taken from 1996-2000.
Environmental Conditions:	
QAPP Information:	Data from USGS reports are considered of adequate quality per section 6.1.4 of the Policy. Data from the Sacramento River Watershed Program (SRWP) Waters Quality Database (Larry Walker Associates, April 2002) are considered adequate
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 5094, Chlorpyrifos****Region 5****Colusa Basin Drain**

LOE ID:	2669
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Water
Matrix:	Not Specified
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat

Number of Samples: 14  
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING  
 Data Used to Assess Water Quality: Isokinetic, depth integrated water samples were collected at 6-10 equally spaced points across the channel width with a USGS D-77 sampler using the equal-width-increment method (EWI). Depth integrated samples were collected in 3-L (liter) PTFE (polytetrafluoroethylene) bottles strapped to a weighted cage and lowered by line at three points across the width of the channel.

Fourteen samples were taken; none of the samples exceeded the CDFG criteria. (Calanchini, 2004). Immediately after collection, sample bottles were placed on ice and delivered to CDFA Center for Analytical Chemistry in Sacramento. Samples were usually delivered on the same day and no later than 48 hours after collection.

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

Water Quality Objective/Criterion: No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses. 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. Pesticide concentrations shall not exceed the lowest levels technically and economically achievable. Waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of pesticides in excess of the Maximum Contaminant Levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15.

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

Evaluation Guideline: CDFG Hazard Assessment Criteria - 14 ng/L 4-day average and 25 ng/L 1-hour average

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

Spatial Representation: Seven sites were monitored in the Sacramento River Basin; samples were collected at the Colusa Basin Drain near Knights Landing. Sampling frequency for each storm event was one sample/day was taken for 7 days.

Temporal Representation: Two storm events were sampled for the 2004 TMDL project in the Sacramento River Basin. The first storm event (Storm 1) was the period 28 January to 6 February 2004. The second storm event (Storm 2) was the period 15-23 February, 2004. For storm 1 sampling was conducted from 28 January to 3 February. For storm 2 the sampling period began on 16 February and extended until 22 February.

Environmental Conditions: Discharge was measured in conjunction with water collection using a Price Type AA current meter, a USGS bridge board and sounding reel, following standard USGS current-meter methods. Instantaneous loads were calculated by multiplying the discharge with the measured concentration of chlorpyrifos for the appropriate sampling period (24 hours).

QAPP Information: Sample quality control was measured through collection of sequential duplicates (n=8), blanks (n=5) and matrix spikes (n=5). The relative percent difference (RPD) between environmental and duplicate sample concentrations of chlorpyrifos ranged from 0-104%.

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 5094, Chlorpyrifos  
 Colusa Basin Drain**

**Region 5**

LOE ID: 21793



Pollutant:	Chlorpyrifos
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:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Ten water samples were collected from Colusa Basin Drain between December 2004 and February 2005, representing six calculated 4-day average concentrations and ten 1-hour average concentrations. Zero of the six calculated 4-day average concentrations exceeded the 4-day average criterion of 0.015 ug/L. Zero of the ten 1-hour average concentrations exceeded the 1-hour average criterion of 0.025 ug/L.
Data Reference:	<a href="#">Report and data files for pesticides in the Sacramento River, Winter 2005</a>
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
Objective/Criterion Reference:	<a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
Evaluation Guideline:	California Department of Fish and Game Hazard Assessment chlorpyrifos criteria for freshwater aquatic life protection: 0.015 ug/L (4-day average) and 0.025 ug/L (1-hour average), not to be exceeded more than once every three years.
Guideline Reference:	<a href="#">Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game</a>
Spatial Representation:	Samples were collected from two locations: at Colusa Basin Drain 5, and at County Road 99E.
Temporal Representation:	One sample was collected on 12/4/2004, and the other samples were collected once or twice a day from between 26 January 2005 and 1 February 2005.
Environmental Conditions:	
QAPP Information:	Data quality: Good. All sampling, analysis and QA/QC followed CDPR protocols described in Guo and Kelley, 2004.
QAPP Information Reference(s):	<a href="#">Standard Operating Procedure for Conducting Surface Water Monitoring for Pesticides</a> <a href="#">Protocol for event-based monitoring of organophosphorus insecticides and preemergent herbicides in the Sacramento Valley, winter 2004-2005. California Department of Pesticide Regulation. Sacramento, CA</a>

**Line of Evidence (LOE) for Decision ID 5094, Chlorpyrifos  
Colusa Basin Drain**

**Region 5**

LOE ID:	21792
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Twenty-seven water samples were collected from Colusa Basin Drain between June 1999 and May 2002, representing one calculated 4-day average concentration and one 1-hour average concentration. Twenty-six of the water samples had a method detection limit (0.05 ug/L) that is higher than the 4-day average criterion (0.015 ug/L) and, therefore, these twenty-six water samples were not included in this assessment. The single calculated 4-day average concentration exceeded the 4-day average criterion of 0.015 ug/L. The single usable 1-hour average concentration exceeded the 1-hour average criterion of 0.025 ug/L.
Data Reference:	<a href="#">Sacramento River watershed program (SRWP) water quality database 1991-2003, Davis, CA</a> <a href="#">Sacramento River Watershed Program Annual Reports for 1999-2000, 2000-2001, 2001-2002, 2002-2003, and 2003-2004; and BDAT data 1998-2003</a>
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
Objective/Criterion Reference:	<a href="#">Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game</a> <a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
Evaluation Guideline:	California Department of Fish and Game Hazard Assessment chlorpyrifos criteria for freshwater aquatic life protection: 0.015 ug/L (4-day average) and 0.025 ug/L (1-hour average), not to be exceeded more than once every three years.
Guideline Reference:	<a href="#">Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game</a> <a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
Spatial Representation:	Samples were collected from Colusa Basin Drain above Knights Landing.
Temporal Representation:	Samples were collected monthly between June 1999 and May 2005.
Environmental Conditions:	
QAPP Information:	Data quality: Excellent. Monitoring was conducted in accordance with the Quality Assurance Project Plan for Monitoring prepared for the Sacramento River Watershed Program (SRWP 1999a, 1999b, 2000b, 2001b, 2002b, 2003b, 2006).
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 5094, Chlorpyrifos  
Colusa Basin Drain**

**Region 5**

LOE ID:	21791
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat

Number of Samples:	11
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Twelve water samples were collected from Colusa Basin Drain between March and September 2006, representing eleven calculated 4-day average concentrations and twelve 1-hour average concentrations. Zero of the eleven calculated 4-day average concentrations exceeded the 4-day average criterion of 0.015 ug/L. Zero of the twelve 1-hour average concentrations exceeded the 1-hour average criterion of 0.025 ug/L.
Data Reference:	<a href="#">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</a>
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.
Objective/Criterion Reference:	<a href="#">Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game</a> <a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
Evaluation Guideline:	California Department of Fish and Game Hazard Assessment chlorpyrifos criteria: 0.015 ug/L (4-day average) and 0.025 ug/L (1-hour average).
Guideline Reference:	<a href="#">Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game</a>
Spatial Representation:	Samples were collected from Colusa Basin Drain near Maxwell Road.
Temporal Representation:	Samples were collected between March and September 2006 at variable intervals (monthly or biweekly).
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 5094, Chlorpyrifos  
Colusa Basin Drain**

**Region 5**

LOE ID:	21790
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	8
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Eleven water samples were collected from Colusa Basin Drain in February 2005, representing eight calculated 4-day average concentrations and eleven 1-hour average concentrations. Zero of the eight calculated 4-day average

Data Reference:	concentrations exceeded the 4-day average criterion of 0.025 ug/L. Zero of the eleven 1-hour average concentrations exceeded the 1-hour average criterion of 0.015 ug/L. <a href="#">Zipped file of Central Valley Waterways Pesticide TMDL monitoring data spreadsheets and reports</a>
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.
Objective/Criterion Reference:	<a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
Evaluation Guideline:	California Department of Fish and Game Hazard Assessment chlorpyrifos criteria: 0.015 ug/L (4-day average) and 0.025 ug/L (1-hour average).
Guideline Reference:	<a href="#">Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game</a>
Spatial Representation:	Water samples were collected from Colusa Basin Drain near Knights Landing.
Temporal Representation:	Samples were collected daily during storms between 15 and 25 February, 2005.
Environmental Conditions:	
QAPP Information:	Data quality: Good. Calanchini, H. 2006. Quality Assurance Project Plan, Sacramento and San Joaquin River Basins and Sacramento-San Joaquin Delta TMDL Monitoring for Organophosphorus Pesticides and Other Pesticides Identified as Posing a High Risk to Surface Waters. John Muir Institute of the Environment, U.C. Davis. Davis, CA.
QAPP Information Reference(s):	<a href="#">Quality Assurance Project Plan, Sacramento and San Joaquin River Basins and Sacramento-San Joaquin Delta TMDL Monitoring for Organophosphorus Pesticides and Other Pesticides Identified as Posing a High Risk to Surface Waters. Final. SWAMP Project ID 02TM5001 (Revision 0.0). John Muir Institute of the Environment, U.C. Davis. Davis, CA. January 26, 2006</a>

**Line of Evidence (LOE) for Decision ID 5094, Chlorpyrifos  
Colusa Basin Drain**

**Region 5**

LOE ID:	21789
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	8
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Fourteen water samples were collected from Colusa Basin Drain in January and February 2004, representing eight calculated 4-day average concentrations and fourteen 1-hour average concentrations. Zero of the eight calculated 4-day average concentrations exceeded the 4-day average criterion of 0.015 ug/L. Zero of the fourteen 1-hour average concentrations exceeded the 1-hour average criterion of 0.025 ug/L.
Data Reference:	<a href="#">Zipped file of Central Valley Waterways Pesticide TMDL monitoring data spreadsheets and reports</a>
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. All waters shall be

Objective/Criterion Reference:	maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. <a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
Evaluation Guideline:	California Department of Fish and Game Hazard Assessment chlorpyrifos criteria for freshwater aquatic life protection: 0.015 ug/L (4-day average) and 0.025 ug/L (1-hour average), not to be exceeded more than once every three years.
Guideline Reference:	<a href="#">Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game</a>
Spatial Representation:	Samples were collected from Colusa Basin Drain near Knight's Landing
Temporal Representation:	Samples were collected daily during three storm events in January and February 2004.
Environmental Conditions:	
QAPP Information:	Data quality: Good. Calanchini, H. 2006. Quality Assurance Project Plan, Sacramento and San Joaquin River Basins and Sacramento-San Joaquin Delta TMDL Monitoring for Organophosphorus Pesticides and Other Pesticides Identified as Posing a High Risk to Surface Waters. John Muir Institute of the Environment, U.C. Davis. Davis, CA.
QAPP Information Reference(s):	<a href="#">Quality Assurance Project Plan. Sacramento and San Joaquin River Basins and Sacramento-San Joaquin Delta TMDL Monitoring for Organophosphorus Pesticides and Other Pesticides Identified as Posing a High Risk to Surface Waters. Final. SWAMP Project ID 02TM5001 (Revision 0.0). John Muir Institute of the Environment, U.C. Davis. Davis, CA. January 26, 2006</a>

**Line of Evidence (LOE) for Decision ID 5094, Chlorpyrifos****Region 5****Colusa Basin Drain**

LOE ID:	21788
Pollutant:	Chlorpyrifos
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Eighteen water samples were collected from Colusa Basin Drain between January and February 2003, representing twelve calculated 4-day average concentrations and eighteen 1-hour average concentrations. Zero of the twelve calculated 4-day average concentrations exceeded the 4-day average criterion of 0.015 ug/L. Zero of the eighteen 1-hour average concentrations exceeded the 1-hour average criterion of 0.025 ug/L.
Data Reference:	<a href="#">Zipped file of Central Valley Waterways Pesticide TMDL monitoring data spreadsheets and reports</a>
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:	<a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>

Evaluation Guideline:	California Department of Fish and Game Hazard Assessment chlorpyrifos criteria: 0.015 ug/L (4-day average) and 0.025 ug/L (1-hour average).
Guideline Reference:	<a href="#">Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game</a>
Spatial Representation:	Samples were collected from Colusa Basin Drain near Knights Landing.
Temporal Representation:	Samples were collected daily during two storm events in January and March 2003.
Environmental Conditions:	
QAPP Information:	Data quality: Good. Calanchini, H. 2006. Quality Assurance Project Plan, Sacramento and San Joaquin River Basins and Sacramento-San Joaquin Delta TMDL Monitoring for Organophosphorus Pesticides and Other Pesticides Identified as Posing a High Risk to Surface Waters. John Muir Institute of the Environment, U.C. Davis. Davis, CA.
QAPP Information Reference(s):	<a href="#">Quality Assurance Project Plan. Sacramento and San Joaquin River Basins and Sacramento-San Joaquin Delta TMDL Monitoring for Organophosphorus Pesticides and Other Pesticides Identified as Posing a High Risk to Surface Waters. Final. SWAMP Project ID 02TM5001 (Revision 0.0). John Muir Institute of the Environment, U.C. Davis. Davis, CA. January 26, 2006</a>

**DECISION ID** 14782 **Region 5**

**Colusa Basin Drain**

**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.

Three lines of evidence are 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 33 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 14782, Diuron  
Colusa Basin Drain**

**Region 5**

LOE ID:	21764
Pollutant:	Diuron
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Warm Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Four water samples were collected along various points of Colusa Basin Drain in 2006. 1 of 4 concentrations exceeded the maximum concentration of 1.3 ug/L.
Data Reference:	<a href="#">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</a>
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:	<a href="#">Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game</a> <a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
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, <i>Chlorella pyrenoidosa</i> is 1.3 ug/L (ECOTOX, 2008 and Ma et al. 2001).
Guideline Reference:	<a href="#">Ecotox database</a> <a href="#">Acute toxicity of 33 herbicides to the green alga <i>Chlorella pyrenoidosa</i>. Bulletin of Environmental Contamination and Toxicology. 66:536-541. Springer-Verlag New York Inc.</a>
Spatial Representation:	Two samples were collected at Colusa Basin Drain above Knights Landing (CBD1) (38.8125, -121.7731), one sample was collected at Colusa Basin Drain #5 (CBD5) (39.1833, -122.0500), and one sample was collected at Colusa Basin Drain near Maxwell Road (38.8121, -121.7741).
Temporal Representation:	Samples were collected 03/01/2006 (one sample), 08/01/2006 (one sample), and 09/20/2006 (two samples). Colusa Basin Drain and Colusa Drain are terms used synonymously.



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 14782, Diuron**

**Region 5**

**Colusa Basin Drain**

LOE ID: 21765

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

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

Number of Samples: 19  
 Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING  
 Data Used to Assess Water Quality: Nineteen water samples were collected from January 2000 through May 2002.0 of 19 concentrations exceeded the maximum concentration of 1.3ug/L.

Data Reference: [Sacramento River watershed program \(SRWP\) water quality database 1991-2003. Davis, CA](#)

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).

Guideline Reference: [Ecotox database](#)  
[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: Colusa Basin Drain (UTM Zone 10 NAD83 606794, 4296411)  
 Temporal Representation: Samples were collected 1/19/2000, 2/15/2000, 3/21/2000, 4/18/2000, 5/16/2000, 7/21/2000, 9/20/2000, 10/18/2000, 10/30/2000, 1/27/2001, 2/7/2001, 4/9/2001, 5/29/2001, 6/22/2001, 9/25/2001, 11/4/2001, 2/22/2002, 3/7/2002, and 5/15/2002.

Environmental Conditions:  
 QAPP Information: Data quality: Excellent. Monitoring was conducted in accordance with the Quality Assurance Project Plan for Monitoring prepared for the Sacramento River Watershed Program (SRWP 1999a, 1999b, 2000b, 2001b, 2002b, 2003b, 2006).

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 14782, Diuron****Region 5****Colusa Basin Drain**

LOE ID:	21766
Pollutant:	Diuron
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Warm Freshwater Habitat
Number of Samples:	10
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Ten water samples were collected from Colusa Basin Drain in late 2004- early 2005.0 of 10 sample concentration samples exceeded the maximum concentration of 1.3ug/L.
Data Reference:	<a href="#">Report and data files for pesticides in the Sacramento River, Winter 2005</a>
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:	<a href="#">Water quality criteria for diazinon and chlorpyrifos. Administrative Report 00-3. Rancho Cordova, CA: Pesticide Investigations Unit, Office of Spills and Response. CA Department of Fish and Game</a> <a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
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).
Guideline Reference:	<a href="#">Ecotox database</a> <a href="#">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.</a>
Spatial Representation:	Colusa Basin Drain at County Road 99E (38.8122, -121.7732)
Temporal Representation:	One sample was collected on 12/4/2004, and the other samples were collected once or twice a day from 1/26/200-2/1/2005.
Environmental Conditions:	
QAPP Information:	Data quality: Good..
QAPP Information Reference(s):	<a href="#">Standard Operating Procedure for Conducting Surface Water Monitoring for Pesticides</a>

**DECISION ID 14305****Region 5****Colusa Basin Drain**

**Pollutant:** Propanil (DCPA mono- and di-acid degrad)  
**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 38 water samples exceeded the 5-day EC50 tested for freshwater diatom (*Navicula pelliculosa*) of 16 µg/L, which does not exceed 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 it cannot be determined if 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 14305, Propanil (DCPA mono- and di-acid degrad)**

**Region 5**

**Colusa Basin Drain**

LOE ID: 26077

Pollutant: Propanil (DCPA mono- and di-acid degrad)  
 LOE Subgroup: Pollutant-Water  
 Matrix: Water  
 Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 38  
 Number of Exceedances: 1

Data and Information Type: PHYSICAL/CHEMICAL MONITORING  
 Data Used to Assess Water Quality: Thirty-eight water samples were collected from Colusa Basin Drain between April and July 2001. One of the 38 water samples had a propanil concentration that exceeded the Evaluation Guideline value of 16 ug/L.

Data Reference: [Surface Water database \(SWDB\) for Central Valley waterbodies, 2000-2005](#)



One lines of evidence are available in the administrative record to assess this pollutant. Two 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. Two of 74 samples had pH values higher than the pH objective and this does not exceed 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 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 14778, pH (high)**

**Region 5**

**Colusa Basin Drain**

LOE ID:	21785
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Aquatic Life Use:	Cold Freshwater Habitat
Number of Samples:	74
Number of Exceedances:	2
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The Sacramento Valley Water Quality Coalition and the California Rice Commission collected 74 samples from September 2004 to October 2006. Two of the 74 samples did not meet the evaluation objective and had a pH higher than 8.5.
Data Reference:	<a href="#">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</a>
Water Quality Objective/Criterion:	The pH of water shall not be depressed below 6.5, raised above 8.5, or changed at any time more than 0.5 units from normal ambient pH. Measurement of pH within the range of 6.5 and 8.5. A high pH value is greater than 8.5
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 from Colusa Basin Drain at four locations: Colusa Basin Drain #5, Above Knights Landing, At Highway 162, and Near Maxwell Road.

Temporal Representation: Sampling occurred from September 2004 to October 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) requirements (CVRWQCB, 2003)

QAPP Information Reference(s):

**DECISION ID** 14779 **Region 5**

**Colusa Basin Drain**

**Pollutant:** pH (low)  
**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 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status.

One lines of evidence are available in the administrative record to assess this pollutant. Four 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. Four of 74 samples had pH values lower than the pH objective and this does not exceed 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 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 14779, pH (low)**

**Region 5**



**Colusa Basin Drain**

LOE ID: 21786

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

Beneficial Use: Cold Freshwater Habitat  
 Aquatic Life Use: Cold Freshwater Habitat

Number of Samples: 74  
 Number of Exceedances: 4

Data and Information Type: PHYSICAL/CHEMICAL MONITORING  
 Data Used to Assess Water Quality: The Sacramento Valley Water Quality Coalition and the California Rice Commission collected 74 samples from September 2004 to October 2006. Four of the 74 samples did not meet the evaluation objective and had a pH lower than 6.5.

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 pH of water shall not be depressed below 6.5, raised above 8.5, or changed at any time more than 0.5 units from normal ambient pH. Measurement of pH within the range of 6.5 and 8.5. A low pH value is lower than 6.5

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 from Colusa Basin Drain at four locations: Colusa Basin Drain #5, Above Knights Landing, At Highway 162, and Near Maxwell Road.

Temporal Representation: Sampling occurred from September 2004 to October 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) requirements (CVRWQCB, 2003)

QAPP Information Reference(s):

**DECISION ID** 14304  
**Colusa Basin Drain**

**Region 5**

**Pollutant:** DDT (Dichlorodiphenyltrichloroethane)  
**Final Listing Decision:** List on 303(d) list (TMDL required list)  
**Last Listing Cycle's Final Listing Decision:** New Decision  
**Revision Status:** Revised  
**Sources:** Source Unknown  
**Expected TMDL Completion Date:** 2021

**Impairment from Pollutant or Pollution:****Conclusion:****Regional Board Conclusion:**

This pollutant is being considered for placement on the section 303(d) list under sections 3.1 and 3.4 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. Two of 2 composite fish samples exceeded the OEHHA FCG for DDT of 21 ug/kg, and this exceeds the narrative toxicity objective, and 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.

**State Board Review and Conclusion:**

Originally, a decision of Do Not List was incorrectly selected for DDT by the Central Valley Water Board however, the data and information supported a List recommendation. This decision was corrected to List DDT by State Water Board staff. The Regional Board conclusion and recommendation have not been changed, only the selected decision.

**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 following changes to the decision: SWRCB 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. The 'do not list' recommendation was erroneously selected by the Regional Board staff.

**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 14304, DDT (Dichlorodiphenyltrichloroethane)****Region 5****Colusa Basin Drain**

LOE ID:	26075
Pollutant:	DDT (Dichlorodiphenyltrichloroethane)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish whole body
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	2
Number of Exceedances:	2



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. Two of 2 composite fish samples exceed the OEHHA FCG for dieldrin of 0.46 ug/kg, which exceeds the narrative toxicity objective and, therefore, 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 14303, Dieldrin  
Colusa Basin Drain**

**Region 5**

LOE ID:	26076
Pollutant:	Dieldrin
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish whole body
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Fish samples (White catfish and Carp) were taken from Colusa Basin Drain on 25 August 2005 and were analyzed for Dieldrin. Two composite samples exceeded the OEHHA screening value of 0.46 ug/kg for Dieldrin in fish tissue. One composite was for White catfish (0.7 ug/kg) and the second composite was for Carp (1.14 ug/kg).
Data Reference:	<a href="#">Sacramento River Watershed Program Annual Reports for 1999-2000, 2000-2001, 2001-2002, 2002-2003, and 2003-2004; and BDAT data 1998-2003</a>
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
Objective/Criterion Reference:	<a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
Evaluation Guideline:	OEHHA 2008 Fish Contaminant Goals (FCG) are based on OEHHA 2008 Fish Contaminant Goals (FCG) are based on cancer risk assessments using an 8-Ounce/Week (prior to cooking) consumption rate of 32 g/day. The FCG used as a screening value for Dieldrin (with a cancer slope factor of 16 mg/kg/day) should be less than 0.46 ug/kg.
Guideline Reference:	<a href="#">Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene</a>

Spatial Representation: Fish were collected from the Colusa Basin Drain at Road 99E.  
 Temporal Representation: Fish were collected on 25 August 2005.  
 Environmental Conditions:  
 QAPP Information: Monitoring was conducted in accordance with Sacramento River Watershed Program QAPP requirements (SRWP, 2001).  
 QAPP Information Reference(s):

**DECISION ID** 13066 **Region 5**

**Colusa Basin Drain**

**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:** Source Unknown  
**Expected TMDL Completion Date:** 2021  
**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.

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. The recommendation is based on staff findings that 6 of 11 available concentrations exceeded the USEPA's E. coli guideline of 235/100 mL and, therefore, the narrative toxicity objective, and this exceeds the allowable frequency using Table 3.2 of the Listing Policy. Table 3.2 of the listing policy recommends listing if a sample size of 11 has 5 or more samples that exceed the evaluation criteria.
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 13066, Escherichia coli (E. coli)** **Region 5**

**Colusa Basin Drain**

LOE ID: 21798





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.

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. Thirty of 73 water samples collected from Colusa Basin Drain exceed the Basin Plan minimum dissolved oxygen objective for COLD and SPWN beneficial uses of 7 mg/l, 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 13069, Low Dissolved Oxygen**

**Region 5**

**Colusa Basin Drain**

LOE ID:	21752
Pollutant:	Low Dissolved Oxygen
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	73
Number of Exceedances:	30
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Thirty of 73 water samples collected under the Irrigated Lands Program from Colusa Basin Drain between September 2004 and October 2006 exceed the Basin Plan minimum dissolved oxygen objective for COLD and SPWN (7 mg/L), and 5 of the 73 water samples also exceed the Basin Plan minimum dissolved oxygen objective for WARM beneficial uses (5 mg/L).
Data Reference:	<a href="#">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</a>
Water Quality Objective/Criterion:	The Basin Plan minimum dissolved oxygen objective for COLD and SPWN beneficial uses is 7 mg/l, and the Basin Plan minimum dissolved oxygen objective for WARM beneficial uses is 5 mg/l.

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: Water samples were collected from Colusa Basin Drain at several locations, including: near Maxwell Road, above Knight Landing, at Highway 162, and at "Colusa Basin Drain #5 (CBD5)".

Temporal Representation: Samples were collected between September 2004 and October 2006 at irregular intervals, including every other day, weekly, every other week, and monthly, with gaps of up to 6 months at some locations.

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.

QAPP Information Reference(s):

**DECISION ID** 13075 **Region 5**

**Colusa Basin Drain**

**Pollutant:** Mercury  
**Final Listing Decision:** List on 303(d) list (TMDL required list)  
**Last Listing Cycle's Final Listing Decision:** New Decision  
**Revision Status** Revised  
**Sources:** Resource Extraction  
**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 sections 3.1 and 3.5 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Three lines of evidence are available in the administrative record to assess this pollutant.

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. Three of 34 fish tissue samples exceed the USEPA fish tissue criterion for human health, 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 13075, Mercury**

**Region 5**

**Colusa Basin Drain**

LOE ID:	22601
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	7
Number of Exceedances:	2
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Fish were sampled for tissue analysis at one location from the Colusa Basin Drain. A total of 2 out of 7 samples exceeded the USEPA fish tissue criterion for human health. The average wet weight mercury concentration in fish tissue was 0.21 ppm for all 7 samples collected. The number of fish collected per sample, the measured mercury concentrations in fish tissue, and the number of exceedances are, by species: Carp- 4 composite samples, 0.11-0.41 ppm (average 0.22 ppm), 1 exceedance; Crappie- 1 composite sample, 0.08 ppm, no exceedances; White Catfish- 2 composite samples, 0.21 and 0.30 ppm, 1 exceedance. All 7 composite samples were collected from fish with average total lengths greater than 150 mm, which represent fish most commonly caught and consumed by sport fishers and their families.
Data Reference:	<a href="#">Sacramento River Watershed Program Annual Reports for 1999-2000, 2000-2001, 2001-2002, 2002-2003, and 2003-2004; and BDAT data 1998-2003</a>
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:	<a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
Evaluation Guideline:	The USEPA Fish Tissue Residue Criterion for methylmercury in fish is 0.3 mg/kg (0.3 ppm) for the protection of human health. This is the concentration in fish tissue that should not be exceeded based on a total fish and shellfish consumption-weighted rate of 0.0175 kg fish/day.
Guideline Reference:	<a href="#">Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001</a>
Spatial Representation:	Samples were collected from the Colusa Basin Drain at the County Road 99E bridge crossing.
Temporal Representation:	Fish samples were collected during five sampling events conducted in 1997, 1998, 2000, 2001 and 2002.
Environmental Conditions:	
QAPP Information:	Data quality: Excellent. Quality Control for all of the elements described in section 6.1.4 of the Policy was conducted in accordance with the Sacramento River Watershed Program QAPPs prepared by Larry Walker Associates (LWA, 1998; LWA, 2000; LWA, 2001b; LWA, 2002b).
QAPP Information Reference(s):	<a href="#">Quality Assurance Project Plans prepared for Sacramento River Watershed Program</a>

**Line of Evidence (LOE) for Decision ID 13075, Mercury****Region 5****Colusa Basin Drain**

LOE ID:	22600
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	17
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Fish were sampled for tissue analysis at one location from the Colusa Basin Drain. A total of 0 of 17 fish tissue samples exceeded the USEPA fish tissue criterion for human health. The average wet weight mercury concentration in fish tissue was 0.15 ppm for all 17 samples collected. The number of fish collected per sample, the measured mercury concentrations in fish tissue, and the number of exceedances are, by species: Carp- 4 samples, 0.11-0.25 ppm (average 0.18 ppm), no exceedances; White Catfish- 13 samples, 0.10-0.20 ppm (average 0.14 ppm), no exceedances. All 17 samples were collected from fish with total lengths greater than 150 mm, which represent fish most commonly caught and consumed by sport fishers and their families.
Data Reference:	<a href="#">Fish Mercury Project, Year 1 Annual Report, Sport Fish Sampling and Analysis. Collaborating parties: San Francisco Estuary Institute, California Department of Fish and Game, Moss Landing Marine Laboratories, California Office of Environmental Health Hazard Assessment. Final Technical Report, CBDA Project # ERP 02D-P6729. May 2007</a>
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:	<a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
Evaluation Guideline:	The USEPA Fish Tissue Residue Criterion for methylmercury in fish is 0.3 mg/kg (0.3 ppm) for the protection of human health. This is the concentration in fish tissue that should not be exceeded based on a total fish and shellfish consumption-weighted rate of 0.0175 kg fish/day.
Guideline Reference:	<a href="#">Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001</a>
Spatial Representation:	Fish samples were collected from the Colusa Basin Drain approximately 1.4 miles northwest of the County Road 99E bridge crossing.
Temporal Representation:	Fish samples were collected during one sampling event on 8/25/2005.
Environmental Conditions:	
QAPP Information:	Data quality: Excellent. Quality Control for all of the elements described in section 6.1.4 of the Policy was conducted in accordance with the Laboratory QAPP developed by Moss Landing Marine Laboratories (MLML, 2005). This data was also collected and analyzed in accordance with the CALFED Mercury Project QAPP (Puckett and van Buuren, 2000).
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 13075, Mercury****Region 5****Colusa Basin Drain**

LOE ID:	22609
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	10
Number of Exceedances:	1
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	<p>Fish were sampled for tissue analysis at three locations from Colusa Basin Drain. A total of 1 out of 10 samples exceeded the USEPA fish tissue criterion for human health.</p> <p>1) Colusa Basin Drain near Knights Landing: The average wet weight mercury concentration in fish tissue was 0.13 ppm for the 3 samples collected at this location. The number of fish collected per sample, the measured mercury concentrations in fish tissue, and the number of exceedances are, by species: Channel Catfish- 2 composite samples, 0.12 and 0.19 ppm, no exceedances; Sacramento Sucker- one sample, 0.07 ppm, no exceedances. 2) Colusa Basin Drain at the Yolo-Colusa County Line: One 5-fish composite sample of Channel Catfish was collected from this location. The wet weight mercury concentration of this fish tissue sample was 0.13 ppm, which does not exceed the USEPA criterion. 3) Colusa Basin Drain at Abel Road: The average wet weight mercury concentration in fish tissue was 0.22 ppm for the 6 samples collected at this location. The number of fish collected per sample, the measured mercury concentrations in fish tissue, and the number of exceedances are, by species: Brown Bullhead- 2 composite samples, 0.20 and 0.58 ppm, 1 exceedance; Carp- one 2-fish composite sample, 0.10 ppm, no exceedances; Channel Catfish- 3 composite samples, 0.14-0.16 ppm (average 0.15 ppm), no exceedances. All 10 samples were collected from fish with total lengths greater than 150 mm, which represent fish most commonly caught and consumed by sport fishers and their families.</p>
Data Reference:	<a href="#">SWRCB-DWQ. 2002. Toxic Substances Monitoring Program: Freshwater Bioaccumulation Monitoring: TSM Program Data 1978-2000. State Water Resources Control Board, Division of Water Quality</a>
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:	<a href="#">Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed</a>
Evaluation Guideline:	The USEPA Fish Tissue Residue Criterion for methylmercury in fish is 0.3 mg/kg (0.3 ppm) for the protection of human health. This is the concentration in fish tissue that should not be exceeded based on a total fish and shellfish consumption-weighted rate of 0.0175 kg fish/day.
Guideline Reference:	<a href="#">Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001</a>
Spatial Representation:	Fish samples were collected at three locations from the Colusa Basin Drain: near Knights Landing (approximately 1.4 miles northwest of the County Road

Temporal Representation: 99E bridge crossing); at the Yolo-Colusa County Line; and at Abel Road (approximately 0.8 miles northwest of the Abel Road bridge crossing). Fish samples were collected during five sampling events, on: 10/23/1980, 7/23/1981, 9/25/1987, 9/16/1988, and 9/23/1988.

Environmental Conditions:  
QAPP Information: Data quality: Good.. Quality Control for the fish sampling, tissue preparation, mercury analysis, and QA sample analysis portions of this study was conducted as described in the Toxic Substance Monitoring Reports for 1980, 1981, 1987 and 1988-89. (McCleneghan et al., 1981; La Karo et al., 1982; Rasmussen and Starrett, 1989; Rasmussen and Blethrow, 1991).

QAPP Information Reference(s):

**DECISION ID** 6640 **Region 5**

**Colusa Basin Drain**

**Pollutant:** Azinphos-methyl (Guthion)  
**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:** Agriculture  
**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 6640, Azinphos-methyl (Guthion)** **Region 5**

**Colusa Basin Drain**

**LOE ID:** 4297

**Pollutant:** Azinphos-methyl (Guthion)  
**LOE Subgroup:** Pollutant-Water  
**Matrix:** Water  
**Fraction:** Not Recorded

**Beneficial Use:** Cold Freshwater 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: 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** 6642

**Region 5**

**Colusa Basin Drain**

**Pollutant:** Carbofuran  
**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:** Agriculture  
**Expected TMDL:** 2021  
**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 6642, Carbofuran**

**Region 5**

**Colusa Basin Drain**

LOE ID: 4298

Pollutant: Carbofuran  
 LOE Subgroup: Pollutant-Water  
 Matrix: Water  
 Fraction: Not Recorded

Beneficial Use: Warm Freshwater 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: 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** 6643

**Region 5**

**Colusa Basin Drain**

**Pollutant:** Group A Pesticides  
**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:** Agriculture  
**Expected TMDL Completion Date:** 2019  
**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 6643, Group A Pesticides**

**Region 5**

**Colusa Basin Drain**

LOE ID: 4299

Pollutant: Group A Pesticides  
LOE Subgroup: Pollutant-Water  
Matrix: Water  
Fraction: Not Recorded

Beneficial Use: Warm Freshwater 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: 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** 6645 **Region 5**

**Colusa Basin Drain**

**Pollutant:** Malathion  
**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:** Agriculture  
**Expected TMDL** 2010  
**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 6645, Malathion** **Region 5**

**Colusa Basin Drain**

LOE ID: 4300

Pollutant: Malathion  
LOE Subgroup: Pollutant-Water  
Matrix: Water  
Fraction: Not Recorded

Beneficial Use: Warm Freshwater 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:	<a href="#">Placeholder reference pre-2006 303(d)</a>
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):	