

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
COLORADO RIVER BASIN REGION

RESOLUTION NO. 01-100

A Resolution Amending the Water Quality Control Plan  
for the Colorado River Basin  
to Establish a Total Maximum Daily Load for Sediment/Siltation  
for the Alamo River

WHEREAS, the California Regional Water Quality Control Board, Colorado River Basin Region (hereinafter Regional Board), finds that:

1. An updated Water Quality Control Plan for the Colorado River Basin (Basin Plan) was adopted by the Regional Board on November 17, 1993, approved by the State Water Resources Control Board (SWRCB) on February 17, 1994, and approved by the Office of Administrative Law on August 3, 1994.
2. Warm freshwater habitat (WARM), wildlife habitat (WILD), preservation of rare, threatened, and endangered species (RARE), water contact recreation (REC1), non-contact recreation (REC II), and freshwater replenishment (FRSH) are among the beneficial use designations specified in the Basin Plan for the Alamo River.
3. The Basin Plan includes narrative water quality objectives for total suspended solids, sediment, and turbidity for the Alamo River to protect the beneficial uses listed in Finding No. 2, above.
4. Water quality objectives are not being met in the Alamo River because direct and indirect discharges of silt-laden agricultural tailwater into the river and drain maintenance operations are adversely impacting the beneficial uses. The silt carries insoluble pesticides such as DDT and its byproducts, which bioaccumulate in fish tissue.
5. Pursuant to Section 303(d) of the Clean Water Act, the Regional Board, with the concurrence of the State Board, listed the Alamo River as water quality limited because of the sediment impairments. Section 303(d) of the Clean Water Act requires the establishment of the Total Maximum Daily Load (TMDL) of sediment/silt that can be discharged while still ensuring compliance with water quality standards. Section 303(d) also requires the allocation of this TMDL among sources of sediment/silt, together with an implementation plan and schedule that will ensure that the TMDL is met and that compliance with water quality standards is achieved.
6. The Alamo River Sediment/Siltation TMDL Report (hereafter "TMDL Report") and the proposed Basin Plan amendment (hereafter "Attachment 2") to establish the TMDL are hereto made part of this Resolution by reference.
7. The TMDL Report and related Basin Plan amendment attached to this resolution meet the requirements of Section 303(d) of the Clean Water Act. The amendment requires, in part, that nonpoint sources implement Best Management Practices (BMPs) to control sediment/silt inputs to provide a reasonable assurance that water quality standards will be met.
8. The Regional Board prepared and distributed written reports regarding adoption of the Basin Plan amendment in compliance with applicable state and federal environmental regulations (Title 23, California Code of Regulations, Section 3775 et seq.; and Title 40, Code of Federal Regulations, Parts 25 and 131).

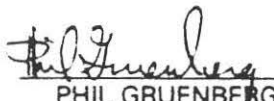
9. The process of basin planning has been certified by the Secretary for Resources as exempt from the requirements of the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) to prepare an Environmental Impact Report or Negative Declaration. (Pub. Resources Code, 21080.5; Cal. Code Regs., tit. 14, 15251, subd. (g).) The TMDL Report-Basin Plan amendment package includes an Environmental Checklist, an assessment of the environmental impacts of the Basin Plan amendment, and a discussion of alternatives, among other analyses. The amended Basin Plan, Environmental Checklist, TMDL Report, and supporting documentation are functionally equivalent to an Environmental Impact Report or Negative Declaration.
10. The proposed adoption of the Basin Plan amendment based on the TMDL Report is a regulatory action subject to the requirements of Public Resources Code section 21159. Consistent with the requirements of that section, the CEQA Checklist and the CEQA Checklist Discussion include, among other things, an analysis of reasonably foreseeable environmental impacts associated with proposed methods of compliance set forth in the Basin Plan amendment, an analysis of reasonably foreseeable feasible mitigation measures to reduce or avoid those impacts, and an analysis of reasonably foreseeable alternative means of compliance with the requirements embodied by the Basin Plan amendment that would avoid or eliminate the related environmental impacts. (Pub. Resources Code, 21159, subd. (a)(1)-(3); Cal. Code Regs., tit. 14, 15187, subds. (b), (c)(1)-(3).) In so doing, the analysis in the CEQA Checklist and CEQA Checklist Discussion takes into account a reasonable range of environmental, economic, and technical factors. CEQA analysis determined that the proposed Basin Plan amendment could have a significant adverse effect on the environment. However, there are feasible alternatives and/or feasible mitigation measures that would substantially lessen any significant adverse impact.
11. The Regional Board has considered federal and state antidegradation policies and other relevant water quality control policies and finds the Basin Plan amendment consistent with those policies.
12. Since January 1998, Regional Board staff has engaged interested parties in stakeholder involvement through regular meetings of the Silt Total Maximum Daily Load Technical Advisory Committee.
13. On May 24, 2001, the Regional Board held a Public Workshop at the Imperial County Fairgrounds to consider the TMDL Report and the Basin Plan amendment. Notice of the Public Workshop was given to all interested persons and published 30 days in advance of the Workshop pursuant to the public participation requirements of Title 40, Code of Federal Regulations, Part 25.
14. Consistent with Title 23, California Code of Regulations, Sections 3778 through 3780, the Regional Board consulted about the proposed action with stakeholders in the Region and with other potentially affected parties, considered and addressed comments on the matter, and considered and incorporated feasible mitigation measures to avoid significant impacts on the environment.
15. On June 27, 2001, the Regional Board held a Public Hearing to consider the TMDL Report and the Basin Plan amendment. Notice of the Public Hearing was given to all interested persons and published in accordance with Water Code Section 13244 and Title 40, Code of Federal Regulations, Part 25.
16. The Basin Plan amendment must be submitted for review and approval by the SWRCB, the Office of Administrative Law (OAL), and the U.S. Environmental Protection Agency. Once approved by the SWRCB, the amendment is submitted to OAL. A Notice of Decision will be

filed after the SWRCB and OAL have acted on this matter. The SWRCB will forward the approved amendment to the U.S. Environmental Protection Agency for review and approval.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The Regional Board adopts the amendment to the Water Quality Control Plan for the Colorado River Basin as set forth in Attachment 2.
2. The Executive Officer is directed to forward copies of the Basin Plan amendment to the SWRCB in accordance with the requirement of Section 13245 of the California Water Code.
3. The Regional Board requests that the State Water Resources Control Board approve the Basin Plan amendments in accordance with Sections 13245 and 13246 of the California Water Code and forward it to the Office of Administrative Law and United States Environmental Protection Agency for approval.
4. The Executive Officer is directed to file a Notice of Decision with the California Secretary for Resources after final approval of the Basin Plan amendment, in accordance with Section 21080.5(d) (2)(E) of the Public Resources Code and Title 23, California Code of Regulations, Section 3781.
5. Resolved that, if during its approval process the SWRCB or OAL determines that minor, non-substantive corrections to the language of the amendment are needed for clarity or consistency, the Executive Officer may make such changes, and shall inform the Board of any such changes.

I, Phil Gruenberg, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Colorado River Basin Region, on June 27, 2001.

  
PHIL GRUENBERG  
Executive Officer

0012168

## ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the Alamo River Sedimentation/Siltation Total Maximum Daily Load

Page 1 of 20

### **An Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the Alamo River Sedimentation/Siltation Total Maximum Daily Load**

#### **AMENDMENT**

(Proposed additions are denoted by underlined text, proposed deletions are denoted by ~~strikethrough text~~)

**Page 3-1, edit the first paragraph under "II. GENERAL SURFACE WATER OBJECTIVES" to read as follows:**

Regarding controllable sources of discharge, in the absence of site specific objectives established herein, the following objectives apply to all surface waters of the Colorado River Basin Region:

**Page 3-8, following the section "D. Irrigation Supply Canals" Section, add the following new Section:**

#### E. Alamo River

##### 1. Total Suspended Solids

The annual average of the total suspended solids concentration in the Alamo River shall not exceed 200 mg/L. A Total Maximum Daily Load (TMDL) for Sedimentation/Siltation in the Alamo River has been developed. The TMDL and associated implementation actions are described in Chapter 4, Section V(B). Compliance Monitoring activities for the TMDL are described in Chapter 6, Section II(B). The 200 mg/L numeric target is a goal that translates current silt/sediment-related Basin Plan narrative objectives and shall not be used for enforcement purposes.

**Page 4-5, edit the third paragraph under "III. NONPOINT SOURCES CONTROLS" to read as follows:**

The Federal Clean Water Act, as amended in 1987, includes Section 319 titled "Nonpoint Source Management Programs". Section 319 requires the States to develop assessment reports and management programs describing the States' nonpoint source problems and setting forth a program to address the problems. The State Water Resources Control Board (State Board) adopted its "Nonpoint Source Management Plan" in November 1988. The Plan was updated in December 1999 with adoption of the "Plan For California's Nonpoint Source Pollution Control Program," (hereafter referred to as "State NPS Program"), including "Volume I: Nonpoint Source Program Strategy and Implementation Plan for 1998-2013 (PROSIP)" and "Volume II: California Management Measures for Polluted Runoff (CAMMPR)" (adopted December 14, 1999, SWRCB Resolution No. 99-114). This Plan has a three-tiered step

## ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the Alamo River Sedimentation/Siltation Total Maximum Daily Load

Page 2 of 20

~~management approach to NPS water quality control~~ whereby the following strategies ~~tiers~~ are implemented ~~in order~~ as needed:

1. ~~Voluntary implementation~~ Self-determined implementation of Best Management Practices (BMPs);
2. Regulatory-based encouragement of Best Management Practices; and
3. Effluent requirements.

Sequential movement through the tiers (e.g. Tier 1 to Tier 2 to Tier 3) is not required of the Regional Board. Depending on the water quality impacts and severity of the NPS problem, the Regional Board may move directly to the full regulatory and complementary enforcement actions specified in Tier 3. It is the preference of the Regional Board to regulate nonpoint sources of pollution using the least stringent tier possible, while attaining water quality standards.

**Page 4-6, edit the first sentence in the previous to last paragraph under "III. NONPOINT SOURCES CONTROLS" as follows:**

The State's Water Quality Assessment adopted in May 1992, lists the Salton Sea and all agricultural drains in the Colorado River Basin Region as being impacted by nonpoint source discharges, primarily of agricultural origin. The Regional Board adopted an updated Clean Water Act Section 303(d) list, which, in part, identifies the quality of the waters of the Salton Sea, Alamo River, New River, and Imperial Valley agricultural drains as being impaired by discharges of wastes from nonpoint sources, primarily of agricultural origin.

**Page 4-6, following the last paragraph under "III. NONPOINT SOURCES CONTROLS" and before "A. AGRICULTURE" add the following paragraph:**

Consistent with the 1999 State NPS Program, the Regional NPS Management Program includes:

- Implementation of the "Plan for California's Nonpoint Source Pollution Control Program"
- Implementation of this Basin Plan
- Implementation of other applicable statewide plans and policies
- Development and implementation of Total Maximum Daily loads for impaired and threatened surface waters
- Implementation of Regional planning and prioritization through the California Watershed Management Initiative
- Completion of annual workplans
- Public participation and coordination with stakeholders and cooperating agencies
- Coordination with local governments in the development of General Plans
- Formal agreements (Memoranda of Understanding and Management Agency Agreements)
- Implementation of the three-tiered approach to NPS Regulation
- Financial and technical assistance
- Water Quality Monitoring and Assessment and Regular Reporting
- Assessment of Management Measure Effectiveness

ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the Alamo River Sedimentation/Siltation Total Maximum Daily Load

Page 3 of 20

**Page 4-6, beginning with the fifth sentence of the first paragraph under "A. AGRICULTURE", edit as follows:**

~~This report established priorities for dealing with the drain systems based on a watershed approach. Drainage entities (e.g. water districts), including Imperial Irrigation District, Coachella Valley Water District, and Palo Verde Irrigation District, were identified in each of the four watersheds and the Regional Board will work closely with these entities to implement agricultural pollution controls. The ADM Report contains a time schedule for the development of Best Management Practices by the drainage entities. The ADM Report also contains locations, at which compliance with applicable standards will be initially determined. A surveillance and monitoring program is described in the report but its implementation is dependant on the availability of funding. In 1994, the Imperial Irrigation District (IID) adopted a Drain Water Quality Improvement Program, in which IID committed to monitor water quality, to develop and implement BMPs, and implement an education and outreach program to improve water quality in its drains and Alamo and New Rivers.~~

**Page 4-6, edit the second paragraph under "A. AGRICULTURE" so it reads as follows:**

~~The preferred approach toward addressing nonpoint source pollution is to deal with the problem on a watershed basis. The Imperial Valley portion Salton Sea Transboundary Watershed has been identified as this Region's highest priority for control of agricultural pollution, based mainly on its relatively large size, the beneficial uses of waters in the watershed, the volume of discharge, and the severity of water quality degradation. California's 1998 Unified Watershed Assessment identified the Salton Sea Transboundary Watershed as a Category 1 (impaired) watershed. An integrated strategy of nonpoint source control activities is being developed and implemented in the Imperial Valley Watershed. Activities already in progress include a biomonitoring program (see Chapter 6 — Imperial Valley Agricultural Drain Study), the Regional Trend Monitoring and Toxic Substances Monitoring Programs, (see Chapter 6), outreach and education (see below), and a BMP demonstration project (see below). Activities in the development phase include determination of appropriate waste load allocations and maximum daily loads (for silt, pesticides, selenium, and nutrients), identification and approval of cost effective BMPs, evaluation of potential pollution control and prevention technology demonstration projects, and voluntary and/or regulatory implementation of approved BMPs.~~

**Page 4-7, edit the third sentence of the third paragraph under "A. AGRICULTURE" as follows:**

~~In addition to working with the identified drainage entities, the Regional Board will continue to work with local Resource Conservation Districts, the U.S. Soil Conservation Service Natural Resources Conservation Service, the State Department of Pesticide Regulation, the State Department of Food and Agriculture, County Agricultural Commissioners, and college and university extension services, local Farm Bureaus, and stakeholder groups.~~

**Page 4-7, delete the last two paragraphs under "A. AGRICULTURE":**

~~One promising pollution control technology is being tested in the Imperial Valley. The Imperial Irrigation District has applied for and received a federal nonpoint source grant to conduct a pilot demonstration project to demonstrate the effectiveness of a desiltation basin in removing~~

## ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the Alamo River Sedimentation/Siltation Total Maximum Daily Load

Page 4 of 20

~~pesticides and silt from agricultural return flows. The Regional Board is overseeing the implementation of this project in its role as contract manager for the federal funds.~~

~~In the future, the Regional Board will carry out additional nonpoint source control activities as resources allow. These may include investigating the water quality impacts from drain maintenance and dredging, and developing and implementing BMPs to reduce the resulting water quality impact; investigating the use of biological treatment for agricultural pollution control; and overseeing the testing and development of BMPs to control selenium levels in agricultural return flows. Activities will also be directed in the future, as resources allow, to the other three Regional watersheds affected by agricultural pollution (the Bard Valley, the Palo Verde Valley, the Coachella Valley).~~

**Page 4-13, immediately prior to the Section "V. ACTIONS OF OTHER AUTHORITIES," add the following new Section and renumber the subsequent Section accordingly:**

### V. TOTAL MAXIMUM DAILY LOADS

#### A. New River Pathogen TMDL

#### B. Alamo River Sedimentation/Siltation TMDL

##### SUMMARY

This TMDL was adopted by:

The California Regional Water Quality Control Board, Colorado River Basin Region on June 27, 2001.

The California State Water Resources Control Board on {insert date}.

The Office of Administrative Law on {insert date}.

The U.S. Environmental Protection Agency on {insert date}.

**Table 4-1: Alamo River Sedimentation/Siltation TMDL Elements<sup>1</sup>**

ELEMENT	
<b><u>Problem Statement</u></b> (impaired water quality standard)	Excess delivery of sediment to the Alamo River has resulted in degraded conditions that impair the following designated beneficial uses: warm freshwater habitat; wildlife habitat; preservation of threatened, rare, and endangered species habitat; contact- and non-contact recreation; freshwater replenishment. As the Alamo River discharges into the Salton Sea, sediment also threatens the same beneficial uses of the Salton Sea. Specifically, sediment serves as a carrier for DDT, DDT metabolites, and other insoluble pesticides including toxaphene, which pose a threat to aquatic and avian communities and people feeding on fish from the Alamo River; and suspended solids concentrations, sediment loads, and turbidity levels are in violation of water quality objectives. These current concentrations, loads, and levels are also forming objectionable bottom deposits, which are also adversely affecting the beneficial uses of Alamo River.

(This table is continued on the following page. Table footnotes are contained at the bottom of the Table)

# ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the Alamo River Sedimentation/Siltation Total Maximum Daily Load

Page 5 of 20

**Table 4-1: Alamo River Sedimentation/Siltation TMDL Elements<sup>1</sup> (continued)**

<b><u>ELEMENT</u></b>													
<b><u>Numeric Target</u></b>	<u>200 mg/L Total Suspended Solids (annual average)<sup>2</sup></u>												
<b><u>Source Analysis</u></b>	<table> <tr> <td><b><u>Source</u></b></td><td><b><u>tons/year</u></b></td></tr> <tr> <td>Agricultural Drain Discharges:</td><td>322,493</td></tr> <tr> <td>In-Stream Erosion &amp; Wind Deposition:</td><td>6,623</td></tr> <tr> <td>NPDES Permitted Facilities:</td><td>215</td></tr> <tr> <td>International Boundary</td><td>146</td></tr> <tr> <td>Total:</td><td>329,477</td></tr> </table>	<b><u>Source</u></b>	<b><u>tons/year</u></b>	Agricultural Drain Discharges:	322,493	In-Stream Erosion & Wind Deposition:	6,623	NPDES Permitted Facilities:	215	International Boundary	146	Total:	329,477
<b><u>Source</u></b>	<b><u>tons/year</u></b>												
Agricultural Drain Discharges:	322,493												
In-Stream Erosion & Wind Deposition:	6,623												
NPDES Permitted Facilities:	215												
International Boundary	146												
Total:	329,477												
<b><u>Margin of Safety</u></b>	<u>8,737 tons/year</u> <u>(corresponds to 10 mg/L)<sup>3</sup></u>												
<b><u>Seasonal Variations and Critical Conditions</u></b>	<p>Both the flow and sedimentation regimes within the Alamo River watershed are relatively stable, and the sediment and water sources within the watershed are relatively uniform and widespread; therefore, this TMDL does not include provisions other than the established load allocations and implementation plan for seasonal variations or critical conditions. Staff's analysis of potential water transfers out of the watershed indicate that the transfers are not likely to affect compliance with this TMDL, but could cause other water quality problems that will need to be addressed by the parties responsible for the transfers.</p>												
<b><u>Loading Capacity</u></b>	<u>177,247 tons/year<sup>4</sup></u>												

(This table is continued on the following page. Table footnotes are contained at the bottom of the Table)

**ATTACHMENT 2**

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the Alamo River Sedimentation/Siltation Total Maximum Daily Load

Page 6 of 20

**Table 4-1: Alamo River Sedimentation/Siltation TMDL Elements<sup>1</sup> (continued)**

ELEMENT			
Load Allocations and Wasteload Allocations	<u>Load Allocations:</u> <ul style="list-style-type: none"><li><u>Natural sources of sediment to the Alamo River, including erosion and wind deposition, are allocated 8,737 tons/year.</u></li><li><u>Waste discharges from nonpoint sources into the Alamo River shall not exceed the load allocations specified below:</u></li></ul>		
	<u>River Reach</u>	<u># of IID Drains Identified within Reach</u>	<u>Sediment Load Allocation (tons/year)<sup>5,6</sup></u>
	<u>Alamo River immediately downstream of the International Boundary, at the IID gauging station just north of the All American Canal, a point identified hereafter at "AR-0"</u>	<u>None</u>	<u>146</u>
	<u>Reach 1: Downstream from the International Boundary to a point approximately 100 feet downstream of the Ninth Street Drain outfall into the river, a point identified hereafter as "AR-1"</u>	<u>8</u>	<u>17,488</u>
	<u>Reach 2: This reach encompasses the river from AR-1 to a point downstream of the Pomello Drain outfall into the river and upstream of the Graeser Drain outfall into the river, a point hereafter referred to as "AR-2".</u>	<u>7</u>	<u>25,255</u>
	<u>Reach 3: This reach covers the river from AR-2 to a point downstream of the Holtville Main Drain outfall into the river and upstream of the Olive Drain outfall into the river, a point hereafter referred to as "AR-3";</u>	<u>8</u>	<u>24,501</u>
	<u>Reach 4: This reach covers from AR-3 to a point downstream of the Wills Drain outfall into the river and upstream of the Moss Drain outfall into the river, a point hereafter referred to as "AR-4";</u>	<u>12</u>	<u>31,887</u>
	<u>Reach 5: This reach covers the river from AR-4 to a point downstream of Rockwood Drain outfall into the river and upstream of the C Drain outfall into the river, a point hereafter referred to as "AR-5";</u>	<u>22</u>	<u>30,002</u>

(This table is continued on the following page. Table footnotes are contained at the bottom of the Table)

# ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the Alamo River Sedimentation/Siltation Total Maximum Daily Load

Page 7 of 20

**Table 4-1: Alamo River Sedimentation/Siltation TMDL Elements<sup>1</sup> (continued)**

ELEMENT			
	River Reach	# of IID Drains Identified within Reach	Sediment Load Allocation (tons/year) <sup>5,6</sup>
<b>Load Allocations and Wasteload Allocations</b>	Reach 6: This reach covers the river from AR-5 to the point where it intersects the Garst Road, a point hereafter referred to as "AR-Outlet."	12	19,469
	Tailwater outfalls discharging directly to the Alamo River.	<sup>a</sup>	7,830
	Natural Sources		8,737
	<b>Waste Load Allocations:</b> The discharge from point sources shall not exceed the total suspended limits specified under 40 CFR 122 et seq., and the corresponding mass loading rates.	N/A	3,196

**Footnotes for Table No. 4-1:**

- <sup>1</sup> For purposes of measuring compliance, all samples will be analyzed for volatile suspended solids at locations where organic loading represents a significant proportion of the total suspended solids or turbidity. The volatile suspended solids component will be subtracted for determining compliance.
- <sup>2</sup> The numeric target is a goal that translates current silt/sediment-related Basin Plan narrative objectives and shall not be used for enforcement purposes.
- <sup>3</sup> The margin of safety is roughly equal to the estimated load from natural sources to the Alamo River. This margin of safety allows for the loading of sediment from natural sources to the river to be double the natural source loading estimated in the Source Analysis without exceeding the Numeric Target.
- <sup>4</sup> Previously reported as 174,747 due to typographical error.
- <sup>5</sup> The sediment load allocation for any particular reach shall be distributed proportionately amongst the agricultural drains within that particular reach based on the relative flow contribution of each drain to the total flow contribution to the reach from the drains within the reach. The Executive Officer shall be responsible for determining proportional sediment load allocations amongst the agricultural drains.
- <sup>6</sup> The sediment load allocations herein have been calculated based on the estimated individual average drain flows within the reach for the 1994-1999 period. At lower or higher drain flows, the average annual load allocation for a particular reach shall not exceed the load given by:  

$$LA_R = (180)(Q_R)(0.0013597)$$
, where:  
 $LA_R$  = Load Allocation for any of the Alamo River reaches identified above (tons/yr).  
 $Q_R$  = Reach Flow (ac-ft) = Total flow contribution to the reach from the drains within the reach (ac-ft).
- <sup>a</sup> The number of outfalls has not been determined.

# ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the Alamo River Sedimentation/Siltation Total Maximum Daily Load

Page 8 of 20

**Table 4.1A<sup>1</sup> : Waste Load Allocations for Point Sources in the Alamo River Watershed**

Facility	NPDES #	Discharge Location	NPDES Permit Limits as of 6-2001 <sup>2</sup> (tons of suspended solids per year)	Waste Load Allocation <sup>3</sup> (tons of suspended solids per year)
City of Calipatria WWTP	CA 0105015	G Drain	246.0	491.9
City of El Centro WWTP	CA 104426	Central Drain	365.5	731.1
City of Holtville WWTP	CA 0104361	Pear (Palmetto) Drain	38.8	77.7
City of Imperial MWTP	CA 0104400	Rose Drain	64.0	127.9
Heber Public Utilities District WWTP	CA 0104370	Central Drain	20.6	41.1
Imperial Community College District WWTP	CA 104299	Central Drain	4.6	9.1
Sunset Mutual Water Co	CA 104345	Central Drain	2.3	4.6
Country Life MHP	CA 0104264	Central Drain	5.7	11.4
Covanta Heber Geothermal	CA 0104965	Central Drain	195.6	391.1
El Centro Steam Plant	CA 104248	Central Drain	NA	95.0
New Charleston Power Plant	CA 101990	Rose Drain	6.9	13.7
IID Grass Carp Hatchery	CA 7000004	Central Drain	NA	182.8
Rockwood Gas Turbine Station	CA 0104949	Bryant Drain	1.3	2.6
Imperial Valley Resources Biomass Waste Fuel Power Plant	CA 0105066	Rose Drain	NA	15.5
Future Point Sources	NA	NA	NA	1000.0
<b>TOTAL</b>			<b>1098</b>	<b>3196</b>

## Footnotes for Table No. 4-1A:

- <sup>1</sup> Does not include volatile suspended solids determination.
- <sup>2</sup> Calculated using design flows and 30-day mean TSS limits.
- <sup>3</sup> Determined using double the current effluent limits to allow for facility expansion. For the three energy generating facilities without current TSS limits, a 30 mg/L TSS limit is used for current effluent limit in this calculation.

## ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the Alamo River Sedimentation/Siltation Total Maximum Daily Load

Page 9 of 20

TMDL attainment shall be in accordance with the schedule contained in Table 4-2, below:

**Table 4-2: Interim Numeric Targets for Attainment of the TMDL<sup>1</sup>**

<u>Phase</u>	<u>Time Period<sup>2</sup></u>	<u>Estimated Percent Load Reduction<sup>3</sup></u>	<u>Interim Target (mg/L)<sup>4</sup></u>
<u>Phase 1</u>	<u>Years 1 – 3</u>	<u>15%</u>	<u>320</u>
<u>Phase 2</u>	<u>Years 4 – 7</u>	<u>25%</u>	<u>240</u>
<u>Phase 3</u>	<u>Years 8 – 10</u>	<u>10%</u>	<u>216</u>
<u>Phase 4</u>	<u>Years 11 – 13</u>	<u>8%</u>	<u>200</u>

**Footnotes for Table No. 4-2:**

- <sup>1.</sup> For purposes of measuring compliance, all samples will be analyzed for volatile suspended solids at locations where organic loading represents a significant proportion of the total suspended solids or turbidity. The volatile suspended solids will be subtracted for determining compliance.
- <sup>2.</sup> Year 1 refers to the effective date to start TMDL implementation, which shall be one year after USEPA approves the TMDL. For example, if USEPA approves the TMDL on November 15, 2001, Year 1 is November 15, 2002, which makes Year 3 November 15, 2005, which makes Year 4 November 15, 2006, and so on.
- <sup>3.</sup> Percent reductions indicate the reduction required in total suspended sediment load from the average concentration of the Alamo River at the beginning of each phase, beginning with the 1980-2000 average concentration of 377 mg/L.
- <sup>4.</sup> These interim targets are goals which translate current silt/sediment related Basin Plan narrative objectives and are not intended to specifically be used for enforcement purposes.

### 1. IMPLEMENTATION ACTIONS AND REGULATIONS FOR ATTAINMENT OF ALAMO RIVER SEDIMENTATION/SILTATION TMDL

#### 1.1 DESIGNATED MANAGEMENT ACTIONS

Consistent with the State NPS Program, sediment pollution shall be controlled by the Regional Board using a three-tier approach and controlled by responsible parties through implementation of Best Management Practices (BMPs). For the purpose of this Section, responsible parties include:

- Farmers/growers discharging waste into the Alamo River in a manner that causes or could cause violation of load allocations and/or exceedance of the Sediment/Silt numeric target;
- The Imperial Irrigation District;
- The United States Environmental Protection Agency and U.S. Section of the International Boundary and Water Commission.

## ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the Alamo River Sedimentation/Siltation Total Maximum Daily Load

Page 10 of 20

### 1.1.1 Farmers/growers Water Quality Management Plans

The farmers/growers shall submit self-determined sediment control programs to the Regional Board by {insert the date that corresponds 15 months following the date of USEPA TMDL approval}. A sediment control program may be submitted by an individual farmer/grower (hereafter "Individual Program") or by a group of farmers/growers (hereafter "Group Program"). In either case, the program shall, at a minimum, address the following components:

1. Name of farm owner, business address, mailing address, and phone number
2. Name of farm operator/grower, business address, mailing address, and phone number
3. Problem assessment (site location by address and township-range coordinates; site condition(s), crop(s) typically grown in a five-year cycle and typical irrigation method for each crop; and potential or current NPS problems)
4. Statement of sediment control goals (measurable outcomes or products)
5. Existing and/or alternative sediment management practices (technical/economic feasibility, desired outcome, etc.)
6. Timetable for implementation of management practices (measured in either water quality improvement or level of implementation)
7. Monitoring for tailwater quality improvements, progress toward goals, and effectiveness of management decisions
8. Mechanism for reporting planned and completed implementation actions to the Regional Board

A group program may address Item Nos. 1 through 6, above, for the individuals enrolled in the program as a group. The program shall nevertheless provide sufficient information so that the Regional Board can: (a) determine at a minimum on a drain- or drainshed-basis which responsible parties are enrolled in the program; (b) the types of sediment problems (i.e., severity, magnitude, and frequency) either the group as a whole or the drain/drainshed face; (c) the proposed sediment management practices for the group; and (d) the time table for implementation of the management practices (measured in either water quality improvement and/or level of implementation). Regarding Item Nos. 7 and 8, a single monitoring and reporting plan may also be proposed for a group provided that the monitoring and reporting will provide results that are representative of the efficiency of various control practices within the group and representative enough to measure overall water quality improvements. Reported implementation of BMPs shall be submitted to the Regional Board under the penalty of perjury.

All programs and reports specified herein are requested pursuant to Section 13267 of the California Water Code. In accordance with Section 13267(b)(2) of the California Water Code, when requested by the responsible party or group furnishing a program, the portions of a program, which might disclose trade secrets or secret processes, shall not be made available for inspection by the public but shall be made available to governmental agencies for use in making studies. However, these portions of a program shall be available for use by the Regional Board or any state agency in judicial review or enforcement proceedings involving the person or group of persons furnishing the report.

\* Note: Upon USEPA TMDL approval, this parenthetical "formula" will be replaced by the date certain, based on the date of approval. The Executive Officer shall be responsible for determining proportional sediment load allocations amongst the agricultural drains.

## ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the Alamo River Sedimentation/Siltation Total Maximum Daily Load

Page 11 of 20

### 1.1.2 The Imperial Irrigation District

By {insert the date that corresponds to 15 months following the date of USEPA TMDL approval}, the Imperial Irrigation District shall submit to the Regional Board a revised Drain Water Quality Improvement Plan (DWQIP) with a proposed program to control and monitor water quality impacts caused by drain maintenance operations within the Alamo River Watershed and dredging operations in the Alamo River. The revised DWQIP shall be subject to the approval of the Executive Officer and shall address, but need not be limited to, items "a" and "b", below:

#### a. Drain and Alamo River Delta Maintenance

- Reduction in drain cleaning and dredging activities to the practical extent allowed by the implementation of on- and off-field sediment control BMPs by the farmers/growers and the BMP effectiveness in reducing silt built up in the drains and the Alamo River Delta to avoid impacts on sensitive resources.
- Mechanism(s) to assess effectiveness of such reduction

#### b. Drain Water Quality Monitoring Plan

The revised DWQIP shall consist of a proposed program to monitor:

- Water quality impacts caused by dredging operations in the drains and to monitor the effects that dredging operations in the Alamo River Delta have on the river's water quality standards;
- Representative samples from the water column of all major drains and a representative number of the small drains tributary to the Alamo River for analyses of flow, TSS, Turbidity, and nutrients. Samples collected from the last drain weir before the drain outfalls to the river shall be considered representative of the water column
- A representative number of source water locations for TSS;
- A representative number of drains at a location sufficiently upstream of the outfalls to the river so as to provide an idea of how much silt is being taking care of by field BMPs;
- Sediment impacts from storm events;

#### c. Information on Agricultural Dischargers

No later than {insert date that corresponds to 16 months following the date of USEPA TMDL approval}, and on a semi-annual basis thereafter, the IID shall submit the following information to on the agricultural dischargers within the District:

The names and mailing addresses for all the owners of properties within the IID service area that are being used for irrigated agriculture, as well as the location of their properties. The names and mailing addresses for all water account holders within the IID service area, their water account number and the location of all fields that they irrigate. For each parcel within the IID service area, the location of the parcel, the irrigation canal and gates serving the parcel, the drop boxes draining the parcel, the drains that these drop boxes empty into, and the fields located within each parcel. For each field within the IID service area, the parcel within which each field is located, the area and location of each field within the parcel, the irrigation canal and

- Note: Upon USEPA TMDL approval, this parenthetical "formula" will be replaced by the date certain, based on the date of approval.
- Note: Upon USEPA approval, this parenthetical "formula" will be replaced by the date certain, based on the date of approval.

## ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the Alamo River Sedimentation/Siltation Total Maximum Daily Load

Page 12 of 20

gates serving each field, the drop boxes draining each field and the drains to which these drop boxes drain, and the crops being cultivated on each field.. The above information should be submitted in an electronic, tabular, and easily geo-referenced format.

No later than 60 days following the Executive Officer's approval of the revised DWQIP, the IID shall submit to the Executive Officer a Quality Assurance Project Plan (QAPP) prepared in accordance with *Requirements for Quality Assurance Project Plans for Environmental Data Operations*, EPA QA/R-5, 1994 for the revised DWQIP. The QAPP is subject to the approval of the Executive Officer. No later than 30 days following the Executive Officer's approval of the QAPP, the IID shall implement the QAPP and submit monthly, quarterly, and annual monitoring reports to the Executive Officer. The monthly reports shall be due on the 15<sup>th</sup> day of the month and shall transmit the previous month's monitoring results, progress towards implementation of control practices, and performance of control practices. The quarterly reports shall be due on the 15<sup>th</sup> day of the month following the calendar's quarter and shall transmit a quarterly summary of the results for the previous three months. The annual reports shall be due on February 15 and summarize the year's data, quality control reports, and any trends in the data.

All plans and reports requested herein are requested pursuant to Section 13267 of the California Water Code and shall be prepared under the direct supervision of a California registered civil engineer and/or agricultural engineer, with experience in the preparation of this type of program.

1.1.3. United States Environmental Protection Agency (USEPA) and U.S. Section of the International Boundary and Water Commission (IBWC)

By {insert the date that corresponds to 15 months following the date of USEPA TMDL approval}\*, the USEPA and/or the U.S. Section of the IBWC shall submit to the Regional Board a technical report pursuant to Section 13225 of the California Water Code describing the proposed control measures, monitoring plan and reporting procedures, and quality assurance procedures the U.S. Government proposes to take to ensure that discharges of wastes from Mexico do not violate or contribute to a violation of this TMDL, particularly a violation of the Load Allocation immediately downstream of the International Boundary, at the point identified as "AR-0.". The report shall be prepared under the direct supervision of a California registered civil engineer, with experience in the preparation of these types of reports and shall include a time schedule for implementation.

### 1.2 RECOMMENDED MANAGEMENT ACTIONS FOR FARMERS/GROWERS AND DRAINAGE MANAGEMENT

Implementation of BMPs should normally include: (1) consideration of specific site conditions; (2) monitoring to assure that practices are properly applied and are effective; (3) improvement of a BMP or implementation of additional BMPs or other management practices when needed to resolve a deficiency and; (4) mitigation of a problem where the practices are not effective. The practices listed herein are a compilation of BMPs recommended by the Technical Advisory Committee for the Silt TMDL for the Alamo River (Silt TAC), the Natural Resources Conservation Services Field Office Technical Guide (NRCS FOTG), the IID, and the University of California Cooperative Extension (Holtville Field Station). Inclusion of practices herein is not meant to imply or establish a prescriptive list of 'one size fits all' preferred practices for the drainage basins tributary to the Alamo River. These recommendations do not preclude

dischargers from implementing other proven sediment management practices in order to be recognized as making a good-faith effort to control sediment discharges. Identification of the most appropriate controls to achieve the TMDL for site- and crop-specific conditions is best made by the landowner/operator relying on technical resource agencies and organizations. The listed practices are recommended because they have been documented to be effective under a variety of circumstances. Under many circumstances, implementation of a combination of BMPs may be necessary to ensure that discharges do not adversely impact water quality. In addition, the effectiveness of many BMPs can be greatly increased when they are used in conjunction with other BMPs.

#### 1.2.1 ON-FIELD SEDIMENT CONTROL BMPs

The following practices have been recommended for implementation as on-field sediment-control BMPs (references are in brackets):

- **Imperial Irrigation District Regulation No. 39<sup>1</sup>**  
Imperial Irrigation District's Regulation 39 states, in part, "It is the responsibility of each water user to maintain a tailwater structure and approach channel in acceptable condition, in order to qualify for delivery of water. An acceptable structure shall have vertical walls and a permanent, level grade board set a maximum of 12 inches below the natural surface. If the situation warrants, and at the discretion of the district, 18 inches maximum may be allowed." See also: NRCS FOTG Conservation Practice "Structure for Water Control" (Code 587).
- **Tailwater Drop Box with Raised Grade Board**  
This practice involves maintenance of the grade board at an elevation high enough to minimize erosion. In many situations the grade board elevation can be set higher than required by the IID Regulations, especially when anticipated tailwater flows will not reach an elevation that will cause crop damage. See also: NRCS FOTG Conservation Practice "Structure for Water Control" (Code 587).
- **Improved Drop Box with Widened Weir and Raised Grade Board**  
This practice involves widening the drop box overpour weir and maintaining the grade board at an elevation high enough to minimize erosion. Widening the drop box overpour weir enables the weir elevation to be set higher without raising the surface elevation of the water above the acceptable level. Higher weir elevations allow for an increased tailwater ditch cross section, and reduced erosion when water leaving the field enters the tailwater ditch. See also: NRCS FOTG Conservation Practice "Structure for Water Control" (Code 587).
- **Pan Ditch (Enlarged Tailwater Ditch Cross Section)**  
This practice involves deepening and widening the tailwater ditch, which will result in decreased tailwater velocity and depth. The water must be checked up downstream of the oversized area to make the cross section of the water as large as practical. The slower the velocity, the more sediment will settle out of the water and stay in the field, and the less will be picked up by the moving water. The effectiveness of this BMP can be further improved by planting grass filter strips in the tailwater ditch and/or installing tailwater ditch checks.
- **Tailwater Ditch Checks or Check Dams**  
Tailwater Ditch Checks are temporary or permanent dams that hold the water level well above the ground. They can be placed at intervals in tailwater ditches, especially those with

<sup>1</sup> The Imperial Irrigation District Regulation No. 39 is a required BMP by IID.

## ATTACHMENT 2

steeper slopes. They increase the cross section of the stream of water, decrease the water velocity and reduce erosion, and may cause sediment already in the water to settle out. Tailwater Ditch Checks can be constructed of plastic, concrete, fiber, metal or other suitable material. If plastic sheets are used, care must be taken not to allow pieces of the plastic to be carried downstream with the water. In order to be effective, this BMP must be utilized in condition where water velocities will not wash out the check dams or the sides of the tailwater ditch around the dams. Tailwater ditch checks or check dams are expected to work best in wide "pan ditches" where the width of tailwater stream can be effectively increased.

- **Field to Tailditch Transition**

This practice involves use of spillways or pipes where water moves from fields into tailwater ditches, allowing the tailwater to fall down into the tailwater ditch from the field without washing across and eroding the soil. Spillways might be constructed of plastic, concrete, metal, or other suitable material. If plastic sheets are used, care must be taken not to allow deterioration to cause pieces of the plastic to be carried downstream with the water. This procedure may be useful on fields irrigated in bordered-strips and furrows. Care must be taken to address erosion that may be caused in the tailditch at the location where the spillway discharges to the tailditch.

- **Irrigation Land Leveling**

This practice involves maintaining or adjusting field slope so as to avoid excessive slopes or low spots at the tail end of a field. In some cases it might be advantageous to maintain a reduced main or cross slope, which facilitates more uniform distribution of irrigation water and can result in reduced salt build-up in the soil, increased production, reduced tailwater, and decreased erosion. See also: NRCS FOTG Conservation Practice "Irrigation Land Leveling" (Code 464).

- **Filter Strips**

This practice involves elimination of borders on the last 20 to 200 feet of the field. Planted crop is maintained to the end of the field and tailwater from upper lands is used to irrigate the crop at the ends of the adjacent lower lands. It is important that the main slope on the lower end of the field is no greater than on the balance of the field. A reduced slope might be better. With no tailwater ditch, there should be very little erosion as the water slowly moves across a wide area of the field to the tailwater box. Some sediment might settle out as the crop slows the water while it moves across the field. This could be used with water tolerant crops or special soil conditions. See also: NRCS FOTG Conservation Practice "Filter Strip" (Code 393).

- **Irrigation Water Management**

Irrigation Water Management is defined as determining and controlling the rate, amount, and timing of irrigation water in a planned manner. Effective implementation of this practice can result in minimizing on-farm soil erosion and the subsequent transport of sediments into receiving waters. Specific methods of Irrigation Water Management include: Surge Irrigation, Cut-Back Irrigation, Irrigation Scheduling, and the Runoff Reduction Method. In some cases, irrigation water management could include the employment of an additional irrigator to assist in better monitoring and managing irrigation water and addressing potential erosion problems. Irrigator Water Quality Training could provide irrigators with the knowledge necessarily to implement IWM and other sediment control practices. See also:

## ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the Alamo River Sedimentation/Siltation Total Maximum Daily Load

Page 15 of 20

NRCS FOTG Conservation Practice "Improved Water Application" (Code 197, CA Interim) and NRCS FOTG Conservation Practice "Irrigation Water Management" (Code 449).

- **Sprinkler Irrigation**

Sprinkler irrigation involves water distribution by means of sprinklers or spray nozzles. The purpose of this practice is to efficiently and uniformly apply irrigation water to maintain adequate soils moisture for optimum plant growth without causing excessive water loss, erosion, or reduced water quality. See also: NRCS FOTG Conservation Practice "Irrigation System, Sprinkler" (Code 442).

- **Drip Irrigation**

Drip irrigation consists of a network of pipes and emitters that apply water to the surface or subsurface of the soil in the form of spray or a small stream.

- **Reduced Tillage**

This practice is the elimination of at least one cultivation per crop. It integrates weed control practices in order to maximize the effectiveness of cultivating weed control, but at the same time minimize erosion and sedimentation that may occur in the furrow.

- **Furrow Dikes (also known as "C-Taps")**

Furrow dikes are small dikes created in furrows to manage the velocity of the water in the furrow. They can be either constructed of earth and built with an attachment to tillage equipment, pre-manufactured "C-Taps," or other material, including rolled fiber mat, plastic, etc.

### 1.2.2 OFF-FIELD SEDIMENT CONTROL BMPs

The following practices have been recommended as off-field sediment-control BMPs (references are in brackets):

- **Channel Vegetation/Grassed Waterway**

This practice involves establishing and maintaining adequate plants on channel banks and associated areas to stabilize channel banks and adjacent areas and reduce erosion and sedimentation, and establishing maximum side slopes. This practice serves to stabilize the channel bank, reducing the potential for bank failure. See also: NRCS FOTG Conservation Practice "Channel Vegetation" (Code 322) and NRCS FOTG Conservation Practice "Grassed Waterway" (Code 412).

- **Irrigation Canal or Lateral**

This practice applies to irrigation drainage channels. One objective of the practice is to prevent erosion or degradation of water quality. Drainage channels should be designed to develop velocities that are non-erosive for the soil materials of which the channel is constructed. See also: NRCS FOTG Conservation Practice "Irrigation Canal or Lateral" (Code 320).

- **Sediment Basins**

Sediment basins are constructed to collect and store debris or sediment. The capacity of the sediment basin should be sufficient to store irrigation tailwater flows for long enough to allow most of the sediments within the water to settle out. The sediment basins also must be cleaned regularly to maintain their capacity and effectiveness.

## ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the Alamo River Sedimentation/Siltation Total Maximum Daily Load

Page 16 of 20

### 1.2.3 ESTIMATED COST OF IMPLEMENTATION AND SOURCES OF FINANCING

The estimated total cost of implementing BMPs range from \$5.00 to \$52.50 per acre per year, which is generally estimated to be less than 2% of production cost. The development of Farm Water Quality Management Plans are estimated to be less than \$200.00 per field. Monitoring costs are estimated to range from \$100.00 to \$500.00 depending on the monitoring program. The preparation of the IID monitoring plan is estimated to be \$25,000. Implementation of the IID monitoring plan is estimated to be \$70,000 per year, and the characterization of dredging impacts is estimated to be \$20,000.

Potential sources of financing are: Private financing by individual sources; Bond indebtedness or loans from government institutions; Surcharge on water deliveries to lands contributing to the sediment pollution problem; Taxes and fees levied by the Irrigation District that provides drainage management; State and/or Federal grants and low-interest loans, including State Proposition 13 (Costa-Machado Act of 2000) grant funds and Federal Clean Water Act Section 319(h) grant funds; and, Single purpose appropriations from Federal and/or state legislative bodies.

### 1.3. RECOMMENDED ACTIONS FOR COOPERATING AGENCIES

#### 1.3.1. IMPERIAL COUNTY FARM BUREAU VOLUNTARY WATERSHED PROGRAM

The Imperial County Farm Bureau (ICFB) initiated a "Voluntary Watershed Program" in 1999, in which it committed to development of program elements, including "outreach programs and mechanisms to encourage and foster an effective self-determined approach to attainment of TMDL load applications." To implement the program, the ICFB has committed to make contact with every farm landowner, renter/lesser, and operator, within one year, and to supply material related to the TMDL process, its ramifications, and implementation alternatives. The specific goals of the Voluntary Watershed Program include: (1) coordination of workshops with local technical assistance agencies, (2) development of local subwatershed ("drainshed") groups, (3) identification of leaders, within each of the local subwatershed groups, who will provide demonstration implementation sites for field-testing of BMPs, (4) cooperation with Regional Board staff to develop a process for the subwatershed groups to track and report planned and implemented on-the-ground implementation and effectiveness of BMPs, and (5) provide linkage to technical assistance agencies for BMP implementation assistance. The ICFB has designated the geographical areas for ten (10) subwatershed groups, each covering approximately 50,000 acres of irrigated land. These geographical designations are to be utilized in the ICFB Voluntary Watershed Program's approach to education and implementation. Although the Imperial County Farm Bureau is not a regulatory agency, it has committed to develop and implement a "Voluntary Watershed Program" that can play a vital role in achieving TMDL waste load allocations. Therefore, it is appropriate to recommend that the ICFB prepare, submit, and implement the following:

#### a. ICFB WATERSHED PROGRAM PLAN

The Imperial County Farm Bureau should:

- **By {insert the date that corresponds to 13 months following the date of USEPA TMDL approval}**, issue letters to all potential program participants within the Alamo River watershed that describes the ICFB Voluntary Watershed Program.

\* Note: Upon USEPA TMDL approval, this parenthetical "formula" will be replaced by the date certain, based on the date of approval.

## ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the Alamo River Sedimentation/Siltation Total Maximum Daily Load

Page 17 of 20

- By {insert the date that corresponds to 15 months following the date of USEPA TMDL approval}, provide the Regional Board with a list of program participants, organized by subwatershed ("drainshed").
- By {insert the date that corresponds to 15 months following the date of USEPA TMDL approval}\*, submit the ICFB Watershed Program Plan to the Regional Board. The Plan should (1) identify measurable environmental and programmatic goals; (2) describe aggressive, reasonable milestones and timelines for the development and implementation of TMDL outreach plans; (3) describe aggressive, reasonable milestones and timelines for the development of sub-watershed ("drainshed") plans; (4) describe a commitment to develop and implement a tracking and reporting program.
- Submit semi-monthly reports to the Executive Officer that describe the progress of each of the subwatershed groups, any technical assistance workshops that are planned or were conducted, and any other pertinent information.

### b. ICFB TRACKING AND REPORTING PROCEDURES

The Imperial County Farm Bureau should also:

- By {insert the date that corresponds to 16 months following the date of USEPA TMDL approval}\*, submit a plan describing the process and procedures for tracking and reporting implementation of BMPs (and other proven management practices) and BMP performance to the Regional Board's Executive Officer.
- Implement the tracking and reporting procedures.
- Submit semi-monthly written reports assessing trends in the data and level of adoption of the process and procedures throughout each of the sub-watersheds ("drainsheds") to the Executive Officer.
- Submit a yearly summary report to the Executive Officer by 15<sup>th</sup> of February of each year.

### 1.3.2 UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION

The Regional Board supports efforts of the University of California Cooperative Extension to provide interested growers information on sediment control BMPs, implement projects qualitatively assessing BMP performance, and develop farm water quality planning programs.

### 1.3.3 NRCS

The Regional Board recommends that the NRCS require control of irrigation-induced erosion as part of the Farm Plans developed under the Environmental Quality Incentives Program (EQIP) or other federal grant programs.

## V. VI. ACTIONS OF OTHER AUTHORITIES

**Page 6-3, edit "B. COMPLIANCE MONITORING" so it reads as follows:**

### **B. COMPLIANCE MONITORING**

#### 1. Regulated Facilities

Under this task, data is Data from facilities with waste discharge requirements, including NPDES permits, are collected and used to determine compliance with waste discharge requirements and receiving water standards and to support enforcement actions...

## ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the Alamo River Sedimentation/Siltation Total Maximum Daily Load

Page 18 of 20

Page 6-3, in between the first and second paragraphs under "B. COMPLIANCE MONITORING", add the following heading:

### 1. Recommended Biomonitoring (Toxicity Monitoring) Programs

Page 6-4, following the last paragraph under "B. COMPLIANCE MONITORING", add the following:

### 2. New River Pathogen TMDL

### 3. Alamo River Sedimentation/Siltation TMDL

#### 3.1 Compliance Assurance and Enforcement

As provided in the State Board's Water Quality Enforcement Policy, prompt, consistent, predictable, and fair enforcement are necessary to deter and correct violations of water quality standards, violations of the California Water Code, and to ensure that responsible parties carry out their responsibilities for meeting the TMDL allocations. This is particularly necessary to adequately deal with those responsible parties who fail to implement self-determined or regulatory-encouraged sediment control measures, which are essentially the cornerstone of the State's NPS Program. To this end, the Regional Board may use, as the circumstances of the case may warrant, any combination of the following:

- Implementation and enforcement of Section 13267 of the California Water Code to ensure that all responsible parties submit, in a prompt and complete manner, the Water Quality Management Plan defined in Chapter 4, Section V(B)(1.1.1).
- Consideration of adoption of waste discharge requirements, pursuant to Section 13263 of the California Water Code, as appropriate (i.e., for any responsible party who fails to implement voluntary or regulatory-encouraged sediment controls).
- Consideration of adoption of an enforcement orders pursuant to Section 13304 of the California Water Code against any responsible party who violates Regional Board waste discharge requirements and/or fails to implement voluntary or regulatory-encouraged sediment control measures to prevent and mitigate sediment pollution or threatened pollution of surface waters.
- Consideration of adoption of enforcement orders pursuant to Section 13301 of the California Water Code against those who violate Regional Board waste discharge requirements and/or prohibitions.
- Consideration of Administrative Civil Liability Complaints, as provided for by the California Water Code, against any responsible party who fails to comply with Regional Board orders, prohibitions, and requests.
- Consideration of adoption of referrals of recalcitrant violators of Regional Board orders and prohibitions to the District Attorney or Attorney General for criminal or civil prosecution, respectively.

From the standpoint of measuring progress, any cropland discharge with a concentration of suspended solids, measuring more than 375 mg/l (or about 270 NTU for turbidity) and absent reasonable implementation of BMPs would be considered unsatisfactory. Samples will be analyzed for volatile suspended solids at locations where organic loading represent a significant

## ATTACHMENT 2

proportion of the total suspended solids or turbidity. The volatile suspended solids component will be subtracted. Further, in assessing the status of compliance with Load Allocations specified in Table No. 4-1 of any responsible party who is in either Tier I or Tier II, the Regional Board shall consider, in addition to water quality results, the degree to which the responsible party has implemented, or is implementing, sediment control measures. In the absence of true progress the Regional Board directs the Executive Officer to draft requirements that will fulfill the sediment control measures. The numeric target is a goal that translates current silt/sediment-related Basin Plan narrative objectives and shall not be used for enforcement purposes.

### 3.2. Monitoring and Tracking

Tracking TMDL and monitoring water quality progress, and modifying TMDLs and implementation plans as necessary to ensure attainment of water quality standards are important to address uncertainty that may exist in aspects of TMDL development, oversee TMDL implementation to ensure that implementation is being carried out, and to ensure that the TMDL remains effective, given changes that may occur in the watershed after the TMDL is developed. (All monitoring activities are contingent on funding through fund-source specific workplans.)

- **Water Quality Monitoring and Assessment**

Regional Board water quality monitoring activities for the Alamo River Sedimentation/Siltation TMDL Monitoring and Tracking Program shall be conducted pursuant to a Quality Assurance Project Plan for the Alamo River (QAPP-AR). The QAPP-AR shall: (1) include a sufficient number of sampling stations along the Alamo River to determine progress towards compliance with the TMDL and overall water quality improvement; (2) provide for monthly monitoring of flow, field turbidity, laboratory turbidity, total suspended solids in the river; and (3) provide for quarterly monitoring of DDT and DDT metabolites in the river's water column.

- **TMDL Implementation Tracking**

Implementation Tracking Plan:

Implementation of sediment control activities shall be tracked by Regional Board staff and shall be reported to the Regional Board at least yearly.

- **Assessment and Reporting**

On a yearly basis, the Regional Board staff will prepare a report assessing compliance with the TMDL Goals and Milestones. In the report, staff will assess the following:

- Water quality improvement (in terms of total suspended sediments, total sediment loads, DDT and metabolites, total phosphate)
- Trends in BMP implementation
- BMP effectiveness/performance/ and costs
- Whether milestones were met on time or at all. If milestones were not met, provide a discussion of the reasons, and a recommendation
- Level of compliance with measures and timelines agreed to in Program Plans and associated time schedules.
- Level of compliance with measures and timelines agreed to in Drainshed Plans.

## ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish  
the Alamo River Sedimentation/Siltation Total Maximum Daily Load

Page 20 of 20

- **Regular Review**

The Regional Board shall hold public hearings at least every three years to review the level of implementation of BMPs, effectiveness of the BMPs, and overall progress of the sediment control practices. At these hearings, the following shall be considered:

- Monitoring results to date
- Progress toward attainment of milestones
- Changes or trends in implementation of BMPs
- Modification/addition of management practices for the control of sediment discharges
- Revision of TMDL components and/or development of site-specific water quality objectives

Review of subcategories of water quality standards related to this TMDL and/or attainability of the TMDL may also be appropriate after the parties responsible for TMDL implementation submit appropriate documentation that sediment control practices (e.g., BMPs) are being implemented on a widespread-basis in the Alamo River Subwatershed, that the control practices are being properly implemented and maintained, and that additional controls would result in substantial and widespread economic and social impact. The Regional Board 303(d) listing of the silt/sediment impairment for the Alamo River and tributary drains shall also be re-evaluated.

The first public hearing shall be scheduled by no later than three years after the date following USEPA TMDL approval of this Basin Plan amendment.

## **Recommendation to Place Alamo River Listings of Organochlorine Compounds in the Being Addressed Portion of the 303(d) List**

This is a justification for placing the 303(d) listings of Alamo River organochlorine (OC) compounds chlordane, dichlorodiphenyltrichloroethane (DDT), dieldrin, polychlorinated biphenyl (PCBs), and toxaphene in the Being Addressed portion of the 303(d) list (Category 5C) because:

- 1- Existing regulatory actions [Alamo River Sediment Total Maximum Daily Load (TMDL) and Imperial Valley Drains Sediment TMDL and Prohibition] are expected to result in attainment of the water quality standards (WQSs);
- 2- OC compounds are attached to sediments. Sediment management Practices (MPs) required by the existing regulatory actions are being implemented;
- 3- Regional Water Board staff is not aware of any other feasible and more effective MPs to reduce the concentrations of Alamo River OC compounds;
- 4- OC compounds are no longer legally sold or used in the U.S. ; and
- 5- Concentrations of OC compounds in the Alamo River have been reduced significantly.

Major responsible parties for implementing the TMDL and the Prohibition are Imperial Valley farmers/growers and Imperial Irrigation District (IID). The Alamo River WQSs for OC compounds are expected to be attained through continued implementation and improvement of sediment MPs by Imperial Valley farmers/growers, and a drain water quality improvement plan (DWQIP) by the IID. Regional Water Board staff estimates that the Alamo River will meet WQSs for OC compounds by the year 2030. The Regional Water Board will update this recommendation when new data and information become available and are assessed.

### **Problem Statement**

The Alamo River is listed according to the federal Clean Water Act (CWA) section 303(d) as being impaired by the OC compounds chlordane, DDT, dieldrin, PCBs, and toxaphene. The Alamo River does not currently attain the WQSs for these OC compounds set forth in the Water Quality Control Plan (Basin Plan) for the Colorado River Basin Region adopted by the Regional Water Board. Alamo River listings of OC compounds occurred because of violations of WQSs for fish tissue. The size of the Alamo River segment that is impaired by OC compounds is about 60 miles.

### **WQSs and Alamo River**

In California, WQSs include designated beneficial uses (BUs), narrative and/or numeric water quality objectives (WQOs) or numeric water quality criteria to protect the BUs, and an anti-degradation policy. The Basin Plan requires that all waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or indigenous aquatic life. Additionally, the Basin Plan states that there shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life. The Alamo River has designated BUs as: Warm freshwater habitat (WARM); wildlife habitat (WILD);

preservation of rare, threatened, or endangered species (RARE); water contact recreation (REC I); non-contact water recreation (REC II); and freshwater replenishment (FRSH). These uses are specified in the Basin Plan.

## **OC Compounds and Alamo River**

The Alamo River is located within the Salton Sea Transboundary Watershed. The Salton Sea Transboundary Watershed includes Mexicali Valley in Mexico, and Imperial Valley in the United States. The Imperial Valley has an agricultural-based economy from about 530,000 acres of irrigated farmland. Major Imperial Valley crops are alfalfa, wheat, Bermuda grass, sudan grass, and sugar beets. Mexicali Valley has an agricultural and industrial based economy, and contains about 520,000 acres of irrigated land. Major Mexicali Valley crops are cotton, wheat, alfalfa, and vegetables.

The Alamo River originates in Mexico about 0.5 miles south of the International Boundary, and flows northward into the United States to its terminus at the Salton Sea in Imperial County, California (Figure 1). The Alamo River is dominated by discharges from Imperial Valley agriculture. The Alamo River is about 60 river miles in length, and receives water from about 330,000 acres of Imperial Valley irrigated farmland in the United States. Alamo River watershed provides important habitat for many different kinds of wildlife, with birds as the most diverse wildlife group.

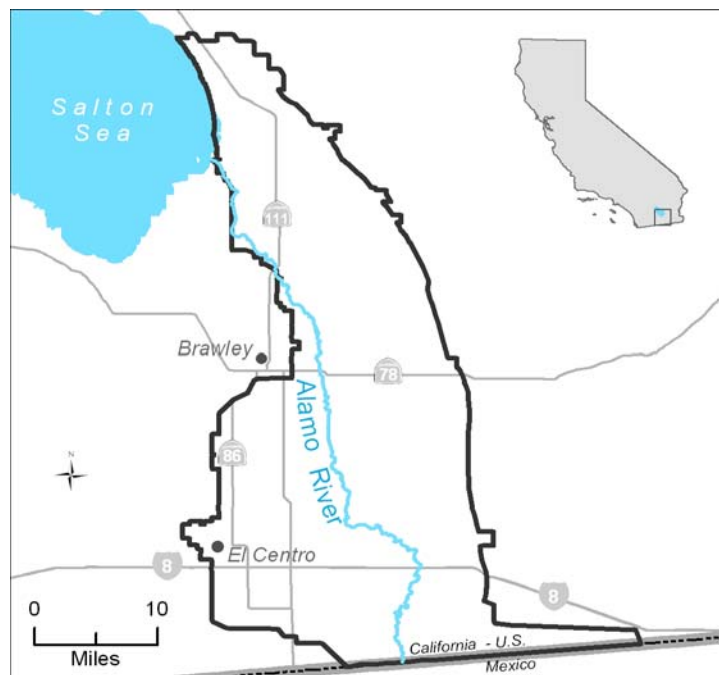
Agricultural runoff is the dominant source of flows into the Alamo River. Alamo River total flow at the outlet into the Salton Sea is about 600,000 acre-feet per year (AFY) ( $\approx 99.5\%$  from the U.S.; and  $\approx 0.5\%$  is agricultural runoff from Mexico). Flows into the Alamo River from the U.S. consist of agricultural runoff ( $\approx 96\%$ ), treated domestic wastewater ( $\approx 2.5\%$ ), and urban runoff including stormwater runoff ( $\approx 1.0\%$ ).

OC compounds are man-made chemicals. There are no natural sources of these OC compounds. Their uses were restricted in the 1970s, 1980s, and 1990s. The OC compounds Chlordane, DDT, dieldrin, and Toxaphene were mainly used as agricultural pesticides. The OC compounds PCBs were used in a wide variety of applications, including dielectric fluids in transformers and capacitors, heat transfer fluids, and lubricants.

They are commonly referred to as legacy pollutants because of their persistence and residual effects in the environment. In the environment OC compounds can remain chemically active for years and decades, and can accumulate in the tissue of benthic organisms to levels that may affect the organism's health and the health of those that may consume them.

OC compounds have a strong tendency to bind to fine-grained soil particles (silt, clay). The soil-bound OC compounds are then carried by water flow from both point and non-point upstream locations to new downstream locations, where they eventually settle and accumulate in the bottom sediments. The main source of OC compounds in the Alamo River is from nonpoint source runoff from areas with high residual OC concentrations. Nonpoint source runoff also includes the load from atmospheric deposition, although this is a much smaller contribution compared to the load from runoff. Point source inputs from National Pollutant Discharge Elimination System discharges are also a much smaller contribution of the overall load compared to the load from runoff.

**Figure 1: Alamo River Watershed**



**Description of Existing Regulatory Actions as an Implementation Strategy to Achieve OC WQSs**

Existing U.S. Environmental Protection Agency (USEPA) approved Sediment TMDL and a Sediment Prohibition for the Imperial Valley are expected to result in attainment of the OC compounds WQSs. Since the movement of OC compounds are caused mainly by the movement of sediment, it is expected that if the concentrations of sediment loaded into the Alamo River are reduced, then both water column and fish tissue OC concentrations will be reduced and the WQSs will be met. These listings are being addressed through the following two regulatory means:

- 1- Resolution No. R7-2001-0100 amended the Basin Plan for the Colorado River Basin to establish a TMDL and implementation plan for sediment for the Alamo River. This Resolution was adopted by the Colorado River Basin Regional Water Quality Control Board (Regional Water Board) on June 27, 2001, approved by the State Water Resources Control Board (State Water Board) on February 19, 2002, approved by the Office of Administrative Law (OAL) on May 3, 2002, and approved by USEPA on June 28, 2002.
- 2- Resolution No. R7-2005-0006 amended the Basin Plan for the Colorado River Basin to establish a TMDL and implementation plan for sediment for the Imperial Valley drains: Niland 2, P, and Pumice drains. This resolution also established a prohibition for discharge of silt-laden tailwater into the Imperial Valley, including the Alamo River, Imperial Valley Drains, New River, and their tributaries. This

resolution was adopted by the Regional Water Board on January 19, 2005, approved by the State Water Board on July 21, 2005, approved by OAL on September 8, 2005, and approved by USEPA on September 30, 2005.

The Alamo River Sediment TMDL named Alamo River watershed farmers and IID as the two major responsible parties for implementation. The TMDL and the prohibition include time schedules, milestones and a monitoring and reporting program. The TMDL and the Prohibition are subject to review and revision.

To assist Imperial Valley farmers with all Imperial Valley sediment TMDLs compliance issues including the Alamo River Sediment TMDL and the Imperial Valley Sediment Prohibition, Imperial County Farm Bureau (ICFB) is implementing a successful program titled "ICFB TMDL Compliance Program". This Program provides education on and advocates for the use of sediment reduction MPs that were identified by ICFB staff, Imperial Valley Farmers, IID, and the University of California Cooperative Extension. Some of these MPs are IID Regulation 39 Tail Water Drain Box, Land Leveling, Pan Ditch, Gopher Control, Filter Strip, Grass Strip in Tail Ditch, Irrigation Water Management, Sprinkler Irrigation, Level Basin Irrigation, Pump-back System, and Use of Polyacrylamides.

Key elements of the ICFB TMDL Compliance Program are:

- 1- Enlists farmers in the ICFB Program and tracks implementation standing;
- 2- Provides technical and educational support for farmers to comply with the TMDLs and the Prohibition;
- 3- Holds periodic meetings with program participants, IID, and Regional Water Board staff to discuss overall progress, problems, and areas that need further efforts; and
- 4- Reports on a quarterly and annual basis to Regional Water Board staff on all the above.

The ICFB Program divided the Imperial Valley into ten sub-watersheds (or drainsheds): five for the Alamo River; four for the New River; and one for all drains that discharges directly into the Salton Sea, instead of to a tributary river. Farmers are organized into working groups according to these drainsheds for administrative and technical purposes.

Farmers can enroll in the ICFB Program in three ways:

- 1- In person at the ICFB Office;
- 2- Via regular mail sent to ICFB's office; and
- 3- Online at the ICFB's TMDL website.

Farmers enrolled in the ICFB TMDL Program are required to attend annual drainshed meetings, develop individual farm water quality improvement plans (WQIPs), implement MPs, and update and report their WQIPs annually to the ICFB, which compiles and reports this information to the Regional Water Board. Current participation in the ICFB TMDL Program is about 98% of Imperial Valley farmers.

The ICFB developed and maintains a database tracking membership and other key program information (e.g. MPs, farmland location, acreage, discharge points, etc.). Membership participation is reported to the Regional Water Board in the form of an

electronic copy of the database. Regional Water Board staff contacts farmers who are not enrolled in the ICFB Program and farmers who are not responsive to program requirements.

The TMDL also required the IID to submit to the Regional Water Board a revised DWQIP to control and monitor water quality impacts caused by drain maintenance operations. To comply with this requirement, the IID developed and is implementing a DWQIP that was approved by the Regional Water Board Executive Officer. The DWQIP includes water quality monitoring for TSS and other constituents in Imperial Valley's source water, seven major drains, and eighteen minor drains that represent all Imperial Valley drainsheds. Also, the IID is currently utilizing several MPs which serve to reduce sediment discharge within the IID drainage system, including:

- 1- IID Regulation No. 39 (Tailwater Drop Box with Raised Grade Board);
- 2- IID's Tailwater Education Program;
- 3- Drain cleaning checklist;
- 4- "Rakes" for large vegetation removal (salt cedar);
- 5- Excavator-mounted GPS units during cleaning/dredging operations;
- 6- A drain improvement program to improve problematic drains;
- 7- A vegetation control plan; and
- 8- Support for the ICFB Program.

Additionally, the TMDL required the IID to submit to the Regional Water Board semiannual information on agricultural dischargers within the district that includes names and addresses for all owners of properties within the IID surface area that are being used for irrigated agriculture, as well as the location of their properties. Also, data and information from IID's DWQIP are submitted to the Regional Water Board quarterly and annually.

### **Concentrations of OC compounds in the Alamo River have been reduced significantly**

Data and source analysis show that concentrations of OC compounds in Alamo River fish tissue samples have been reduced significantly from their peaks in the 1970s, 1980s, and 1990s. The reductions were about 50% for chlordane (Figure 2; and Table 1), 75% for DDT (Figure 3; and Table 2), 42% for dieldrine (Figure 4; and Table 3), 73% for PCBs (Figure 5; and Table 4), and 38% for toxaphene (Figure 6; and Table 5). The Alamo River WQSs for OC compounds are expected to be attained through continued implementation and improvement of ICFB's sediment MPs by Imperial Valley farmers/growers, and the IID's DWQIP.

### **Reasonable Schedule for Implementing Necessary Pollution Controls and an Estimate Timeline when WQSs Will be Met**

Based on this analysis, Regional Water Board staff estimates that the Alamo River will meet WQSs for OC compounds by the year 2030. Monitoring programs by State and the Regional Water Board that include sediment and OC compounds in fish tissues will continue to provide data and information to assess meeting targets and criteria, effectiveness of MPs, and any needed revisions.

## **Summary**

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing these water segment-pollutant combinations from the section 303(d) list. However, there is sufficient justification to place them in the Being Addressed portion of the 303(d) list because existing regulatory actions other than new TMDLs are expected to result in attainment of the standards by 2030. OC compounds are attached to sediments. USEPA approved TMDLs and Prohibition (Regional Water Board Resolutions R7-2001-0100 and R7-2005-0006) to control sediment in the Alamo River watershed are now being implemented. Also, OC compounds are no longer legally sold or used in the U.S., and their concentrations have been reduced significantly. The Regional Water Board will update this recommendation when new data and information become available and are assessed.

Figure 2: Alamo River Chlordane in Fish Tissue

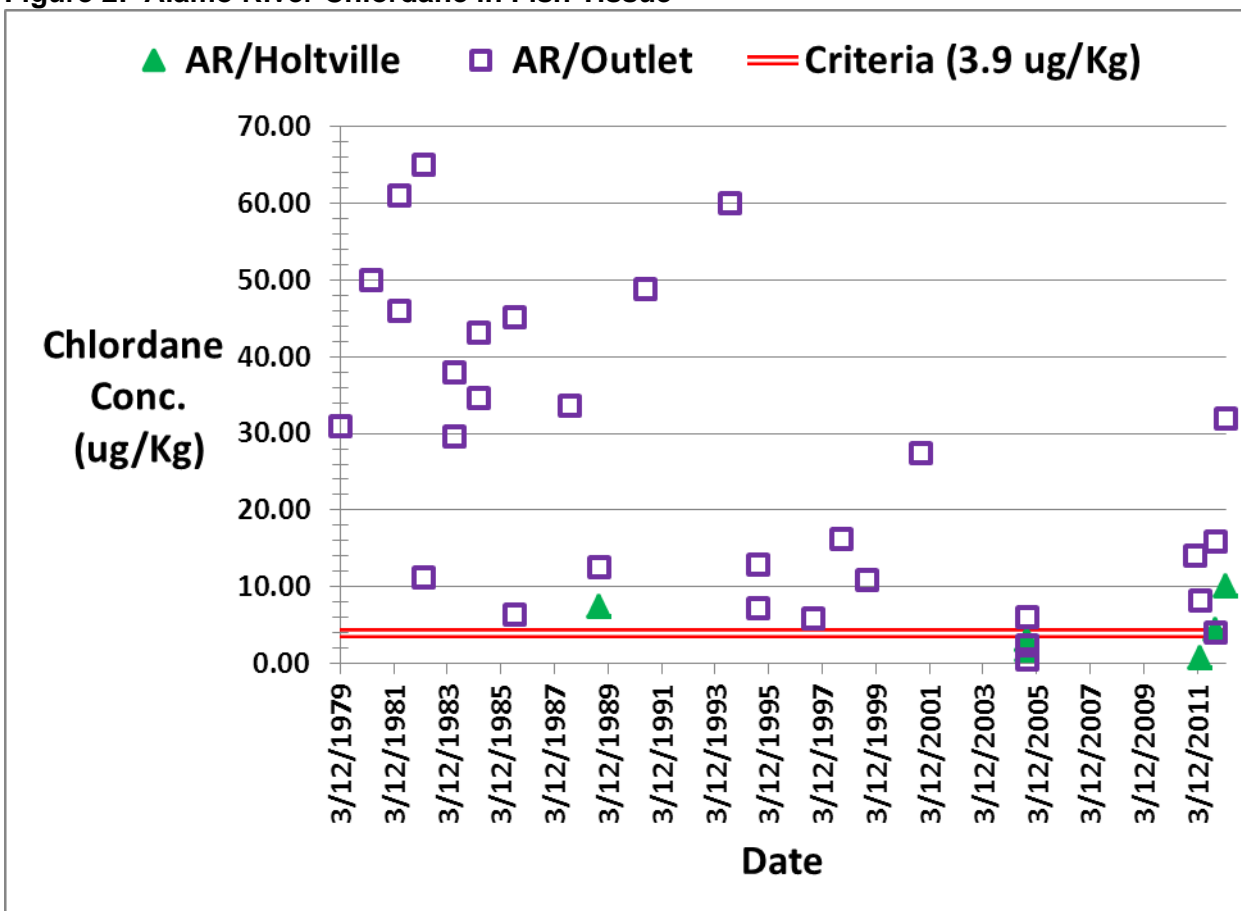


Table 1: Alamo River Chlordane in Fish Tissue (ug/Kg)

Date	AR/Holtville	AR/Outlet
3/12/1979		31.00
5/8/1980		50.00
5/23/1981		46.00
5/23/1981		61.00
4/22/1982		65.00
4/22/1982		11.20
6/13/1983		29.60
6/13/1983		38.00
5/23/1984		34.60
5/23/1984		43.20
9/17/1985		45.10
9/17/1985		6.30
9/30/1987		33.60
11/18/1988		12.50
11/20/1988	7.30	
8/3/1990		48.90
9/29/1993		60.00

Date	AR/Holtville	AR/Outlet
10/27/1994		12.80
10/27/1994		7.10
11/1/1996		5.80
11/20/1997		16.20
11/11/1998		10.80
11/7/2000		27.40
11/2/2004	3.08	
11/2/2004	2.96	
11/2/2004	1.67	
11/7/2004		6.07
11/7/2004		0.47
11/7/2004		2.30
2/8/2011		14.06
4/21/2011	0.70	
4/22/2011		8.23
11/16/2011	4.27	
11/17/2011		4.00

Date	AR/Holtville	AR/Outlet
11/17/2011		15.90
3/28/2012	9.99	32.00

Figure 3: Alamo River DDT in Fish Tissue

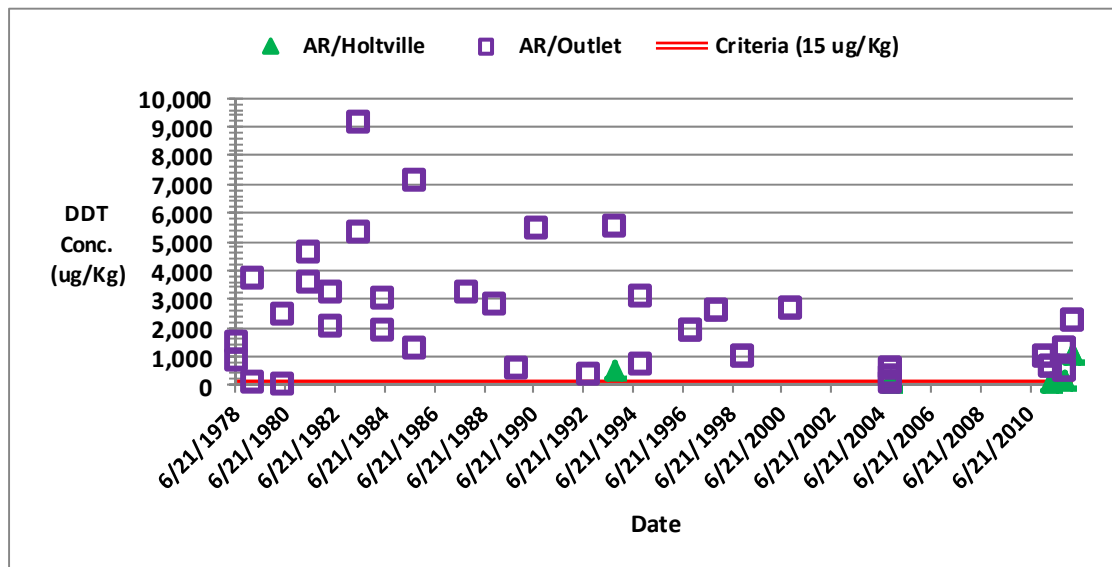
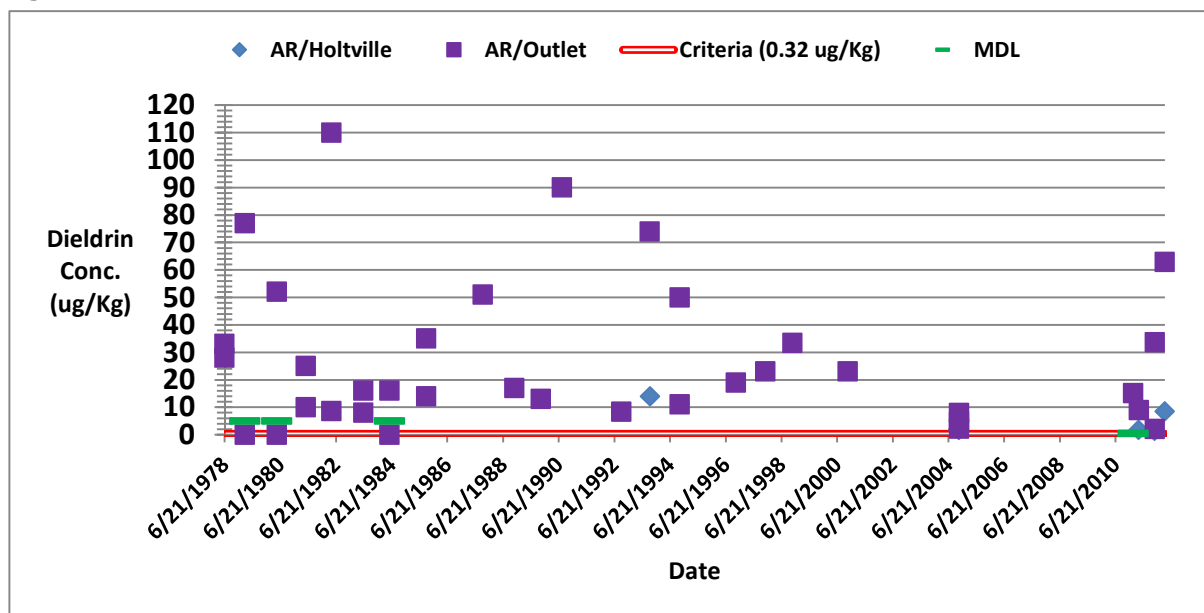


Table 2: Alamo River DDT in Fish Tissue (ug/Kg)

Date	AR/Holtville	AR/Outlet	Date	AR/Holtville	AR/Outlet	Date	AR/Holtville	AR/Outlet
6/21/1978		882.00	9/20/1992		340.00	11/17/2011		487.20
6/21/1978		1,490.00	9/29/1993		5,517.00	11/17/2011		1,291.00
3/12/1979		3,730.00	9/30/1993	515.00		3/28/2012	1,067.70	2,212.00
3/12/1979		50.00	10/27/1994		696.00	11/1/1996		1,907.00
5/8/1980		2,482.00	10/27/1994		3,081.00	11/20/1997		2,621.00
5/8/1980		20.00	11/1/1996		1,907.00	11/11/1998		959.10
5/23/1981		4,621.00	11/20/1997		2,621.00	11/7/2000		2,671.70
5/23/1981		3,582.00	11/11/1998		959.10	11/2/2004	183.53	
4/22/1982		3,248.00	11/7/2000		2,671.70	11/2/2004	138.40	
4/22/1982		2,060.00	11/7/2000			11/2/2004	101.66	
6/13/1983		5,300.00	11/2/2004	183.53		11/7/2004		545.91
6/13/1983		9,153.00	11/2/2004	138.40		11/7/2004		115.50
5/23/1984		1,867.00	11/2/2004	101.66		11/7/2004		314.61
5/23/1984		3,035.00	11/7/2004		545.91	2/8/2011		1,001.30
9/17/1985		7,125.00	11/7/2004		115.50	4/21/2011	93.28	
9/17/1985		1,269.00	11/7/2004		314.61	4/22/2011		656.77
9/30/1987		3,248.00	2/8/2011		1,001.30	11/16/2011	133.50	
11/18/1988		2,808.00	4/21/2011	93.28		11/17/2011		487.20
10/28/1989		596.00	4/22/2011		656.77	11/17/2011		1,291.00
8/3/1990		5,435.00	11/16/2011	133.50		3/28/2012	1,067.70	2,212.00

**Figure 4: Alamo River Dieldrine in Fish Tissue**



**Table 3: Alamo River Dieldrine in Fish Tissue (ug/Kg)**

Date	AR/Holtville	AR/Outlet	Date	AR/Holtville	AR/Outlet
6/21/1978		28.00	9/29/1993		74.00
6/21/1978		33.00	9/30/1993	14.00	
3/12/1979		77.00	10/27/1994		50.00
3/12/1979		ND	10/27/1994		11.00
5/8/1980		52.00	11/1/1996		19.00
5/8/1980		ND	11/20/1997		23.00
5/23/1981		10.00	11/11/1998		33.40
5/23/1981		25.00	11/7/2000		23.00
4/22/1982		110.00	11/2/2004	1.70	
4/22/1982		8.60	11/2/2004	2.01	
6/13/1983		16.00	11/2/2004	1.96	
6/13/1983		8.00	11/7/2004		7.90
5/23/1984		16.00	11/7/2004		2.14
5/23/1984		ND	11/7/2004		4.75
9/17/1985		35.00	2/8/2011		15.10
9/17/1985		14.00	4/21/2011	1.74	
9/30/1987		51.00	4/22/2011		8.95
11/18/1988		17.00	11/16/2011	1.32	
10/28/1989		13.00	11/17/2011		2.08
8/3/1990		90.00	11/17/2011		33.60
9/20/1992		8.40	3/28/2012	8.47	62.90

Figure 5: Alamo River PCBs in Fish Tissue

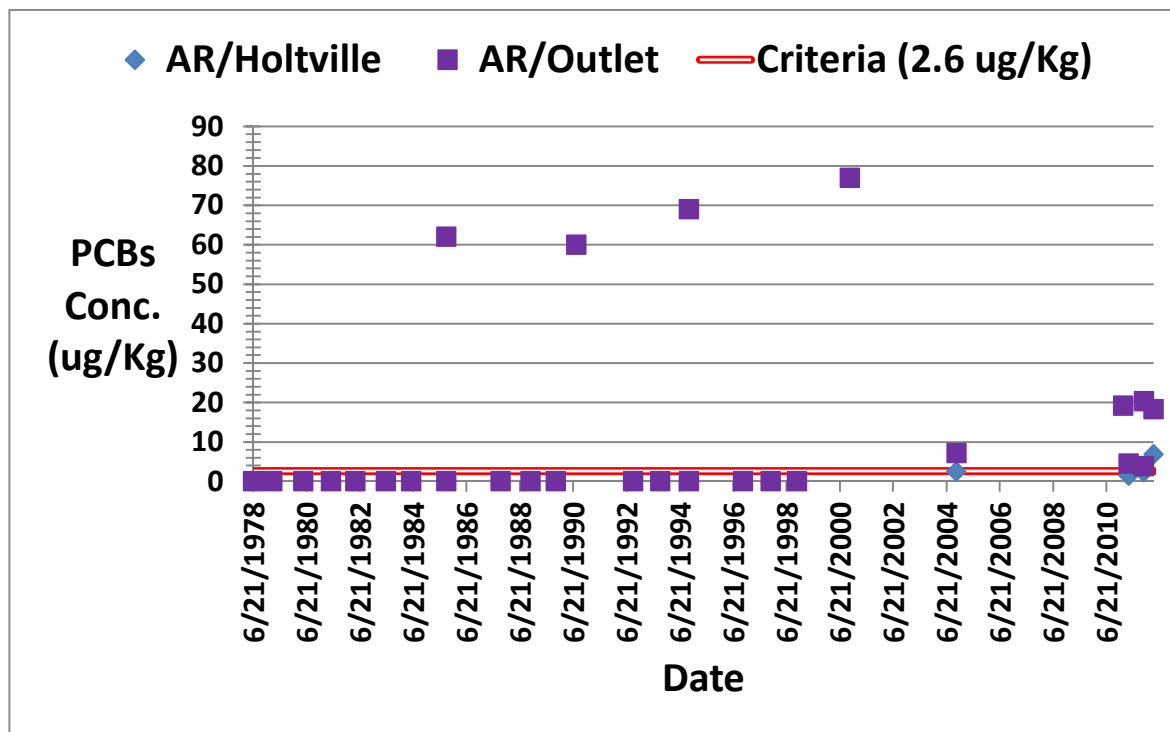
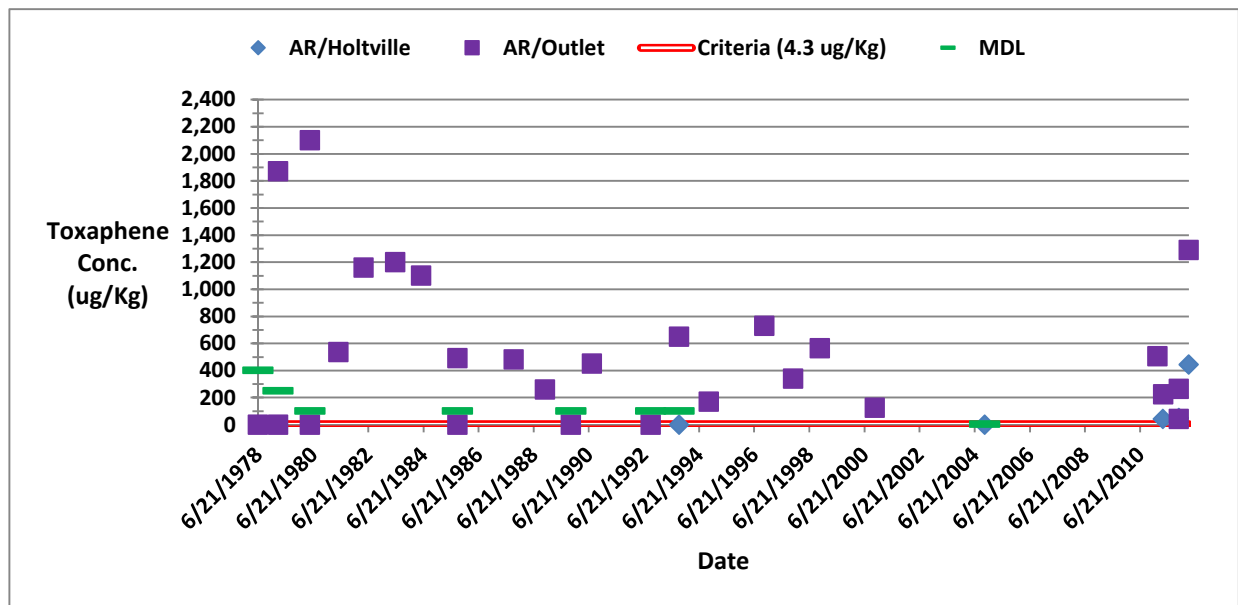


Table 4: Alamo River PCBs in Fish Tissue (ug/Kg)

Date	AR/Holtville	AR/Outlet	Date	AR/Holtville	AR/Outlet
6/21/1978		ND	10/27/1994		ND
3/12/1979		ND	10/27/1994		69.00
5/8/1980		ND	11/1/1996		ND
5/23/1981		ND	11/20/1997		ND
4/22/1982		ND	11/11/1998		ND
6/13/1983		ND	11/7/2000		77.00
5/23/1984		ND	11/2/2004	2.45	
9/17/1985		62.00	11/7/2004		7.19
9/17/1985		ND	2/8/2011		19.17
9/30/1987		ND	4/21/2011	1.39	
11/18/1988		ND	4/22/2011		4.46
10/28/1989		ND	11/16/2011	2.31	
8/3/1990		60.00	11/17/2011		3.84
9/20/1992		ND	11/17/2011		20.30
9/29/1993		ND	3/28/2012	6.82	18.30
9/30/1993	ND				

**Figure 6: Alamo River Toxaphene in Fish Tissue**



**Table 5: Alamo River Toxaphene in Fish Tissue (ug/Kg)**

Date	AR/Holtville	AR/Outlet	Date	AR/Holtville	AR/Outlet
6/21/1978		ND	9/29/1993		650.00
3/12/1979		1,870.00	9/30/1993	ND	
3/12/1979		ND	10/27/1994		170.00
5/8/1980		2,100.00	11/1/1996		730.00
5/8/1980		ND	11/20/1997		340.00
5/23/1981		535.00	11/11/1998		563.00
4/22/1982		1,160.00	11/7/2000		125.00
6/13/1983		1,200.00	11/2/2004	ND	
5/23/1984		1,100.00	2/8/2011		504.00
9/17/1985		490.00	4/21/2011	41.90	
9/17/1985		ND	4/22/2011		223.00
9/30/1987		480.00	11/16/2011	49.20	
11/18/1988		260.00	11/17/2011		42.60
10/28/1989		ND	11/17/2011		264.00
8/3/1990		450.00	3/28/2012	443.00	1,290.00
9/20/1992		ND			

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
COLORADO RIVER BASIN REGION**

**RESOLUTION NO. R7-2005-0006**

**A Resolution Amending the Water Quality Control Plan  
Of the Colorado River Basin  
To Establish a Sedimentation/Siltation Total Maximum Daily Load for the  
Imperial Valley Drains: Niland 2, P, and Pumice Drains and Implementation Plan**

WHEREAS, the California Regional Water Quality Control Board, Colorado River Basin Region (hereinafter Regional Board), finds that:

1. An updated Water Quality Control Plan for the Colorado River Basin (Basin Plan) was adopted by the Regional Board on November 17, 1993, approved by the State Water Resources Control Board (SWRCB) on February 17, 1994, and approved by the Office of Administrative Law on August 3, 1994.
2. Warm freshwater habitat (WARM), wildlife habitat (WILD), preservation of rare, threatened, or endangered species (RARE), water contact recreation (REC I), non-contact recreation (REC II), and freshwater replenishment (FRSH) are among the beneficial use designations specified in the Basin Plan for Imperial Valley Drains.
3. The Basin Plan includes narrative water quality objectives for total suspended solids, sediment, and turbidity for Imperial Valley Drains to protect the beneficial uses listed in Finding No. 2, above.
4. Water quality objectives are not being met in the Niland 2, P, and Pumice Imperial Valley Drains because direct and indirect discharges of silt-laden agricultural tailwater into the drains, and drain maintenance operations, are adversely impacting the beneficial uses. The silt carries insoluble pesticides such as DDT and its byproducts, which bioaccumulate in fish tissue.
5. Pursuant to Section 303(d) of the Clean Water Act, Imperial Valley Drains are listed as water quality limited because of sediment impairments. Section 303(d) of the Clean Water Act requires the establishment of the Total Maximum Daily Load (TMDL) of sediment/silt that can be discharged while still ensuring compliance with water quality standards. Section 303(d) also requires the allocation of this TMDL among sources of sediment/silt, together with an implementation plan and schedule that will ensure that the TMDL is met and that compliance with water quality standards is achieved.
6. This Basin Plan Amendment includes allocations for the Niland 2, P, and Pumice drains, and a corresponding Implementation Plan, to reduce sediment in those drains to protect beneficial uses.
7. This Basin Plan Amendment includes an Implementation Plan that applies to all Imperial Valley Drains that empty directly into the Salton Sea, because all of the drains contribute, albeit in varying degrees, to sediment/silt impacts on water quality standards of the drains and the Salton Sea, and are so listed pursuant to Section 303(d) of the Clean Water Act. This approach ensures Valley-wide consistency in controlling sediment in all drains that empty directly into the Salton Sea, prevents a piecemeal approach in controlling sediment, and enables de-listing of all drains simultaneously upon successful completion of the control measures.
8. This Basin Plan Amendment includes a Prohibition for Discharge of Silt-Laden Tailwater into the Imperial Valley, including the Imperial Valley Drains, New River, Alamo River, and their tributaries. The Prohibition, along with this and previous sediment/silt TMDLs, will help ensure that sediment/silt will no longer violate water quality standards.


9. The Total Maximum Daily Load for Sedimentation/Siltation for the Imperial Valley Drains: Niland 2, P, and Pumice Drains Project Report (hereafter "Project Report") and the proposed Basin Plan Amendment to establish the TMDL, the Implementation Plan, and the Conditional Prohibition are attached to this Resolution, and meet the requirements of Section 303(d) of the Clean Water Act. The amendment requires, in part, that nonpoint sources implement Management Practices (MPs) to control sediment/silt inputs to provide a reasonable assurance that water quality standards will be met.
10. The Regional Board prepared and distributed written reports regarding adoption of the Basin Plan Amendment in compliance with applicable state and federal environmental regulations (Title 23, California Code of Regulations, Section 3775 et seq.; and Title 40, Code of Federal Regulations, Parts 25 and 131).
11. The basin planning process is certified by the Secretary for Resources as being exempt from the requirements of California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.), and therefore an Environmental Impact Report or Negative Declaration is not required (Pub. Resources Code, 21080.5; Cal. Code Regs., tit. 14, 15251, subd. (g)). In accordance with California Code of Regulations Title 23, §§3777-3781, the Project Report-Basin Plan Amendment package includes a CEQA Environmental Checklist and Determination that assesses the environmental impacts of the Basin Plan Amendment and discusses alternatives, among other analyses. The Basin Plan Amendment, CEQA Environmental Checklist and Determination, TMDL Staff Report, and supporting documentation are functionally equivalent to an Environmental Impact Report.
12. The adoption of the Basin Plan Amendment based on the Project Report is a regulatory action subject to the requirements of Public Resources Code section 21159. Consistent with the requirements of that section, the CEQA Environmental Checklist and Determination includes an analysis of environmental impacts, mitigation measures to reduce or avoid those impacts, and alternative means of compliance that would avoid or eliminate environmental impacts (Pub. Resources Code, 21159, subd. (a)(1)-(3); Cal. Code Regs title 14, 15187, subds. (b), (c)(1)-(3).) The analysis in the CEQA Environmental Checklist and Determination takes into account a reasonable range of environmental, economic, and technical factors. CEQA analysis determined that the proposed Basin Plan Amendment would not have a significant adverse effect on the environment. Regional Board staff have presented the CEQA Environmental Checklist and Determination to the Regional Board, which reviewed and considered the analysis before adopting this amendment.
13. The Regional Board has considered federal and state antidegradation policies and other relevant water quality control policies and finds the Basin Plan Amendment consistent with those policies.
14. Since January 1998, Regional Board staff have engaged interested parties in stakeholder involvement through meetings of the Imperial Valley Sedimentation/Siltation TMDL Technical Advisory Committee. On April 29, 2002, a Public CEQA Scoping Meeting was held in El Centro, CA.
15. Consistent with Title 23, California Code of Regulations, Sections 3778 through 3780, Regional Board staff consulted about the proposed action with stakeholders in the Region and with other potentially affected parties, and considered and addressed comments on the matter.
16. On July 1, 2004, the Regional Board held a Public Hearing to consider the Project Report and Basin Plan Amendment. Notice of the Public Hearing was given to all interested persons and published in accordance with Water Code Section 13244 and Title 40, Code of Federal Regulations, Part 25.
17. Additional information about the Economic Impact Assessment was given to the Regional Board by the Imperial County Farm Bureau at the July 1, 2004 Public Hearing. The Regional Board decided to continue the Public Hearing to allow for consideration of the additional information.

18. On January 19, 2005, the Regional Board held a continued Public Hearing to re-consider the Project Report, Basin Plan Amendment, additional information provided at the previous Public Hearing, and a Supplemental Staff Report that provided additional cost estimates for the Economic Impact Assessment that reflected current actual costs.
19. The Basin Plan Amendment must be reviewed and approved by the SWRCB, Office of Administrative Law (OAL), and U.S. Environmental Protection Agency. Once approved by SWRCB, the amendment is submitted to OAL. A Notice of Decision will be filed after the SWRCB and OAL have acted on this matter. The SWRCB will forward the approved amendment to the U.S. Environmental Protection Agency for review and approval.
20. The TMDL establishes a numeric target of 200 mg/L for Total Suspended Solids (annual average). Numeric targets in a TMDL are not water quality objectives. Numeric targets are implementation tools that translate existing objectives, by quantifying the limits those objectives require, considering seasonal variations and a margin of safety. Targets do not create new bases for enforcement apart from the objectives they translate.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The Regional Board adopts the amendment to the Water Quality Control Plan for the Colorado River Basin as set forth in the attached Basin Plan Amendment.
2. The Executive Officer is directed to forward copies of the Basin Plan Amendment to the SWRCB in accordance with the requirement of Section 13245 of the California Water Code.
3. The Regional Board requests the SWRCB approve the Basin Plan Amendment in accordance with Sections 13245 and 13246 of the California Water Code and forward the Amendment to the Office of Administrative Law and U.S. Environmental Protection Agency for approval.
4. The Executive Officer is directed to file a Notice of Decision with the California Secretary for Resources after OAL approval of the Basin Plan Amendment, in accordance with Section 21080.5(d) (2)(E) of the Public Resources Code and Title 23, California Code of Regulations, Section 3781.
5. If during the approval process the SWRCB or OAL determines that minor, non-substantive corrections to the language of the amendment are needed for clarity or consistency, the Executive Officer may make such changes, and shall inform the Board of any such changes.

I, Robert Perdue, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Colorado River Basin Region, on January 19, 2005.

  
ROBERT PERDUE  
Executive Officer

**An Amendment to the Water Quality Control Plan for the Colorado River Basin Region  
To Establish the  
Sedimentation/Siltation Total Maximum Daily Load for the Imperial Valley Drains: Niland 2, P, and  
Pumice Drains and Implementation Plan**

**AMENDMENT**

(Proposed changes are in reference to the Basin Plan as amended through 2002. Proposed additions are denoted by underlined text, proposed deletions are denoted by ~~striketrough text~~)

**To TABLE OF CONTENTS, “CHAPTER 4 – IMPLEMENTATION”, edit the following and renumber pages accordingly:**

**CHAPTER 4 – IMPLEMENTATION**

- I. INTRODUCTION
  - A. Regional Board Goals and Management Principals
  - B. General Implementation
- II. POINT SOURCE CONTROLS
  - A. Geothermal Discharges
  - B. Sludge Application
  - C. Municipal Wastewater Treatment Plants
  - D. Wastewater Reclamation and Reuse
  - F. Stormwater
  - G. ~~Brine Discharges~~ Discharges
  - H. Septic Systems
- III. NONPOINT SOURCE CONTROLS
  - A. Agriculture
  - B. State Water Quality Certification
- IV. SPECIFIC IMPLEMENTATION ACTIONS
  - A. New River Pollution by Mexico
  - B. Salton Sea
  - C. Toxicity Objective Compliance
  - D. Disposal of Waste to Indian Land
- V. TOTAL MAXIMUM DAILY LOADS (TMDLs) AND IMPLEMENTATION PLANS
  - A. New River Pathogen TMDL ~~Total maximum Daily Load~~  
Table 4-1: New River Pathogen TMDL Elements
  - B. Alamo River Sedimentation/Siltation TMDL  
Table 4-1: Alamo River Sedimentation/Siltation TMDL Elements  
Table 4-1A: Waste Load Allocations for Point Sources in the Alamo River Watershed  
Table 4-2: Interim Numeric Targets for Attainment of the TMDL
  - C. New River Sedimentation/Siltation TMDL  
Table 4-3: New River Sedimentation/Siltation TMDL Elements  
Table 4-3A: Interim Numeric Targets for Attainment of the TMDL
  - D. Imperial Valley Drains Sedimentation/Siltation TMDL
  - E. Further Implementation Actions and Regulations for All Imperial Valley Sedimentation/Siltation TMDLs
- VI. ACTIONS OF OTHER AUTHORITIES
- VII. PROHIBITIONS
  - A. Imperial Valley Sedimentation/Siltation

**To TABLE OF CONTENTS, add the following to “CHAPTER 6 – SURVEILLANCE, MONITORING AND WATER QUALITY ASSESSMENT”; II. REGIONAL BOARD MONITORING; and renumber pages accordingly:**

**F. Total Maximum Daily Loads**

**To “CHAPTER 2 – BENEFICIAL USES”, Section “IV. SOURCES OF DRINKING WATER POLICY”, Subsection “A. SURFACE AND GROUND WATERS WHERE:”, edit the following:**

2. There is contamination, either by natural processes or by human activity (unrelated to a specific pollution incident), that cannot reasonably be treated for domestic use using either ~~Best~~ Management Practices or best economically achievable treatment practices, or

**To “CHAPTER 3 – WATER QUALITY OBJECTIVES”, Section “IV. GROUND WATER OBJECTIVES”, edit the following:**

Ideally the Regional Board's goal is to maintain the existing water quality of all nondegraded ground water basins. However, ~~from a practical standpoint it must be noted that~~ in most cases ground water that is pumped generally returns to the basin after use with an increase in mineral concentrations such as total dissolved solids (TDS), nitrate, etc., that are picked up by water during its use. Under these circumstances, the Regional Board's objective is to minimize the quantities of contaminants reaching any ground water basin. This could be achieved by establishing ~~best~~ management practices for major discharges to land. Until ~~such time as~~ the Regional Board can complete ~~necessary~~ investigations for the establishment of ~~best~~ management practices, the objective will be to maintain the existing water quality where feasible.

**To “CHAPTER 4 – IMPLEMENTATION”, Section “III. NONPOINT SOURCE CONTROLS”, edit the following:**

The Federal Clean Water Act, as amended in 1987, includes Section 319 titled "Nonpoint Source Management Programs". Section 319 requires the States to develop assessment reports and management programs describing the States' nonpoint source problems and setting forth a program to address the problems. The State Water Resources Control Board (State Board) adopted its "Nonpoint Source Management Plan" in November 1988. The Plan was updated in December 1999 with adoption of the "Plan For California's Nonpoint Source Pollution Control Program," (hereafter referred to as "State NPS Program"), including "Volume I: Nonpoint Source Program Strategy and Implementation Plan for 1998-2013 (PROSIP)" and "Volume II: California Management Measures for Polluted Runoff (CAMMPR)" (adopted December 14, 1999, SWRCB Resolution No. 99-114). This Plan has an ~~three-tiered~~ approach to NPS water quality control whereby the following ~~tiers~~ are implemented as needed:

1. Self-determined implementation of ~~Best~~ Management Practices (BMPs);
2. Regulatory-based encouragement of ~~Best~~ Management Practices; and

~~Sequential movement through the tiers (e.g. Tier 1 to Tier 2 to Tier 3) is not required of the Regional Board.~~ Depending on the water quality impacts and severity of the NPS problem, the Regional Board may move directly to the full regulatory and complementary enforcement actions ~~specified in Tier 3~~. It is the preference of the Regional Board to regulate nonpoint sources of pollution using the least stringent ~~tier~~ methods possible, while attaining water quality standards.

There is close cooperation between the State Board's Nonpoint Source Program and this Region's Nonpoint Source Program. Much of the funding for these programs comes from federal grants which are designed to assist in implementation of the federal Clean Water Act provisions on nonpoint source pollution control. Some of the important activities of these nonpoint source programs include development of water quality assessments, development and oversight of NPS pollution control demonstration projects, active cooperation with other affected state, local and federal agencies, identification, development and

implementation of BMPs, program development activities, public participation, and educational outreach activities.

- Implementation of the ~~three-tiered approach~~ to NPS Regulation

**To “CHAPTER 4 – IMPLEMENTATION”, Section “III. NONPOINT SOURCE CONTROLS”, Subsection “A. AGRICULTURE”, edit the following:**

Agricultural discharges, primarily irrigation return flows, constitute the largest volume of pollution entering surface waters in this Region. The ~~eight~~ agricultural drains/drain systems in this Region support significant beneficial uses as identified in Chapter 2 of this Plan. In an effort to protect and enhance these uses, the Regional Board adopted the "Agricultural Drainage Management (ADM) Report for the Colorado River Basin Region" in March 1992. This report established priorities for dealing with the drain systems based on a watershed approach. Drainage entities (e.g. water districts), including Imperial Irrigation District, Coachella Valley Water District, and Palo Verde Irrigation District, were identified in each of the four watersheds, and the Regional Board will work closely with these entities to implement agricultural pollution controls. In 1994, the Imperial Irrigation District (IID) adopted a Drain Water Quality Improvement Program, in which IID committed to monitor water quality, to develop and implement BMPs, and implement an education and outreach program to improve water quality in its drains and Alamo and New Rivers.

**To “CHAPTER 4 – IMPLEMENTATION”, Section “IV. SPECIFIC IMPLEMENTATION ACTIONS”, Subsection “B. SALTON SEA”, edit the following:**

**2. Pollution Control**

Investigations by the Regional Board, the U.S. Geological Survey, the U.S. Fish and Wildlife Service, the California Department of Fish and Game, and others have identified pollutants from upstream sources which threaten the beneficial uses of the Sea. These pollutants include selenium, nutrients, pesticides, bacteria, and silt. Most of these pollutants are from agricultural runoff from farmlands in the Salton Sea Watershed. The largest contribution is from the Imperial Valley with smaller amounts coming from the Coachella and Mexicali Valleys. Controls on these pollutants are most effectively implemented at their source. The major control activity will be implementation of Best Management Practices (BMPs) on farmlands which will be conducted in accordance with the State's Nonpoint Source Program as discussed in Chapter 4. The Regional Board will also work with the USEPA, the U.S. Bureau of Reclamation, the Colorado River Basin Salinity Control Forum, and upstream states to identify sources of pollutants, especially ~~S~~selenium, entering the Colorado River from locations upstream of California. Pending the availability of funding, the Regional Board will continue to monitor the water quality at the Salton Sea and its tributaries as described in Chapter 6.

**Edit Title and Subsequent Sections and renumber pages accordingly: “CHAPTER 4 – IMPLEMENTATION”, Section “V. TOTAL MAXIMUM DAILY LOADS (TMDLs) AND IMPLEMENTATION PLANS”**

**A. New River Pathogen Total Maximum Daily Load TMDL**

**1. TMDL ELEMENTS**

**Table 4-1 A-1**

**2. Implementation Actions for Attainment of TMDL**

**2.1 Wastewater Treatment Plants**

All point source dischargers discharging, potentially discharging, or proposing to discharge waste with bacteria into the New River and/or surface waters tributary to the New River, at concentrations that violate or threaten to violate waste load allocations (WLAs), shall provide adequate disinfection to meet the WLAs specified in Table ~~4-1 A-1, above.~~

It is essential that the referenced facilities that are not disinfecting provide adequate effluent disinfection at the earliest possible date. Towards this end, the Executive Officer shall direct staff to draft revised NPDES permits for these facilities

incorporating the WLAs prescribed in Table 4-1 A-1 and monitoring requirements for the WLAs.

## **B. Alamo River Sedimentation/Siltation TMDL**

### **SUMMARY 1. TMDL ELEMENTS**

#### **Table 4-1 B-1**

Footnotes for Table No. 4-1 B-1

<sup>5</sup> The sediment load allocation for any particular reach shall be distributed proportionately amongst the agricultural drains within that particular reach based on the relative flow contribution of each drain to the total flow contribution to the reach from the drains within the reach. ~~The Executive Officer shall be responsible for determining proportional sediment load allocations amongst the agricultural drains. The sediment load allocation will be reviewed every three years following TMDL implementation. The sediment load allocation will vary depending on drain flow.~~

#### **Table 4.1A B-1A**

Footnotes for Table No. 4.1A B-1A

### **2. Implementation Actions for Attainment of TMDL**

TMDL attainment shall be in accordance with the schedule contained in Table B-24-2, below:

#### **Table 4-2 B-2**

Footnotes for Table No. 4-2 B-2

## **C. New River Sedimentation/Siltation TMDL**

### **SUMMARY**

This TMDL was adopted by the California Regional Water Quality Control Board, Colorado River Basin Region in June 2002; approved by the Office of Administrative Law in January 2003; and approved by the U.S. Environmental Protection Agency on March 31, 2003.

### **1. TMDL ELEMENTS**

#### **Table 4-3 C-1**

Footnotes for Table No. 4-3 C-1

<sup>1</sup> The sediment load allocation for any particular applicable reach shall be distributed proportionately amongst the agricultural drains within that particular reach based on the relative flow contribution of each drain to the total flow contribution to the reach from the drains within the reach. ~~The Regional Board's Executive Officer shall determine the proportional load amongst the agricultural drains within that particular reach. The sediment load allocation will be reviewed by the Regional Board's Executive Officer every three years following TMDL implementation. The sediment load allocation will vary depending on drain flow.~~

### **2. Implementation Actions for Attainment of TMDL**

TMDL attainment shall be in accordance with the schedule contained in Table C-2 4-3A, below:

#### **Table 4.3A C-2**

Footnotes for Table No. 4.3A C-2

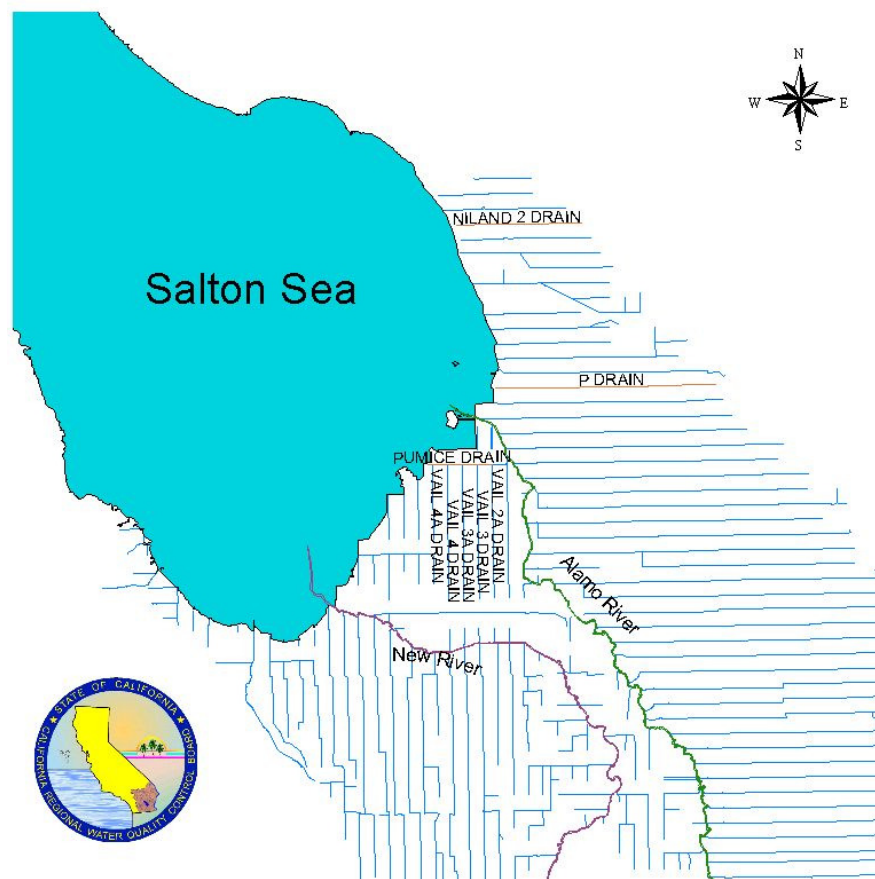
**Add the following new Subsequent Section immediately after the footnotes for Table No. C-2, and renumber accordingly:**

## **D. Imperial Valley Drains Sedimentation/Siltation TMDL**

### **1. TMDL ELEMENTS**

The Imperial Valley Drains Sedimentation/Siltation TMDL contains allocations that apply to three Imperial Valley drains (Niland 2, P, and Pumice) and their tributary drains (Vail 4A, Vail 4, Vail 3A, Vail 3, and Vail 2A feed into Pumice). These drains (among others) empty directly into the Salton Sea. Figure D-1 is a map of the three drains (and their tributary drains) for which allocations have been specified in this TMDL.

**Figure D-1: Drains (Niland 2, P, and Pumice and Their Tributary Drains) for Which Allocations Have Been Specified in this TMDL**



**Table D-1: Imperial Valley Drains (Niland 2, P, and Pumice) Sedimentation/Siltation TMDL Elements**

ELEMENT	
<b>Problem Statement</b> (impaired water quality standard)	Excess delivery of sediment to Niland 2, P, and Pumice Imperial Valley drains has resulted in degraded conditions that impairs designated beneficial uses: warm freshwater habitat; wildlife habitat; preservation of threatened, rare, or endangered species; water contact and non-contact water recreation; and freshwater replenishment. As the drains discharge into the Salton Sea, sediment also threatens the same beneficial uses of the Salton Sea. Sediment serves as a carrier for DDT, DDT metabolites, and other insoluble pesticides including toxaphene, which pose a threat to aquatic and avian communities and people feeding on fish from the drains. Suspended solids concentrations, sediment loads, and turbidity levels are in violation of water quality objectives. These current concentrations, loads, and levels also are forming objectionable bottom deposits, which are adversely affecting the beneficial uses.

(This table is continued on the following page.)

**Table D-1: Imperial Valley Drains (Niland 2, P, and Pumice) Sedimentation/Siltation TMDL Elements  
(continued)**

<b>ELEMENT</b>	<b>CURRENT CONDITIONS</b>										
<b>Numeric Target</b>	<u>200 mg/L Total Suspended Solids (annual average)<sup>1</sup></u>										
<b>Source Analysis</b>	<table> <tr> <th><u>Source</u></th><th><u>tons/year</u></th></tr> <tr> <td>Agricultural Tailwater</td><td>11,602.4</td></tr> <tr> <td>Natural Sources (In-Stream Erosion, Wind Deposition, Wildlife)</td><td>277.4</td></tr> <tr> <td>Storm Event Runoff from Farm Land</td><td>50.5</td></tr> <tr> <td>Total</td><td>11,930.3</td></tr> </table>	<u>Source</u>	<u>tons/year</u>	Agricultural Tailwater	11,602.4	Natural Sources (In-Stream Erosion, Wind Deposition, Wildlife)	277.4	Storm Event Runoff from Farm Land	50.5	Total	11,930.3
<u>Source</u>	<u>tons/year</u>										
Agricultural Tailwater	11,602.4										
Natural Sources (In-Stream Erosion, Wind Deposition, Wildlife)	277.4										
Storm Event Runoff from Farm Land	50.5										
Total	11,930.3										

<b>ELEMENT</b>	<b>LOAD ALLOCATIONS</b>
<b>Margin of Safety</b>	<u>277.4 tons/year</u> (corresponds to TSS of 10 mg/L)
<b>Seasonal Variations and Critical Conditions</b>	<u>Seasonal differences exist regarding local water flow, but not local climate (e.g., rainfall). Sediment becomes suspended in tailwater regardless of the season. However, more flow at certain times of year means that more sediment becomes suspended in drains at certain times of year. To address this seasonal variation, the numeric target is expressed in terms of an annual average. If data for certain months exceeds the load allocation, this may be tempered by low data readings in other months. Therefore, variability is accounted for and addressed by use of an annual average.</u>
<b>Loading Capacity (Total Assimilative Capacity)</b>	<u>5,547.2 tons/year</u> (corresponds to TSS of 200 mg/L)

(This table is continued on the following page.)

<sup>1</sup> The numeric target is a goal that translates current sediment/silt-related Basin Plan narrative objectives and shall not be used for enforcement purposes.

**Table D-1: Imperial Valley Drains (Niland 2, P, and Pumice) Sedimentation/Siltation TMDL Elements  
(continued)**

<b>ELEMENT</b>			
<b>Load Allocations and Wasteload Allocations</b>	<b><u>Load Allocations:</u></b> <ul style="list-style-type: none"> <li>Natural sources of sediment to Niland 2, P, and Pumice Imperial Valley Drains are allocated <u>277.4 tons/year</u>.</li> <li>Waste discharges from nonpoint sources into Niland 2, P, and Pumice Imperial Valley Drains shall not exceed load allocations specified below:</li> </ul>		
	<u>Drain Sources</u>	<u># of Drains Included in Segment</u>	<u>Sediment Load Allocation (tons/year)<sup>1</sup></u>
	<u>Niland 2</u>	<u>1</u>	<u>300.1</u>
	<u>P</u>	<u>1</u>	<u>638.2</u>
	<u>Pumice, including 5 Vail drains (Vail 4A, Vail 4, Vail 3A, Vail 3, and Vail 2A) that drain into it</u>	<u>6</u>	<u>3,904.3</u>
	<u>Future Growth</u>	<u>None</u>	<u>149.8</u>
	<b><u>Total Load Allocation for drains (corresponds to TSS of 180 mg/L)</u></b>	<b><u>8</u></b>	<b><u>4,992.4</u></b>
	<u>Other Sources</u>		
	<u>Natural Sources</u>	<u>Not applicable</u>	<u>277.4</u>
	<u>Margin of Safety</u>	<u>Not applicable</u>	<u>277.4</u>
	<b><u>Total Load Allocation for other sources (corresponds to TSS of 20 mg/L)</u></b>	<b><u>Not applicable</u></b>	<b><u>554.8</u></b>
	<b><u>Waste Load Allocations:</u></b> <ul style="list-style-type: none"> <li>The discharge from point sources (NPDES permits) shall not exceed the total suspended solids limits specified under 40 CFR 122 et seq., and the corresponding mass loading rates.</li> </ul>		

**Footnotes for Table No. D-1:**

<sup>1</sup> The sediment load allocation for any particular drain shall be distributed proportionately amongst the agricultural drains in the project area, based on the relative flow contribution of each drain to the total flow contribution of all drains in the project area. The sediment load allocation will be reviewed every three years following TMDL implementation. The sediment load allocation will vary depending on drain flow.

**2. Implementation Actions for Attainment of TMDL**

The Implementation Plan for this TMDL applies not just to the three drains (Niland 2, P, and Pumice) for which allocations are specified, but to all Imperial Valley drains that empty directly into the Salton Sea. This is necessary because all of the drains contribute, albeit in varying degrees, to sediment/silt impacts

on water quality standards of the drains and the Salton Sea, and are so listed pursuant to Section 303(d) of the Clean Water Act. This approach ensures Valley-wide consistency in controlling sediment in all drains that empty directly into the Salton Sea, prevents a piece-meal approach in controlling sediment, and will enable de-listing of all the drains simultaneously upon successful completion of the control measures.

TMDL attainment shall be in accordance with the schedule contained in Table D-2:

**Table D-2: Interim Numeric Targets for Attainment of the TMDL**

<u>Phase</u>	<u>Time Period</u>	<u>Estimated Percent Load Reduction<sup>1</sup></u>	<u>Interim Target (mg/L)<sup>2</sup></u>
<u>Phase 1</u>	<u>2005 through 2006</u>	<u>10%</u>	<u>376</u>
<u>Phase 2</u>	<u>2007 through 2009</u>	<u>25%</u>	<u>282</u>
<u>Phase 3</u>	<u>2010 through 2012</u>	<u>20%</u>	<u>226</u>
<u>Phase 4</u>	<u>2013 through 2015</u>	<u>12%</u>	<u>200</u>

**Footnotes for Table No. D-2:**

- <sup>1</sup> The reduction required in the average concentration at the end of each phase, beginning with the current (2002) average concentration of 418 mg/L.
- <sup>2</sup> The interim numeric target is a goal that translates current sediment/silt-related Basin Plan narrative objectives and shall not be used for enforcement purposes.

**Edit Subsequent Title (and change all capitals to title case) and Section to the following: “4. E. FURTHER IMPLEMENTATION ACTIONS AND REGULATIONS FOR ATTAINMENT OF ALL IMPERIAL VALLEY SEDIMENTATION/SILTATION TMDLS”**

**Edit Subsequent Subsection to the following: “~~4.1~~ **1. DESIGNATED MANAGEMENT ACTIONS**”:**

Consistent with the State NPS Program, sediment pollution shall be controlled by the Regional Board using a three-tier approach and controlled by responsible parties through implementation of Best Management Practices (BMPs). For the purpose of this Section, responsible parties include:

- ~~Farmers/growers~~ Farm landowners, renters/lessees, and operators/growers discharging waste into Imperial Valley Drains, New River, and Alamo River in a manner that causes or could cause violation of load allocations and/or exceedance of the Sediment/Silt numeric target;
- The Imperial Irrigation District;
- The United States Environmental Protection Agency and U.S. Section of the International Boundary and Water Commission, for wastes discharged from Mexico into the Alamo River and New River.

Responsible parties who already have complied with the requirements of previously-adopted Sedimentation/Siltation TMDLs are not required to re-submit reports, workplans, or other information already submitted to the Regional Board. Responsible parties who are subject to multiple TMDLs are encouraged, but not required, to combine submissions so that a single report or workplan satisfies the requirements of all applicable TMDLs. Early implementation of actions by responsible parties will be welcomed by the Regional Board, to simplify timelines between all Imperial Valley Sedimentation/Siltation TMDLs.

**Edit Subsequent Title and Section to the following: “~~1.1.1 1.1 Farmers/growers Water Quality Management Plans Farm Landowners, Renters/Lessees, and/or Operators/Growers~~”:**

The ~~farmers/growers~~ Farm landowners, renters/lessees, and/or operators/growers shall submit self-determined ~~sediment control programs~~ Sediment Control Programs (Water Quality Management Plans) to the Regional Board by:

**~~Table 4-4 Table E-1 Date that Corresponds to 15 months following the date of USEPA TMDL Approval~~ Sediment Control Program Due Dates**

TMDL	<del>Date (15 months after USEPA Approval</del>
Alamo River	September 28, 2003
New River	June 30, 2004
Imperial Valley Drains	6 months after U.S. Environmental Protection Agency (USEPA) approval

and on an annual basis thereafter.

~~A sediment control program~~ The Sediment Control Program may be submitted by an individual ~~farmer/grower~~ farm landowner, renter/lessee, or operator/grower (hereafter "Individual Program") or by a group of ~~farmers/growers~~ farm landowners, renters/lessees, and/or operators/growers (hereafter "Group Program"). Individual and Group Sediment Control Programs (Water Quality Management Plans) are required pursuant to CWC §13267. These programs are necessary to achieve compliance with these TMDLs and applicable water quality objectives, and to monitor/assess MP effectiveness. Regional Board staff strongly recommends that individual farm landowners, renters/lessees, and/or operators/growers work with the Imperial County Farm Bureau (ICFB) to submit a Group Plan through the ICFB's Watershed Program. Group Plans offer landowners the ability to work together to solve their erosion problems, while also affording a measure of privacy to the members of the Group. A Group Program must provide information on a drain- or drainshed basis regarding which responsible parties are enrolled in the program. Additionally, a group may provide a single monitoring and reporting plan as long as results are representative of the efficiency of the group's various control practices, in order to measure overall water quality improvements.

In either case (whether a Group or Individual Plan), the program shall, at a minimum, address the following in their Sediment Control Programcomponents:

1. Name of farm landowner, business address, mailing address, and phone number
2. Name of farm operator/grower, business address, mailing address, and phone number
3. Problem assessment, including (site location by address and township-range coordinates; site conditions(s), crop(s), typically grown in a five-year cycle and typical irrigation method for each crop; and potential or current NPS problems, problem severity, and problem frequency)
4. Statement of ~~sediment control~~ goals (measurable outcomes or products)
5. Existing and/or alternative sediment management practices (technical/economic feasibility, desired outcome, etc.)
6. Timetable for implementation of management practices (measured in either water quality improvement or level of implementation)
7. ~~Monitoring for tailwater quality improvements~~, including progress toward goals, and effectiveness of management decisions
8. Mechanism for reporting planned and completed implementation actions to the Regional Board .

A group program may address Item Nos. 1 through 6, above, for the individuals enrolled in the program as a group. The program shall nevertheless provide sufficient information so that the Regional Board can: (a) determine at a minimum on a drain- or drainshed-basis which responsible parties are enrolled in the program; (b) the types of sediment problems (i.e., severity, magnitude, and frequency) either the group as a whole or the drain/drainshed face; (c) the proposed sediment management practices for the group; and (d) the time table for implementation of the management practices (measured in either water quality improvement and/or level of implementation). Regarding Item Nos. 7 and 8, a single monitoring and reporting plan may also be proposed for a group provided that the monitoring and reporting will

provide results that are representative of the efficiency of various control practices within the group and representative enough to measure overall water quality improvements. Reported implementation of BMPs MPs shall be submitted to the Regional Board under the penalty of perjury.

**Edit Subsequent Title and Section to the following: “~~1.1.2~~ The 1.2 Imperial Irrigation District”**

By

**Table E-2 Revised DWQIP Due Dates ~~4-5~~ — Date that Corresponds to 15 months following the date of USEPA TMDL Approval**

<del>*TMDL</del>	<del>Date (15 months after USEPA Approval)</del>
Alamo River	September 28, 2003
New River	June 30, 2004
<u>Imperial Valley Drains</u>	<u>6 months after USEPA approval</u>

the Imperial Irrigation District shall submit to the Regional Board a revised Drain Water Quality Improvement Plan (DWQIP) with a proposed program to control and monitor water quality impacts caused by drain maintenance operations within the Alamo and New River and Imperial Valley Drains Watersheds and dredging operations in the Alamo and New Rivers and Imperial Valley Drains. The revised DWQIP shall be subject to the approval of the Executive Officer and shall address, but need not be limited to, items “a” and “b”, below:

a. Drain and River Deltas Maintenance

- Reduction in drain cleaning and dredging activities to the practical extent allowed by the implementation of on- and off-field sediment control BMPs MPs by the farm landowners, renters/lessees, and operators/growers farmers/growers and the BMP MP effectiveness in reducing silt built up in the drains and the New and Alamo River Deltas and Imperial Valley drains to avoid impacts on sensitive resources.
- Mechanism(s) to assess effectiveness of such reduction

b. Drain Water Quality Monitoring Plan

The revised DWQIP shall consist of a proposed program to monitor the New and Alamo Rivers and Imperial Valley Drains:

- Water quality impacts caused by dredging operations in the drains and to monitor the effects that dredging operations in the New and Alamo River Deltas and Imperial Valley drains have on compliance with the rivers' and drains' water quality standards;
- Representative samples from the water column of all major drains and a representative number of the small drains tributary to the New and Alamo Rivers and those drains emptying directly into the Salton Sea for analyses of flow, TSS, Turbidity, and nutrients. Samples collected from the last drain weir before the drain outfalls to the river shall be considered representative of the water column
- A representative number of source water locations for TSS;
- A representative number of drains at a location sufficiently upstream of the outfalls to the river so as to provide an idea of how much of the silt is being reduced taking care of by field BMPs;
- Sediment impacts from storm events;

c. Information on Agricultural Dischargers

No later than

**Table E-3 IID Submission of Data on Agricultural Dischargers Due Dates ~~4-6~~ — Date — that Corresponds to 16 months following the date of USEPA TMDL Approval**

<del>TMDL</del>	<del>Date (16 months after USEPA Approval)</del>
Alamo River	October 28, 2003
New River	July 31, 2004

Imperial Valley Drains	6 months after USEPA approval
---------------------------	-------------------------------

and on a semi-annual basis thereafter, the IID shall submit the following information to the Regional Board on the agricultural dischargers within the District:

The names and mailing addresses for all the owners of properties within the IID service area that are being used for irrigated agriculture, as well as the location of their properties. The names and mailing addresses for all water account holders within the IID service area, ~~their water account number~~ and the location of all fields that they irrigate. For each parcel within the IID service area, the location of the parcel, the irrigation canal and gates serving the parcel, the drop boxes draining the parcel, the drains that these drop boxes empty into, and the fields located within each parcel. For each field within the IID service area, the parcel within which each field is located, the area and location of each field within the parcel, the irrigation canal and gates serving each field, the drop boxes draining each field and the drains to which these drop boxes drain, ~~and the crops being cultivated on each field.~~ The above information should be submitted in an electronic, tabular, and easily geo-referenced format.

**No later than 60 days following the Executive Officer's approval of the revised DWQIP**, the IID shall submit to the Executive Officer a Quality Assurance Project Plan (QAPP) prepared in accordance with *Requirements for Quality Assurance Project Plans for Environmental Data Operations*, EPA QA/R-5, 1994 for the revised DWQIP. The ~~QAAP~~QAPP is subject to the approval of the Executive Officer. No later than 30 days following the Executive Officer's approval of the QAPP, the IID shall implement the QAPP and submit ~~monthly~~, quarterly, and annual monitoring reports to the Executive Officer. ~~The monthly reports shall be due on the 15<sup>th</sup> day of the month and shall transmit the previous month's monitoring results, progress towards implementation of control practices, and performance of control practices.~~ The quarterly reports shall be due on the 15<sup>th</sup> day of the month following the calendar's quarter and shall transmit a quarterly summary of the results for the previous three months. The annual reports shall be due on February 15 and summarize the year's data, quality control reports, and any trends in the data.

The DWQIP and QAPP are required pursuant to CWC §13225 and 13267. These are necessary to achieve compliance with this TMDL and the applicable water quality objectives and to monitor /assess effectiveness of MPs in a cost-effective manner. IID is required to provide this information because it operates and maintains the subject drains and because it is the only entity with access to some of the information required in the DWQIP.

All plans and reports requested herein are requested pursuant to Section 13267 of the California Water Code and shall be prepared under the direct supervision of a California registered civil engineer and/or agricultural engineer, with experience in the preparation of this type of program.

**Edit Subsequent Title to the following: “~~1.1.3. 1.3~~ United States Environmental Protection Agency (USEPA) and U.S. Section of the International Boundary and Water Commission (USIBWC)”, and add the following immediately thereafter:**

The USEPA and USIBWC are *not* responsible parties for the Imperial Valley Drains Sedimentation/Siltation TMDL. The USEPA and USIBWC are responsible parties for the Alamo River and New River Sedimentation/Siltation TMDLs.

**Edit Subsequent table to the following, and delete the bottom line of the table:**

By

**Table E-4 4-7 Technical Report Due Dates ~~Date that Corresponds to 15 months following the date of USEPA TMDL Approval \*~~**

TMDL	<del>Date (15 months after USEPA Approval</del>
Alamo River	September 28, 2003
New River	June 30, 2004

**Edit Subsequent Title and Section “~~1.2 2. RECOMMENDED MANAGEMENT PRACTICES~~  
(MPs) ACTIONS FOR FARMERS/GROWERS AND DRAINAGE MANAGEMENT”**

Implementation of BMPs should normally include: (1) consideration of specific site conditions; (2) monitoring to assure that practices are properly applied and are effective; (3) improvement of a BMP or implementation of additional BMPs or other management practices when needed to resolve a deficiency and; (4) mitigation of a problem where the practices are not effective. The practices listed herein are a compilation of BMPs recommended by the Imperial Valley Sedimentation/Siltation TMDL Technical Advisory Committee for the Silt TMDL for the Alamo and New Rivers (Silt TMDL TAC), the Natural Resources Conservation Services Field Office Technical Guide (NRCS FOTG), the IID, and the University of California Cooperative Extension (Holtville Field Station). Inclusion of practices herein is not meant to imply or establish a prescriptive list of 'one size fits all' preferred practices for the drainage basins tributary to the Imperial Valley Drains, Salton Sea, and Alamo and New Rivers basins. These recommendations do not preclude dischargers from implementing other proven sediment management practices in order to be recognized as making a good faith effort to control sediment discharges. Identification of the most appropriate controls to achieve the TMDL for site- and crop-specific conditions is best made by the landowner/operator dischargers relying on technical resource agencies and organizations. The listed practices are recommended because they have been documented to be effective under a variety of circumstances. Under many circumstances, implementation of a combination of BMPs may be necessary to ensure that discharges do not adversely impact water quality. In addition, the effectiveness of many BMPs can be greatly increased when they are used in conjunction with other BMPs.

**Edit Subsequent Title and Section (the 2 bullet statements below are being combined) “~~1.2-1 2.1~~  
ON-FIELD SEDIMENT CONTROL BMPs”**

The following practices have been recommended for implementation as on-field sediment-control BMPs (references are in brackets):

• **~~Imperial Irrigation District Regulation No. 39<sup>2</sup>~~**

~~Imperial Irrigation District's Regulation 39 states, in part, “It is the responsibility of each water user to maintain a tailwater structure and approach channel in acceptable condition, in order to qualify for delivery of water. An acceptable structure shall have vertical walls and a permanent, level grade board set a maximum of 12 inches below the natural surface. If the situation warrants, and at the discretion of the district, 18 inches maximum may be allowed.” See also: NRCS FOTG Conservation Practice “Structure for Water Control” (Code 587).~~

• **Tailwater Drop Box with Raised Grade Board (Imperial Irrigation District Regulation No. 39)**

This practice involves maintenance of the grade board at an elevation high enough to minimize erosion. In many situations the grade board elevation can be set higher than required by the IID Regulations, especially when anticipated tailwater flows will not reach an elevation that will cause crop damage.

Imperial Irrigation District's Regulation 39 (required by IID) calls for maintenance of field drainage structures, and states in part, “It is the responsibility of each water user to maintain a tailwater structure and approach channel in acceptable condition, in order to qualify for delivery of water. An acceptable structure shall have vertical walls and a permanent, level grade board set a maximum of 12 inches below the natural surface. If the situation warrants, and at the discretion of the district, 18 inches maximum may be allowed”.

See also: Imperial Irrigation District Regulation No. 39, NRCS FOTG Conservation Practice “Structure for Water Control” (Code 587).

**Edit Subsequent bullet sections as follows:**

<sup>2</sup>—The Imperial Irrigation District Regulation No. 39 is a required BMP by IID.

- **Pan Ditch (Enlarged Tailwater Ditch Cross Section)**

This practice involves ~~deepening and~~ widening the tailwater ditch and making it very shallow, which will result in decreased tailwater velocity and depth. The water must be checked ~~up~~ downstream of the oversized area to make the cross section of the water as large as practical. The slower the velocity, the more sediment will settle out of the water and stay in the field, and the less will be picked up by the moving water. ~~The effectiveness~~ Effectiveness of this BMP can be further improved by planting grass filter strips in the tailwater ditch and/or installing tailwater ditch checks.

- **Tailwater Ditch Checks or Check Dams**

Tailwater Ditch Checks are temporary or permanent dams that hold the water level well above the ground. They can be placed at intervals in tailwater ditches, especially those with steeper slopes. They increase the cross section of the stream of water, decrease the water velocity and reduce erosion, and may cause sediment already in the water to settle out. Tailwater Ditch Checks can be constructed of plastic, concrete, fiber, metal or other suitable material. If plastic sheets are used, care must be taken not to allow pieces of the plastic to be carried downstream with the water. In order to be effective, this ~~BMP practice~~ practice must be utilized in condition where water velocities will not wash out the check dams or the sides of the tailwater ditch around the dams. Tailwater ditch checks or check dams are expected to work best in wide “pan ditches” where the width of tailwater stream can be effectively increased.

**Edit Subsequent bullet section as follows:**

- **Reduced Tillage**

This practice involves limiting the use of heavy farm machinery to only the operations required for crop growing and harvesting. The goal is to eliminate is the elimination of at least one cultivation per crop. Reduced tillage practices include working seed beds only enough to properly plant, avoiding work in wet soil, varying tillage depth from year to year, cultivating only to control weeds, and chiseling when dry to break up plow plan. Such practices It integrates weed control practices in order to maximize the effectiveness of cultivating weed control, but at the same time minimize erosion and sedimentation that may occur in the furrows.

**Edit Subsequent Title and Section “~~4.2.2~~ 2.2 OFF-FIELD SEDIMENT CONTROL BMPs”**

The following practices have been recommended as off-field sediment-control BMPs (references are in brackets):

**Edit Subsequent Section Title and Section “~~4.2.3~~ 2.3 ESTIMATED COST OF IMPLEMENTATION AND SOURCES OF FINANCING FOR THE IMPERIAL VALLEY DRAINS, AND NEW AND ALAMO RIVERS”**

The estimated total cost ~~or of~~ implementing BMPs range from ~~\$5.00 just over \$2.00~~ to \$52.50 per acre per year, which is ~~generally~~ estimated to be less than or about 2% of production cost.

**Edit Subsequent Title “~~4.3.~~ 2.4 RECOMMENDED ACTIONS FOR COOPERATING AGENCIES”**

**Edit Subsequent Title and Section “~~4.3.1~~ 2.4.1 IMPERIAL COUNTY FARM BUREAU ~~VOLUNTARY~~ WATERSHED PROGRAM”**

The Imperial County Farm Bureau (ICFB) initiated a “~~Voluntary~~ Watershed Program” in 1999, in which it committed to development of program elements, including “outreach programs and mechanisms to encourage and foster an effective self-determined approach to attainment of TMDL load applications.” To implement the program, the ICFB has committed to make contact with every farm landowner, ~~renter/leaser/renter/lessee~~, and operator/grower, ~~within one year~~, and to supply material related to the TMDL process, its ramifications, and implementation alternatives. The specific goals of the ~~Voluntary~~ Watershed Program include: (1) coordination of grass roots educational program to make farmers aware of the TMDL process, and educate farmers on how to reduce sediment/silt leaving their fields, (2) maintenance of informational and data website, (3) coordination of workshops with local technical assistance agencies, and (4) cooperation with Regional Board staff to track and report MP effectiveness. ~~(2) development of local subwatershed (“drainshed”) groups, (3) identification of leaders, within each of the local subwatershed groups, who will provide demonstration implementation sites for field testing of~~

~~BMPs, (4) cooperation with Regional Board staff to develop a process for the subwatershed groups to track and report planned and implemented on-the-ground implementation and MP effectiveness, of BMPs, and (5) provide linkage to technical assistance agencies for BMP implementation assistance.~~ The ICFB has designated the geographical areas for ten (10) subwatershed groups, each covering approximately 50,000 acres of irrigated land. These geographical designations are to be utilized in the ICFB ~~Voluntary~~ Watershed Program's approach to education and implementation. Although the Imperial County Farm Bureau is not a regulatory agency, it has committed to develop and implement a "~~Voluntary~~ Watershed Program" that can play a vital role in achieving TMDL waste load allocations. Therefore, it is appropriate to recommend that the ICFB prepare, submit, and implement the following:

a. ICFB WATERSHED PROGRAM PLAN

The Imperial County Farm Bureau should:

- By:

**Table 4-8 ~~E-5~~ Date that Corresponds to 13 months following the date of USEPA TMDL Approval Letter Issue Due Dates**

TMDL	<del>Date (13 months after USEPA Approval</del>
Alamo River	July 28, 2003
New River	April 30, 2004
Imperial Valley Drains	<u>3 months after USEPA approval</u>

issue letters to all potential program participants within the ~~Alamo River watershed project area that are enrolled in~~ describes the ICFB ~~Voluntary~~ Watershed Program, informing them that the TMDL is being implemented and stating what is required of them.

- By

**Table 4-9 ~~E-6~~ Date that Corresponds to 15 months following the date of USEPA TMDL Approval List of Program Participants Due Dates**

TMDL	<del>Date (15 months after USEPA Approval</del>
Alamo River	September 28, 2003
New River	June 30, 2004
Imperial Valley Drains	<u>5 months after USEPA approval</u>

provide the Regional Board with a list of program participants, organized by subwatershed ("drainshed").

- By:

**Table 4-10- ~~E-7~~ Date that Corresponds to 15 months following the date of USEPA TMDL Approval ICFB Watershed Program Plan Due Dates**

TMDL	<del>Date (15 months after USEPA Approval</del>
Alamo River	September 28, 2003
New River	June 30, 2004
Imperial Valley Drains	<u>6 months after USEPA approval</u>

submit the ICFB Watershed Program Plan to the Regional Board. The Plan should (1) identify measurable environmental and programmatic goals; (2) describe aggressive, reasonable milestones and timelines for the development and implementation of TMDL outreach plans; (3) describe aggressive, reasonable milestones and timelines for the development of sub-watershed ("drainshed") plans; (4) describe a commitment to develop and implement a tracking and reporting program.

- Submit ~~semi-monthly~~ semi-annual reports to the Regional Board's Executive Officer that describe the progress of each of the subwatershed groups, any technical assistance workshops that are planned or were conducted, and any other pertinent information.

b. ICFB TRACKING AND REPORTING PROCEDURES

The Imperial County Farm Bureau should also:

- By

**Table 4-11 E-8 ~~Date that Corresponds to 16 months following the date of USEPA TMDL Approval~~  
Tracking Implementation Plan Due Dates**

TMDL	<del>Date (16 months after USEPA Approval)</del>
Alamo River	October 28, 2003
New River	July 31, 2004
Imperial Valley Drains	7 months after USEPA approval

submit a plan to the Regional Board's Executive Officer describing the process and procedures for tracking and reporting processes for (1) implementation of BMPs (and other proven management practices) and (2) BMP performance to the Regional Board's Executive Officer.

- Implement the tracking and reporting procedures in accordance with the Implementation Plan.
- ~~Submit semi-monthly written reports assessing trends in the data and level of adoption of the process and procedures throughout each of the sub-watersheds ("drainsheds") to the Executive Officer.~~
- Submit a yearly summary report to the Regional Board's Executive Officer by 15<sup>th</sup> of February of each year.

**Edit Subsequent Title and Section "4.3.2 2.4.2 UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION"**

The Regional Board supports efforts of the University of California Cooperative Extension to provide interested growers information on sediment control BMPs, implement projects qualitatively assessing BMP performance, and develop farm water quality planning programs.

**Edit Subsequent Title "4.3.3 2.4.3 NRCS"**

**After Section "VI. ACTIONS OF OTHER AUTHORITIES", add the following new Subsequent Section and renumber pages accordingly:**

**VII. PROHIBITIONS**

**A. Imperial Valley Sedimentation/Siltation**

A prohibition of sediment/silt discharge is hereby established for the Imperial Valley, including the Alamo River, New River, all Imperial Valley Drains, and their tributaries. Specifically, beginning three months after USEPA approval, the direct or indirect discharge of sediment into the Imperial Valley is prohibited, unless:

1. The Discharger is:

- a. In compliance with applicable Sedimentation/Siltation TMDL(s), including implementation provisions (e.g., Discharger is in good standing with the ICFB Watershed Program or has a Drain Water Quality Monitoring Plan (DWQMP) approved by the Executive Officer); or
- b. Has a monitoring and surveillance program approved by the Executive Officer that demonstrates that discharges of sediment/silt into the aforementioned waters do not violate or contribute to a violation of the TMDL(s), the anti-degradation policy (State Board Resolution No. 68-16), or water quality objectives; or
- c. Is covered by Waste Discharge Requirements (WDRs) or a Waiver of WDRs that applies to the discharge.

TMDL compliance groups have formed to address issues regarding wastewater discharge from irrigated lands to waters of the state. Individual Dischargers are not required by the Regional Board to join in TMDL compliance groups. Individual Dischargers who choose not to participate in TMDL compliance groups must file a Report of Waste Discharge for general or individual Waste Discharge Requirements. Compliance with the prohibition will be determined with respect to each individual Discharger, whether or not the Discharger is a member of a compliance group. The intent of this prohibition is to control to the degree practicable sediment/silt discharges from irrigated lands in amounts that violate or contribute to a violation of state water quality standards.

To “Chapter 6- SURVEILLANCE, MONITORING, AND WATER QUALITY ASSESSMENT; II. REGIONAL BOARD MONITORING; B. COMPLIANCE MONITORING”, delete the following and renumber pages accordingly (because this section is being moved to another location):

~~3. New River Pathogen TMDL~~

~~4. Alamo River Sedimentation/Siltation TMDL~~

~~5. New River Sedimentation/Siltation TMDL~~

#### ~~5.1 Compliance Assurance and Enforcement~~

~~As provided in the State Board's Water Quality Enforcement Policy, prompt, consistent, predictable, and fair enforcement are necessary to deter and correct violations of water quality standards, violations of the California Water Code, and to ensure that responsible parties carry out their responsibilities for meeting the TMDL allocations. This is particularly necessary to adequately deal with those responsible parties who fail to implement self-determined or regulatory-encouraged sediment control measures, which are essentially the cornerstone of the State's NPS Program. To this end, the Regional Board may use, as the circumstances of the case may warrant, any combination of the following:~~

- ~~• Implementation and enforcement of Section 13267 of the California Water Code to ensure that all responsible parties submit, in a prompt and complete manner, the Water Quality Management Plan defined in Chapter 4, Section V(B)(1.1.1).~~
- ~~• Consideration of adoption of waste discharge requirements, pursuant to Section 13263 of the California Water Code, as appropriate (i.e., for any responsible party who fails to implement voluntary or regulatory-encouraged sediment controls).~~
- ~~• Consideration of adoption of an enforcement orders pursuant to Section 13304 of the California Water Code against any responsible party who violates Regional Board waste discharge requirements and/or fails to implement voluntary or regulatory-encouraged sediment control measures to prevent and mitigate sediment pollution or threatened pollution of surface waters.~~
- ~~• Consideration of adoption of enforcement orders pursuant to Section 13301 of the California Water Code against those who violate Regional Board waste discharge requirements and/or prohibitions.~~
- ~~• Consideration of Administrative Civil Liability Complaints, as provided for by the California Water Code, against any responsible party who fails to comply with Regional Board orders, prohibitions, and requests.~~
- ~~• Consideration of adoption of referrals of recalcitrant violators of Regional Board orders and prohibitions to the District Attorney or Attorney General for criminal or civil prosecution, respectively.~~

~~From the standpoint of measuring progress, any cropland discharge with a concentration of suspended solids, measuring more than 375 mg/l (or about 270 NTU for turbidity) and absent reasonable implementation of BMPs would be considered unsatisfactory. Samples will be analyzed for volatile suspended solids at locations where organic loading represent a significant proportion of the total suspended solids or turbidity. The volatile suspended solids component will be subtracted. Further, in assessing the status of compliance with Load Allocations specified in Table No. 4-1 of any responsible party who is in either Tier I or Tier II, the Regional Board shall consider, in addition to water quality results, the degree to which the responsible party has implemented, or is implementing, sediment control measures. In the absence of true progress the Regional Board directs the Executive Officer to draft requirements that will fulfill the sediment control measures. The numeric target is a goal that translates current silt/sediment-related Basin Plan narrative objectives and shall not be used for enforcement purposes.~~

#### ~~5.2. Monitoring and Tracking~~

~~Tracking TMDL and monitoring water quality progress, and modifying TMDLs and implementation plans as necessary to ensure attainment of water quality standards are important to address uncertainty that may exist in aspects of TMDL development, oversee TMDL implementation to ensure that implementation is being carried out, and to ensure that the TMDL remains effective, given changes that may occur in the~~

~~watershed after the TMDL is developed. (All monitoring activities are contingent on funding through fund-source specific work plans.)~~

To “Chapter 6- SURVEILLANCE, MONITORING, AND WATER QUALITY ASSESSMENT; II. REGIONAL BOARD MONITORING; B. COMPLIANCE MONITORING”, delete the following and renumber pages accordingly (because this section is being updated and moved to another location):

● ~~Water Quality Monitoring and Assessment~~

~~Alamo River~~

~~Regional Board water quality monitoring activities for the Alamo River Sedimentation/Siltation TMDL Monitoring and Tracking Program shall be conducted pursuant to a Quality Assurance Project Plan for the Alamo River (QAPP-AR). The QAPP-AR shall: (1) include a sufficient number of sampling stations along the Alamo River to determine progress towards compliance with the TMDL and overall water quality improvement; (2) provide for monthly monitoring of flow, field turbidity, laboratory turbidity, total suspended solids in the river; and (3) provide for quarterly monitoring of DDT and DDT metabolites in the river's water column.~~

~~New River~~

~~Monitoring activities are contingent upon adequate programmatic funding. The Regional Board will conduct monitoring activities for the New River Sedimentation/Siltation TMDL pursuant to a Regional Board Quality Assurance Project Plan for the New River (QAPP-NR). The QAPP-NR shall be developed by Regional Board staff and be ready for implementation within 180 days following USEPA approval of this TMDL. The Regional Board's Executive Officer shall approve the QAPP-NR and monitoring plan after determining that the QAPP-NR and monitoring plan satisfy the objectives and requirements of this Section 5.2. The objectives of the monitoring program shall include collection of water quality data for:~~

- ~~Assessment of water quality standards attainment,~~
- ~~Verification of pollution source allocations,~~
- ~~Calibration or modification of selected models (if any),~~
- ~~Evaluation of point and nonpoint source control implementation and effectiveness,~~
- ~~Evaluation of in-stream water quality,~~
- ~~Evaluation of temporal and spatial trends in water quality, and~~
- ~~Modification of the TMDL as necessary.~~

~~The monitoring program shall include a sufficient number of sampling locations and sampling points per location along the New River and major drain tributaries to the river. Monthly grab samples from the above-mentioned surface waters shall be collected and analyzed for the following parameters:~~

- ~~Flow (to be obtained from IID or USGS)~~
- ~~Dissolved Oxygen~~
- ~~pH~~
- ~~Temperature~~
- ~~Field turbidity~~
- ~~Laboratory turbidity~~
- ~~Total suspended solids~~
- ~~Quarterly monitoring of DDT and DDT metabolites~~
- ~~Fecal coliform organisms~~
- ~~E. Coli~~
- ~~Fecal streptococci~~
- ~~Enterococci~~

~~The Regional Board will track activities implemented by dischargers and responsible parties and surveillance conducted for the New River Sedimentation/Siltation TMDL pursuant to an implementation tracking plan (ITP). Regional Board staff will develop the ITP within 180 days following USEPA approval of this TMDL. The Regional Board's Executive Officer shall approve the ITP after determining that the~~

~~ITP satisfies the objectives and requirements of this Section 5.2. The objectives of Regional Board Surveillance and implementation tracking are:~~

- ~~• Assess/track/account for practices already in place;~~
- ~~• Measure the attainment of Milestones;~~
- ~~• Determine compliance with NPDES permits, WLAs, and LAs; and~~
- ~~• Report progress toward implementation of NPS water quality control, in accordance with the SWRCB NPS Program Plan (PROSIP).~~

To “Chapter 6- SURVEILLANCE, MONITORING, AND WATER QUALITY ASSESSMENT; II. REGIONAL BOARD MONITORING; B. COMPLIANCE MONITORING”, delete the following and renumber pages accordingly (because this section is being moved to another location):

• **~~TMDL Implementation Tracking~~**

~~Implementation Tracking Plan:~~

- ~~— Implementation of sediment control activities shall be tracked by Regional Board staff and shall be reported to the Regional Board at least yearly.~~

• **~~Assessment and Reporting~~**

~~On a yearly basis, the Regional Board staff will prepare a report assessing compliance with the TMDL Goals and Milestones. In the report, staff will assess the following:~~

- ~~— Water quality improvement (in terms of total suspended sediments, total sediment loads, DDT and metabolites, total phosphate)~~
- ~~— Trends in BMP implementation~~
- ~~— BMP effectiveness/performance/ and costs~~
- ~~— Whether milestones were met on time or at all. If milestones were not met, provide a discussion of the reasons, and a recommendation~~
- ~~— Level of compliance with measures and timelines agreed to in Program Plans and associated time schedules.~~
- ~~— Level of compliance with measures and timelines agreed to in Drained Plans.~~

• **~~Regular Review~~**

~~The Regional Board shall hold public hearings at least every three years to review the level of implementation of BMPs, effectiveness of the BMPs, and overall progress of the sediment control practices. At these hearings, the following shall be considered:~~

- ~~— Monitoring results to date~~
- ~~— Progress toward attainment of milestones~~
- ~~— Changes or trends in implementation of BMPs~~
- ~~— Modification/addition of management practices for the control of sediment discharges~~
- ~~— Revision of TMDL components and/or development of site-specific water quality objectives~~

~~Review of subcategories of water quality standards related to this TMDL and/or attainability of the TMDL may also be appropriate after the parties responsible for TMDL implementation submit appropriate documentation that sediment control practices (e.g., BMPs) are being implemented on a widespread basis in the Alamo River Subwatershed, that the control practices are being properly implemented and maintained, and that additional controls would result in substantial and widespread economic and social impact. The Regional Board 303(d) listing of the silt/sediment impairment for the Alamo River and tributary drains shall also be re-evaluated.~~

- ~~— The first public hearing shall be scheduled by no later than three years after the date following USEPA TMDL approval of this Basin Plan amendment.~~

To “Chapter 6- SURVEILLANCE, MONITORING, AND WATER QUALITY ASSESSMENT; II. REGIONAL BOARD MONITORING; D. INTENSIVE SURVEYS”, delete the following and renumber pages accordingly:

### 3. ~~New River Pathogen TMDL~~

#### 3.1 ~~Compliance Assurance and Enforcement~~

~~The Executive Officer shall use, as the circumstances of the case may warrant, any combination of the following actions to ensure that the severe threat that current bacterial concentration in the New River pose to public health is promptly and effectively corrected:~~

- ~~• Implement and enforce Section 13267 of the California Water Code to ensure that all dischargers subject to Regional Water Quality Control Board, Colorado River Basin Region, Order No. 01-800, NPDES No. CA0017001, General National Pollutant Discharge Elimination System Permit and General Waste Discharge Requirements for Confined Animal feeding Operations (Order No. 01-800), submit, in a prompt and complete manner, the Engineered Waste Management Plan required by Order No. 01-800.~~
- ~~• Either issue or prepare for Regional Board consideration of adoption an enforcement order pursuant to Section 13304 of the California Water Code against any responsible party who violates Regional Board waste discharge requirements.~~
- ~~• Prepare for Regional Board consideration of adoption, an enforcement order pursuant to Section 13301 of the California Water Code against those who violate Board waste discharge requirements and the Pathogen TMDL.~~
- ~~• Issue an Administrative Civil Liability Complaint as provided for by the California Water Code against any responsible party who fails to comply with Board orders, prohibitions, and requests.~~
- ~~• Prepare for Regional Board consideration of adoption a referral of recalcitrant violators of Board orders and prohibitions to the District Attorney or Attorney General for criminal or civil prosecution, respectively.~~
- ~~• Prepare for Regional Board consideration of adoption an enforcement order pursuant to Section 13304 against the appropriate responsible parties if measures to prevent wastes from Mexico from causing or contributing to violations of the Pathogen TMDL are not implemented in a timely manner.~~

#### 3.2 ~~Water Quality Monitoring~~

~~Monitoring activities are contingent upon adequate programmatic funding. Monitoring activities for the New River Pathogen TMDL will be conducted by the Regional Board pursuant to a Regional Board Quality Assurance Project Plan for the New River (QAPP-NR). The QAPP-NR shall be developed by Regional Board staff and be ready for implementation within 180 days following USEPA approval of this TMDL. The objectives of the monitoring program shall include collection of water quality data for:~~

- ~~• assessment of water quality standards attainment,~~
- ~~• verification of pollution source allocations,~~
- ~~• calibration or modification of selected models (if any),~~
- ~~• evaluation of point and nonpoint source control implementation and effectiveness,~~
- ~~• evaluation of in-stream water quality,~~
- ~~• evaluation of temporal and spatial trends in water quality, and~~
- ~~• modification of the TMDL as necessary.~~

~~The monitoring program shall include a sufficient number of sampling locations and sampling points per location along the New River and major drain tributaries to the river. Monthly grab samples from the above-mentioned surface waters shall be collected and analyzed for the following parameters:~~

- ~~• Flow (to be obtained from IID or USGS)~~
- ~~• Dissolved Oxygen~~
- ~~• pH~~
- ~~• Temperature~~
- ~~• Fecal coliform organisms~~
- ~~• E. Coli~~
- ~~• Fecal streptococci~~
- ~~• Enterococci~~

~~Activities implemented by dischargers and responsible parties and surveillance conducted for the New River Pathogen TMDL will be tracked pursuant to a Regional Board implementation tracking plan (ITP).~~

~~Regional Board staff will develop the ITP within 180 days following USEPA approval of this TMDL. The objectives of Regional Board surveillance and implementation tracking are:~~

- ~~• Assess/track/account for practices already in place;~~
- ~~• Measure the attainment of Milestones;~~
- ~~• Determine compliance with NPDES permits, WLAs, and LAs; and~~

~~Report progress toward implementation of NPS water quality control, in accordance with the SWRCB NPS Program Plan (PROSIP).~~

**To “Chapter 6-SURVEILLANCE, MONITORING, AND WATER QUALITY ASSESSMENT; II. REGIONAL BOARD MONITORING”, add Subsequent Section (these are existing sections being updated and moved to this location) and renumber pages accordingly:**

**F. Total Maximum Daily Loads**

**Compliance Assurance and Enforcement**

The Executive Officer shall use, as the circumstances of the case may warrant, any combination of the following actions to ensure that the water pollution threats identified in TMDLs are promptly and effectively corrected:

- Implementation and enforcement of Section 13225, 13267, and 13268 of the California Water Code to ensure that all responsible parties submit in a prompt and complete manner, the Water Quality Management Plan defined in Chapter 4, Section V(E)(1.1).
- Require submission of reports of waste discharge pursuant to CWC §13260.
- Adoption of waste discharge requirements, pursuant to Section 13263 of the California Water Code, as appropriate (i.e., for any responsible party who fails to implement voluntary or regulatory-encouraged sediment controls).
- Adoption of enforcement orders pursuant to Section 13304 of the California Water Code against any responsible party who violates Regional Board waste discharge requirements and/or fails to implement voluntary or regulatory-encouraged sediment control measures to prevent and mitigate sediment pollution or threatened pollution of surface waters.
- Adoption of enforcement orders pursuant to Section 13301 of the California Water Code against those who violate Regional Board waste discharge requirements and/or prohibitions.
- Issuance of Administrative Civil Liability Complaints, pursuant to Section 13261, 13264, or 13268 of the California Water Code, against any responsible party who fails to comply with Regional Board orders, prohibitions, and requests.
- Adoption of referrals of recalcitrant violators of Regional Board orders and prohibitions to the District Attorney or Attorney General for criminal prosecution or civil enforcement.

**1. PATHOGEN/BACTERIAL INDICATORS**

**A. New River**

**1.A.1. Additional Compliance Assurance and Enforcement**

Implement and enforce Section 13267 of the California Water Code to ensure that all dischargers subject to Regional Water Quality Control Board, Colorado River Basin Region, Order No. 01-800, NPDES No. CA0017001, General National Pollutant Discharge Elimination System Permit and General Waste Discharge Requirements for Confined Animal feeding Operations (Order No. 01-800), submit, in a prompt and complete manner, the Engineered Waste Management Plan required by Order No. 01-800.

**1.A.2. Water Quality Monitoring**

Monitoring activities are contingent upon adequate programmatic funding. Monitoring activities for the New River Pathogen TMDL will be conducted by the Regional Board pursuant to a Regional Board Quality Assurance Project Plan for the New River (QAPP-NR). The QAPP-NR shall be developed by Regional Board staff and be ready for implementation within 180 days following USEPA approval of the TMDL. The objectives of the monitoring program shall include collection of water quality data for:

- assessment of water quality standards attainment,
- verification of pollution source allocations,
- calibration or modification of selected models (if any),

- evaluation of point and nonpoint source control implementation and effectiveness.
- evaluation of in-stream water quality.
- evaluation of temporal and spatial trends in water quality, and
- modification of the TMDL as necessary.

The monitoring program shall include a sufficient number of sampling locations and sampling points per location along the New River and major drain tributaries to the river. Monthly grab samples from the above-mentioned surface waters shall be collected and analyzed for the following parameters:

- Flow (to be obtained from IID or USGS)
- Dissolved Oxygen
- pH
- Temperature
- Fecal coliform organisms
- E. Coli
- Fecal streptococci
- Enterococci

Activities implemented by dischargers and responsible parties and surveillance conducted for the New River Pathogen TMDL will be tracked pursuant to a Regional Board implementation tracking plan (ITP). Regional Board staff will develop the ITP within 180 days following USEPA approval of the TMDL. The objectives of Regional Board surveillance and implementation tracking are:

- Assess/track/account for practices already in place;
- Measure the attainment of Milestones;
- Determine compliance with NPDES permits, WLAs, and LAs; and
- Report progress toward implementation of NPS water quality control, in accordance with the SWRCB NPS Program Plan (PROSIP).

## **2. SEDIMENTATION/SILTATION**

### **A. Imperial Valley**

#### **2.A.1 Additional Compliance Assurance and Enforcement**

- As provided in the State Board's Water Quality Enforcement Policy, prompt, consistent, predictable, and fair enforcement are necessary to deter and correct violations of water quality standards, violations of the California Water Code, and to ensure that responsible parties carry out their responsibilities for meeting TMDL allocations. This is particularly necessary to adequately deal with those responsible parties who fail to implement self-determined or regulatory-encouraged sediment control measures, which are the cornerstone of the State's NPS Program.

From the standpoint of measuring progress, any cropland discharge with a concentration of suspended solids, measuring more than 375 mg/L (or about 270 NTU for turbidity) and absent reasonable implementation of MPs would be considered unsatisfactory. Samples will be analyzed for volatile suspended solids at locations where organic loading represents a significant proportion of the total suspended solids or turbidity. The volatile suspended solids component will be subtracted. Further, in assessing the status of compliance with Load Allocations of any responsible party, the Regional Board shall consider, in addition to water quality results, the degree to which the responsible party has implemented, or is implementing, sediment control measures. In the absence of true progress, the Regional Board directs the Executive Officer to draft requirements that will fulfill sediment control measures. The numeric target is a goal that translates current sediment/silt-related Basin Plan narrative objectives and shall not be used for enforcement purposes.

#### **2.A.2. Monitoring and Tracking**

Tracking TMDL and monitoring water quality progress, and modifying TMDLs and implementation plans as necessary to ensure attainment of water quality standards, are important to address uncertainty that may exist in aspects of TMDL development, oversee TMDL implementation to ensure that implementation is being carried out, and to ensure that the TMDL remains effective, given changes that may occur in the

watershed after the TMDL is developed. (All monitoring activities are contingent on funding through fund-source specific work plans.)

### **2.A.3. Water Quality Monitoring and Assessment**

Monitoring activities are contingent upon adequate programmatic funding. Regional Board staff will conduct monitoring activities for the Alamo River, New River, and Imperial Valley Drains Sedimentation/Siltation TMDLs pursuant to a Regional Board Quality Assurance Project Plan for the Alamo River (QAPP-AR), New River (QAPP-NR), and Imperial Valley Drains (QAPP-IV Sed) Sediment TMDLs. The QAPPs shall be developed by Regional Board staff. The QAPP-AR and QAPP-NR shall be ready for implementation within 180 days following USEPA approval of these TMDLs. The QAPP-IV Sed shall be ready for implementation by one month following USEPA approval of this TMDL. The Regional Board's Executive Officer shall approve the QAPPs and monitoring plans after determining that they satisfy the objectives and requirements of this Section. The objectives of the monitoring program shall include collection of water quality data for:

- Assessment of water quality standards attainment,
- Verification of pollution sources,
- Calibration or modification of selected models (if any),
- Evaluation of point and nonpoint source control implementation and effectiveness,
- Evaluation of in-stream water quality,
- Evaluation of temporal and spatial trends in water quality, and
- Modification of the TMDLs as necessary.

The monitoring program shall include a sufficient number of sampling locations and sampling points per location along the Alamo River, New River, Imperial Valley Drains, and major drain tributaries to the rivers and Salton Sea. The following parameters will be sampled and analyzed from the above-mentioned surface waters, contingent on funding. Data sources may be outside of the Regional Board. Frequency is in brackets.

- Flow [Quarterly]
- Field turbidity [Monthly]
- Laboratory turbidity (EPA Method No. 180.1) [Monthly]
- Total Suspended Solids (EPA Method No. 160.2) [Monthly]
- Total DDT and DDT metabolites [Quarterly]

The Regional Board will track activities implemented by dischargers and responsible parties and surveillance conducted for the Alamo River, New River, and Imperial Valley Drains Sedimentation/Siltation TMDLs pursuant to an implementation tracking plan (ITP). Regional Board staff will develop and implement the ITP within 180 days following USEPA approval of the Alamo River and New River TMDLs. Regional Board staff will develop and implement the ITP by one month following USEPA approval of the Imperial Valley Drains TMDL. The Regional Board's Executive Officer shall approve the ITP after determining that the ITP satisfies the objectives and requirements of this Section. The objectives of Regional Board Surveillance and implementation tracking are:

- Assess/track/account for practices already in place;
- Measure the attainment of Milestones;
- Report progress toward implementation of NPS water quality control, in accordance with the SWRCB NPS Program Plan (PROSIP).

### **2.A.4. TMDL Implementation Tracking**

Implementation of sediment control activities shall be tracked by Regional Board staff and shall be reported to the Regional Board at least yearly.

### **2.A.5. TMDL Assessment and Reporting**

On a yearly basis, Regional Board staff will prepare a report assessing compliance with the TMDL Goals and Milestones. In the report, staff will assess:

- Water quality improvement (in terms of total suspended sediments, total sediment loads, Total DDT, and DDT metabolites).
- Trends in MP implementation.

- MP effectiveness.
- Whether milestones were met on time or at all. If milestones were not met, provide a discussion of the reasons, and make recommendations.
- Level of compliance with measures and timelines agreed to in Program Plans and Drained Plans.

#### **2.A.6 Regular Review**

The Regional Board shall hold public hearings at least every three years to review the level of MP implementation, effectiveness of MPs, and overall progress of sediment control practices. At these hearings, the following shall be considered:

- Monitoring results
- Progress toward attainment of milestones
- Trends in implementation of MPs
- Modification/addition of management practices for the control of sediment discharges
- Revision of TMDL components and/or development of site-specific water quality objectives

Review of subcategories of water quality standards related to these TMDLs and/or attainability of the TMDLs also may be appropriate after the parties responsible for TMDL implementation submit appropriate documentation that sediment control practices (e.g., MPs) are being implemented on a widespread-basis in the watersheds, that the control practices are being properly implemented and maintained, and that additional controls would result in substantial and widespread economic and social impact. The Regional Board 303(d) listing of the sediment/silt impairment for the Alamo River, New River, Imperial Valley Drains and/or tributary drains shall also be re-evaluated.

## **Recommendation to Place Imperial Valley Drains Listings of Organochlorine Compounds in the Being Addressed Portion of the 303(d) List**

This is a justification for placing the 303(d) listings of Imperial Valley Drains (IVDs) organochlorine (OC) compounds chlordane, dichlorodiphenyltrichloroethane (DDT), dieldrin, polychlorinated biphenyl (PCBs), and toxaphene in the Being Addressed portion of the 303(d) list (Category 5C) because:

- 1- Existing regulatory actions [Alamo River Sediment Total Maximum Daily Load (TMDL), IVDs Sediment TMDL and Prohibition, and New River Sediment TMDL] are expected to result in attainment of the water quality standards (WQSs);
- 2- OC compounds are attached to sediments. Sediment management Practices (MPs) required by the existing regulatory actions are being implemented;
- 3- Regional Water Board staff is not aware of any other feasible and more effective MPs to reduce the concentrations of IVDs OC compounds;
- 4- OC compounds are no longer legally sold or used in the U.S. ; and
- 5- Concentrations of OC compounds in IVDs have been reduced significantly.

Major responsible parties for implementing the TMDLs and the Prohibition are Imperial Valley farmers/growers and Imperial Irrigation District (IID). IVDs WQSs for OC compounds are expected to be attained through continued implementation and improvement of sediment MPs by Imperial Valley farmers/growers, and a drain water quality improvement plan (DWQIP) by the IID. Regional Water Board staff estimates that the Alamo River will meet WQSs for OC compounds by the year 2030. The Regional Water Board will update this recommendation when new data and information become available and are assessed.

### **Problem Statement**

IVDs are listed according to section 303(d) of the federal Clean Water Act as being impaired by the OC compounds chlordane, DDT, dieldrin, PCBs, and toxaphene. IVDs do not currently attain the WQSs for these OC compounds set forth in the Water Quality Control Plan (Basin Plan) for the Colorado River Basin Region adopted by the Regional Water Board. IVDs listings of OC compounds occurred because of violations of WQSs for fish tissue.

### **WQSs and IVDs**

In California, WQSs include designated beneficial uses (BUs), narrative and/or numeric water quality objectives (WQOs) or numeric water quality criteria to protect the BUs, and an anti-degradation policy. The Basin Plan requires that all waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or indigenous aquatic life. Additionally, the Basin Plan states that there shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life. IVDs have designated BUs as: Warm freshwater habitat (WARM); wildlife habitat (WILD); preservation of rare, threatened, or endangered species (RARE); water contact recreation (REC I); non-

contact water recreation (REC II); and freshwater replenishment (FRSH). These uses are specified in the Basin Plan.

## **OC Compounds and IVDs**

IVDs are located in the Imperial Valley (Figure 1), which is located within the Salton Sea Transboundary Watershed. The Salton Sea Transboundary Watershed includes Mexicali Valley in Mexico, and Imperial Valley in the United States. The Imperial Valley has an agricultural-based economy from about 530,000 acres of irrigated farmland. Major Imperial Valley crops are alfalfa, wheat, Bermuda grass, sudan grass, and sugar beets.

IVDs consist of all the major and minor drains discharging to the Alamo River, New River, and Salton Sea. IVDs are sustained and dominated by agricultural return flows discharged from Imperial Valley farmland. IVDs watershed provides important habitat for many different kinds of wildlife, with birds as the most diverse wildlife group.

OC compounds are man-made chemicals. There are no natural sources of these OC compounds. Their uses were restricted in the 1970s, 1980s, and 1990s. The OC compounds Chlordane, DDT, dieldrin, and Toxaphene were mainly used as agricultural pesticides. The OC compounds PCBs were used in a wide variety of applications, including dielectric fluids in transformers and capacitors, heat transfer fluids, and lubricants.

OC compounds commonly referred to as legacy pollutants because of their persistence and residual effects in the environment. In the environment OC compounds can remain chemically active for years and decades, and can accumulate in the tissue of benthic organisms to levels that may affect the organism's health and the health of those that may consume them.

OC compounds have a strong tendency to bind to fine-grained soil particles (silt, clay). The soil-bound OC compounds are then carried by water flow from both point and non-point upstream locations to new downstream locations, where they eventually settle and accumulate in the bottom sediments. The main source of OC compounds in IVDs is from nonpoint source runoff from areas with high residual OC concentrations. Nonpoint source runoff also includes the load from atmospheric deposition, although this is a much smaller contribution compared to the load from runoff. Point source inputs from National Pollutant Discharge Elimination System discharges are also a much smaller contribution of the overall load compared to the load from runoff.

## **Description of Existing Regulatory Actions as an Implementation Strategy to Achieve OC WQSs**

Existing U.S. Environmental Protection Agency (USEPA) approved Sediment TMDLs and Prohibition (**Table 1**) for Alamo River, IVDs, and New River are expected to result in attainment of the OC compounds WQSs. Since the movement of OC compounds are caused mainly by the movement of sediment, it is expected that if the concentrations of sediment loaded into the IVDs are reduced then both water column and fish tissue OC concentrations will be reduced and the WQSs will be met.

**Table 1: Sediment TMDLs Approval Dates**

<b>TMDL/ RB Resolution No.</b>	<b>RB Adoption</b>	<b>SB Approval</b>	<b>OAL Approval</b>	<b>USEPA Approval</b>
Alamo River Sediment/ 01-100	6/27/2001	2/19/2002	5/3/2002	6/28/2002
New River Sediment/ R7-2002-0097	6/26/2002	11/19/2002	1/13/2003	3/31/2003
Imperial Valley Drains Sediment TMDL and Prohibition/ R7-2005-0006	1/19/2005	7/21/2005	9/8/2005	9/30/2005

The TMDLs and the Prohibition are currently being implemented through sediment control programs by the Imperial County Farm Bureau (ICFB), and the Imperial Irrigation District (IID). Readily available data shows that the concentrations of OC compounds in fish tissue samples, which were the basis for the listings, have been reduced significantly. The TMDLs and the Prohibition are subject to reviews and revisions.

The Sediment TMDLs named Imperial Valley farmers and IID as the two major responsible parties for implementation. The TMDLs and the prohibition include time schedules, milestones and a monitoring and reporting program. The TMDLs and the Prohibition are subject to review and revision.

To assist Imperial Valley farmers comply with the sediment TMDLs and the Prohibition, ICFB is implementing a successful program titled "ICFB TMDL Compliance Program" with sediment reduction MPs that were identified by ICFB staff, Imperial Valley Farmers, IID, and the University of California Cooperative Extension. Some of these MPs are IID Regulation 39 Tail Water Drain Box, Land Leveling, Pan Ditch, Gopher Control, Filter Strip, Grass Strip in Tail Ditch, Irrigation Water Management, Sprinkler Irrigation, Level Basin Irrigation, Pump-back System, and Use of Polyacrylamides.

Key elements of the ICFB TMDL Compliance Program are:

- 1- Enlists farmers in the ICFB Program and tracks implementation standing;
- 2- Provides technical and educational support for farmers to comply with the TMDLs and the Prohibition;
- 3- Holds periodic meetings with program participants, IID, and Regional Water Board staff to discuss overall progress, problems, and areas that need further efforts; and
- 4- Reports on a quarterly and annual basis to Regional Water Board staff on all the above.

The ICFB Program divided the Imperial Valley into ten sub-watersheds (or drainsheds): five for the Alamo River; four for the New River; and one for all drains that discharge directly into the Salton Sea. Farmers can enroll in the ICFB Program in three ways:

- 1- In person at the ICFB Office;
- 2- Via regular mail sent to ICFB's office; and
- 3- Online at the ICFB's TMDL website.

The ICFB developed and maintains a database tracking membership and other key program information (e.g. MPs, farmland location, acreage, discharge points, etc.). Farmers are organized into drainshed working groups for administrative and technical

purposes Membership participation is reported to the Regional Water Board. Regional Water Board staff contacts farmers who are not enrolled in the ICFB Program and farmers who are not responsive to program requirements.

Farmers enrolled in the ICFB TMDL Program are required to attend annual drained meetings, develop individual farm water quality improvement plans (WQIPs), implement MPs, and update and report their farm plans annually to the ICFB, which compiles and reports this information to the Regional Water Board. Current participation in the ICFB TMDL Program is about 98% of Imperial Valley farmers.

The TMDL also required the IID to submit to the Regional Water Board a revised DWQIP to control and monitor water quality impacts caused by drain maintenance operations. To comply with this requirement, the IID developed and is implementing a DWQIP that was approved by the Regional Water Board Executive Officer. The DWQIP includes water quality monitoring for TSS and other constituents in Imperial Valley's source water, seven major drains, and eighteen minor drains that represent all IVDs. The IID is currently utilizing several MPs which serve to reduce sediment discharge within the IID drainage system, including:

- 1- IID Regulation No. 39 (Tailwater Drop Box with Raised Grade Board);
- 2- IID's Tailwater Education Program;
- 3- Drain cleaning checklist;
- 4- "Rakes" for large vegetation removal (salt cedar);
- 5- Excavator-mounted GPS units during cleaning/dredging operations;
- 6- A drain improvement program to improve problematic drains;
- 7- A vegetation control plan; and
- 8- Support for the ICFB Program.

Additionally, the TMDL required the IID to submit to the Regional Water Board semiannual information on agricultural dischargers within the district that includes names and addresses for all owners of properties within the IID surface area that are being used for irrigated agriculture, as well as the location of their properties. Data and information from IID's DWQIP are submitted to the Regional Water Board quarterly and annually.

### **Concentrations of OC Compounds in the IVDs Have Been Reduced Significantly**

2011 data shows that concentrations of IVDs OC compounds have been reduced significantly from their peaks in the 1970s, 1980s, and 1990s, as follows:

- For chlordane, the reductions were about 83% for Central Drain, 79% for Rice Drain, 60% for Peach Drain, and 46% for Barbara Worth Drain (Figure 2; and Table 2).
- For DDT, the reductions were about 77% for Central Drain, 39% for Rice Drain, 88% for Peach Drain, and 66% for Barbara Worth Drain (Figure 3; and Table 3).
- Except for Rice Drain, the reductions of dieldrin were about 93% for Central Drain, 87% for Peach Drain, and 76% for Barbara Worth Drain (Figure 4; and

Table 4). Rice Drain peak dieldrin concentration in 2011 was about 1.65 times its peak concentration in 1985.

- For PCBs, the reductions were about 84% for Central Drain, and 88% for Barbara Worth Drain (Figure 5; and Table 5). There were not enough available data and information to estimate PCBs reductions at Rice and Peach drains.
- For toxaphene, the reductions were about 95% for Central Drain, 42% for Rice Drain, 89% for Peach Drain, and 39% for Barbara Worth Drain (Figure 6; and Table 6).

The IVDs WQSs for OC compounds are expected to be attained through continued implementation and improvement of ICFB's sediment MPs by Imperial Valley farmers/growers, and the IID's DWQIP.

### **Reasonable Schedule for Implementing Necessary Pollution Controls and an Estimate Timeline when WQSs Will be Met**

Based on this analysis, Regional Water Board staff estimates that the IVDs will meet WQSs for OC compounds by the year 2030. Monitoring programs by State and the Regional Water Board that include sediment and OC compounds in fish tissues will continue to provide data and information to assess meeting targets and criteria, effectiveness of MPs, and any needed revisions.

### **Summary**

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing these water segment-pollutant combinations from the section 303(d) list. However, there is sufficient justification to place them in the Being Addressed portion of the 303(d) list because existing regulatory actions other than new TMDLs are expected to result in attainment of the standards by 2030. OC compounds are attached to sediments. USEPA approved TMDLs and Prohibition (Regional Water Board Resolutions R7-2001-0100, R7-2001-0096, and R7-2005-0006) to control sediment in IVDs watershed are now being implemented. Also, OC compounds are no longer legally sold or used in the U.S., and their concentrations have been reduced significantly. The Regional Water Board will update this recommendation when new data and information become available and are assessed.

Figure 1: Imperial Valley Drains (IID DWQIP Drain Map)

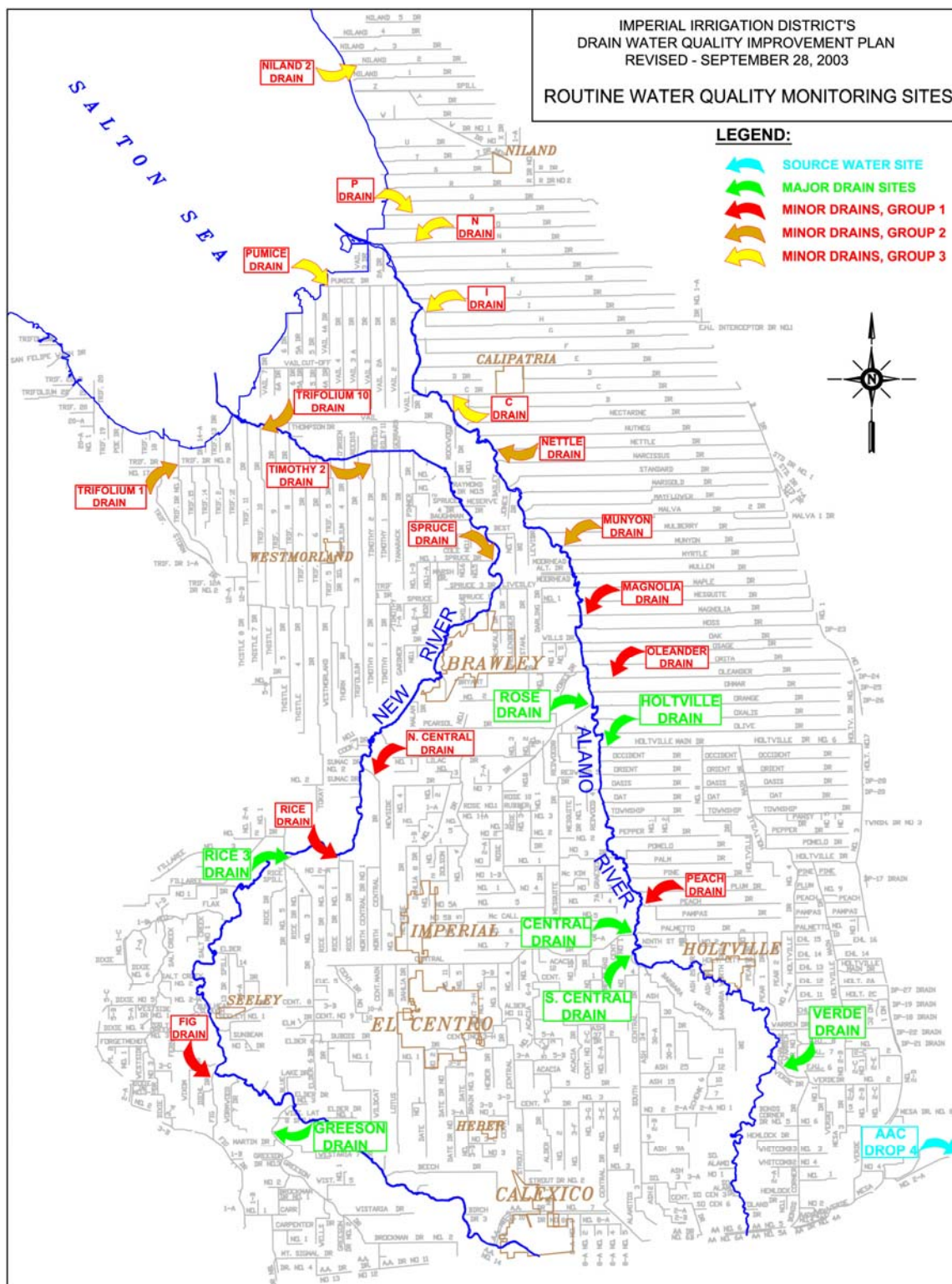


Figure 2: IVDs Chlordane in Fish Tissue

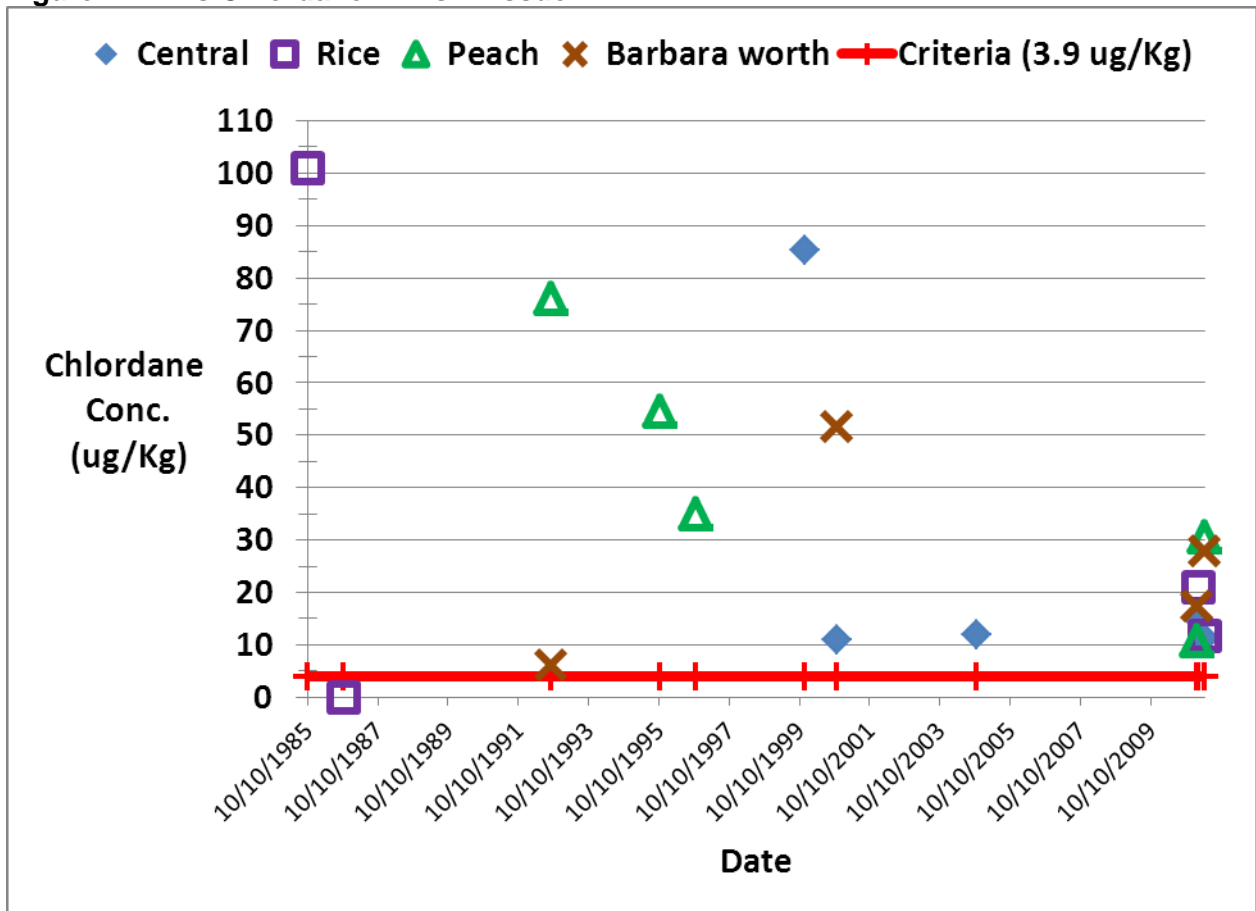


Table 2: IVDs Chlordane in Fish Tissue (ug/Kg)

Date	Central	Rice	Peach	Barbara worth
10/10/1985		101		
10/15/1986		ND		
9/17/1992			76	6
10/28/1995			54.4	
11/3/1996			34.9	
12/5/1999	85.3			
11/8/2000	11			51.6
11/2/2004	11.86			
2/7/2011			10.62	17.41
2/11/2011	14.8			
2/12/2011		21		
4/19/2011			30.6	
4/20/2011	11.18	11.61		27.91

Figure 3: IVDs DDT in Fish Tissue

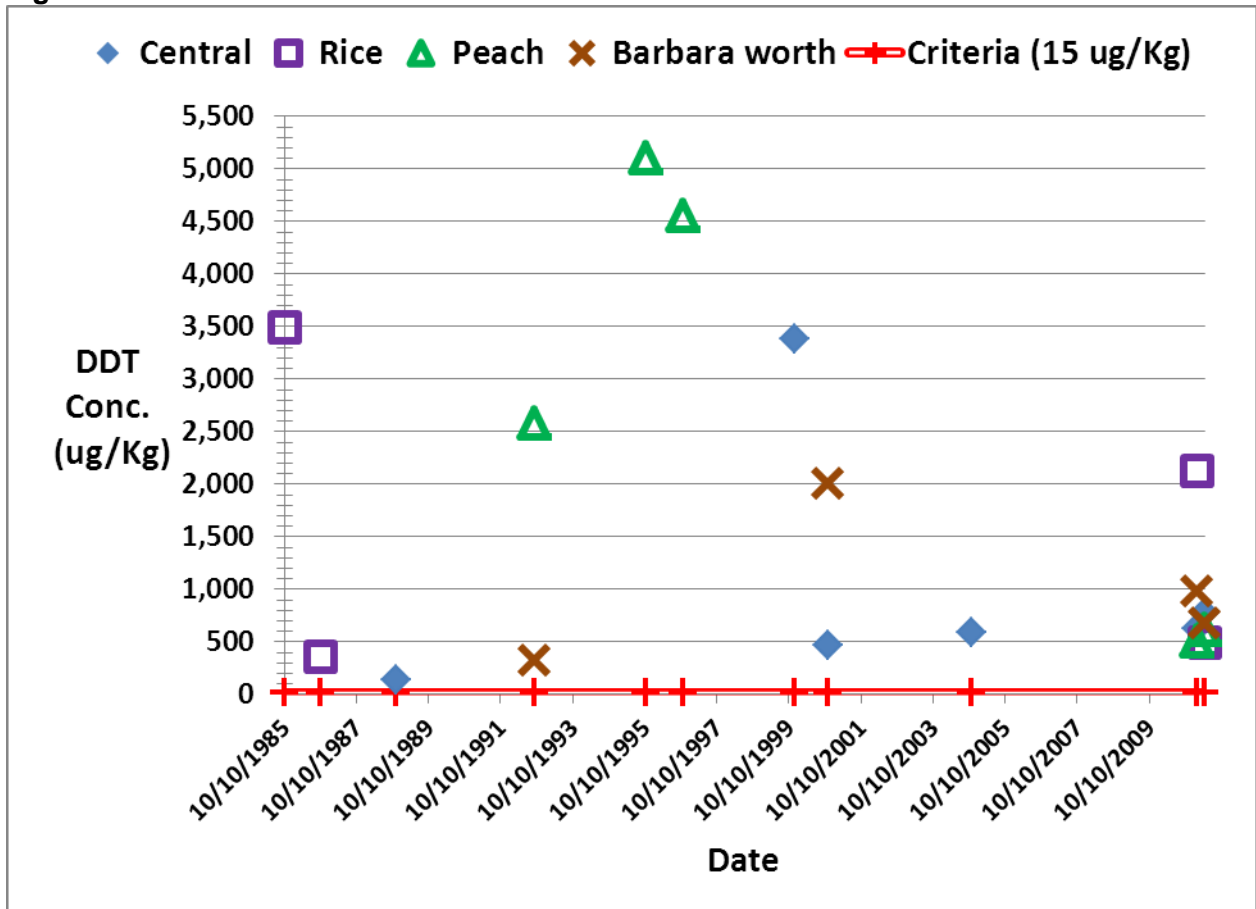
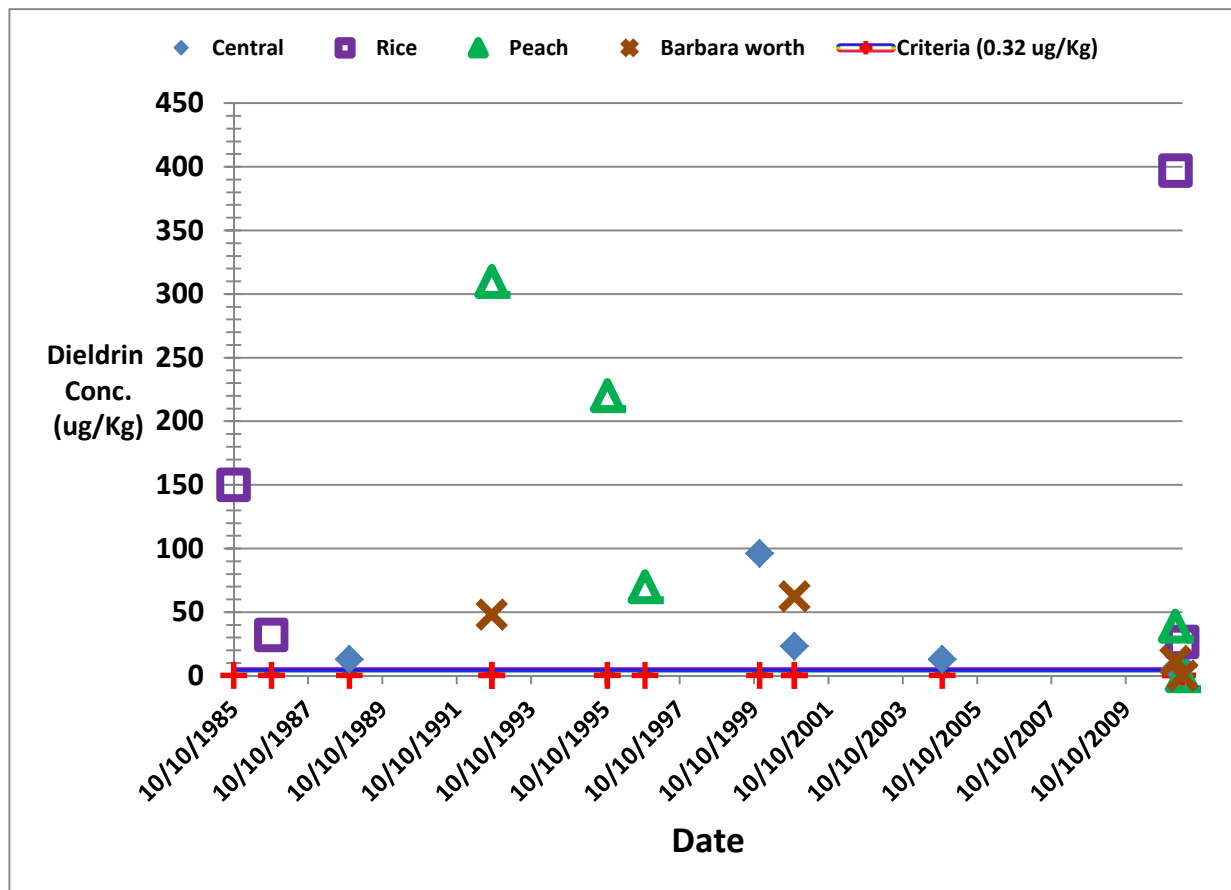


Table 3: IVDs DDT in Fish Tissue (ug/Kg)

Date	Central	Rice	Peach	Barbara worth
10/10/1985		3,496.00		
10/15/1986		364.00		
11/18/1988	144.00			
9/17/1992			2,577.00	
9/17/1992				320.00
10/28/1995			5,106.00	
11/3/1996			4,549.00	
12/5/1999	3,384.40			
11/8/2000	464.50			
11/8/2000				2,007.00
11/2/2004	587.00			
2/7/2011			502.74	982.90
2/11/2011	623.60			
2/12/2011		2,129.00		
4/19/2011			614.00	
4/20/2011	772.55	496.20		674.39

**Figure 4: IVDs Dieldrin in Fish Tissue**



**Table 4: IVDs Dieldrin in Fish Tissue (ug/Kg)**

Date	Central	Rice	Peach	Barbara worth
10/10/1985		150		
10/15/1986		32		
11/18/1988	13			
9/17/1992			310	
9/17/1992				48
10/28/1995			220	
11/3/1996			70	
12/5/1999	96.2			
11/8/2000	23.1			
11/8/2000				62.5
11/2/2004	12.798			
2/7/2011			39	11.6
2/11/2011	5.55			
2/12/2011		397		
4/19/2011			NR	
4/20/2011	6.79	26.5		<0.414

Figure 5: IVDs PCBs in Fish Tissue

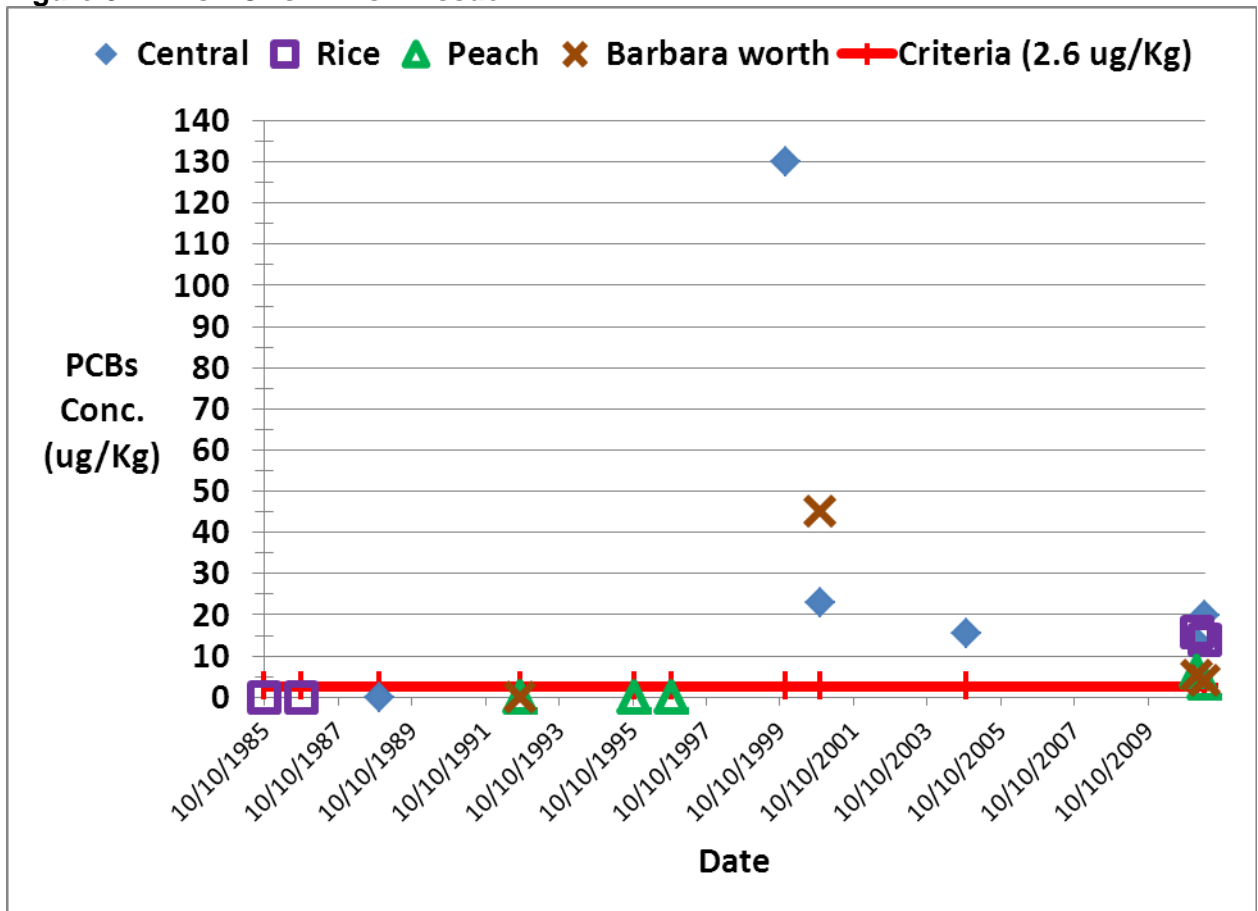


Table 5: IVDs PCBs in Fish Tissue (ug/Kg)

Date	Central	Rice	Peach	Barbara worth
10/10/1985		ND		
10/15/1986		ND		
11/18/1988	ND			
9/17/1992			ND	
9/17/1992				ND
10/28/1995			ND	
11/3/1996			ND	
12/5/1999	130			
11/8/2000	23			
11/8/2000				45
11/2/2004	15.4184			
2/7/2011			6.155	5.271
2/11/2011	13.3			
2/12/2011		15.88		
4/19/2011			3.371	
4/20/2011	19.884	13.983		4.11

Figure 6: IVDs Toxaphene in Fish Tissue

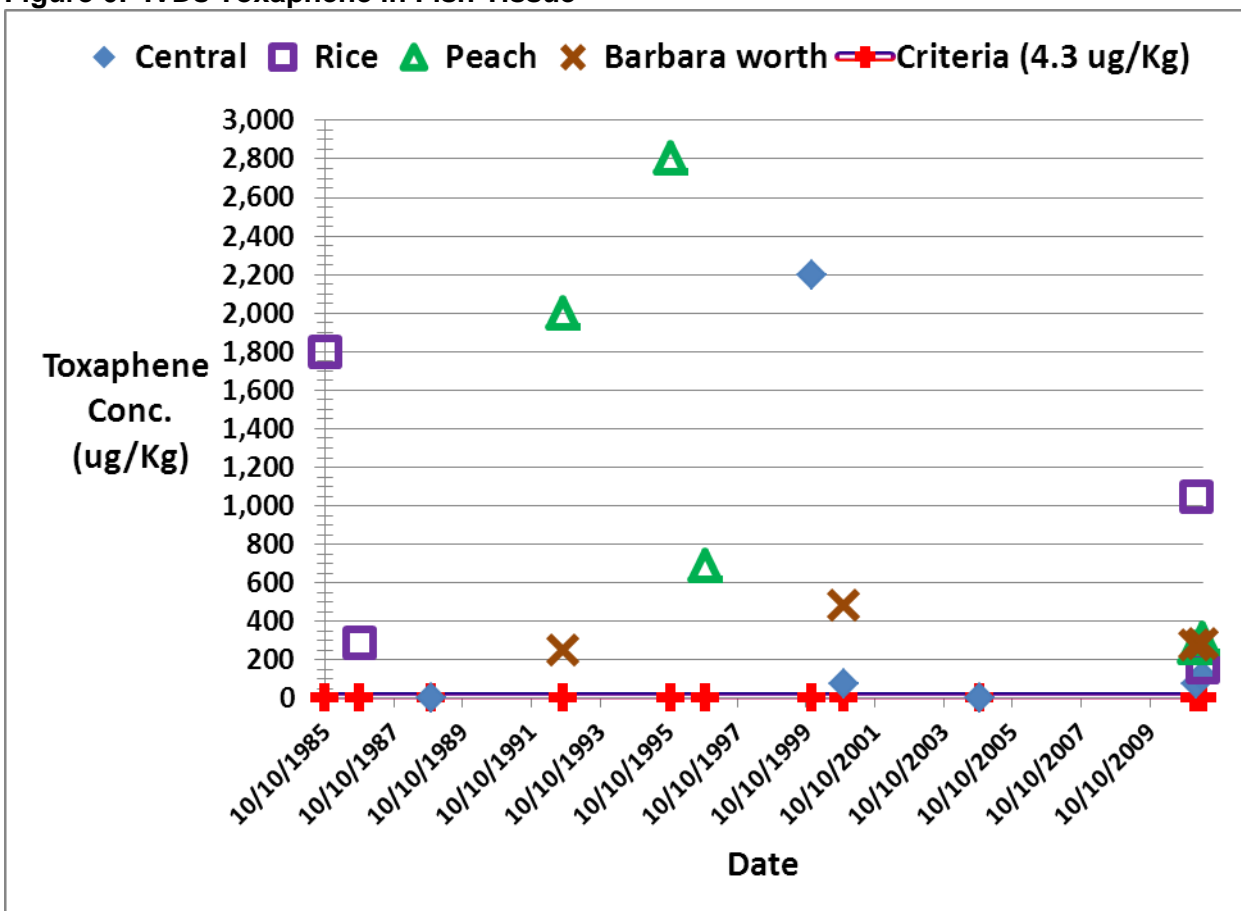


Table 6: IVDs Toxaphene in Fish Tissue (ug/Kg)

Date	Central	Rice	Peach	Barbara worth
10/10/1985		1800		
10/15/1986		290		
11/18/1988	<100			
9/17/1992			2000	
9/17/1992				250
10/28/1995			2800	
11/3/1996			690	
12/5/1999	2196			
11/8/2000	76.2			
11/8/2000				480
11/2/2004	<4			
2/7/2011			263	274
2/11/2011	76			
2/12/2011		1046		
4/19/2011			306	
4/20/2011	118	161		283

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
COLORADO RIVER BASIN REGION**

**RESOLUTION NO. R7-2002-0097**

**A Resolution Amending the Water Quality Control Plan  
for the Colorado River Basin  
to Establish a Total Maximum Daily Load for Sedimentation/Siltation  
for the New River**

WHEREAS, the California Regional Water Quality Control Board, Colorado River Basin Region (hereinafter Regional Board), finds that:

1. An updated Water Quality Control Plan for the Colorado River Basin (Basin Plan) was adopted by the Regional Board on November 17, 1993, approved by the State Water Resources Control Board (SWRCB) on February 17, 1994, and approved by the Office of Administrative Law on August 3, 1994.
2. Warm freshwater habitat (WARM), wildlife habitat (WILD), preservation of rare, threatened, and endangered species (RARE), water contact recreation (REC I), non-contact recreation (REC II), and freshwater replenishment (FRSH) are among the beneficial use designations specified in the Basin Plan for the New River.
3. The Basin Plan includes narrative water quality objectives for total suspended solids, sediment, and turbidity for the New River to protect the beneficial uses listed in Finding No. 2, above.
4. Water quality objectives are not being met in the New River because direct and indirect discharges of silt-laden agricultural tailwater into the River and drain maintenance operations are adversely impacting the beneficial uses. The silt carries insoluble pesticides such as DDT and its byproducts, which bioaccumulate in fish tissue.
5. Pursuant to Section 303(d) of the Clean Water Act, the Regional Board, with the concurrence of the State Board, listed the New River as water quality limited because of the sediment impairments. Section 303(d) of the Clean Water Act requires the establishment of the Total Maximum Daily Load (TMDL) of sediment/silt that can be discharged while still ensuring compliance with water quality standards. Section 303(d) also requires the allocation of this TMDL among sources of sediment/silt, together with an implementation plan and schedule that will ensure that the TMDL is met and that compliance with water quality standards is achieved.
6. The New River Sedimentation/Siltation TMDL Report (hereafter "TMDL Report") and the proposed Basin Plan amendment (hereafter "Attachment 2") to establish the TMDL are hereby made part of this Resolution by reference.
7. The TMDL Report and related Basin Plan amendment attached to this resolution meet the requirements of Section 303(d) of the Clean Water Act. The amendment requires, in part, that nonpoint sources implement Best Management Practices (BMPs) to control sediment/silt inputs to provide a reasonable assurance that water quality standards will be met.


8. The Regional Board prepared and distributed written reports regarding adoption of the Basin Plan amendment in compliance with applicable state and federal environmental regulations (Title 23, California Code of Regulations, Section 3775 et seq.; and Title 40, Code of Federal Regulations, Parts 25 and 131).
9. The process of basin planning has been certified by the Secretary for Resources as exempt from the requirements of the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) to prepare an Environmental Impact Report or Negative Declaration. (Pub. Resources Code, 21080.5; Cal. Code Regs., tit. 14, 15251, subd. (g).) The TMDL Report-Basin Plan amendment package includes an Environmental Checklist, an assessment of the environmental impacts of the Basin Plan amendment, and a discussion of alternatives, among other analyses. The amended Basin Plan, Environmental Checklist, TMDL Report, and supporting documentation are functionally equivalent to an Environmental Impact Report or Negative Declaration.
10. The proposed adoption of the Basin Plan amendment based on the TMDL Report is a regulatory action subject to the requirements of Public Resources Code section 21159. Consistent with the requirements of that section, the CEQA Checklist and the CEQA Checklist Discussion include, among other things, an analysis of reasonably foreseeable environmental impacts associated with proposed methods of compliance set forth in the Basin Plan amendment, an analysis of reasonably foreseeable feasible mitigation measures to reduce or avoid those impacts, and an analysis of reasonably foreseeable alternative means of compliance with the requirements embodied by the Basin Plan amendment that would avoid or eliminate the related environmental impacts. (Pub. Resources Code, 21159, subd. (a)(1)-(3); Cal. Code Regs., tit. 14, 15187, subds. (b), (c)(1)-(3).) In so doing, the analysis in the CEQA Checklist and CEQA Checklist Discussion takes into account a reasonable range of environmental, economic, and technical factors. CEQA analysis determined that the proposed Basin Plan amendment could have a significant adverse effect on the environment. However, there are feasible alternatives and/or feasible mitigation measures that would substantially lessen any significant adverse impact.
11. The Regional Board has considered federal and state antidegradation policies and other relevant water quality control policies and finds the Basin Plan amendment consistent with those policies.
12. Since January 1998, Regional Board staff has engaged interested parties in stakeholder involvement through regular meetings of the Silt Total Maximum Daily Load Technical Advisory Committee.
13. Consistent with Title 23, California Code of Regulations, Sections 3778 through 3780, the Regional Board consulted about the proposed action with stakeholders in the Region and with other potentially affected parties, considered and addressed comments on the matter, and considered and incorporated feasible mitigation measures to avoid significant impacts on the environment.
14. On June 26, 2002, the Regional Board held a Public Hearing to consider the TMDL Report and the Basin Plan amendment. Notice of the Public Hearing was given to all interested persons and published in accordance with Water Code Section 13244 and Title 40, Code of Federal Regulations, Part 25.

15. The Basin Plan amendment must be submitted for review and approval by the SWRCB, the Office of Administrative Law (OAL), and the U.S. Environmental Protection Agency. Once approved by the SWRCB, the amendment is submitted to OAL. A Notice of Decision will be filed after the SWRCB and OAL have acted on this matter. The SWRCB will forward the approved amendment to the U.S. Environmental Protection Agency for review and approval.
16. The TMDL establishes a numeric target of 200 mg/L for Total Suspended Solids (annual average). Numeric targets in a TMDL are not water quality objectives. Numeric targets are implementation tools that translate existing objectives, by quantifying the limits those objectives require, considering seasonal variations and a margin of safety. Targets do not create new bases for enforcement apart from the objectives they translate.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The Regional Board adopts the amendment to the Water Quality Control Plan for the Colorado River Basin as set forth in Attachment 2.
2. The Executive Officer is directed to forward copies of the Basin Plan amendment to the SWRCB in accordance with the requirement of Section 13245 of the California Water Code.
3. The Regional Board requests that the State Water Resources Control Board approve the Basin Plan amendment in accordance with Sections 13245 and 13246 of the California Water Code and forward it to the Office of Administrative Law and United States Environmental Protection Agency for approval.
4. The Executive Officer is directed to file a Notice of Decision with the California Secretary for Resources after final approval of the Basin Plan amendment, in accordance with Section 21080.5(d) (2)(E) of the Public Resources Code and Title 23, California Code of Regulations, Section 3781.
5. If during its approval process the SWRCB or OAL determines that minor, non-substantive corrections to the language of the amendment are needed for clarity or consistency, the Executive Officer may make such changes, and shall inform the Board of any such changes.

I, Phil Gruenberg, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Colorado River Basin Region, on June 26, 2002.

  
Phil Gruenberg  
Executive Officer

## ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the New River Sedimentation/Siltation Total Maximum Daily Load

Page 1 of 11

### **An Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the New River Sedimentation/Siltation Total Maximum Daily Load**

#### **AMENDMENT**

(Proposed changes are in reference to the May 23, 2002 version of the Basin Plan. Proposed additions are denoted by underlined text, proposed deletions are denoted by ~~strikethrough text~~)

Page 4-19, change "~~VI. TOTAL MAXIMUM DAILY LOADS~~" TO "V. TOTAL MAXIMUM DAILY LOADS" and add the following new subsequent Section and renumber accordingly:

#### **C. New River Sedimentation/Siltation TMDL**

##### **1. TMDL ELEMENTS**

**Table 4-3: New River Sedimentation/Siltation TMDL Elements**

<b><u>ELEMENT</u></b>	
<b><u>Problem Statement</u></b> <b><u>(impaired water quality standard)</u></b>	Excess delivery of sediment to the New River has resulted in degraded conditions that impairs designated beneficial uses: warm freshwater habitat; wildlife habitat; preservation of threatened, rare, and endangered species habitat; contact- and non-contact recreation; freshwater replenishment. As the New River discharges into the Salton Sea, sediment also threatens the same beneficial uses of the Salton Sea. Sediment serves as a carrier for DDT, DDT metabolites, and other insoluble pesticides including toxaphene, which pose a threat to aquatic and avian communities and people feeding on fish from the New River; and suspended solids concentrations, sediment loads, and turbidity levels are in violation of water quality objectives. These current concentrations, loads, and levels are also forming objectionable bottom deposits, which are also adversely affecting the beneficial uses of New River.

(This table is continued on the following page.)

# ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the New River Sedimentation/Siltation Total Maximum Daily Load

Page 2 of 11

**Table C-1: New River Sedimentation/Siltation TMDL Elements (continued)**

<b>ELEMENT</b>	<b>CURRENT CONDITIONS</b>												
<b><u>Numeric Target</u></b>	<u>200 mg/L Total Suspended Solids (annual average)<sup>1</sup></u>												
<b><u>Source Analysis</u></b>	<table> <tr> <td><b><u>Source</u></b></td><td><b><u>tons/year</u></b></td></tr> <tr> <td>Agricultural Drain Discharges:</td><td>137,715</td></tr> <tr> <td>In-Stream Erosion &amp; Wind Deposition:</td><td>6,409</td></tr> <tr> <td>NPDES Permitted Facilities:</td><td>356</td></tr> <tr> <td>International Boundary</td><td>11,265</td></tr> <tr> <td>Total:</td><td>155,745</td></tr> </table>	<b><u>Source</u></b>	<b><u>tons/year</u></b>	Agricultural Drain Discharges:	137,715	In-Stream Erosion & Wind Deposition:	6,409	NPDES Permitted Facilities:	356	International Boundary	11,265	Total:	155,745
<b><u>Source</u></b>	<b><u>tons/year</u></b>												
Agricultural Drain Discharges:	137,715												
In-Stream Erosion & Wind Deposition:	6,409												
NPDES Permitted Facilities:	356												
International Boundary	11,265												
Total:	155,745												
<b>ELEMENT</b>	<b>LOAD ALLOCATIONS</b>												
<b><u>Margin of Safety</u></b>	<u>6,409 tons/year</u> <u>(corresponds to 10 mg/L)</u>												
<b><u>Seasonal Variations and Critical Conditions</u></b>	<u>Both the flow and sedimentation regimes within the New River watershed are relatively stable, and the sediment and water sources within the watershed are relatively uniform and widespread; therefore, this TMDL does not include provisions other than the established load allocations and implementation plan for seasonal variations or critical conditions. Staff's analysis of potential water transfers out of the watershed indicate that the transfers are not likely to affect compliance with this TMDL, but could cause other water quality problems that will need to be addressed by the parties responsible for the transfers.</u>												
<b><u>Loading Capacity</u></b>	<u>127,881 tons/year</u>												

(This table is continued on the following page.)

<sup>1</sup> The numeric target is a goal that translates current silt/sediment-related Basin Plan narrative objectives and shall not be used for enforcement purposes.

**ATTACHMENT 2**

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the New River Sedimentation/Siltation Total Maximum Daily Load

Page 3 of 11

**Table C-1: New River Sedimentation/Siltation TMDL Elements (continued)**

ELEMENT			
<b><u>Load Allocations and Wasteload Allocations</u></b>	<b><u>Load Allocations:</u></b> <ul style="list-style-type: none"> <li><u>Natural sources of sediment to the New River, including erosion and wind deposition, are allocated 6,409 tons/year.</u></li> <li><u>Waste discharges from nonpoint sources into the New River shall not exceed the load allocations specified below:</u></li> </ul>		
	<b><u>River Reach</u></b>	<b><u># of IID Drains Identified within Reach</u></b>	<b><u>Sediment Load Allocation (tons/year)<sup>1,2</sup></u></b>
	<u>New River immediately downstream of the International Boundary, at the USGS gauging station, a point identified hereafter at "NR-0"</u>	<u>None</u>	<u>11,265</u>
	<u>Reach 1: Downstream from the International Boundary to the intersection of the Evan Hewes Road Bridge and the New River Channel, a point identified hereafter as "NR-1"</u>	<u>14</u>	<u>20,730</u>
	<u>Reach 2: This reach encompasses the river from NR-1 to Drop Structure 2, a point upstream of the Rutheford Road Bridge hereafter referred to as "NR-2".</u>	<u>17</u>	<u>32,350</u>

(This table is continued on the following page.)

# **ATTACHMENT 2**

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the New River Sedimentation/Siltation Total Maximum Daily Load

Page 4 of 11

**Table C-1: New River Sedimentation/Siltation TMDL Elements (continued)**

<b>ELEMENT</b>			
<b>Load Allocations and Wasteload Allocations</b>	<u>Reach 3: This reach covers the river from NR-2 to the point where it intersects the Lack Road Bridge, a point hereafter referred to as "NR-Outlet."</u>	<u>23</u>	<u>35,835</u>
	<u>Direct Outfalls to River</u>	<u># of IID Drains Identified</u>	<u>Sediment Load Allocation (tons/year)<sup>1,2</sup></u>
	<u>Tailwater outfalls discharging directly to the New River.</u>	<u>a</u>	<u>14,884</u>
	<u>Natural Sources</u>		
	<u>Natural Sources</u>		<u>6,409</u>
	<b><u>Waste Load Allocations:</u></b> <ul style="list-style-type: none"> <li><u>The discharge from point sources (NPDES permits) shall not exceed the total suspended solids limits specified under 40 CFR 122 et seq., and the corresponding mass loading rates.</u></li> </ul>		

**Footnotes for Table No. C-1:**

<sup>1</sup> The sediment load allocation for any particular applicable reach shall be distributed proportionately amongst the agricultural drains within that particular reach based on the relative flow contribution of each drain to the total flow contribution to the reach from the drains within the reach. The Regional Board's Executive Officer shall determine the proportional load amongst the agricultural drains within that particular reach. The sediment load allocation will be reviewed by the Regional Board's Executive Officer every three years following TMDL implementation.

<sup>2</sup> The sediment load allocations have been calculated based on the estimated individual average drain flows within the reach for the 1995-2000 period. At lower or higher drain flows, the average annual load allocation for a particular reach shall not exceed the load given by:

$$LA_R = (180) * (Q_R) * (0.0013597), \text{ where:}$$

$LA_R$  = Load Allocation for any of the New River reaches identified above (tons/yr).

$Q_R$  = Reach Flow (ac-ft) = Total flow contribution to the reach from the drains within the reach (ac-ft).  
The sediment load allocation will be reviewed by the Executive Officer every three years following TMDL implementation.

<sup>a</sup> The number of outfalls has not been determined.

TMDL attainment shall be in accordance with the schedule contained in Table C-2, below:

**Table C-2: Interim Numeric Targets for Attainment of the TMDL**

<b>Phase</b>	<b>Time Period<sup>1</sup></b>	<b>Estimated Percent Load Reduction<sup>2</sup></b>	<b>Interim Target (mg/L)<sup>3</sup></b>
<u>Phase 1</u>	<u>Years 1 – 3</u>	<u>5%</u>	<u>229</u>
<u>Phase 2</u>	<u>Years 4 – 6</u>	<u>7%</u>	<u>213</u>
<u>Phase 3</u>	<u>Years 7 – 9</u>	<u>4%</u>	<u>204</u>
<u>Phase 4</u>	<u>Years 10 – 12</u>	<u>2%</u>	<u>200</u>

## ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the New River Sedimentation/Siltation Total Maximum Daily Load

Page 5 of 11

### **Footnotes for Table No. C-2:**

- <sup>1</sup> Year 1 refers to the effective date to start TMDL implementation, which shall be one year after USEPA approves the TMDL. For example, if USEPA approves the TMDL on November 15, 2002, Year 1 is November 15, 2003, which makes Year 3 November 15, 2005, which makes Year 4 November 15, 2006, and so on.
- <sup>2</sup> Percent reductions indicate the reduction required in total suspended sediment load from the average concentration of the New River at the beginning of each phase, beginning with the 1980-2001 average concentration of 306 mg/L.
- <sup>3</sup> These interim targets are goals which translate current silt/sediment related Basin Plan narrative objectives and are not intended to specifically be used for enforcement purposes.

**ATTACHMENT 2**

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the New River Sedimentation/Siltation Total Maximum Daily Load

Page 6 of 11

**Page 4-25, Edit subsequent Section 1. IMPLEMENTATION ACTIONS AND REGULATIONS FOR ATTAINMENT OF ALAMO RIVER SEDIMENTATION/SILTATION TMDL change to "1. IMPLEMENTATION ACTIONS AND REGULATIONS FOR ATTAINMENT OF SEDIMENTATION/SILTATION TMDLs"**

**Page 4-25, Edit Subsequent Section "1.1 DESIGNATED MANAGEMENT ACTIONS" and change to:**

- Farmers/growers discharging waste into the New River and Alamo River in a manner that causes or could cause violation of load allocations and/or exceedance of the Sediment/Silt numeric target;

**Page 4-25, Edit Subsequent Section "1.1.1 Farmers/growers Water Quality Management Plans" and change to:**

The farmers/growers shall submit self-determined sediment control programs to the Regional Board by: (insert the date that corresponds 15 months following the date of USEPA TMDL approval)\*.

**Table 4-4 Date that Corresponds to 15 months following the date of USEPA TMDL Approval \***

<u>TMDL</u>	<u>Date (15 months after USEPA Approval)</u>
<u>Alamo River</u>	
<u>New River</u>	

**Edit Subsequent Section "1.1.2 The Imperial Irrigation District" and change to:**

**By: (insert the date that corresponds to 15 months following the date of USEPA TMDL approval)\***

**Table 4-5 Date that Corresponds to 15 months following the date of USEPA TMDL Approval \***

<u>TMDL</u>	<u>Date (15 months after USEPA Approval)</u>
<u>Alamo River</u>	
<u>New River</u>	

the Imperial Irrigation District shall submit to the Regional Board a revised Drain Water Quality Improvement Plan (DWQIP) with a proposed program to control and monitor water quality impacts caused by drain maintenance operations within the Alamo and New River Watershed and dredging operations in the Alamo and New Rivers.

\* Note: Upon USEPA TMDL approval, this parenthetical "formula" will be replaced by the date certain, based on the date of approval.

\* Note: Upon USEPA TMDL approval, this parenthetical "formula" will be replaced by the date certain, based on the date of approval. The Executive Officer shall be responsible for determining proportional sediment load allocations amongst the agricultural drains.

**ATTACHMENT 2**

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish  
the New River Sedimentation/Siltation Total Maximum Daily Load

Page 7 of 11

a. Drain and New River Deltas Maintenance

- Reduction in drain cleaning and dredging activities to the practical extent allowed by the implementation of on- and off-field sediment control BMPs by the farmers/growers and the BMP effectiveness in reducing silt built up in the drains and the New and Alamo River Deltas to avoid impacts on sensitive resources.

b. Drain Water Quality Monitoring Plan

The revised DWQIP shall consist of a proposed program to monitor:

- Water quality impacts caused by dredging operations in the drains and to monitor the effects that dredging operations in the New and Alamo River Deltas have on the ~~river's~~ river's water quality standards;
- Representative samples from the water column of all major drains and a representative number of the small drains tributary to the New and Alamo Rivers for analyses of flow, TSS, Turbidity, and nutrients.

c. Information on Agricultural Dischargers

**No later than ~~insert date that corresponds to 16 months following the date of USEPA TMDL approval~~\***

**Table 4-6      Date that Corresponds to 16 months following the date of USEPA TMDL Approval**

<u>TMDL</u>	<u>Date (16 months after USEPA Approval)</u>
<u>Alamo River</u>	
<u>New River</u>	

Page 4-27, Edit Subsequent Section "1.1.3. United States Environmental Protection Agency (USEPA) and U.S. Section of the International Boundary and Water Commission (IBWC)" and change to:

**By: ~~insert the date that corresponds to 15 months following the date of USEPA TMDL approval~~\***

**Table 4-7      Date that Corresponds to 15 months following the date of USEPA TMDL Approval \***

<u>TMDL</u>	<u>Date (15 months after USEPA Approval)</u>
<u>Alamo River</u>	
<u>New River</u>	

the USEPA and/or the U.S. Section of the IBWC shall submit to the Regional Board a technical report pursuant to Section 13225 of the California Water Code describing the proposed control

\* Note: Upon USEPA approval, this parenthetical "formula" will be replaced by the date certain, based on the date of approval.

## ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the New River Sedimentation/Siltation Total Maximum Daily Load

Page 8 of 11

measures, monitoring plan and reporting procedures, and quality assurance procedures the U.S. Government proposes to take to ensure that discharges of wastes from Mexico do not violate or contribute to a violation of ~~this these TMDL TMDLs~~, particularly a violation of the Load Allocation immediately downstream of the International Boundary, at the ~~point~~ points identified as "AR-0-" and "NR-0."

### **Edit Subsequent Section "1.2 RECOMMENDED MANAGEMENT ACTIONS FOR FARMERS/GROWERS AND DRAINAGE MANAGEMENT" and change to:**

Implementation of BMPs should normally include: (1) consideration of specific site conditions; (2) monitoring to assure that practices are properly applied and are effective; (3) improvement of a BMP or implementation of additional BMPs or other management practices when needed to resolve a deficiency and; (4) mitigation of a problem where the practices are not effective. The practices listed herein are a compilation of BMPs recommended by the Technical Advisory Committee for the Silt TMDL for the Alamo and New Rivers (Silt TAC), the Natural Resources Conservation Services Field Office Technical Guide (NRCS FOTG), the IID, and the University of California Cooperative Extension (Holtville Field Station). Inclusion of practices herein is not meant to imply or establish a prescriptive list of 'one size fits all' preferred practices for the drainage basins tributary to the Alamo and New River Rivers.

### **Edit Subsequent Section Title "1.2.3 ESTIMATED COST OF IMPLEMENTATION AND SOURCES OF FINANCING" and change to "1.2.3 ESTIMATED COST OF IMPLEMENTATION AND SOURCES OF FINANCING FOR THE NEW AND ALAMO RIVERS"**

### **Edit Subsequent Section 1.3.1 IMPERIAL COUNTY FARM BUREAU VOLUNTARY WATERSHED PROGRAM and change to:**

#### **a. ICFB WATERSHED PROGRAM PLAN** The Imperial County Farm Bureau should:

- ~~By: insert the date that corresponds to 13 months following the date of USEPA TMDL approval~~;

**Table 4-8      Date that Corresponds to 13 months following the date of USEPA TMDL Approval \***

<u>TMDL</u>	<u>Date (13 months after USEPA Approval</u>
<u>Alamo River</u>	
<u>New River</u>	

~~Issue~~ issue letters to all potential program participants within the Alamo and New Rivers watersheds that describes the ICFB Voluntary Watershed Program.

- ~~By: insert the date that corresponds to 15 months following the date of USEPA TMDL approval~~;

**Table 4-9      Date that Corresponds to 15 months following the date of USEPA TMDL Approval \***

\* Note: Upon USEPA TMDL approval, this parenthetical "formula" will be replaced by the date certain, based on the date of approval.

**ATTACHMENT 2**

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the New River Sedimentation/Siltation Total Maximum Daily Load

Page 9 of 11

<u>TMDL</u>	<u>Date (15 months after USEPA Approval)</u>
<u>Alamo River</u>	
<u>New River</u>	

provide the Regional Board with a list of program participants, organized by subwatershed ("drainshed").

- By: {insert the date that corresponds to 15 months following the date of USEPA TMDL approval}\*.

**Table 4-10 Date that Corresponds to 15 months following the date of USEPA TMDL Approval \***

<u>TMDL</u>	<u>Date (15 months after USEPA Approval)</u>
<u>Alamo River</u>	
<u>New River</u>	

submit the ICFB Watershed Program Plan to the Regional Board. The Plan should (1) identify measurable environmental and programmatic goals; (2) describe aggressive, reasonable milestones and timelines for the development and implementation of TMDL outreach plans; (3) describe aggressive, reasonable milestones and timelines for the development of sub-watershed ("drainshed") plans; (4) describe a commitment to develop and implement a tracking and reporting program.

**b. ICFB TRACKING AND REPORTING PROCEDURES**

The Imperial County Farm Bureau should also:

- By: {insert the date that corresponds to 16 months following the date of USEPA TMDL approval}\*.

**Table 4-11 Date that Corresponds to 16 months following the date of USEPA TMDL Approval \***

<u>TMDL</u>	<u>Date (16 months after USEPA Approval)</u>
<u>Alamo River</u>	
<u>New River</u>	

submit a plan describing the process and procedures for tracking and reporting implementation of BMPs (and other proven management practices) and BMP performance to the Regional Board's Executive Officer.

- Implement the tracking and reporting procedures.
- Submit semi-monthly written reports assessing trends in the data and level of adoption of the process and procedures throughout each of the sub-watersheds ("drainsheds") to the Executive Officer.
- Submit a yearly summary report to the Executive Officer by 15<sup>th</sup> of February of each year.

## ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish the New River Sedimentation/Siltation Total Maximum Daily Load

Page 10 of 11

**Page 4-32, Edit “ VI. ACTIONS OF OTHER AUTHORITIES” change to “VII. ACTIONS OF OTHER AUTHORITIES”**

**Page 6-3, Edit “II. REGIONAL BOARD MONITORING”, SUBSECTION “B. COMPLIANCE MONITORING”, SUBSEQUENT SECTION “~~1. Recommended Biomonitoring (Toxicity Monitoring) Programs~~” change to “2. Recommended Biomonitoring (Toxicity Monitoring) Programs”**

**Page 6-4, Edit under subsequent Sections the following:**

~~2.-3.~~ New River Pathogen TMDL

~~3.-4.~~ Alamo River Sedimentation/Siltation TMDL

5. New River Sedimentation/Siltation TMDL

~~3.1.-5.1~~ Compliance Assurance and Enforcement

~~3.2.-5.2~~ Monitoring and Tracking

**Page 6-5, Edit Section**

- **Water Quality Monitoring and Assessment** and add the Subsection “Alamo River” directly beneath the Section title. Add the subsequent Subsection “New River” with the following text:

Monitoring activities are contingent upon adequate programmatic funding. The Regional Board will conduct monitoring activities for the New River Sedimentation/Siltation TMDL pursuant to a Regional Board Quality Assurance Project Plan for the New River (QAPP-NR). The QAPP-NR shall be developed by Regional Board staff and be ready for implementation within 180 days following USEPA approval of this TMDL. The Regional Board's Executive Officer shall approve the QAPP-NR and monitoring plan after determining that the QAPP-NR and monitoring plan satisfy the objectives and requirements of this Section 5.2. The objectives of the monitoring program shall include collection of water quality data for:

- Assessment of water quality standards attainment,
- Verification of pollution source allocations,
- Calibration or modification of selected models (if any),
- Evaluation of point and nonpoint source control implementation and effectiveness,
- Evaluation of in-stream water quality,
- Evaluation of temporal and spatial trends in water quality, and
- Modification of the TMDL as necessary.

The monitoring program shall include a sufficient number of sampling locations and sampling points per location along the New River and major drain tributaries to the river. Monthly grab samples from the above-mentioned surface waters shall be collected and analyzed for the following parameters:

## ATTACHMENT 2

Proposed Amendment to the Water Quality Control Plan for the Colorado River Basin Region to Establish  
the New River Sedimentation/Siltation Total Maximum Daily Load

Page 11 of 11

- Flow (to be obtained from IID or USGS)
- Dissolved Oxygen
- pH
- Temperature
- Field turbidity
- Laboratory turbidity
- Total suspended solids
- Quarterly monitoring of DDT and DDT metabolites
- Fecal coliform organisms
- E. Coli
- Fecal streptococci
- Enterococci

The Regional Board will track activities implemented by dischargers and responsible parties and surveillance conducted for the New River Sedimentation/Siltation TMDL pursuant to an implementation tracking plan (ITP). Regional Board staff will develop the ITP within 180 days following USEPA approval of this TMDL. The Regional Board's Executive Officer shall approve the ITP after determining that the ITP satisfies the objectives and requirements of this Section 5.2. The objectives of Regional Board Surveillance and implementation tracking are:

- Assess/track/account for practices already in place;
- Measure the attainment of Milestones;
- Determine compliance with NPDES permits, WLAs, and LAs; and
- Report progress toward implementation of NPS water quality control, in accordance with the SWRCB NPS Program Plan (PROSIP).

## **Recommendation to Place New River Listings of Organochlorine Compounds in the Being Addressed Portion of the 303(d) List**

This is a justification for placing the 303(d) listings of the New River organochlorine (OC) compounds [chlordane, dichlorodiphenyltrichloroethane (DDT), dieldrin, polychlorinated biphenyl (PCBs), and toxaphene] in the Being Addressed portion of the 303(d) list (Category 5C) because:

- 1- Existing regulatory actions [New River Sediment Total Maximum Daily Load (TMDL) and Imperial Valley Drains (IVDs) Sediment TMDL and Prohibition) are expected to result in attainment of the water quality standards (WQSs);
- 2- OC compounds are attached to sediments. Sediment management Practices (MPs) required by the existing regulatory actions are being implemented;
- 3- Regional Water Board staff is not aware of any other feasible and more effective MPs to reduce the concentrations of New River OC compounds;
- 4- OC compounds are no longer legally sold or used in the U.S. ; and
- 5- Concentrations of OC compounds in the New River have been reduced significantly.

Major responsible parties for implementing the TMDL and the Prohibition are Imperial Valley farmers/growers and Imperial Irrigation District (IID). The New River WQSs for OC compounds are expected to be attained through continued implementation and improvement of sediment MPs by Imperial Valley farmers/growers, and a drain water quality improvement plan (DWQIP) by the IID. Regional Water Board staff estimates that the New River will meet WQSs for OC compounds by the year 2030. The Regional Water Board will update this recommendation when new data and information become available and are assessed.

### **Problem Statement**

The New River is listed according to section 303(d) of the federal Clean Water Act as being impaired by the OC compounds chlordane, DDT, dieldrin, PCBs, and toxaphene. The New River does not currently attain the WQSs for these OC compounds set forth in the Water Quality Control Plan (Basin Plan) for the Colorado River Basin Region adopted by the Regional Water Board. New River listings of OC compounds occurred because of violations of WQSs for fish tissue. The size of the New River segment that is impaired by OC compounds is about 60 miles.

### **WQSs and New River**

In California, WQSs include designated beneficial uses (BUs), narrative and/or numeric water quality objectives (WQOs) or numeric water quality criteria to protect the BUs, and an anti-degradation policy. The Basin Plan requires that all waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or indigenous aquatic life. Additionally, the Basin Plan states that there shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life. The New River has designated

BUs as: Warm freshwater habitat (WARM); wildlife habitat (WILD); preservation of rare, threatened, or endangered species (RARE); water contact recreation (REC I); non-contact water recreation (REC II); and freshwater replenishment (FRSH). These uses are specified in the Basin Plan.

## **OC Compounds and New River**

The New River is located within the Salton Sea Transboundary Watershed. The Salton Sea Transboundary Watershed includes Mexicali Valley in Mexico, and Imperial Valley in the United States. The Imperial Valley has an agricultural-based economy from about 530,000 acres of irrigated farmland. Major Imperial Valley crops are alfalfa, wheat, Bermuda grass, sudan grass, and sugar beets. Mexicali Valley has an agricultural and industrial based economy, and contains about 520,000 acres of irrigated land. Major Mexicali Valley crops are cotton, wheat, alfalfa, and vegetables.

The New River originates in Mexico about twenty miles south of the International Boundary, and flows northward into the United States to its terminus at the Salton Sea in Imperial County, California (Figure 1). The New River is about 80 river miles in length, and receives water from about 200,000 acres of Imperial Valley irrigated farmland in the United States, and about 300,000 acres of Mexicali Valley urban areas and irrigated farmland in Mexico.

Agricultural runoff is the dominant source of flows into the New River. New River total flow at the outlet into the Salton Sea is about 400,000 AFY ( $\approx 78\%$  from the U.S.; and  $\approx 22\%$  from Mexico). Flows into the New River from Mexico consist of agricultural runoff ( $\approx 16\%$ ), treated industrial and domestic wastewater ( $\approx 5.5\%$ ), and urban runoff including stormwater runoff ( $\approx 0.5\%$ ). Flows into the New River from the U.S. consist of agricultural runoff ( $\approx 75\%$ ), treated industrial and domestic wastewater ( $\approx 2.5\%$ ), and urban runoff including stormwater runoff ( $\approx 0.5\%$ ). New River watershed provides important habitat for many different kinds of wildlife, with birds as the most diverse wildlife group.

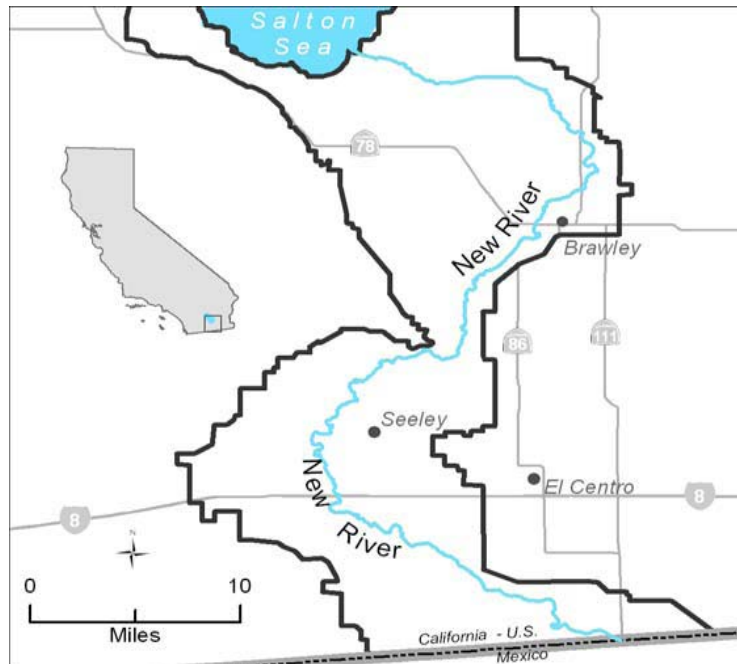
OC compounds are man-made chemicals. There are no natural sources of these OC compounds. Their uses were restricted in the 1970s, 1980s, and 1990s. The OC compounds Chlordane, DDT, dieldrin, and Toxaphene were mainly used as agricultural pesticides. The OC compounds PCBs were used in a wide variety of applications, including dielectric fluids in transformers and capacitors, heat transfer fluids, and lubricants.

OC compounds are commonly referred to as legacy pollutants because of their persistence and residual effects in the environment. In the environment, OC compounds can remain chemically active for years and decades, and can accumulate in the tissue of benthic organisms to levels that may affect the organism's health and the health of those that may consume them.

OC compounds have a strong tendency to bind to fine-grained soil particles (silt, clay). The soil-bound OC compounds are then carried by water flow from both point and non-point upstream locations to new downstream locations, where they eventually settle and accumulate in the bottom sediments. The main source of OC compounds in the New River is from nonpoint source runoff from areas with high residual OC concentrations.

Nonpoint source runoff also includes the load from atmospheric deposition, although this is a much smaller contribution compared to the load from runoff. Point source inputs from National Pollutant Discharge Elimination System discharges are also a much smaller contribution of the overall load compared to the load from runoff.

**Figure 1: New River Watershed**



### **Description of Proposed Implementation Strategy and Supporting Pollution Controls Necessary to Achieve WQSs**

Existing U.S. Environmental Protection Agency (USEPA) approved Sediment TMDLs and a Sediment Prohibition for the Imperial Valley are expected to result in attainment of the OC compounds WQSs. Since the movement of OC compounds are caused mainly by the movement of sediment, it is expected that if the concentrations of sediment loaded into the New River are reduced, then both water column and fish tissue OC concentrations will be reduced and the WQSs will be met. These listings are being addressed through the following two regulatory means:

- 1- Resolution No. R7-2002-0097 amended the Basin Plan for the Colorado River Basin to establish a TMDL and implementation plan for sediment for the New River. This Resolution was adopted by the Colorado River Basin Regional Water Quality Control Board (Regional Water Board) on June 26, 2002, approved by the State Water Resources Control Board (State Water Board) on November 19, 2002, approved by the Office of Administrative Law (OAL) on January 13, 2003, and approved by USEPA on March 31, 2003.

- 2- Resolution No. R7-2005-0006 amended the Basin Plan to establish a TMDL and implementation plan for sediment for the Imperial Valley Drains: Niland 2, P, and Pumice drains. This resolution also established a prohibition for discharge of silt-laden tailwater into the Imperial Valley, including the Alamo River, Imperial Valley Drains, and New River, and their tributaries. This resolution was adopted by the Regional Water Board on January 19, 2005, approved by the State Water Board on July 21, 2005, approved by OAL on September 8, 2005, and approved by USEPA on September 30, 2005.

The New River Sediment TMDL named New River watershed farmers and IID as the two major responsible parties for implementation. The TMDL and the prohibition include time schedules, milestones and a monitoring and reporting program. The TMDL and the Prohibition are subject to reviews and revisions.

To assist Imperial Valley farmers comply with all Imperial Valley sediment TMDLs including Alamo River Sediment TMDL, Imperial Valley Drains Sediment TMDL and Prohibition, and New River Sediment TMDL, Imperial County farm Bureau (ICFB) is implementing a successful program titled "ICFB TMDL Compliance Program" with sediment MPs that were identified by ICFB staff, Imperial Valley Farmers, IID, and the University of California Cooperative Extension. Some of these MPs are IID Regulation 39 Tail Water Drain Box, Land Leveling, Pan Ditch, Gopher Control, Filter Strips, Grass Strips in Tail Ditch, Irrigation Water Management, Sprinkler Irrigation, Level Basin Irrigation, Pump-back System, and Use of Polyacrylamides.

Key elements of the ICFB TMDL Compliance Program are:

- 1- Enlists farmers in the ICFB Program and tracks implementation standing;
- 2- Provides technical and educational support for farmers to comply with the TMDLs and the Prohibition;
- 3- Holds periodic meetings with program participants, IID, and Regional Water Board staff to discuss overall progress, problems, and areas that need further efforts; and
- 4- Reports on a quarterly and annual basis to Regional Water Board staff on all the above.

The ICFB Program divided the Imperial Valley into ten sub-watersheds (or drainsheds): five for the New River; four for the New River; and one for all drains discharge directly into the Salton Sea. Farmers can enroll in the ICFB Program in three ways:

- 1- in person at the ICFB Office;
- 2- via regular mail; and
- 3- online at the ICFB's TMDL website.

The ICFB developed and maintains a database tracking membership and other key program information (e.g. MPs, farmland location, acreage, discharge points, etc.). Membership participation is reported to the Regional Water Board. Regional Water Board staff contacts farmers who are not enrolled in the ICFB Program and farmers who are not responsive to program requirements. Farmers are organized into drainshed working groups for administrative and technical purposes. Farmers enrolled in the ICFB TMDL Program are required to attend annual drainshed meetings, develop individual farm water quality improvement plans (WQIPs), implement MPs, and update and report

their farm plans annually to the ICFB, which compiles and reports this information to the Regional Water Board. Current participation in the ICFB TMDL Program is about 98% of Imperial Valley farmers.

The TMDL also required the IID to submit to the Regional Water Board a revised DWQIP to control and monitor water quality impacts caused by drain maintenance operations. To comply with this requirement, the IID developed and is implementing a DWQIP that was approved by the Regional Water Board Executive Officer. The DWQIP includes water quality monitoring for TSS and other constituents in Imperial Valley's source water, seven major drains, and eighteen minor drains that represent all Imperial Valley drainsheds. Also, the IID is currently utilizing several MPs which serve to control sediment discharge within the IID drainage system, including:

- 1- IID Regulation No. 39 (Tailwater Drop Box with Raised Grade Board);
- 2- IID's Tailwater Education Program;
- 3- Drain cleaning checklist;
- 4- "Rakes" for large vegetation removal (salt cedar);
- 5- Excavator-mounted GPS units during cleaning/dredging operations;
- 6- A drain improvement program to improve problematic drains;
- 7- A vegetation control plan; and
- 8- Support for the ICFB Program.

Additionally, the TMDL required the IID to submit to the Regional Water Board semiannual information on agricultural dischargers within the district that includes names and addresses for all owners of properties within the IID surface area that are being used for irrigated agriculture, as well as the location of their properties. Also, data and information from IID's DWQIP are submitted to the Regional Water Board quarterly and annually.

### **Concentrations of OC Compounds in the New River Have Been Reduced Significantly**

Data and source analysis show that concentrations of OC compounds in New River fish tissue samples have been reduced significantly from their peaks in the 1970s, 1980s, and 1990s. The reductions were about 89% for chlordane (Figure 2; and Table 1), 75% for DDT (Figure 3; and Table 2), 80% for dieldrine (Figure 4; and Table 3), 79% for PCBs (Figure 5; and Table 4), and 90% for toxaphene (Figure 6; and Table 5). The New River water quality criteria for OC compounds are expected to be attained through continued implementation and improvement of ICFB's sediment MPs by Imperial Valley farmers/growers, and the IID's DWQIP.

### **Reasonable Schedule for Implementing Necessary Pollution Controls and an Estimate Timeline when WQSs Will be Met**

Based on this analysis, Regional Water Board staff estimates that the New River will meet WQSs for OC compounds by the year 2030. Monitoring programs by State and the Regional Water Board that include sediment and OC compounds in fish tissues will continue to provide data and information to assess meeting targets and criteria, effectiveness of MPs, and any needed revisions.

## **Summary**

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing these water segment-pollutant combinations from the section 303(d) list. However, there is sufficient justification to place them in the Being Addressed portion of the 303(d) list because existing regulatory actions other than new TMDLs are expected to result in attainment of the standards by 2030. OC compounds are attached to sediments. USEPA approved TMDL and Prohibition (Regional Water Board Resolutions R7-2002-0097 and R7-2005-0006) to control sediment in the New River watershed are now being implemented. Also, OC compounds are no longer legally sold or used in the U.S., and their concentrations have been reduced significantly. The Regional Water Board will update this recommendation when new data and information become available and are assessed.

Figure 2: New River Chlordane in Fish Tissue (ug/Kg)

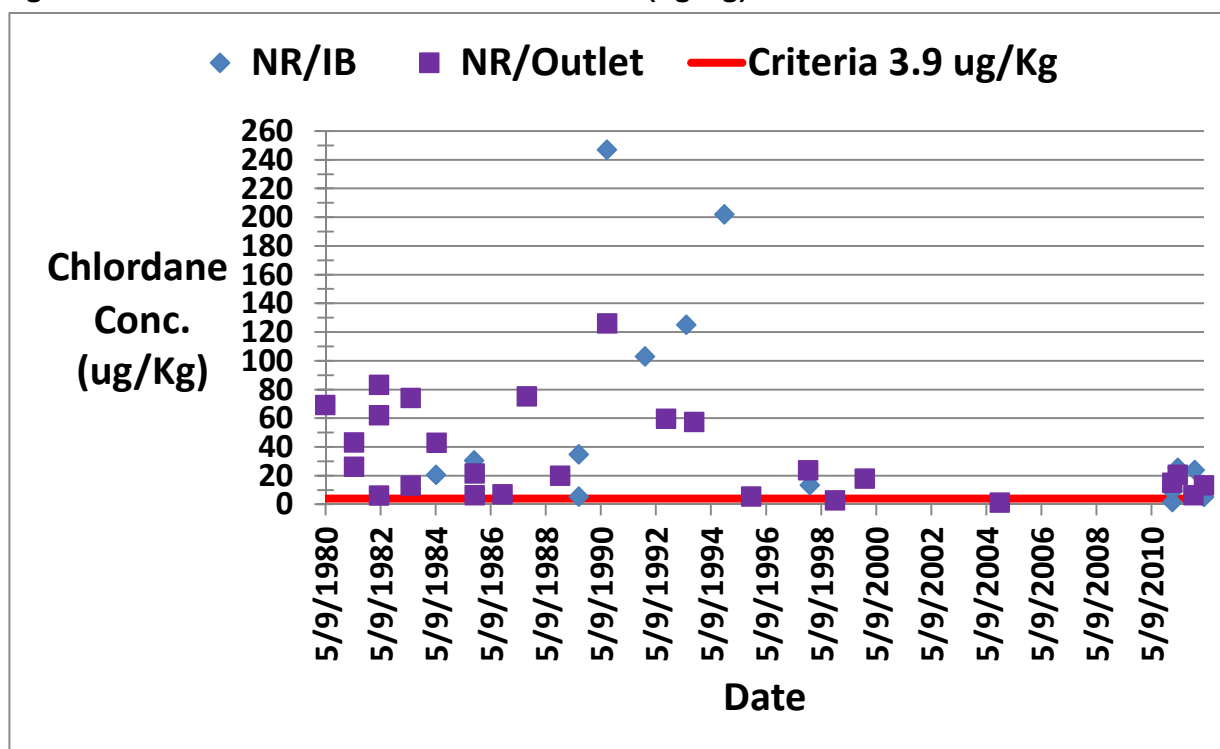


Table 1: New River Chlordane in Fish Tissue (ug/Kg)

Date	NR at IB	NR at Outlet
5/9/1980		69.00
5/24/1981		43.00
5/24/1981		26.00
4/22/1982		83.20
4/22/1982		62.00
4/22/1982		6.00
6/13/1983		74.00
6/13/1983		12.90
5/17/1984	20.60	
5/24/1984		42.80
10/1/1985	30.50	
10/9/1985		6.30
10/10/1985		21.50
10/15/1986		6.80
9/3/1987		75.00
11/18/1988		19.80
7/20/1989	5.30	
7/20/1989	34.70	
7/31/1990	247.00	
8/3/1990		125.90

Date	NR at IB	NR at Outlet
12/18/1991	103.00	
9/20/1992		59.40
6/16/1993	125.00	
9/29/1993		57.20
11/2/1994	202.00	
10/27/1995		5.30
11/20/1997		23.70
12/10/1997	13.30	
11/11/1998		2.60
12/9/1999		17.90
11/5/2004		1.00
2/9/2011	1.55	15.00
2/9/2011	9.07	
4/22/2011		20.40
4/23/2011	25.30	
11/17/2011		6.16
12/2/2011	23.90	
4/4/2012	5.22	13.20

Figure 3: New River DDT in Fish Tissue

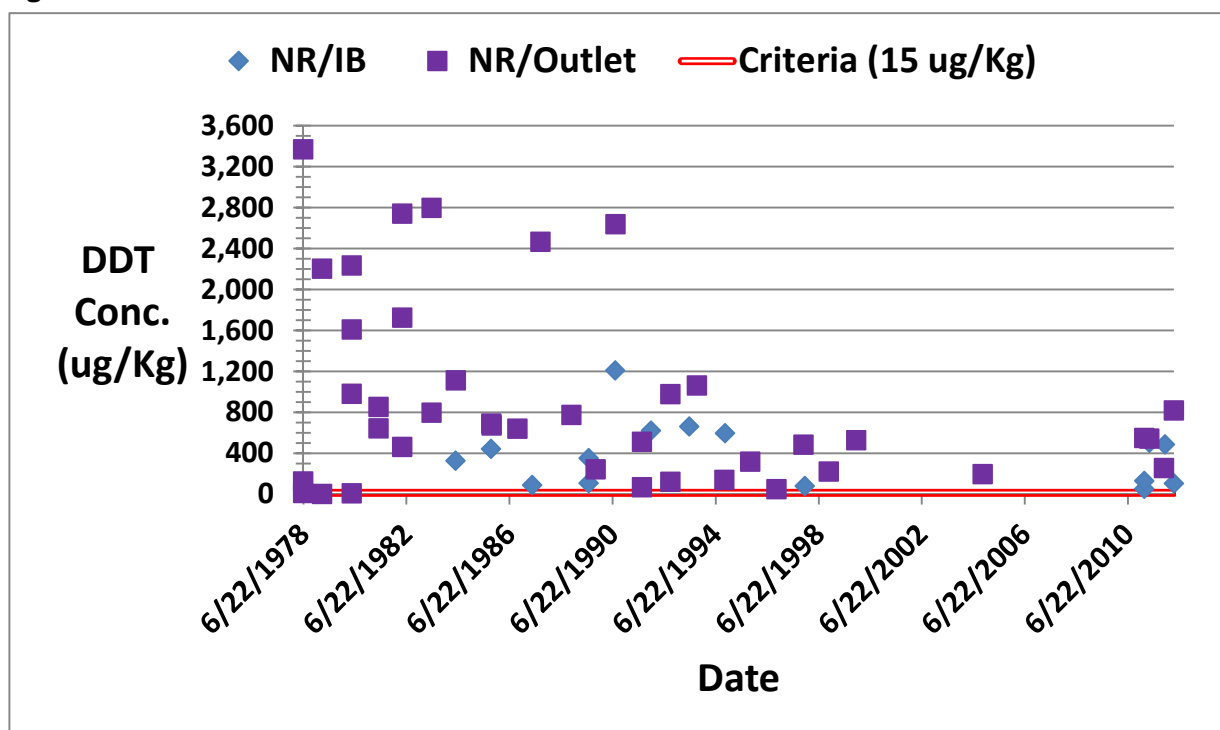


Table 2: New River DDT in Fish Tissue (ug/Kg)

Date	NR at IB	NR at Outlet
6/22/1978		3,368.00
6/22/1978		124.00
6/22/1978		11.00
3/13/1979		2,200.00
3/13/1979		ND
5/9/1980		2,231.00
5/9/1980		978.00
5/9/1980		1,609.00
5/9/1980		7.00
5/24/1981		852.00
5/24/1981		641.00
4/22/1982		2,739.00
4/22/1982		1,723.00
4/22/1982		461.00
6/13/1983		2,794.00
6/13/1983		794.00
5/17/1984	326.00	
5/24/1984		1,111.00

Date	NR at IB	NR at Outlet
10/1/1985	443.00	
10/9/1985		690.00
10/10/1985		670.00
10/15/1986		638.00
5/12/1987	90.00	
9/3/1987		2,465.00
11/18/1988		773.00
7/20/1989	108.00	
7/20/1989	351.00	
10/29/1989		241.00
7/31/1990	1,209.00	
8/3/1990		2,635.00
8/15/1991		510.00
8/15/1991		68.00
12/18/1991	620.00	
9/20/1992		975.00
9/20/1992		120.00
6/16/1993	661.00	

Date	NR at IB	NR at Outlet
9/29/1993		1,061.00
10/27/1994		140.00
11/2/1994	594.00	
10/27/1995		318.00
11/1/1996		49.00
11/20/1997		482.00
12/10/1997	80.00	
11/11/1998		219.60
12/9/1999		525.90
11/5/2004		194.50
2/9/2011	52.59	548.70
2/9/2011	128.60	
4/22/2011		542.50
4/23/2011	502.60	
11/17/2011		253.76
12/2/2011	486.85	
4/4/2012	104.40	816.00

Figure 4: New River Dieldrine in Fish Tissue

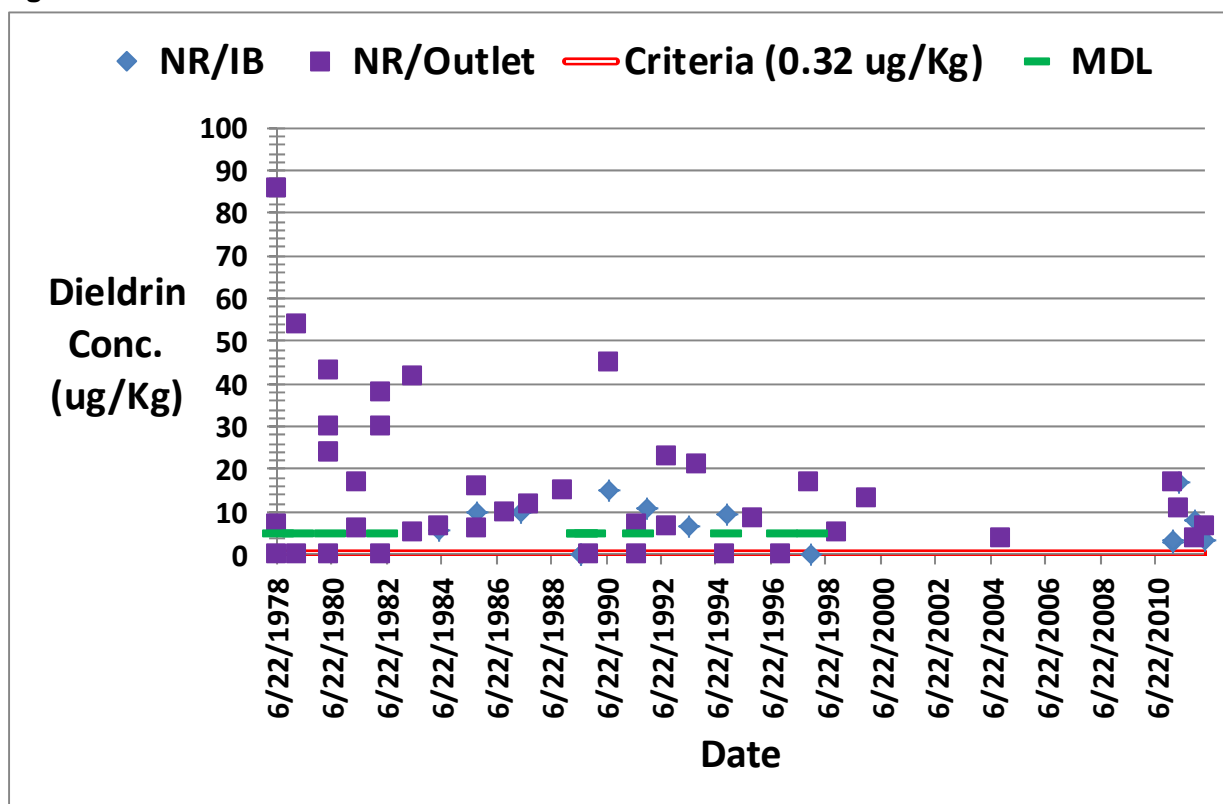


Table 3: New River Dieldrine in Fish Tissue (ug/Kg)

Date	NR at IB	NR at Outlet
6/22/1978		86.00
6/22/1978		7.00
6/22/1978		<5
3/13/1979		54.00
3/13/1979		<5
5/9/1980		43.00
5/9/1980		30.00
5/9/1980		24.00
5/9/1980		24.00
5/9/1980		<5
5/24/1981		17.00
5/24/1981		6.00
4/22/1982		38.00
4/22/1982		30.00
4/22/1982		<5
6/13/1983		42.00
6/13/1983		5.40
5/17/1984	5.70	

Date	NR at IB	NR at Outlet
5/24/1984		6.40
10/1/1985	9.80	
10/9/1985		6.10
10/10/1985		16.00
10/15/1986		10.00
5/12/1987	10.00	
9/3/1987		12.00
11/18/1988		15.00
7/20/1989	<5	
7/20/1989	<5	
10/29/1989		<5
7/31/1990	15.00	
8/3/1990		45.00
8/15/1991		7.00
8/15/1991		<5
12/18/1991	11.00	
9/20/1992		23.00
9/20/1992		6.50

Date	NR at IB	NR at Outlet
6/16/1993	6.80	
9/29/1993		21.00
10/27/1994		<5
11/2/1994	9.40	
10/27/1995		8.30
11/1/1996		<5
11/20/1997		17.00
12/10/1997	<5	
11/11/1998		5.00
12/9/1999		13.00
11/5/2004		3.86
2/9/2011	2.70	16.90
2/9/2011	3.58	
4/22/2011		10.90
4/23/2011	17.00	
11/17/2011		3.62
12/2/2011	8.19	
4/4/2012	3.47	6.83

Figure 5: New River PCBs in Fish Tissue

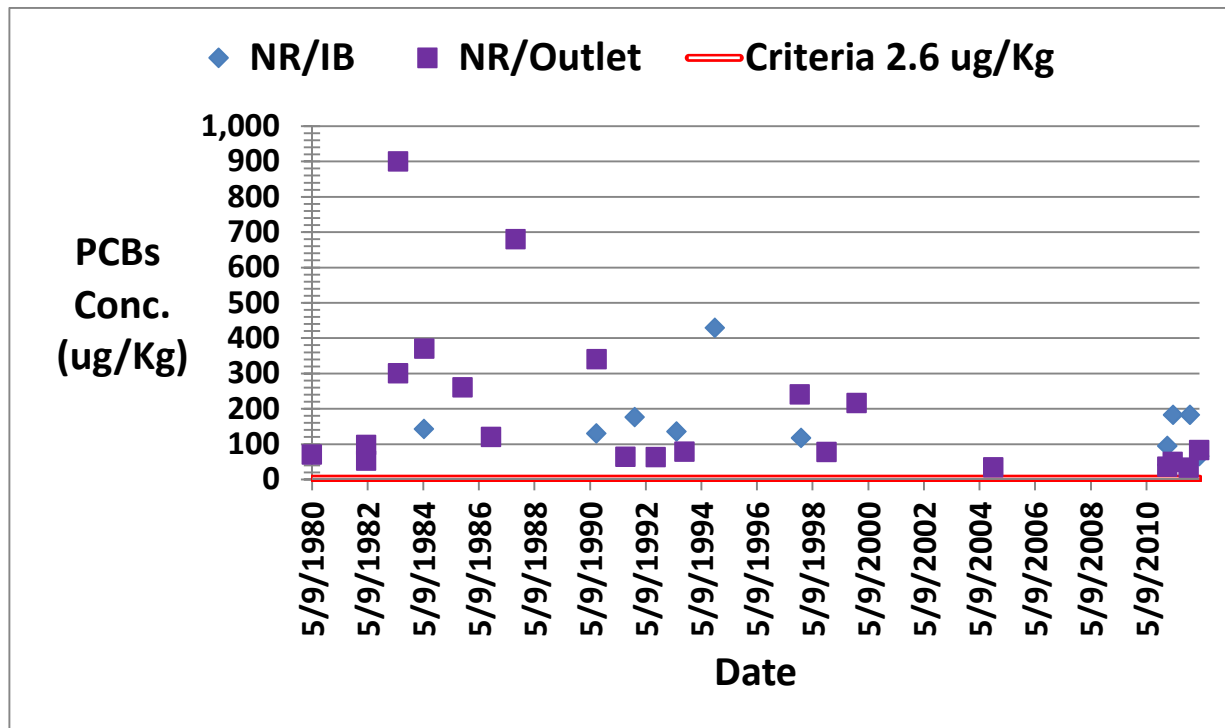


Table 4: New River PCBs in Fish Tissue (ug/Kg)

Date	NR at IB	NR at Outlet
5/9/1980		70.0
4/22/1982		97.0
4/22/1982		53.0
6/13/1983		900.0
6/13/1983		300.0
5/17/1984	143.0	
5/24/1984		370.0
10/9/1985		260.0
10/15/1986		120.0
9/3/1987		680.0
7/31/1990	130.0	
8/3/1990		340.0
8/15/1991		64.0
12/18/1991	176.0	
9/20/1992		63.0
6/16/1993	135.0	

Date	NR at IB	NR at Outlet
9/29/1993		78.0
11/2/1994	429.0	
11/20/1997		240.0
12/10/1997	117.0	
11/11/1998		77.6
12/9/1999		216.0
11/5/2004		33.6
2/9/2011	41.0	35.7
2/9/2011	95.0	
4/22/2011		49.2
4/23/2011	182.2	
11/17/2011		32.6
12/2/2011	182.8	
4/4/2012	65.6	82.4

Figure 6: New River Toxaphene in Fish Tissue

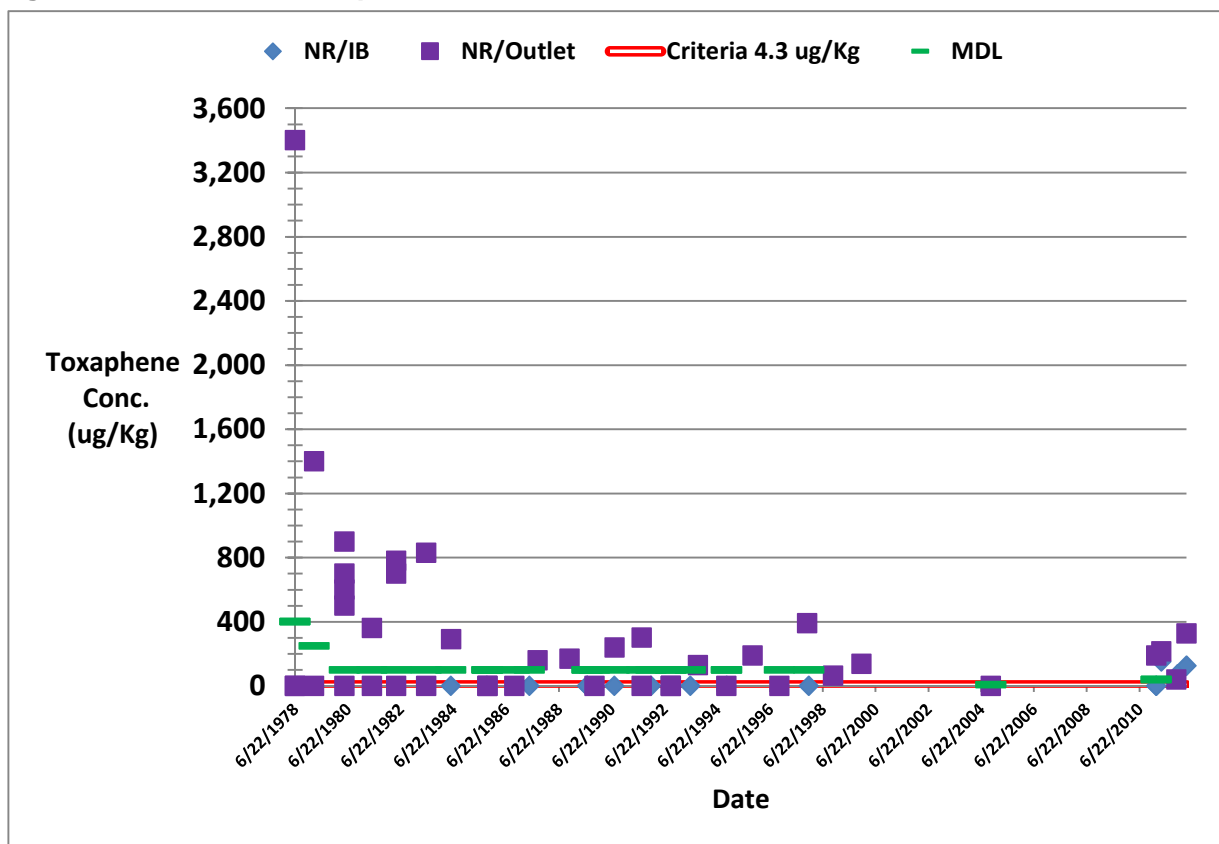


Table 5: New River Toxaphene in Fish Tissue (ug/Kg)

Date	NR at IB	NR at Outlet
6/22/1978		3,400.00
6/22/1978		<400
6/22/1978		<400
3/13/1979		1,400.00
3/13/1979		<250
5/9/1980		900.00
5/9/1980		700.00
5/9/1980		600.00
5/9/1980		500.00
5/9/1980		<100
5/24/1981		360.00
5/24/1981		<100
4/22/1982		780.00
4/22/1982		700.00
4/22/1982		<100
6/13/1983		830.00
6/13/1983		<100
5/17/1984	<100	

Date	NR at IB	NR at Outlet
5/24/1984		290.00
10/1/1985	<100	
10/9/1985		<100
10/10/1985		<100
10/15/1986		<100
5/12/1987	<100	
9/3/1987		160.00
11/18/1988		170.00
7/20/1989	<100	
7/20/1989	<100	
10/29/1989		<100
7/31/1990	<100	
8/3/1990		240.00
8/15/1991		300.00
8/15/1991		<100
12/18/1991	<100	
9/20/1992		<100
9/20/1992		<100

Date	NR at IB	NR at Outlet
6/16/1993	<100	
9/29/1993		130.00
10/27/1994		<100
11/2/1994	<100	
10/27/1995		190.00
11/1/1996		<100
11/20/1997		390.00
12/10/1997	<100	
11/11/1998		64.50
12/9/1999		138.00
11/5/2004		<7.98
2/9/2011	<40	
2/9/2011	<40	189.00
4/22/2011		215.00
4/23/2011	151.00	
11/17/2011		40.60
12/2/2011	71.10	
4/4/2012	125.00	326.00