

FINAL

REGION 7
STAFF
REPORT

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

STAFF REPORT ON THE PROPOSED UPDATE
OF CLEAN WATER ACT 303(d) LIST OF IMPAIRED WATER BODIES
WITHIN THE COLORADO RIVER BASIN REGION

INTRODUCTION

The California Regional Water Quality Control Board, Colorado River Basin Region (Regional Board) is charged by the Porter-Cologne Water Quality Control Act with the protection of water quality for waters within the Region. The Regional Board is also responsible for implementing provisions and pollution control requirements that the Federal Clean Water Act (CWA) specifies for surface waters of the United States. CWA Section 303(d) requires the State to identify those surface water bodies that do not meet water quality standards after implementation of technology-based and best management practices (BMPs). The Regional Board's Water Quality Control Plan for the Colorado River Basin (Basin Plan) identifies all waters in the Region and establishes water quality standards for those waters. Water quality standards consist of limits or levels of water quality constituents or characteristics that are established for the reasonable protection of the beneficial uses of a water body.

Following the identification of impaired water bodies, the State is also required to establish a priority list of these water bodies, identify the pollutants that cause the impairments, and in partnership with the United States Environmental Protection Agency (USEPA), develop pollutant-loading limits commonly called Total Maximum Daily Loads (TMDLs). Surface water bodies within the Colorado River Basin Region that are impaired (i.e. do not fully achieve their designated beneficial uses and/or are in noncompliance with water quality objectives) have been placed on the Regional Board's Clean Water Act Section 303(d) List (hereafter "303(d) List"). The Regional Board's 303(d) List is reviewed and updated as necessary (typically every 3 years) and is subject to the approval of the State Water Resources Control Board (State Board) and the USEPA.

The Regional Board's 303(d) List was last updated in 1998, approved by the State Board the same year, and approved by the USEPA in 1998. Attachment One shows the 1998 CWA 303(d) List for the Region. The impaired surface waters for the Region are:

- 1- New River
- 2- Alamo River
- 3- Imperial Valley Drains
- 4- Salton Sea
- 5- Palo Verde Outfall Drains
- 6- Coachella Valley Stormwater Channel.

Regional Board staff is proposing that the Regional Board update its 1998 303(d) List based on data and comments received from stakeholders and based on data collected by the staff. Staff is also recommending that the Regional Board submit the updated 303(d) List to the State Board for approval. The State Board will be reviewing updated 303(d) Lists from all the Regional Boards, hold a public hearing and consider public comments, finalize the 303(d) List, and transmit the List to the USEPA for final approval. In developing the 303(d) List, Regional Board staff considered federal regulations under the Clean Water Act (see, e.g., 40 C.F.R. Parts 25 and 130). Staff then solicited public input and provided public notice regarding the 303(d) Listing and TMDL processes. Staff considered various factors, including non-attainment of water quality standards, public health advisories, previous 303(d) Lists, and bioaccumulation of pollutants in fish tissue at concentrations that exceed applicable fish tissue criteria or guidelines.

PUBLIC INPUT

In a letter dated February 28, 2001, the Regional Board staff solicited information from the public for updating its 303(d) List (see Attachment Two). The following agencies and persons submitted data in response to the letter:

<u>Agency</u>	<u>Information Submitted</u>
U.S. Bureau of Reclamation (USBOR)	Fax and E-mails with water quality data on the Colorado River above Imperial Dam and on the Brawley Wetlands Projects.
US Geological Survey	A Hard copy from the USGS "Water Resources Data, Arizona, Water Year 1999" regarding water quality data on the Colorado River and tributaries to the Colorado River.
California Department of Pesticide Regulation	Letter referring the Regional Board staff to the Department's Internet Databases that include water quality data on the region's surface waters.
US Department of Agriculture, Forest Service	Letter reporting that Department is updating its water quality records
Big Bear Regional Wastewater Agency	Letter reporting water quality data on Big Bear Lake.
Metropolitan Water District of Southern California	Letter reporting water quality data on Lake Havasu.
George Bernath at EarthLink	E-mail reporting water quality data on the Piute Spring.

Copies of all data and information received from the public will be sent to the State Water Resources Control Board in support of the Regional Board's List.

REVIEW OF DATA AND COMMENTS

Regional Board staff has reviewed the data and comments submitted by stakeholders and reviewed existing and readily available water quality-related data. Based on that review, staff is proposing that the Regional Board update its 303(d) List so that the updated List:

1. Identifies specific volatile organic compounds (VOCs) as impairing the New River. The VOCs are attributable to discharges of wastes from Mexico;
2. Removes the pollutant "nutrients" as impairing the New River because there is no documentation that the impairment manifests itself in the river, even though nutrients in the river end up in and are impairing the Salton Sea;
3. Adds trash from Mexico as a pollutant impairing the New River;
4. Adds *dissolved* organic matter as another pollutant impairing the New River. The effect of this pollutant is manifested as chronic low dissolved oxygen in the river;
5. Changes "bacteria" to "pathogens" as a pollutant impairing the Palo Verde Outfall Drain, the New River, and the Coachella Valley Stormwater Channel; and
6. Modifies the time schedule for TMDL development.

Attachment Three shows the proposed updated 303(d) List for the Region. The proposed changes are also based on data previously submitted to Regional Board by State Board, the Imperial Irrigation District, and the Salton Sea Authority. The following section describes the rationale for the changes.

PROPOSED CHANGES TO THE 303(d) LIST

The proposed 2001 303(d) List described in Attachment Three contains the same six water bodies previously listed with some changes. The changes and rationale for the changes follow:

- 1- Remove the pollutant "nutrients" from the New River. Nutrients were added to the New River in 1998 because the river carries nitrogen and relatively high elevated concentrations of phosphates from Mexico and the Imperial Valley. However, the Regional Board has no data showing that these nutrients are in fact violating water quality standards in the New River, even though the New River is the largest contributor of phosphate in the Salton Sea. Nutrients discharged into the Salton Sea are causing eutrophic conditions, which in turn causes fish die-offs in the Sea.
- 2- Change the pollutant "bacteria" to "pathogens" for all water bodies listed for bacteria in the previous list. Regional Board staff proposes the change to recognize that only pathogenic microorganisms are of concern here. Pathogens violate the following WQS for these surface waters: Water Contact Recreation (REC I) and Non-contact Water Recreation (REC II). Pathogens in the New River at the International Boundary also violate the qualitative and quantitative water quality standards of the New River as provided in Minute No. 264 of the Mexican-American Water Treaty.
- 3- List specific volatile organic compounds (VOCs) for the New River based on monitoring data collected by the Regional Board from 1995 to date for the New River at the International Boundary with Mexico. The identified VOCs (e.g., solvents and petroleum hydrocarbon compounds) are associated with untreated and improperly treated discharges of industrial wastes in Mexico, violate the Basin Plan quantitative and qualitative standards for the New River at the International Boundary, as provided for in Minute No. 264 of the Mexican-American Treaty. Minute No. 264 of this treaty prohibits the discharge of untreated industrial wastes in the New River. However, data collected by the USBOR near the New River- Salton Sea Delta didn't detect any major present of VOCs, which indicate that the VOCs impairment may not affect the whole 60-mile stretch of the New River in the USA. Additional data is necessary to characterize the impacted river segment.
- 4- Add *dissolved* organic matter as another condition impairing the New River. The effect of this pollutant is indicated by the lack of dissolved oxygen in the river. Dissolved oxygen is a stressor indicator parameter for organic load. Regional Board monthly reports on Binational Observation Tours of the New River Watershed in Mexicali document that anywhere from 5 to 20 million gallons per day of raw sewage are discharged into the New River in Mexicali. They also note discharges of untreated and partially treated industrial discharges. One of the water quality impacts of these discharges is manifested in chronic dissolved oxygen conditions in the New River in the USA. Conditions at the worst within 20 miles downstream of the International Boundary. Monthly data collected by Regional Board staff on the New River at the International Boundary between January 1996 through July 2001 showed that 100% of DO samples violated the Basin Plan's 5 mg/L minimum dissolved oxygen water quality objective for the New River. Untreated and improperly treated discharges of wastes from Mexico into the New River are responsible for the violations. The low DO impairs the Warm Freshwater Habitat (WARM) designated beneficial uses of the New River. It also results in unaesthetic conditions in the river that prevent attainment of the designated recreational uses of the river.
- 5- Add "trash" as a pollutant impairing the New River. During monthly 8-hour and quarterly 24-hour sampling events of the New River at the International Boundary, Regional Board staff has routinely observed trash floating in the New River. Also, Imperial County estimates that the County removes about 200 cubic yards of accumulated trash from the river a few miles north of the International Boundary every six months. The trash adversely impacts the following beneficial

uses of the New River: Warm Freshwater Habitat (WARM), Wildlife Habitat (WILD), Water Contact Recreation (REC I) and Non-Contact Water Recreation (REC II). Trash also violates Minute No. 264 of the Mexican-American Water Treaty that requires the water of the New River to be free from trash, oil, scum, or other floating materials resulting from human activity in amounts sufficient to be injurious, unsightly, or to cause adverse effects on human life, fish, and wildlife.

- 6- Modify the proposed time schedule for TMDL development as shown in Attachment Three. The proposed time schedule is predicated on Regional Board prioritization. Target dates for TMDL development in the list should be considered tentative. Completion of TMDLs will depend mainly on the availability of resources in terms of staff and funds. They will also depend upon further evaluation of the need for and feasibility of TMDLs.

ATTACHMENTS

1. The 1998 303(d) List for the Colorado River Basin Region.
2. February 28, 2001 Public Solicitation Letter.
3. Recommended Colorado River Basin Region 2001 303(d) List.
4. 1996-2001 water quality data for New River downstream of International Boundary.
5. 2000-2001 Monthly reports on Binational Observation Tour of New River in Mexicali.

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3. Adds trash from Mexico as a pollutant impairing the New River;
4. Adds dissolved oxygen as another pollutant impairing the New River;
5. Changes "bacteria" to "pathogens" as a pollutant impairing the Palo Verde Outfall Drain, the New River, and the Coachella Valley Stormwater Channel; and
6. Modifies the time schedule for TMDL development.

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4. Add inadequate Dissolved Oxygen (DO) as another condition impairing the New River. Monthly data collected by Regional Board staff on the New River at the International Boundary between January 1996 through July 2001 showed that 100% of DO samples violated the Basin Plan's 5 mg/L minimum dissolved oxygen water quality objective for the New River. Untreated and improperly treated discharges of wastes from Mexico into the New

River are responsible for the violations. The low DO impairs the Warm Freshwater Habitat (WARM) designated beneficial uses of the New River. It also results in unaesthetic conditions in the river that prevent attainment of the designated recreational uses of the river.

5. Add "trash" as a pollutant impairing the New River. During monthly 8-hour and quarterly 24-hour sampling events of the New River at the International Boundary, Regional Board staff has routinely observed trash floating in the New River. Also, Imperial County estimates that the County removes about 200 cubic yards of accumulated trash from the river a few miles north of the International Boundary every six months. The trash adversely impacts the following beneficial uses of the New River: Warm Freshwater Habitat (WARM), Wildlife Habitat (WILD), Water Contact Recreation (REC I) and Non-Contact Water Recreation (REC II). Trash also violates Minute No. 264 of the Mexican-American Water Treaty that requires the water of the New River to be free from trash, oil, scum, or other floating materials resulting from human activity in amounts sufficient to be injurious, unsightly, or to cause adverse effects on human life, fish, and wildlife.
6. Modify the proposed time schedule for TMDL development as shown in Attachment Three. The proposed time schedule is predicated on Regional Board prioritization. Target dates for TMDL development in the list should be considered tentative. Completion of TMDLs will depend mainly on the availability of resources in terms of staff and funds. They will also depend upon further evaluation of the need for and feasibility of TMDLs.

ATTACHMENTS

1. The 1998 303(d) List for the Colorado River Basin Region.
2. February 28, 2001 Public Solicitation Letter.
3. Recommended Colorado River Basin Region 2001 303(d) List.

**Attachment One: Colorado River Basin Regional Water Quality Control Board
Timeline for Development of Total Maximum Daily Loads (TMDLs)***

WATERBODY	HYDROLOGIC UNIT NO.	SIZE AFFECTED	PROBLEM DESCRIPTION	SPECIFIC POLLUTANTS	PROBABLE SOURCE	TMDL PRIORITY	TARGET DATE (S)
New River	723.10	60 miles	Public health hazard, objectives violated, fish kills	Pesticides, silt, Bacteria, nutrients, VOCs	Agricultural return flows and Mexico	High	Silt: Start 1998, complete 2002 Bacteria: Start 1998, completed 2005** Nutrients: Start 2002, complete 2010 Pesticides: Start 2002, complete 2013 VOCs: Start 2007, complete 2013
Alamo River	723.10	52 miles	Elevated fish tissue levels (pesticides and selenium), toxic bioassay results (pesticides), recreational impacts	Pesticides, selenium, silt	Agricultural return flows	High	Silt: Start 1998, completed 2000 Selenium: Start 2000, complete 2010 Pesticides: Start 2002, complete 2011
Imperial Valley Drains	723.10	1,305 miles	Elevated fish tissue levels (pesticides and selenium), toxic bioassay results (pesticides), recreational impacts	Pesticides, selenium, silt	Agricultural return flows	High	Silt: Start 1998, complete 2000 Selenium: Start 2000, complete 2010 Pesticide: Start 2005, complete 2011
Salton Sea	728.00	220,000 acres	Salinity objectives violated, Elevated fish tissue levels (selenium), recreational impacts	Selenium, salts, nutrients	Agricultural return flows	Medium	Salt: Start 1998, complete 2001 Selenium: Start 2002, complete 2007 Nutrients: Start 2002, complete 2010
Palo Verde Outfall Drain	715.40	16 miles	Bacteria objective violated, threat of toxic bioassay results, threat of sedimentation	Bacteria	Unknown	Medium	Bacteria: Start 2005, complete 2011
Coachella Valley Storm water Channel	719.47	20 miles	Bacteria objective violated, threat of toxic bioassay results	Bacteria	Unknown	Low	Bacteria: Start 2004, complete 2009

* This is not a commitment to complete work. The commitments are made in fund source specific workplans.

** Regional Board proposes to establish TMDL in cooperation with USEPA/Mexico.

*** Selenium originates from upper portion of the Colorado River and is delivered to the Imperial Valley via irrigation water.



Winston H. Hickox
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Protection

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Gray Davis
Governor

Date: February 28, 2001

Attachment Two: PUBLIC SOLICITATION OF WATER QUALITY INFORMATION

The Colorado River Basin Regional Water Quality Control Board (Regional Board) is soliciting the public on behalf of the State Water Resources Control Board (SWRCB) for data and information regarding water quality conditions in surface waters in this Region. The information gathered will be used in various assessments of the State's waters including the development of a submission to US EPA required by the federal Clean Water Act (Section 303(d)). This submission will be developed by the SWRCB and will provide US EPA with a revised list of waters considered by the State to be impaired (not attaining water quality standards) after certain required technology based water quality controls are in place. It is anticipated that this submission will be provided to US EPA by April 2002, as required by federal regulations. The submission will be based on information and data available to the SWRCB and the Regional Water Quality Control Boards. The information gathered in this solicitation will also contribute to the preparation of the 2002 federal Clean Water Act Section 305(b) Report on Water Quality.

Anyone, including but not limited to, private citizens, public agencies, state and federal governmental agencies, non-profit organizations, and businesses, possessing information regarding the quality of the Region's waters may provide information.

We are seeking to obtain all readily available data and assessment information generated since July 1997. All data and information you wish to provide must be received by the Regional Board by 5:00 p.m. on May 15, 2001. For purposes of this solicitation, information is any documentation describing the current or anticipated water quality condition of a surface water body. We consider data to be a subset of information that consists of reports of measurements of specific environmental characteristics. The data and information may pertain to physical, chemical, and/or biological conditions of the region's waters or watersheds.

Information provided should conform to the following considerations:

- The name of the entity or person providing the information.
- Mailing address, phone numbers, and email addresses for a contact person that can answer questions about any of the information provided.
- Two hard copies and an electronic copy of all information provided. For reports Microsoft Word is the preferred software. Please specify the software used to format the information and provide definitions for any codes or abbreviations used.
- Bibliographic citations for all information provided.
- If computer model outputs are included in the information, please provide bibliographic citations and specify any calibration and quality assurance information available.

Any data provided should conform to the following considerations:

- Data in electronic form, in a spreadsheet, database or ASCII format. Please specify the format and define any codes or abbreviations used in your database.

California Environmental Protection Agency

- A description of, and reference for your quality assurance procedures.
- Metadata for the field data, i.e., when measurements were taken, locations, number of samples, detection limits, etc.
- If possible, two hard copies of the data, so that we can verify that we have accurately transferred the data to our database.
- In addition, for data from citizen volunteer water quality monitoring efforts:
 - The name of your group;
 - Indication of any training in water quality assessment completed by members of your group;

We would like to receive data and information as soon as possible and no later than May 15, 2001. Data or information received after May 15, 2001 will not be considered in developing the April 2002 submission to US EPA required by Clean Water Act Section 303(d).

Please send any information and data you wish to provide to:

Teresa Newkirk
73-720 Fred Waring Drive, Suite 100
Palm Desert, CA 92260
newkt@rb7.swrcb.ca.gov

If you have questions regarding information or data you wish to submit, please contact:

Teresa Newkirk
73-720 Fred Waring Drive, Suite 100
Palm Desert, CA 92260
newkt@rb7.swrcb.ca.gov
(760) 346-7491

The Regional Boards have been requested to provide recommendations to the SWRCB in Fall 2001 on the condition of Regional waters. The SWRCB will consider all Regional Boards' recommendations regarding the conditions of the Region's waters when formulating the 303(d) submission. The State's submission revising the list of impaired waters will be considered by the SWRCB in a public process to be conducted next winter. Opportunities for review of the proposed submission and public comment on the submission will be announced at a later date.

Attachment Three
Colorado River Basin Regional Water Quality Control Board
Timeline for Development of Total Maximum Daily Loads (TMDLs)¹

WATERBODY	HYDROLOGIC UNIT NO.	SIZE AFFECTED	PROBLEM DESCRIPTION	SPECIFIC POLLUTANTS	PROBABLE SOURCE	TMDL PRIORITY	TARGET DATE (S)
New River	723.10	60 miles	Basin Plan Objectives violated, public health hazard	Pathogens	Mexico and Wastewater Treatment Plants in Imperial County	High	Started 1998, completed 2001
			Basin Plan Objectives violated, recreational impacts	Silt	Imperial Valley agricultural return flows	High	Started 1998, complete 2002
			Elevated fish tissue levels, fish kills	Pesticides ⁴	Imperial Valley agricultural return flows and Mexico	High	Start 2005, complete 2011
			Basin Plan Objectives violated, fish kills	Dissolved Oxygen	Mexico	High	Start 2003, complete 2006
			Basin Plan Objectives violated, Public health hazard	Trash	Mexico	High	Start 2004, complete 2007
			Basin Plan Objectives violated ²	Chloroform	Mexico	High	Start 2007, complete 2011
			Basin Plan Objectives violated ²	Toluene	Mexico	High	Start 2007, complete 2011
			Basin Plan Objectives violated ²	p-Cymene	Mexico	High	Start 2006, complete 2009
			Basin Plan Objectives violated ²	1,2,4-trimethylbenzene	Mexico	High	Start 2006, complete 2009
			Basin Plan Objectives violated ²	m,p,-Xylene	Mexico	High	Start 2005, complete 2008
			Basin Plan Objectives violated ²	o-Xylenes	Mexico	High	Start 2005, complete 2008
			Basin Plan Objectives violated ²	p-DCB	Mexico	High	Start 2006, complete 2010

1- See page 3 for footnotes

Alamo River	723.10	52 miles	Basin Plan Objectives violated, recreational impacts	Silt	Imperial Valley agricultural return flows	High	Started 1998, completed 2001
			Elevated fish tissue levels, toxic bioassay results	Pesticides ⁴	Imperial Valley agricultural return flows	High	Start 2005, complete 2011
			Elevated fish tissue levels	Selenium ³	Imperial Valley agricultural return flows	High	Start 2005, complete 2010
Imperial Valley Drains	723.10	1,305 miles	Basin Plan Objectives violated, recreational impacts	Silt	Imperial Valley agricultural return flows	High	Start 2001, complete 2004
			Elevated fish tissue levels, toxic bioassay results	Pesticides ⁴	Imperial Valley agricultural return flows	High	Start 2005, complete 2011
			Elevated fish tissue levels	Selenium ³	Imperial Valley agricultural return flows	High	Start 2003, complete 2010
Salton Sea	728.00	220,000 acres	Basin Plan Objectives violated, recreational impacts	Nutrients	Agricultural return flows, NPDES Wastewater Treatment Plants, Mexico	High	Start 2001 complete 2004
			Basin Plan Objectives violated	Salts ⁵	Agricultural return flows, NPDES Wastewater Treatment Plants, Mexico	High	

			Elevated fish tissue levels	Selenium ³	Agricultural return flows	Medium	Start 2005, complete 2010
Palo Verde Outfall Drain	715.40	16 miles	Basin Plan Objectives violated, public health hazard	Pathogens	Unknown	Medium	Start 2001, complete 2003
Coachella Valley Storm water Channel	719.47	20 miles	Basin Plan Objectives violated, thread of toxic bioassay results	Pathogens	Unknown	Low	Start 2002, complete 2005

- 1- This is not a commitment to complete work. The commitments are made in fund source specific workplans.
- 2- Current Regional Board's monitoring data for the New River at the International Boundary shows that VOCs are routinely present in the New River immediately downstream from the International Boundary with Mexico, at concentrations that violate Basin Plan objectives. However, data collected by USBOR near the New River-Salton Sea Delta in 1999 and briefly presented at the January 13-14, 2000 Salton Sea Symposium found that VOCs in the New River not to be of major concern. Therefore, it is believed that the VOC impairment may not affect the 60-mile stretch of the New River in the USA. Additional data is necessary to characterize the impacted river segment.
- 3- Selenium originates from upper portion of the Colorado River and is delivered to the Imperial Valley via irrigation water; Selenium will likely be addressed via a federal TMDL for the entire Colorado River Watershed.
- 4- May be effectively addressed by Silt TMDL, thus not requiring new TMDL development.
- 5- TMDL development will not be effective in addressing this problem, which will require an engineered solution with federal, state, and local cooperation.