

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

**STAFF REPORT
IN SUPPORT OF PROPOSED UPDATES
TO THE CLEAN WATER ACT SECTION 303(d) LIST
AND
PREPARATION OF THE
2012 INTEGRATED REPORT**

EXECUTIVE SUMMARY

The California Regional Water Quality Control Board, Colorado River Basin Region (Colorado River Basin Water Board) staff completed assessments of water quality data and information as required by sections 303(d) and 305(b) of the federal Clean Water Act (CWA). CWA, Section 303(d) requires States to develop and submit to the U.S. Environmental Protection Agency (USEPA) for approval a list of polluted waters or water quality limited (or impaired) segments, commonly referred to as the "303(d) List" or the "List of Impaired Waters." Additionally, CWA Section 305(b) requires States to submit to USEPA for approval a report assessing statewide surface water quality. The updated 303(d) List when combined with the 305(b) surface water quality assessment report is referred to as an "Integrated Report".

After completing data assessments, staff proposes that the Colorado River Basin Water Board updates its existing 303(d) List of waters in the Region. Staff developed these proposed updates pursuant to the Water Quality Control Policy for Developing California's CWA Section 303(d) List (hereafter "Listing Policy"), guidance adopted by the State. The proposed updates include new listings to the 303(d) List, delistings from the 303(d) List, TMDL requirement status changes to existing 303(d) listings, and other modifications. The proposed updates for each listed body of water include:

Alamo River Updates

1. New listings: Chloride, Malathion, and Toxicity.
2. Delistings: Endosulfan and Mercury.
3. TMDL Requirement Status Changes: Chlordane, Chlorpyrifos, Dichlorodiphenyl-trichloroethane (DDT), Diazinon, Dieldrin, Polychlorinated biphenyls (PCBs), and Toxaphene from "TMDL still required" to the "being addressed by action other than a TMDL".

Coachella Valley Stormwater Channel Updates

1. New listings: Nitrogen-ammonia (Total Ammonia), and Toxicity.
2. TMDL Requirement Status Change: Indicator Bacteria from the "TMDL still required" to the "being addressed by USEPA approved TMDL".
3. Other modification (pollutant category name change): from "Pathogens" to "Fecal Indicator Bacteria."

Colorado River Updates

1. New listing: Toxicity.
2. Delisting: Selenium.

Imperial Valley Drains Updates

1. Delisting: Endosulfan.
2. TMDL Requirement Status Changes: Chlordane, DDT, Dieldrin, PCBs, and Toxaphene from the “TMDL still required” to the “being addressed by action other than a TMDL”.

New River Updates

1. New listings: Bifenthrin, Chloride, Cypermethrin, Naphthalene, and Nitrogen-ammonia (Total Ammonia).
2. Delistings: Copper and Zinc.
3. TMDL Requirement Status Changes: Chlordane, Chlorpyrifos, Dichlorodiphenyl-trichloroethane (DDT), Diazinon, Dieldrin, Polychlorinated biphenyls (PCBs), and Toxaphene from the “TMDL still required” to the “being addressed by action other than a TMDL”.
4. TMDL Requirement Status Change: Organic Enrichment/Low Dissolved Oxygen from the “TMDL still required” to the “being addressed by USEPA approved TMDL.”
5. Other modification (pollutant category name change): from “Pathogens” to “Fecal Indicator Bacteria.”

Palo Verde Outfall Drain and Lagoon Updates

1. New listings: Chloride.
2. TMDL Requirement Status Changes: DDT and Toxaphene from the “TMDL still required” to the “being addressed by action other than a TMDL”.
3. Other modification (pollutant category name change): from “Pathogens” to “Fecal Indicator Bacteria.”

Salton Sea Updates

1. New listings: Chloride, Low Dissolved Oxygen, Nitrogen_ammonia (Total Ammonia), and Toxicity.
2. Delisting: Selenium.

Wiest Lake Updates

1. New listings: PCBs and Dieldrin.

This staff report provides background on and the rationale and applicable policy for the proposed updates.

INTRODUCTION

The California Regional Water Quality Control Board, Colorado River Basin Region (Colorado River Basin Water Board) is charged by the Porter-Cologne Water Quality Control Act with the protection of water quality in waters within the Region and is also responsible for implementing certain provisions and pollution control requirements that the federal Clean Water Act (CWA) specifies for surface waters of the United States. The Colorado River Basin Water Board's Water Quality Control Plan (hereafter "Basin Plan") for the Region identifies all waters in the Region and establishes water quality standards (WQSs) for those waters. WQSs consist of designated uses (or beneficial uses), water quality criteria (or objectives) (WQOs) to protect the beneficial uses, and an anti-degradation policy.

The State of California is required by federal CWA section 303(d) and Title 40, Code of Federal Regulations (CFR) section 130.7 to develop and submit biennially to the U.S. Environmental Protection Agency (USEPA) for approval a list of polluted waters or water quality limited (or impaired) segments (distinct portions of rivers, streams, lakes, ocean waters, etc.). This list is commonly referred to as the "303(d) List" or the "List of Impaired Waters." The 303(d) list includes water bodies that are not meeting, or are not expected to meet all WQSs. Listed water bodies can be delisted when evidence reveals that such impacts have ceased, or the water body is meeting WQSs. Following the identification of impaired water bodies, the State is required to establish a priority list of these water bodies, identify the pollutants that cause the impairments, and in partnership with the USEPA, develop pollutant-loading limits commonly called Total Maximum Daily Loads (TMDLs) or other appropriate regulatory actions. A TMDL is the total maximum daily load(s) of a pollutant(s) that can be discharged into given water body and still ensure the attainment of applicable WQSs.

CWA section 305(b) requires states to submit to USEPA for approval of a report assessing statewide surface water quality. The updated 303(d) List when combined with the Surface Water Quality Assessment (305(b) Report) is referred to as an "Integrated Report" for the State.

The Colorado River Basin Water Board's 303(d) List is reviewed and updated as necessary and is subject to the approval of the State Water Resources Control Board (State Water Board) and the USEPA. The Region's 303(d) List was last updated in 2009, approved by the State Board in 2010, and approved by the USEPA in 2011 (Attachment 1). It is referred to as the "2010 303(d) List." Pollutants and waters listed on the 2010 303(d) List remain until they are delisted. Attachment 1 shows the 2010 CWA Section 303(d) List for the Region. The impaired surface waters for the Region are:

- 1 – Alamo River
- 2 – Coachella Valley Stormwater Channel
- 3 – Colorado River
- 4 – Imperial Valley Drains
- 5 – New River
- 6 – Palo Verde Outfall Drains
- 7 – Salton Sea
- 8 – Wiest Lake

The Colorado River Basin Water Board staff circulated a Notice of Public Solicitation of water quality data for the 2012 CWA Section 303(d) List with a deadline of June 30, 2010, which was later extended to August 30, 2010. Based on data and comments received from stakeholders and based on data collected and assessed by staff, staff is proposing that the Board update its 2010 CWA Section 303(d) List, and submit the updated List to the State Water Board for approval. The State Water Board, in turn, will compile each of the nine regional water board lists into a statewide list and consider it for adoption. Following the State Water Board's approval of the statewide 303(d) lists, the Integrated Report will be submitted to the USEPA for approval.

LISTING POLICY

In developing the 303(d) List, Colorado River Basin Water Board staff considered federal regulations under the CWA (see, e.g., 40 CFR. Parts 25 and 130) and the State Water Board's Water Quality Control Policy for Developing California's CWA Section 303(d) List (hereafter "Listing Policy") adopted in 2004 (SWRCB, 2004). The Listing Policy is a standardized approach for developing California's section 303(d) list. The Listing Policy establishes requirements for data quality, data quantity, and administration of the listing process. The Policy provides standard rules for making listing or delisting decisions based upon different kinds of data and a standard statistical test identifying impairments in water. Decision rules for listing and delisting are provided for: chemical-specific WQs; bacterial WQs; health advisories; bioaccumulation of chemicals in aquatic life tissues; nuisances conditions such as trash, odor, and foam; nutrients; water and sediment toxicity; adverse biological response; degradation of aquatic life populations and communities; and water quality trends.

DATA SOLICITATION

Federal regulations in 40 CFR section 130.7(b) (5) state that "Each State shall assemble and evaluate all existing and readily available water quality-related data and information" when developing the 303(d) list. Section 6.1.2.1 of the Listing Policy states: "Readily available data and information shall be solicited from any interested party, including but not limited to, private citizens, public agencies, state and federal governmental agencies, non-profit organizations, and businesses possessing data and information regarding the quality of the Region's waters." In January 2010, the State Water Board solicited the public to submit data and information regarding water quality conditions in surface waters of California to be considered in development of the 2012 California Integrated Report-List of Impaired Waters and Surface Water Quality Assessment [303(d)/305(b)] (Attachment 2). The deadline for submittal of the data was extended from June 30 to August 30, 2010. In response to the notice, two public agencies submitted data for the Region: International Boundary and Water, Commission, United States Section; and Riverside County Flood Control and Water Conservation District.

ASSESSMENT PROTOCOL

The first step of the water quality assessment involved collecting all readily available data and gathering metadata to evaluate the quality of the data. Due to the relatively limited number of data sets identified through the solicitation process, much effort was focused on collecting and assessing readily available data from the list of sources identified in Section 6.1.1 of the Listing

Policy. The readily available data gathered for the assessment came from: Colorado River Basin Water Board water quality monitoring programs; State Water Board water, fish tissue and sediment quality monitoring programs; other State Agencies' monitoring programs; and Federal Agencies' water quality monitoring programs. Emphasis was placed on evaluating data collected through the State of California's Surface Water Ambient Monitoring Program (SWAMP), because it was determined to be relatively balanced water quality information, not necessarily focusing on impaired or unimpaired water bodies.

The second step of the water quality assessment involved comparing all the water quality data to the available water quality criteria and guidelines (Attachment 3), and noting the number of sample results that exceeded water quality criteria or evaluation guideline versus the total number of acceptable samples collected and analyzed. The screenings were completed in accordance with the Listing Policy, using applicable narrative and numeric WQSs expressed in the Basin Plan and established criteria expressed in the California and National Toxics Rules. When the standard was expressed as a numeric level or a limit of a water quality constituent, that value was applied when assessing the data. When the standard was expressed as a narrative or characteristic established for the reasonable protection of the beneficial uses of a water body, staff applied numeric guidelines and criteria developed by the USEPA and other government agencies, or findings published in peer-reviewed scientific literature, to evaluate the level of impairment or water quality condition. Although these evaluation guidelines and criteria met the requirements of Section 6.1.3 of the Listing Policy, the guidelines and criteria not explicitly expressed in the Basin Plan or applicable state-wide policies are not WQSs and should only be used for the purpose of developing the 303(d) List. Attachment 3 shows the criteria and objectives applied to the screening of water quality data. Note that not all of the criteria were applied because not all of the constituents were analyzed in samples.

The third step of the water quality assessment involved preparing lines of evidence. A line of evidence identifies: the specific water body segment/pollutant combination; beneficial use affected; applicable criteria, objective, or evaluation guideline when necessary to evaluate the data; a summary of the data used to assess water quality; information concerning the spatial and temporal representativeness of the data, and; information related to the quality of the data.

The fourth step of the water quality assessment involved making listing decisions. Listing or delisting decisions were made in accordance with the Listing Policy. For the purpose of developing the proposed revisions to the 303(d) List, the Listing Policy recommends a "weight of evidence" approach to evaluate whether the evidence is in favor of listing or delisting a water body segment/pollutant combination. The lines of evidence serve as supporting information when making a decision of whether to list or delist a water body segment/pollutant combination. Lines of evidence with similar water body segment/pollutant combinations are combined and incorporated into Fact Sheets. The Listing Policy specifies the frequency of exceedances of applicable WQOs that are necessary to make a determination that the water quality in the water body segment does or does not support a Beneficial Use.

PROPOSED CHANGES TO THE 303(d) LIST AND RATIONALES

Staff has reviewed the water quality data submitted by stakeholders, and reviewed existing readily available water quality-related data according to the Listing Policy requirements. Based on the review, staff is proposing the Colorado River Basin Water Board update its 303(d) List so that the updated list includes new listings, delistings, and other modifications that are described in

Attachment 4. The propose changes and rationales are as follows:

Alamo River Proposed Updates

- 1- Add Chloride, Malathion, and Toxicity as pollutants from unknown sources impairing the Alamo River. These pollutants should be added to the 303(d) List because the assessed data (Attachment 5) shows that the number of measured exceedances of applicable criteria or objectives meets the listing requirements in Table 3.1 of the Listing Policy.
- 2- Delist Endosulfan and Mercury as pollutants from unknown sources impairing Alamo River. Attachment 6 shows the data used to support these delisting proposals.
 - Endosulfan was listed in 2010 assessment cycle with four exceedances in fish tissue samples. These four exceedances were occurred from 1978 to 1988. Although four of 40 fish tissue samples exceeded the allowable frequency listed in Table 4.1 of the Listing Policy, the more recent water quality data, from 1989 - 2012, indicates that the water quality standard is attained. In addition, the uses of Endosulfan are phasing out, and the farmers in the Imperial County have stopped using Endosulfan for Alfalfa seed since 2011. According to the California Department of Pesticide Regulation (DPR) pesticide use reporting (PUR), there was no reported use of Endosulfan in Imperial County in 2011. Additionally, two USEPA approved TMDLs are in place in Imperial County to improve sediment management practices (MPs), which play important roles in reducing Organochlorine Compounds (OCs) including Endosulfan. Thus, the situation specific weight of evidence indicates that the water quality is attained, and as a result, this pollutant should be removed from the 303 (d) List.
 - Mercury was listed in 2010 assessment cycle due to water sample exceedances occurred from 1979 to 1991. On June 8, 1999, USEPA promulgated Method 1631, Revision B for use in determination of mercury at parts per trillion (ppt) levels in water. Method 1631 improved accuracy and precision at low levels, and allowed to determine mercury at 0.5 ng/l level. Since the application of the Method 1631 into analysis, mercury did not show any exceedances in this waterbody from 2002 to 2012. The concentration of mercury varied from 0.8 to 1.6 ng/l, while the applicable water quality objective from the California Toxics Rule (CTR) is 51 ng/l. Thus, the situation specific weight of evidence indicates that the water quality is attained, and as a result, this pollutant should be removed from the 303 (d) List.
- 3- Update the TMDL requirement status for the following pollutants, Chlordane, Chlorpyrifos, DDT, Diazinon, Dieldrin, PCBs, and Toxaphene, from "TMDL still required" (5A) to "Being Addressed by action other than a TMDL" (5C). Attachment 7 shows documents used to support these proposed updates.
 - The listings of the OCs OF Chlordane, DDT, Dieldrin, PCBs, and Toxaphene are being addressed through existing regulatory actions: Alamo River Sediment TMDL, and Imperial Valley Drains (IVDs) Sediment TMDL and Prohibition. These OCs are man- made chemicals, and do not have natural sources. Although these OCs were heavily used in past years, their usages were banned more than decades ago. Since these OCs are attached to sediments, sediment management practices required by the existing regulatory actions are expected to result in attainment of the applicable water quality standards by 2030.

- The listings of Chlorpyrifos and Diazinon are being addressed through an existing Colorado River Basin Water Board regulatory action: Colorado River Basin Water Board Resolution R7-2013-0700. Resolution certifies that the revised Imperial County Farm Bureau TMDL Compliance Program (ICFB TMDL Program) is adequate to correct the impairments of Chlorpyrifos and Diazinon in the Alamo River. This ICFB TMDL Program requires farmers to prepare and submit water quality management plans with specific Management Practices (MPs) aimed at addressing the impairments. Implementation of the MPs is expected to result in attainment of applicable water quality standards by 2018.

Coachella Valley Storm Water Channel Proposed Updates

- 1- Add Nitrogen-ammonia (as Total Ammonia) and Toxicity as pollutants from unknown sources impairing the Coachella Valley Stormwater Channel. These pollutants should be added to the 303(d) List because the assessed data (Attachment 5) show that the number of measured exceedances of applicable criteria or objectives meet the listing requirements in Table 3.1 of the Listing Policy.
- 2- Change the TMDL required status for Indicator Bacteria “TMDL still required” (5A) to “Being Addressed by USEPA approved TMDL” (5B). The Coachella Valley Stormwater Channel TMDL was adopted by the Colorado River Basin Water Board on June 17, 2010, approved by the State Board on July 19, 2011, approved by the Office of Administrative Law on February 2, 2012, and approved by USEPA on April 27, 2012. The approved TMDL is expected to result in full attainment of the standard within a specified time frame, and supports placement of this pollutant into the “Being addressed by a USEPA approved TMDL” according to Section 2.2 of the Listing Policy.

Colorado River Proposed Updates

- 1- Add Toxicity as a pollutant from unknown sources impairing the Colorado River and Associated Lakes and Reservoirs in two segments: California-Nevada border to Lake Havasu, and Lake Havasu Dam to Imperial Dam. This pollutant should be added to the 303(d) List because the assessed data (Attachment 5) shows that the number of measured exceedances of applicable criteria or objectives meets the listing requirements in Table 3.1 of the Listing Policy.
- 2- Delist Selenium as a pollutant from unknown sources impairing the Colorado River from the Imperial Reservoir to California-Mexico border segment. Attachment 6 shows the data used to support this delisting proposal. This pollutant was originally listed in a previous assessment cycle, prior to 2006, and the data was assessed using the screening value of 2 mg/kg. A new Office of Environmental Health Hazard Assessment (OEHHA) guideline was published in 2008, which contains a fish contaminant goal for Selenium of 7.4 mg/kg. The data was reassessed using the newer evaluation guideline. This pollutant should be removed from the 303 (d) List (TMDL required list) because the reassessed data shows that the number of measured exceedances of applicable criteria or objectives meets the delisting requirements in Table 4.1 of the Listing Policy.

Imperial Valley Drains (IVDs) Proposed Updates

1. Delist Endosulfan as a pollutant from unknown sources impairing IVDs. Attachment 6 shows the data used to support this delisting proposal. Endosulfan was listed in 2006 assessment cycle with ten exceedances in fish tissue samples. These exceedances were occurred from 1985 to 1996. Although 10 of 44 fish tissue samples exceeded the allowable frequency listed in Table 4.1 of the Listing Policy, the recent water quality data, from 1999 to 2011, indicates that the water quality standard is attained. In addition, the uses of Endosulfan are phasing out, and the farmers in the Imperial County have stopped using the Endosulfan for Alfalfa seed since 2011. According to the CA Department of Pesticide Regulations (DPR) pesticide use reporting (PUR), there were no reported uses of Endosulfan in Imperial County in 2011. Additionally, one USEPA approved TMDL is in place in this waterbody to improve sediment management practices (MPs), which plays important roles in reducing OCs. Thus, the situation specific weight of evidence indicates that the water quality is attained, and as a result, this pollutant should be removed from the 303 (d) List.
2. Update the TMDL requirement status for the following pollutants, Chlordane, DDT, Dieldrin, PCBs, and Toxaphene, "TMDL still required" (5A) to "Being Addressed by action other than a TMDL" (5C). Attachment 7 shows documents used to support these proposed updates. These listings are being addressed through existing regulatory actions: Alamo River Sediment TMDL, IVDs Sediment TMDL and Prohibition, and New River Sediment TMDL. These OCs are man- made chemicals, and do not have natural sources. Although these OCs were heavily used in past years, their usages were banned more than decades ago. Since these OCs are attached to sediments, sediment management practices required by the existing regulatory actions are expected to result in attainment of the applicable water quality standards by 2030.

New River Proposed Updates

- 1- Add Bifenthrin, Chloride, Cypermethrin, Naphthalene, Nitrogen-ammonia (as Total Ammonia) as pollutants from unknown sources impairing the New River. These pollutants should be added to the 303(d) List because the assessed data (Attachment 5) shows that the number of measured exceedances of applicable criteria or objectives meets the listing requirements in Table 3.1 of the Listing Policy.
- 2- Delist Copper and Zinc as pollutants from unknown sources impairing the New River. Attachment 6 shows the data used to support these delisting proposals.
 - Copper was originally listed by USEPA in 2006. In the final decision, USEPA stated that its applicable limit for copper was exceeded, on a 4-day average, "less frequently than once every three years." In data assessed in 2006, six of 113 samples exceeded water quality objective. Although these number of exceedances did not exceed the allowable frequency listed in Table 3.1 of the listing Policy, all exceedances occurred in 2001 and 2002 that were more frequent than once every three years. However, the current water quality data collected by the SWAMP shows that no exceedances for copper have been observed from 2002 to 2012. In addition, the assessed data shows that the number of measured exceedances of applicable criteria of objectives meets

the delisting requirements in Table 4.1 of the Listing Policy. Thus, copper should be removed from the 303(d) List.

- Zinc in sediment was listed in 2010 assessment cycle because two of 17 sediment samples exceeded sediment quality guideline, and sediment toxicity data also used as supporting evidence. However, more sediment data for zinc were collected over the years, and the assessed data for the zinc shows that the number of measured exceedances of applicable criteria or objectives meets the delisting requirements in Table 4.1 of the Listing Policy. Therefore, zinc should also be removed from the 303(d) List.
- 3- Update the TMDL requirement status for the following pollutants, Chlordane, Chlorpyrifos, DDT, Diazinon, Dieldrin, PCBs, and Toxaphene, “TMDL still required” (5A) to “Being Addressed by action other than a TMDL” (5C). Attachment 7 shows documents used to support these proposed updates.
- The listings of the OCs of Chlordane, DDT, Dieldrin, PCBs, and Toxaphene are being addressed through existing regulatory actions: New River Sediment TMDL, and IVDs Sediment TMDL and Prohibition. These OCs are man-made chemicals, and do not have natural sources. Although these OCs were heavily used in past years, their usages were banned more than decades ago. Since these OCs are attached to sediments, sediment management practices required by the existing regulatory actions are expected to result in attainment of the applicable water quality standards by 2030.
 - The listings of Chlorpyrifos and Diazinon are being addressed through an existing Colorado River Basin Water Board regulatory action: Colorado River Basin Water Board Resolution R7-2013-0700. The Resolution certifies that the revised Imperial County Farm Bureau TMDL Compliance Program (ICFB TMDL Program) is adequate to correct the impairments of Chlorpyrifos and Diazinon in the New River.
- 4.- Change the TMDL requirement status for organic Enrichment/Low Dissolved Oxygen from “TMDL still required” (5A) to “Being Addressed by USEPA approved TMDL” (5B). The New River Dissolved Oxygen TMDL was adopted by the Colorado River Basin Water Board on May 20, 2010, approved by the State Board on December 6, 2011, approved by the Office of Administrative Law on March 21, 2012, and approved by USEPA on November 16, 2012. The approved TMDL is expected to result in full attainment of the standard within a specified time frame, and supports placement of this pollutant into the 5B according to Section 2.2 of the Listing Policy.

Palo Verde Outfall Drain and Lagoon Proposed Updates

- 1- Add Chloride as a pollutant from unknown sources impairing the Palo Verde Outfall Drain and Lagoon. This pollutant should be added to the 303(d) List because the assessed data (Attachment 5) shows that the number of measured exceedances of applicable criteria or objectives meets the listing requirements in Table 3.1 of the Listing Policy.
- 2- Update the TMDL requirement status for DDT and Toxaphene from “TMDL still required” (5A) to “Being Addressed by action other than a TMDL” (5C). Attachment 7 shows

documents used to support these proposed updates. These listings are being addressed through an existing regulatory action: Palo Verde Valley Agricultural Waiver (R7-2012-0047). Although DDT and Toxaphene were heavily used in past years, their usages were banned over two decades ago. Since DDT and Toxaphene are attached to sediments, sediment management practices required by the existing regulatory action are expected to result in attainment of the applicable water quality standards by 2020.

Salton Sea Proposed Updates

- 1- Add Chloride, Low Dissolved Oxygen, Nitrogen-ammonia (Total Ammonia), and Toxicity as pollutants from unknown sources impairing the Salton Sea. These pollutants should be added to the 303(d) List because the assessed data (Attachment 5) shows that the number of measured exceedances of applicable criteria or objectives meets the listing requirements in Tables 3.1 and 3.2 of the Listing Policy.
- 2- Delist Selenium as a pollutant from unknown sources impairing the Salton Sea. Attachment 6 shows the data used to support this delisting proposal. This pollutant was originally listed prior to 2006, but the impairment was not observed in all readily available data. More recently collected data also does not show any exceedances. This pollutant should be removed from the 303 (d) List (TMDL required list) because the assessed data shows that the number of measured exceedances of applicable criteria of objectives meets the delisting requirements in Table 4.1 of the Listing Policy.

Wiest Lake Proposed Updates

- 1- Add PCBs (Polychlorinated biphenyls) and Dieldrin as pollutants from unknown sources impairing Wiest Lake. These pollutants should be added to the 303(d) List because the assessed data (Attachment 5) shows that the number of measured exceedances of applicable criteria or objectives meets the listing requirements in Table 3.1 of the Listing Policy.

Other Proposed Modifications

- 1- Replace the category name of the pollutant "Pathogens" with "Fecal Indicator Bacteria" for clarity and consistency in the Coachella Valley Stormwater Channel, New River, and Palo Verde Outfall Drain. Due to the large amounts of resources to collect samples and high cost to test directly for the presence of a large variety of pathogens, water is usually only tested for coliforms and fecal streptococci. The most commonly tested fecal bacteria indicators are total coliform, *E. coli*, fecal streptococci, and enterococci. These are called Fecal Indicator Bacteria. The use of total coliform as a bacteria indicator is no longer recommended by the USEPA for the protection of recreational uses. The term "Pathogens" was used as a pollutant to list bacteria indicators during previous assessment cycles in the aforementioned three waterbodies. Therefore, the term "Fecal Indicator Bacteria" will be used to replace the term "Pathogens" for clarity and consistency with other California Water Boards and the USEPA's recommendations.

- 2- Modify the time schedule for TMDL development. All water body-pollutant combinations on the 303(d) List are assigned with a proposed TMDL completion date. The maximum time that can elapse between 303(d) listing and TMDL completion is 13 years. Accordingly, all new listings are assigned a TMDL completion date of 2025. This does not suggest that all new listings have the same priority, but rather that the factors determining TMDL priorities have not yet been evaluated as part of this listing process. These factors will be considered through the continuing planning process and with input from the Colorado River Basin Water Board, stakeholders, and other interested persons.

INTEGRATED REPORT

Following the Colorado River Basin Water Board's adoption of the resolution approving the Region's 2012 303(d) List, the approved 303(d) List will be sent to the State Water Board for its consideration of approval. The State Water Board will compile all nine regional water boards' 303(d) lists into a statewide list and consider it for adoption. Following the State Water Board's approval of the statewide 303(d) list, State Water Board staff will prepare a 303(d)/305(b) Integrated Report. The 303(d)/305(b) Integrated Report will be based on the information submitted in this report and similar information prepared by all the other regional water boards. The Integrated Report will then be submitted to the USEPA for its approval. All of the assessments completed for the preparation of the updated 303(d) List will be included in the Integrated Report, and will be used to determine which category to assign assessed water bodies.

The USEPA defines five non-overlapping categories for use in the integrated assessment (USEPA, 2005). These categories include:

- Category 1: All designated uses are supported, no use is threatened.
- Category 2: Available data and/or information indicate that some, but not all of the designated uses are supported.
- Category 3: There is insufficient available data and/or information to make a use support determination.
- Category 4: Available data and/or information indicate that at least one designated use is not being supported or is threatened, but a TMDL is not needed.
- Category 5: Available data and/or information indicate that at least one designated use is not being supported or is threatened, and a TMDL is needed. In Category 5, TMDL requirement status can be defined as follows: 5A= TMDL still required, 5B= being addressed by USEPA approved TMDL, 5C= being addressed by action other than a TMDL.

The 2012 Integrated Report adopted by the State Water Board will include the 303(d) listing changes approved by the Colorado River Basin Water Board. Categories 4 and 5 reflect those water bodies placed on the 303(d) List.

ATTACHMENTS

- 1- The 2010 303(d) List for the Colorado River Basin Region.
- 2- The January 19, 2010 Public Solicitation Letter and its additional notice to extend data submission deadline.
- 3- Tables of WQOs, Criteria, and Guidelines applied during the assessment of readily available data.
- 4- Proposed new listings, delistings, and modifications to the Colorado River Basin Region 2012 303(d) List.
- 5- Data Tables for New Listings.
- 6- Data Tables for Delistings.
- 7- Supporting documents for TMDL requirement status from TMDL still required to Being Addressed with action other than TMDL, to the Colorado River Basin Region 2012 303(d) List.
- 8- Fact Sheets in support of new listings, delistings, to the Colorado River Basin Region 2012 303(d) List.
- 9- All fact sheets which include links to the supporting data.

REFERENCES

Erin L. Amweg and Donald P. Weston, 2007. "Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. Piperonyl Butoxide Addition." *Environmental Toxicology and Chemistry* 26: 2389-2396.

Erin L. Amweg, Donald P. Weston, and Nicole M. Ureda, 2005. "Use and Toxicity of Pyrethroid Pesticides in the Central Valley, CA, USA." *Environmental Toxicology and Chemistry* 24: 966-972

California Department of Fish and Game (CDFG), 1992. Hazard assessment of the insecticide methyl parathion to aquatic organisms in the Sacramento River System.

California Toxics Rules (CTR). USEPA. 2000. "Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California."

Colorado River Basin Regional Water Quality Control Board (CRBRWQCB). 2006. Water Quality Control Plan (Basin Plan), Colorado River Basin-Region 7. Palm Desert, CA.

Ding, Y., Weston, D.P., You, J., Rothert, A.K., Lydy, M.J., 2011. "Toxicity of sediment associated pesticides to *Chironomus dilutus* and *Hyaella azteca*." *Archives of Environmental Contamination and Toxicology* 6: 83-92.

Tessa L. Fojut, Amanda J. Palumbo, and Ronald S. Tjeerdema. 2012. "Aquatic Life Water Quality Criteria Derived via the UC Davis Method" II. Pyrethroid Insecticides." *Environmental Contamination and Toxicology* 216: 51-103.

Edward R. Long, Donald D. Macdonald, Sherri L. Smith, and Fred D. Calder. 1995. "Incidence of Adverse Biological Effects Within Ranges of Chemical Concentrations in Marine and Estuarine Sediments." *Environmental Management* 19:81-97.

Maul, J.D., A.A. Brennan, A.D. Harwood, and M.J. Lydy. 2008. "Effect of sediment-associated pyrethroids, fipronil, and metabolites on *Chironomus tentans* growth rate, body mass, condition index, immobilization, and survival. *Environ. Toxicol. Chem.* 27 (12): 2582-2590.

Donald D. Macdonald, R. Scott Carr, Fred D. Calder, Edward R. Long and Christopher G. Ingersoll. 1996. "Development and evaluation of sediment quality guidelines for Florida coastal waters." *Ecotoxicology* 5: 253-278.

D. D. Macdonald, C. G. Ingersoll, and T.A. Berger. 2000a. "Development and Evaluation of Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems." *Archives of Environmental Contamination and Toxicology* 39:20-31.

MacDonald DD, DiPinto LM, Fields J, Ingersoll CG, Long ER, and Swartz RC. 2000b. "Development and evaluation of consensus based sediment effect concentrations for polychlorinated biphenyls." *Environmental Toxicology Chemistry* 19: 1403-1413.

Maund SJ, Hamer MJ, Lane MCG, Farrelly E, Rapley JH, Goggin UM, Gentle WE. 2002. "Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments."

Environmental Toxicology and Chemistry 21: 9-15

JD Maul, AA Brennan, AD Harwood, and MJ Lydy. 2008. "Effect of sediment-associated pyrethroids, fipronil, and metabolites on Chironomus tentans growth rate, body mass, condition index, immobilization, and survival." Environmental Toxicology and Chemistry 27: 2582-2590

National Academy of Sciences (NAS). 1972. "Water Quality Criteria 1972."

Office of Environmental Health Hazard Assessment (OEHHA). 1999. Prevalence of Selected Target Chemical Contaminants in Sport Fish from Two California Lakes: Public Health Designed Screening Study. June 1999, RK Brodberg and GA Pollack, Pesticide and Environ. Toxic. Sctn, Office of Environmental Health Hazard Assessment, Calif. EPA, Sacramento, Calif.

OEHHA. 2008. Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish; Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene. June 2008, S Klasing, RK Brodberg, Pesticide and Environ. Toxic. Sctn, Office of Environmental Health Hazard Assessment, Calif. EPA. Sacramento, Calif.

PTI Environmental Services. 1991. "Pollutants of concern in Puget Sound." EPA 910/9-91-003. U.S. Environmental Protection Agency, Seattle, WA.

Surface Water Ambient Monitoring Program (SWAMP). 2008. "Final Quality Assurance Program Plan for Screening Study of Bioaccumulation in California lakes and reservoirs."

Surface Water Ambient Monitoring Program (SWAMP). 2008. "Cruise report for the SWAMP bioaccumulation screening study in California lakes and reservoirs (FY 05-06)."

Surface Water Ambient Monitoring Program (SWAMP). 2009. "Contaminants in fish from California lakes and reservoirs: Technical report on year one of a two-year screening study."

Surface Water Ambient Monitoring Program (SWAMP). 2009. "Cruise report for the SWAMP bioaccumulation screening study in California lakes and reservoirs Year Two (FY 07-08)."

SWAMP. 2010. "Contaminants in fish from California lakes and reservoirs, 2007-2008: Summary report on a two-year screening survey."

State Water Resources Control Board (SWRCB). 2004. Water Quality Control Policy for Developing California's Section 303(d) List. Resolution No. 2004-0063. Sacramento, CA: State Water Resources Control Board. California Environmental Protection Agency.

SWRCB, 2005. Comprehensive Monitoring and Assessment Strategy to Protect and Restore California's Water Quality. October 2005. Surface Water Ambient Monitoring Program. Sacramento, CA: State Water Resources Control Board. California Environmental Protection Agency.

United States Environmental Protection Agency (USEPA). 2005. Guidance for 2006 assessment,

listing and reporting requirements pursuant to sections 303(d), 305(b) and 314 of the CWA. July 29, 2005.

USEPA, 2000. "Guidance for Assessing Chemical Contaminants Data for Use in Fish Advisories". Volume 2. "Risk Assessment and Fish Consumption Limits, Third Edition". EPA 823-B-00-008

USEPA, 1993. "Technical Basis for establishing sediment quality criteria for nonionic contaminants for the protection of benthic organism by using equilibrium partitioning." EPA 822-R-93-011. Office of Science and Technology, Washington, DC.

United States Environmental Protection Agency (USEPA). 1999. "1999 Update of Ambient Water Quality Criteria for Ammonia." December 1999.