

Colorado River Basin Regional Water Quality Control Board

Overview

The Colorado River Basin Region covers approximately 20,000 square miles in the southeastern corner of California, the most arid area of the state. The region includes all of Imperial County and portions of San Bernardino, Riverside and San Diego Counties.

The region is divided into three watersheds: the Lower Colorado River, Salton Sea Transboundary and Desert Aquifers. The Desert Aquifers Watershed has little surface water and hundreds of aquifers. The majority of the region's surface waters are in the Imperial Valley and East Colorado River Basin planning areas; consequently, the Surface Water Ambient Monitoring Program (SWAMP) is focused there.

The Salton Sea Transboundary Watershed, encompassing the Coachella and Imperial Valleys, is the priority watershed for the Colorado River Basin, containing five of six 303(d)-listed impaired surface water bodies in the region. Water from the Colorado River has created an irrigated agricultural ecosystem throughout this watershed. Wildlife and aquatic species are dependent on habitat created and maintained through the discharge of agricultural return flows. Major water bodies in the watershed

include the Salton Sea, Alamo River, New River, Imperial Valley Agricultural Drains, and Coachella Valley Storm Water Channel.

The beneficial uses for this region include domestic, municipal, agricultural and industrial supply; power generation; recreation; aquaculture; wildlife habitat and preservation of aquatic life.

Vision and Goals for Monitoring

The main goal of the regional SWAMP program is to monitor surface waters from the region's principal watersheds and evaluate whether beneficial uses are being protected. The main objectives of the program are:

- To identify impaired water bodies.
- To collect specific information at sites that are known or suspected of having water quality problems. Information collected provides further documentation and scientific support for regional development and implementation, as well as being an integral part of total maximum daily loads (TMDL).
- To evaluate the effectiveness of specific management practices employed to improve water quality of impaired water.
- To coordinate and share information with other monitoring efforts in the region.



Water Facts

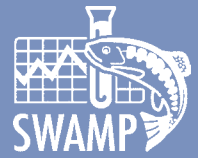
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20,000 square miles of land
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250,000 acres of lakes
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900 miles of streams and rivers
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Annual area rainfall ranges
from 3 to 4 inches





Colorado River Basin Region

The region's monitoring priorities include pathogens, silt/sedimentation, pesticides, nutrients, solvents and metals.

Program Activity

Surface Water Monitoring

Since 2003, Colorado River Basin SWAMP has sampled monitoring stations at 13 key sites along the Lower Colorado, New, Alamo and Whitewater rivers and the Salton Sea. Samples collected in the spring and fall include field measurements, conventional water quality parameters, chlorophyll, bacteriological analyses and analyses for organic pollutants. Some sites were analyzed for trace metals, selenium and total mercury; others were selected for water toxicity tests and for perchlorate analyses.

Pesticide Investigation

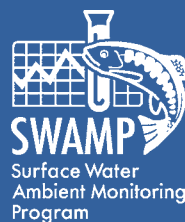
Before the generation of SWAMP data, the region's waters were identified as impaired by pesticides, among other pollutants. SWAMP data collaborated to determine the type of pesticides. Under SWAMP, region staff collected suspended sediments from the water column and performed analyses in the Alamo and New Rivers, principal tributaries of the Salton Sea. Results detected pesticides such as pp DDT, pp DDE, dacthal, chlorpyrifos, trifluralin, pendimethalin, pebulate and permethrin; pp DDE was detected in the water column, suspended and bottom sediments and fish tissue.

Collaborative Efforts

- Pathogens are one of the causes of impaired waters in the Colorado River Basin Region, especially in the New River, where bacteria indicators are historically high. In a collaborative effort to define water quality biomarkers, region crews collaborate with researchers from Arizona State University (ASU). The ASU study seeks to characterize the sources of fecal pollution by identifying the spatial and temporal variations in the occurrence of microbial contaminants in the river.
- The Department of Pesticides Regulation (DPR) began an assessment of pyrethroid contamination of surface waters and bed sediments in the Imperial Valley in fall 2004. Subsequently, this pesticide family was incorporated under SWAMP. The regional board staff hopes to complement the DPR data with SWAMP data and cover more sites.
- The Office of Environmental Health Hazard Assessment is conducting a bioaccumulation study in the Imperial

Drains that discharge into the New and Alamo rivers. Colorado River Basin SWAMP sites are deliberately located on those rivers to generate complementary data from the two agencies.

- The region is designing a monitoring study to share data with the U.S. Bureau of Reclamation, Nevada Office, which is collecting water and sediment samples from the Colorado River searching for a trend from upstream Colorado River to the Lower Colorado River area.
- The region is collaborating with the U.S. Environmental Protection Agency Region IX and its laboratories to enhance current analytical methodology for reducing the detection level of percholate from 4 parts per billion (ppb). The action level (advisory level for contaminants for which no regulatory standard exists) for percholate in California has been 4 ppb. Perchlorate is a compound considered as a potential risk in the region because several main point sources are located in the Colorado River Watershed.
- Regional board staff attends monthly Salton Sea Authority meetings, a coalition of federal, state and local agencies whose goal is to restore the sea—the largest inland water body in California—to enhance quality of life, economic well being and future growth in the Imperial and Coachella Valleys. The main water quality problems are salinity, nutrients, pesticides and metals.



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