



Santa Ana River by William Wendt (1928)
Private Collection, courtesy of Irvine Museum

Santa Ana Regional Water Quality Control Board (8)

Watershed Management Initiative Chapter

Revised November 2004

SANTA ANA REGIONAL WATER QUALITY CONTROL BOARD WATERSHED MANAGEMENT INITIATIVE CHAPTER

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EXECUTIVE SUMMARY

The water resource protection efforts of the State Water Resources Control Board and the nine Regional Water Quality Control Boards are guided by a five year Strategic Plan (updated in 1997). A key component of the Strategic Plan is a watershed management approach for water resources protection.

To protect water resources within a watershed context, point and nonpoint source discharges, ground and surface water interactions, and water quality/water quantity relationships must be considered. To do so presents considerable challenges. The State Board and Regional Boards are responding to these challenges with the Watershed Management Initiative (WMI). The WMI is designed to integrate various surface and ground water regulatory programs while promoting cooperative and collaborative efforts within watersheds. It is also designed to focus limited resources on key issues.

In the past, State Board and Regional Board programs tended to be directed at site-specific problems. This approach was reasonably effective for controlling pollution from point sources. However, to address diffuse, nonpoint sources of pollutants, a new regulatory strategy was needed. The WMI strategy is to draw solutions from all interested parties within a watershed, and to more effectively coordinate and implement measures to control both point and nonpoint sources. The WMI Chapter includes a list of grant project priorities and suggested projects and project needs identified by Board staff as necessary to fully implement the WMI (see Section 2). These resources should be useful to stakeholders hoping to undertake projects that can be successfully funded through watershed grant funding programs.

During the initial implementation of the WMI, each Regional Board identified the watersheds in their Region, prioritized water quality issues, and developed watershed management strategies. These strategies and the State Board's overall coordinating approach to the WMI are contained in the *Integrated Plan for Implementation of the WMI*.

At this time, the following programs are integrated into the Santa Ana Region's WMI process:

- 1) Total Maximum Daily Loads (TMDLs)
- 2) Nonpoint Source Program (NPS)
- 3) Watershed Management
- 4) Monitoring and Assessment
- 5) Core Regulatory (NPDES, Waste Discharge Requirements (WDRs) and Chapter 15 WDRs)
- 6) Water Quality Standards/Basin Planning
- 7) Wetlands
- 8) Groundwater Resource Protection/Clean-up

Regional Board priority activities in each of these programs are described in **Sections 2 and 4** of this document.

The Santa Ana Region, while the smallest of the nine regions in the State (2800 square miles), contains a wide variety of water resources, including pristine mountain streams and lakes, coastal

estuaries and beaches, and effluent-dominated rivers. Most of the Region is comprised of the watershed of the Santa Ana River and its tributaries, including the San Jacinto River system. The Orange County watersheds that drain into the San Gabriel River are included in the Santa Ana Region. The Region also includes the watersheds of San Diego Creek and other tributaries to Newport Bay, as well as the coastal drainages located southeast of Newport Bay to just north of the City of Laguna Beach. While the Region is geographically small, it is the most densely populated, with almost five million residents (1993 estimate), and furthermore incorporates the Chino Basin area, which holds the highest density of dairy animals in the country, if not the world.

Considerable improvements in water quality have been achieved in the Region through the control of point source discharges such as those from sewage treatment plants and industrial facilities. However, many of the region's waterbodies remain impacted from nonpoint source inputs, such as urban nuisance flows, stormwater runoff and agricultural runoff. These inputs are diffuse in origin and variable in quality, making their control more difficult to achieve. The watershed approach is a more effective way to address nonpoint sources.

The Santa Ana Region has been divided into the following ten Watershed Management Areas (WMAs):

Middle Santa Ana River	Mountain
Newport Bay	Upper Santa Ana River
Lake Elsinore, San Jacinto River	Lower Santa Ana River
Anaheim Bay, Huntington Harbour, Bolsa Chica	Newport Coast
Big Bear	Coyote Creek & Carbon Creek

Critical Coastal Areas (CCAs) are specially designated *land* areas of the California coast where state, federal and local government agencies and other stakeholders have agreed to coordinate expertise and resources for the purpose of improving degraded water quality and protecting exceptional coastal water quality from the impact or threat of nonpoint source pollution. CCAs are selected from coastal areas adjacent to nearshore State Water Quality Protection Areas (SWQPAs; formerly Areas of Special Biological Significance), or adjacent to Clean Water Act Section 303(d) impaired waters that flow into Marine Managed Areas. To date, three CCAs in Region 8 have been selected: Upper Newport Bay (a Marine Managed Area), Newport Beach Marine Life Refuge SWQPA, and the Irvine Coast Marine Life Refuge SWQPA. These sites have high priority for funding from a variety of sources targeting NPS projects, including Proposition 50.

A brief summary of the issues and problems of each WMA is provided below. A more detailed discussion of the water quality issues in each of these watersheds is provided in **Section 3**.

In the Middle Santa Ana River WMA, groundwater quality and quantity are the primary concerns. Chino Basin groundwater is a major source of water for the Basin's cities, industry, and agriculture. This source of supply has been severely degraded, largely from historic and ongoing agricultural operations, including dairies. To address this, the Regional Board has substantially increased its dairy regulatory activities, although with still-limited staff resources. The Board is also an active participant in water resources planning for the Basin, which seeks to integrate water quality and quantity considerations with regulatory and non-regulatory management strategies. Surface water quality is also an important issue in the Middle Santa Ana River WMA. The Regional Board has initiated work on Total Maximum Daily Loads (TMDLs) for several streams in the WMA. Efforts to address both surface and groundwater quality

problems in the WMA are closely related to the control of the quality of the Santa Ana River, which is an important source of recharge in the downstream Orange County groundwater basin.

The Newport Bay WMA has been a primary focus of the Region's watershed management efforts to date, given the significance of the resource to both people and wildlife. With the Newport Bay Watershed Management and Executive Committees (comprised of local stakeholders), the Regional Board developed and is now implementing TMDLs for nutrients, sediment and bacteria. Technical TMDLs for diazinon and chlorpyrifos, selenium, and other toxic substances (metals, pesticides, and priority organics) have been developed by USEPA staff, and implementation plans for these TMDLs continue to be developed. Upper Newport Bay, a designated CCA and the largest remaining estuary in Region 8, is a still-vibrant ecosystem that receives drainage from the San Diego Creek Watershed to the north and tidal influence from Lower Newport Bay to the south.

The Lake Elsinore/San Jacinto River WMA water quality problems concern primarily Lake Elsinore and Canyon Lake, both of which are on the Clean Water Act Section 303(d) list of impaired waters. Fluctuating water levels in Lake Elsinore and algal blooms triggered by excess nutrients have caused significant impairment of the ecology and recreational use of Lake Elsinore. Nutrients and sediment loadings are also causing impairment of Canyon Lake. With the help of local stakeholders, a regional monitoring program is being implemented to identify the sources. The data generated is being used in the development of TMDLs for the Lakes. These TMDLs are on schedule to be adopted in late 2004 / early 2005.

The Anaheim Bay/Huntington Harbour/Bolsa Chica WMA contains significant coastal bay, estuary, and wetland resources that are threatened by metals, pesticides, and pathogens. The restoration of the Bolsa Chica wetlands site is an ongoing activity in which the Regional Board has an oversight role.

The Big Bear Area WMA has a variety of water quality problems due to historic land uses and increasing urbanization in the watershed. Big Bear Lake and its tributaries have impairments due to metals, nutrients, siltation, and pathogens. Regional Board staff are working with local stakeholders to collect data and begin the TMDL development process.

The Mountain WMA is the most mountainous and least populated WMA in the Region. Most water quality problems in this WMA are localized around the small mountain communities that populate the WMA. However, changes in the ecology of Mountain WMA, resulting from the wildfires of October 2003, aggressive forest thinning operations and removal of million of trees killed by drought and bark beetle infestation, may lead to long-term affects on the quality of water discharged from the WMA and captured in the groundwater basins of the river valleys below.

The Upper Santa Ana River WMA groundwater and surface water quality are affected by high levels of nitrogen and dissolved minerals. Wastewater reclamation, invasive exotic species (*Arundo sp.*), and protection of threatened and endangered species are concerns within the WMA. Strategies to address these problems include Basin-wide groundwater quality planning activities sponsored by water purveyors and waste dischargers, and participation in Basin-wide exotic species eradication efforts.

The Lower Santa Ana River WMA groundwater basins contain most of the water supply for the WMA area. Surface water problems include elevated mineral content and pathogens in a few waterbodies. The WMA also contains the Region's only municipal wastewater ocean discharge.

The Newport Coast WMA incorporates the watersheds of several small streams that flow into the Pacific Ocean along the stretch of coastline from Muddy Creek (the border with Region 9) north to Corona del Mar. The WMA completely encompasses two State Water Quality Protection Areas (SWQPAs; formerly Areas of Special Biological Significance): the Newport Beach Marine Life Refuge, and the Irvine Coast Marine Life Refuge. Both SWQPAs have been designated (with associated coastal land) as Critical Coastal Areas (CCAs). A special focus of Regional Board activity is monitoring new and existing development to ensure that uncontaminated stormwater runoff only, and no waste discharges, flows into these CCAs.

The Coyote Creek and Carbon Creek WMA is located in the northwestern corner of Orange County. Coyote Creek forms part of the boundary between Los Angeles County and Orange County, while Carbon Creek is a tributary to Coyote Creek. Water quality problems in the WMA include nitrogen-related impairments in Coyote Creek, and channel degradation/erosion. A watershed management plan is being developed for the entire Coyote Creek watershed, including those portions in the administrative area of Region 4 (Los Angeles).

In addition to specific WMA activities, Board staff activities that are not watershed specific are described in **Section 4** of the Chapter (Regionwide Activities).

Appendices to the Chapter contain permitting and inspection schedules, TMDL schedules, nonpoint source activities, and water quality standards/basin planning issues.

For more information on the Santa Ana Region readers can visit the Santa Ana Region's website at: www.waterboards.ca.gov/santaana

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