

# Appendix A

## Calleguas Creek Watershed Section

Submitted by the Calleguas Creek Steering Committee

## Introduction

The purpose of the Calleguas Creek watershed section of the Integrated Regional Watershed Management (IRWM) Plan update is to provide a succinct framing of the most significant factors for integrated water resource planning on the watershed. The watershed steering committee directed that this update provide the most economical match between state IRWM planning guidance and watershed integration as characterized by local resource priorities, regulatory relevance, management scale efficiency, and cost.

### *How has integrated planning worked in the Calleguas Creek watershed?*

Integrated planning on the Calleguas Creek watershed is characterized by a pragmatic engagement with problems that require cooperation to effectively manage. This approach has been shaped by the experience of public agencies trying to cost-effectively resolve inter-related resource issues and regulatory compliance. The stakeholders' involvement in preserving water supply reliability options while complying with water quality regulations in the Salts Total Maximum Daily Load (TMDL) provided a formative experience.

On October 4, 2007, the Los Angeles Regional Board adopted a Salts TMDL for the Calleguas Creek watershed addressing chloride, boron, sulfate, and total dissolved solids. The Regional Board staff's presentation reflected close coordination with stakeholders and a holistic, measured approach to implementing water quality improvements in concert with water resource management. Three people spoke in support of the TMDL representing agriculture, wastewater treatment agencies, and water suppliers. No one spoke against the TMDL. After a remarkably civil discussion, the Regional Board unanimously passed the TMDL.

The contrast with events only five years earlier couldn't be more dramatic. On December 12, 2001, the Regional Board staff released a tentative TMDL for Chloride. Cooperation between Regional Board staff and local stakeholders had ceased in anticipation of litigation. The Calleguas Creek Watershed Water Quality / Water Resources subcommittee formally opposed the tentative TMDL as did the cities and public water agencies on the watershed. Local stakeholders submitted hundreds of pages of technical, legal, procedural, and environmental comments to the Regional Board. On February 4, 2002 citing "the extensive comments received to date and the complex issues raised by those comments," the Regional Board postponed its consideration of the Chloride TMDL. Despite the impasse, on March 22, 2002, the U.S. EPA, under a court-ordered time schedule, adopted a federal TMDL for Chloride on the Calleguas Creek watershed.

It was an inauspicious beginning to what would become a very successful collaboration to address water quality in the Calleguas Creek watershed. What changed during those five years? What changed that resulted in the successful adoption of not only a salts TMDL, but TMDLs for nitrogen, toxicity, historical pesticides, siltation, organochlorine pesticides, and others. Both the Regional Board and the local agencies found that the U.S. EPA was not prepared to allow the lack of consensus among state and local

agencies to prevent it from meeting its time schedule order to develop TMDLs. Without State and local cooperation, the time schedule threatened to create a cascade of individual TMDLs that, while meeting every regulatory and procedural requirement, would only by chance translate into an integrated approach to deliver local watershed benefits. At worst, the approach would create a thicket of regulations that would complicate local solutions to unique local water resource management challenges while costing a lot of money.

Local agencies learned that if they were going to have a meaningful role in helping to develop TMDLs that made sense on a local level they would have to both be willing to fund the necessary analysis, and learn to translate their approach into, from their perspective, the arcane language of regulatory administrative procedure and rulemaking. Out of this understanding came a renewed and pragmatic decision to cooperate.

Given the preceding experience, this required a somewhat larger measure of trust and hope than usually characterizes inter-governmental relations. There was a concerted effort by the U.S. EPA, the State Water Resources Control Board, and the Regional Water Quality Control Board to try to help local stakeholders craft their efforts in ways that would readily fit into the regulatory framework. There was also the continued commitment of watershed planning participants to provide the necessary stakeholder review to ensure that this local effort could be reasonably expected to be supported by locally-elected policy makers.

The success of this approach in developing TMDLs has shaped watershed planning that might be characterized by the following principles:

- A locally-developed, comprehensive watershed approach is necessary to protect watershed resources from the piecemeal application of often conflicting and uncoordinated federal and state policies,
- Agencies representing locally-elected policy makers with watershed responsibilities can cooperate to represent watershed interests,
- The management approach is most effective if it is scaled to the problem it is trying to solve,
- A comprehensive and cooperative approach provides the best investment of public funding to achieve watershed objectives, and
- Working together we can actively shape a better future in ways we could not on our own.

### Watershed Description

The Calleguas Creek Watershed encompasses an area of approximately 343 square miles, predominantly in southeastern Ventura County. The major hydrologic features of the watershed include Conejo Creek, Arroyo Santa Rosa, Arroyo Simi, Arroyo Las Posas, and Calleguas Creek, as well as Revolon Slough and Mugu Lagoon. The northern boundary of the watershed is formed by the Santa Susana Mountains, South Mountain, and Oak Ridge Mountains. The southern boundary is formed by the Simi Hills and Santa Monica Mountains. Presently 50 percent of the watershed is undeveloped open space, 25 percent is agricultural, and the remaining 25 percent is in urban land use. The watershed ultimately drains to the Pacific Ocean through Mugu Lagoon.

Prior to development, Calleguas Creek and its main tributaries were largely ephemeral waterbodies linked to local hydrologic cycles. Prior to 1862, there was no defined creek channel that connected Arroyo Las Posas and Conejo Creek to the Mugu Lagoon or the Pacific Ocean. Runoff from rain events sheet-flowed across the eastern Oxnard Plain, forming wetlands that stretched north several miles from the ocean and ephemeral streams that changed from one wet cycle to the next. By 1889, local residents had cleared a straight channel from US Highway 101 to the mouth of Conejo Creek to drain wetlands for agricultural purposes. In the early 1920s, levees were built from the Lewis Road creek crossing to about 4,000 feet below the Hueneme Road crossing. The extension of Calleguas Creek to Mugu Lagoon and the Pacific Ocean allowed for drainage of the Oxnard Plain, but also initiated a cycle of stream channel down cutting that progressed from the Oxnard Plain to the uplands, accelerating the natural erosion and sedimentation process.

In 1953, voters established the Calleguas Municipal Water District based on published concerns that the economic vitality of the region required a supplemental source of high quality water. In 1960, voters subsequently approved annexation to the Metropolitan Water District of Southern California and bonds to finance the necessary facilities to import supplemental water. The service area of the Calleguas Municipal Water District roughly coincides with the watershed boundary and Calleguas provides imported potable water to cities and retail water districts within the watershed. With the importation of water, the service area's population grew from 138,000 in 1964 to 630,000 in 2010. Imported water deliveries have increased from 9,000 acre feet per year to over 100,000 acre feet per year.

The result of fifty years of imported water deliveries, and the urban and agricultural development that imported water has supported, defines many of the issues that characterize the watershed.

- Urban runoff, irrigation return flows, and wastewater discharges have established perennial stream flows from the City of Thousand Oaks to Mugu Lagoon and from the City of Simi Valley to Somis. The conversion of a seasonal drainage basin to a perennial water system has affected the characterization of surface water quality impairments.
- Surface and groundwater interaction has been affected by imported water return flows, filling unconfined groundwater basins in the upper reaches of the watershed which in turn have affected groundwater quality and led to concentrations of stranded salts.
- The urbanization of the upper watershed has increased stormwater runoff and sediment transport while the pace of urbanization has complicated floodplain management.
- The pattern and extent of development has fragmented connections between upland and riparian ecosystems.
- Finally, the cost and reliability of imported supplies is increasingly challenged by balancing statewide water supply and environmental considerations in the Bay-Delta.

The interpenetration of human and natural systems on the Calleguas Creek watershed presents management issues where landscape-scale management approaches are necessary.

## Governance and Stakeholder Involvement

The Calleguas Creek Watershed Management Plan was initiated in 1996 and initially was organized with a steering committee and topical subcommittees. The initial planning effort resulted in a Phase I report (November 2004) and Addendum (June 2005) to meet the then current Integrated Regional Water Management Planning state requirements. In 2006, the Calleguas Creek Steering Committee and the Ventura Countywide Integrated Regional Water Management Planning Group merged to form the Watersheds Coalition of Ventura County.

Over time, the topical subcommittees have evolved into issue-oriented working groups. The working groups continued integrated regional planning for those issues where the participating parties have a direct interest and require coordination among multiple interests to identify and implement regional solutions. The initial planning process fostered an integrated approach that is now expressed in the more focused working groups. The watershed steering committee meets on an as needed basis to address planning integration and to facilitate public participation in watershed planning. There is significant cross membership among the working groups that also fosters coordination.

The current working groups include the Stakeholders Implementing TMDLs on the Calleguas Creek Watershed, the Ventura County Irrigated Agriculture Group, Calleguas Municipal Water District Purveyors, and the Las Posas Basin Users Group.

## Goals, Objectives, and Priorities

The Calleguas Creek Watershed steering committee reviewed and endorsed the WCVC IRWM Plan update goals as shown below. Watershed-specific goals reflect previously adopted watershed objectives and participating agencies' priorities for the watershed.

IRWM Plan Goal 1: Reduce dependence on imported water and protect, conserve and augment water supplies

- Improve emergency water supply reliability
- Improve long-term water supply reliability

IRWM Plan Goal 2: Protect and improve water quality.

- Manage and remove salts from the watershed
- Comply with TMDL requirements

IRWM Plan Goal 3: Protect people, property and the environment from adverse flooding impacts.

- Identify cost-effective, economical, and environmentally friendly programmatic solutions
- Identify comprehensive system of concepts and scenarios that address flooding and sedimentation issues

- Promote a more natural stream condition
- Provide multiple benefits and opportunities

IRWM Plan Goal 4: Protect and restore habitat and ecosystems.

- Link key habitat areas strategically to protect species and ecosystems

IRWM Plan Goal 5: Provide water-related recreational, public access, stewardship, engagement, and educational opportunities.

- Implement the Rim of the Valley Trails Corridor Master Plan
- Create comprehensive, regional, and integrated trails plan

Resource Management Strategies

The following resource management strategies are being implemented in the Calleguas Creek watershed.

<b>Resource Management Strategy</b>	<b>Project Title</b>	<b>Implementing Entities</b>	<b>Brief Description</b>
Agricultural Water Use Efficiency	Mobile water irrigation evaluations	Resource Conservation District, Camrosa Water District, VCAILG	Water use efficiency and irrigation distribution uniformity
Urban Water Efficiency	20x2020 and Urban Water Conservation MOU - CUWCC	Municipal water suppliers	Calleguas Municipal Water District and its purveyors participate and are subject to state water efficiency performance standards
Crop Idling for Water Transfers	Various Water Market Transfer Opportunities	Metropolitan Water District	Metropolitan enhances supplies through agreements for water transfers that improve the imported water supply to the watershed
Conveyance - Delta	BDCP	Metropolitan Water District	Active participant in the Bay Delta Conservation Plan
Conveyance Regional / Local	SMP; system interconnections;	Calleguas MWD and purveyors	Calleguas MWD is developing policies to allow water wheeling
Water Transfers		FCGMA, Calleguas MWD, Camrosa Water District	Pumping allocation transfers and storage programs as approved by Fox Canyon Groundwater Management Agency
Recharge Area Protection		Fox Canyon GMA	Outcrop protection fox canyon aquifer
Conjunctive Management & groundwater Storage	Las Posas Aquifer Storage and Recovery Project	Calleguas MWD	Provision of emergency and planned outage storage of imported water to supplement system deliveries

Desalination	Round Mountain Desalter	Camrosa Water District	This and other proposed brackish groundwater desalters.
Recycled Municipal Water	Various projects	Calleguas MWD and Purveyors	Extension of recycled water distribution systems is ongoing
Groundwater Remediation / Aquifer Remediation	Las Posas Basin Specific Management Plan	Fox Canyon GMA and Las Posas Users Group	Under development
Matching Quality to Use	Las Posas Basin Specific Management Plan	Fox Canyon GMA and Las Posas Users Group	Under development
Pollution Prevention	MS4 Countywide Stormwater Permit	Countywide Stormwater Permittees	Stormwater quality program
Salt and Salinity Management	Salinity Management Pipeline	Calleguas MWD	Assists responsible parties in Salts TMDL compliance
Urban Runoff Management	MS4 Countywide Stormwater Permit	Countywide Stormwater Permittees	Stormwater quality program
Watershed Management	IRWM Planning	WCVC	WCVC and county watersheds

### Implementation Projects and Programs

To address the water issues on the Calleguas Creek watershed, the stakeholders are pursuing the following project categories

- Salinity Management Pipeline extension to facilitate brackish groundwater desalination
- Brackish groundwater desalter
- Water efficiency and conservation
- Recycled water distribution systems
- Conjunctive use projects
- Stormwater capture
- TMDL implementation
- Stormwater quality programs
- Trails integration
- Habitat connectivity and leverage opportunities for ecosystem function and values
- Floodplain management

### Las Posas Basin Conjunctive Use Study

The Calleguas Creek watershed is the location of a Prop. 84 regional planning grant awarded by the State Department of Water Resources through the Watersheds Coalition of Ventura County. The study, Las Posas Basin Conjunctive Use Study, is being coordinated with the Las Posas Basin Users Group. The

study's purpose is to better understand the opportunities and constraints to developing the shallow brackish groundwater resources of the East and South Las Posas basins. This study will create the framework for advancing brackish groundwater production, treatment, and distribution in the watershed and assist in the watershed salt balance through the export of salts. The study has the potential to inform approaches to share the cost and benefits of developing the shallow aquifer. The study will also help inform an overall groundwater management approach that increase aquifer storage for future conjunctive use or stormwater capture for groundwater recharge.

[end of Calleguas Creek watershed-specific section]