Integrated Regional Water Management Plan

Central Orange County Watershed Management Area

September 2012

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EXECUTIVE SUMMARY

This Central Orange County Integrated Regional Watershed Management Plan (IRWMP) addresses critical water resource management needs for the Newport Bay Watershed and the Newport Coast Watershed, a highly urbanized area with a current population of 705,000 people that is projected to increase. Within this developed area are fragile coastal ecosystems with designated critical coastal areas (CCAs) and areas of special biological significance (ASBSs).

This Plan incorporates the tenets of integrated regional water management planning to address challenging issues related to flood risk management, water quality, water supply, habitat, balanced environmental sustainability, and collaboration. It was developed with stakeholder input from a diverse set of views to develop a common vision of the most urgent resource needs within the watersheds. It consists of integrated goals and strategies and uses a project ranking tool that is based on this integrated perspective. The Plan is a programmatic planning document for the region and has been prepared in accordance with the California's Integrated Regional Water Management Plan Standards, as required by the California Water Code, Section 79560 et seq.

Plan Purpose

The purpose of the Central Orange County Plan is to provide a bridge between existing and developing watershed planning efforts, allowing more effective collaboration and more opportunities to leverage agency resources across jurisdictions. Extensive development and implementation of water resource programs has occurred in this region over the past three decades, with agency partnerships, agreements, and the formation of a formal structure for stakeholder involvement. The water quality issues in this region are daunting, with eight water body segments listed on the State Water Resources Control Board 2010 Section 303(d) list and total maximum daily loads (TMDLS) for nutrients, fecal coliform bacteria, sediment, toxic pollutants, and organophosphate pesticides and more pending. While the agencies in the region have collaborated extensively on water importation, groundwater management, and flood protection, water quality has been the overarching issue that has brought the water resource and land use agencies, environmental groups, and other stakeholders within the region together in the spirit of integration. Public agencies and private interests have entered into numerous cooperative agreements to leverage financial resources for the development of programs that implement studies, best management practices, and other control measures that are consistent with the regulatory

requirements and regional goals for watershed conditions. These include the following:

- The Orange County Stormwater Program;
- The Nitrogen and Selenium Management Program;
- An agreement to fund studies of total maximum daily loads for nutrients, fecal coliform bacteria, and toxic pollutants in the Newport Bay Watershed;
- The Newport Bay Watershed Sediment Control Monitoring and In-Channel Maintenance Program; and
- Other programs and specific water resource-related projects

These water-quality-related projects and programs have not been undertaken with a narrow focus or single purpose; the stakeholders within the region, both public and private, understand the nexus between growth, land use decisions, water resource management, and watershed impacts. This region has experienced significant population growth over the past 20 years, with the development of former agricultural lands and increased numbers of people in the established urban areas. Public agencies and private entities have implemented a broad range of multipurpose projects and programs to protect and enhance watershed conditions. The IRWMP builds on this history of successful collaboration and furthers the interests of the stakeholders by means of this integrated planning approach.

Plan Objectives

The central Orange County region faces unique challenges for water resource management. While the region shares groundwater resources and an imported water system with other areas in the Santa Ana region, the watershed management issues within this area are distinct and integrally linked to the region's fragile coastal ecosystem. The headwaters originate in the local foothills, and the entire area drains to the Pacific Ocean, making this a separate and distinct planning area for water quality and ecosystem processes. Along the region's 9-mile coastline are three CCAs and two ASBSs:

- Upper Newport Bay (CCA No. 69)
- Newport Beach Marine Life Refuge (ASBS No.32/CCA No. 70)
- Irvine Coast Marine Life Refuge (ASBS No. 33/CCA No. 71)

The Upper Newport Bay CCA, the Newport Beach Marine Life Refuge ASBS, and the Irvine Coast Marine Life Refuge ASBS are the receiving waters for drainage originating throughout the watershed area. The Upper Newport Bay State Ecological Reserve is

unique, providing important coastal Mediterranean habitat along the Pacific flyway; it is home to many federal- or state-listed rare or endangered species.
Given the current watershed conditions, history of agency cooperation, and state agency priorities, the major focus of the Central Orange County IRWMP is addressing the habitat, resource, and water quality needs of the eight Section 303(d)-listed water bodies, three CCAs and two ASBSs through regional cooperation on projects and programs to improve water quality and restore ecosystems within the Newport Bay and Newport Coast Watersheds. Protecting sensitive marine life areas in Upper Newport Bay and the ASBS from direct impacts is key. As a CCA with a significant ecosystem, Upper Newport Bay is the receiving water for impaired flows emanating from all of the subwatersheds of the Newport Bay Watershed.

Upper Newport Bay supports diverse estuarine habitats with several hundred species of marine and terrestrial flora and fauna, including federal- and state-listed threatened and endangered species (five bird species and one plant species). The diversity of fish species in Newport Bay is rated the highest of the seven major coastal embayments between San Diego and Point Conception. Newport Bay provides critical habitat for commercially and ecologically important species of fish, such as California halibut, sand bass, gobies, and topsmelt.

Furthermore, the water quality in Newport Bay potentially affects the coastal ecosystem because of discharges of suspended sediment and other suspended and dissolved pollutants, including dead and/or decaying plant and animal matter, nutrients from fertilizers, heavy metals, hydrocarbons, pesticides, and bacteria, from the bay to the open coastal waters.

The objectives summarized below highlight protections of Section 303(d)-listed water bodies, CCAs, and ASBSs in the Central Orange County IRWMP:

1. Improve water quality in streams and channels, particularly those that are listed as impaired and those discharging to Upper Newport Bay and Lower Newport Bay, the Newport Beach Marine Life Refuge, and the Irvine Coast Marine Life Refuge, in order to reduce impacts on these CCAs and ASBSs.
2. Implement restoration projects, best management practices, and other control measures to support beneficial uses of creeks, streams, bays, and estuaries and to facilitate the attainment of TMDL targets, the water quality objectives for receiving waters, the Santa Ana Regional Water Quality Control Board's

Watershed Management Initiative Chapter, and the requirements of the National Pollutant Discharge Elimination System permit.

3. Develop a comprehensive, regional, watershed-wide approach to address runoff from current and future land uses and its related impacts, in accordance with the State of California Nonpoint Source Program Five-Year Implementation Plan, July 2003–June 2008.
4. Protect, restore, enhance, and connect wetland and wildlife habitats and support ecosystem processes in the coastal zone and upper watershed, while maintaining flood protection.
5. Enhance the quantity and quality of local water supplies, including groundwater, to reduce reliance on imported water.
6. Provide a safe, reliable drinking water supply and recreational opportunities for disadvantaged communities within the region, consistent with other areas of the region.
7. Provide a framework for efficient intraregional cooperation, planning, and implementation of this IRWMP and other plans that have been developed for the region, which encourages integrated implementation of watershed improvement projects with multiple benefits.

Water Management Strategies, Regional Priorities, and Projects

The Plan incorporates a broad range of water management strategies that can be used to achieve the objectives for (1) reducing impacts on the Section 303(d)-listed water bodies, CCAs, and ASBSs, (2) water quality improvements, (3) ecosystem restoration, and (4) improvements in the reliability of the local water supply. The IRWMP fully incorporates the 11 water management strategies that are required for consideration per California Water Code, Sections 79562.5 and 79564 and includes all 20 of the water management strategies identified in the Proposition 84 and Proposition 1E Integrated Regional Water Management Guidelines.

Strategies were evaluated to determine whether they are appropriate for inclusion in the IRWMP based on the following criteria:

- Does the strategy provide a regionally appropriate means to resolve watershed management issues?
- Is the strategy already incorporated into adopted plans for land use and water resource management by agencies within the central Orange County region?

- Can the strategy be implemented through an integrated effort involving more than one agency or more than one project?

The strategies were carefully considered with respect to watershed management challenges and opportunities, agency experience, and the appropriateness of a particular strategy for the region. Each strategy was further identified as a potential means to achieve each of the objectives.

The objectives of this IRWMP and the appropriate mix of strategies to achieve these objectives directly respond to the critical watershed management issues that have been identified for the central Orange County region given the current watershed conditions, including the following:

- Water quality and its impacts on the Section 303(d)-listed water bodies, CCAs, and ASBSs
- Flood control and loss of habitat
- Compliance with water quality regulations
- Enhancement of the quantity and quality of local water supplies
- Impacts on sensitive coastal habitats due to heavy recreational use

Project identification and prioritization were developed by the Newport Bay Watershed Management Committee and reviewed by the Newport Bay Watershed Stakeholders Group. For purposes of this IRWMP, the highest priority is given to capital improvement projects that were collectively determined by the Newport Bay Watershed Executive Committee to most strongly support the multipurpose objectives of the IRWMP. High-priority projects were determined on the basis of the following criteria:

- Importance of the project to reducing impacts on Section 303(d)-listed water bodies; CCA Nos.69, 70, and 71, and ASBS Nos.32 and 33
- Importance of the project to reducing the threat of property loss (with linkage to sediment issues downstream)
- Importance of the project to progress on regional objectives
- Availability of matching funds
- Readiness to proceed (Environmental clearance under California Environmental Quality Act and state and federal environmental and permitting requirements has already been obtained, is in progress, or is readily

obtainable for the project; project implementation will begin within 6 months of approval)

- Equitable geographic distribution and level and diversity of participation by agencies and stakeholders within the watershed

Plan Integration with Newport Beach Watershed Planning Efforts Funded by Proposition 50

This IRWMP is integrated with the watershed planning efforts of the City of Newport Beach. In 2006, the City of Newport Beach was awarded funding by the California Department of Water Resources through Proposition 50, Chapter 8, for preparation of an IRWMP including data collection, analysis, and formulation of policy and guidelines. This effort produced a published final draft document referred to as the Phase II IRWMP. The work from the Phase II IRWMP has been incorporated into the Central Orange County IRWMP. The Phase II IRWMP included the following new elements that, to our knowledge, have not been explicitly included in any previous watershed plan for an urbanized area in California:

- The collaborative definition of the "desired state" for the watershed ecosystem that balances and integrates the many competing needs and priorities within the system
- The identification of projects and programs that will be needed to achieve the desired state for the watershed system
- An adaptive management process that uses the existing technical information and monitors ongoing project information (including projects that will be implemented in the first phase) to continually refine how specific actions affect the system
- A project prioritization approach for the long term that is science based and continually informed by the adaptive management of the watershed

Because these additional elements involved more extensive and focused contributions from the watershed stakeholders, the multiphase approach for producing this IRWMP has been necessary.

Plan Governance

The Orange County Watersheds Program will serve as the administrator of the Central Orange County IRWMP. The IRWMP will be implemented in accordance with the proposed project priorities and schedule, as periodically amended by each project

proponent. The Newport Bay Watershed Executive Committee was formed through a memorandum of understanding between agencies with the authority to implement this IRWMP; up to three nongovernmental organizations will be invited to participate as well. The executive committee will serve in the leadership role to oversee policy issues related to the Central Orange County IRWMP. The executive committee will focus on the IRWMP and will be responsible for developing regional objectives, assessing strategies, and identifying projects and implementation approaches to achieve the objectives. Meetings will be held quarterly and will focus on the status of the IRWMP and project implementation; project funding; monitoring, data management, and reporting; and review and consideration of regional priorities and necessary refinements to the IRWMP. Orange County will be responsible for drafting and distributing meeting minutes to the executive committee and other interested stakeholders.

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ABBREVIATIONS AND ACRONYMS

µg/L	micrograms per liter
AMP	Allen-McColloch Pipeline
ASBS	area of special biological significance
BMP	best management practice
BP	before present
BPP	basin pumping percentage
CARB	California Air Resources Board
CCA	critical coastal area
CCAR	California Climate Action Registry
CDFG	California Department of Fish and Game
CEDEN	California Environmental Data Exchange Network
CEIC	California Environmental Information Catalog
CEQA	California Environmental Quality Act
CERES	California Environmental Resources Evaluation System
CLWC	California Latino Water Coalition
CNRA	California Natural Resources Agency
Corps	U.S. Army Corps of Engineers
DAMP	drainage area management plan
DDT	dichlorodiphenyltrichloroethane
DWR	Department of Water Resources
EIR	environmental impact report
EIS	environmental impact statement
ETWD	El Toro Water District
FEMA	Federal Emergency Management Agency
FGDC	Federal Geographic Data Committee
GAMA	Groundwater Ambient Monitoring and Assessment Program
GIS	geographic information system
HCP	habitat conservation plan
I-5	Interstate 5
I-405	Interstate 405
IRWD	Irvine Ranch Water District
IRWM	integrated regional water management
IRWMP	integrated regional watershed management plan
ISRF	Infrastructure State Revolving Fund
IWRIS	Integrated Water Resources Information Systems
LEED	Leadership in Energy & Environmental Design
LHA	Latino Health Access
MCAS	Marine Corps Air Station
MCWD	Mesa Consolidated Water District
mgd	million gallons per minute
MS4	municipal separate storm sewer system
MSAA	Master Streambed Alteration Agreement

MWD	Metropolitan Water District of Southern California
MWDOC	Municipal Water District of Orange County
NCCP	Natural community conservation plan
NEPA	National Environmental Policy Act
NGO	Non-Governmental Organization
NOC	North Orange County
NPDES	National Pollutant Discharge Elimination System
NTS	Natural Treatment System
NWIS	National Water Information Systems
OCFCD	Orange County Flood Control District
OCPW	Orange County Public Works
OCSD	Orange County Sanitation District
OCWD	Orange County Water District
OWOW	One Water One Watershed
PBDE	polybrominated diphenyl ether
PCB	polychlorinated biphenyl
PEA	Program Effectiveness Assessment
PIER	Public Interest Energy Research
ROWD	Report of Waste Discharge
RWQCB	Regional Water Quality Control Board
SAMP	Special Area Management Plan
SARWQCB	Santa Ana Regional Water Quality Control Board
SARWQH	Santa Ana River Water Quality and Health
SAWPA	Santa Ana Watershed Project Authority
SCAG	Southern California Association of Governments
SCCWRP	Southern California Coastal Water Research Project
SDWA	Safe Drinking Water Act
SBVMWD	San Bernardino Valley Municipal Water District
SMC	Stormwater Monitoring Coalition
SWAMP	Surface Water Ambient Monitoring Program
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWQPA	State Water Quality Protection Area
SWRCB	State Water Resources Control Board
SWAMP	Surface Water Ambient Monitoring Program
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
U.S. EPA	U.S. Environmental Protection Agency
USC	United States Code
USGS	U.S. Geological Survey
USFWS	U.S. Fish and Wildlife Service
UWMP	Urban Water Management Plan
VOC	volatile organic compound

WAP	Watershed Action Plan
WBCSD	World Business Council for Sustainable Development
WDR	Waste Discharge Requirements
WMA	Watershed Management Area
WMI	Watershed Management Initiative
WMWD	Western Municipal Water District
WQMP	Water Quality Management Plan