



2. GOVERNANCE

2.1 PLAN ADMINISTRATION AND MANAGEMENT

The County of Orange OC Watersheds Program will serve as the administrator of the Central Orange County IRWMP. IRWMP implementation will be in accordance with the priorities and schedule of the proposed project, as periodically amended by each project proponent. Updates will be provided routinely to the Newport Bay Watershed Executive Committee, Management Committee, and Stakeholder Group. The County of Orange will be responsible for presenting the updates. The Newport Bay Watershed Executive Committee will serve in a leadership role to oversee policy issues related to the Central Orange County IRWMP. It meets at least twice a year and will receive updates on Plan implementation, including identification of any issues of concern. This approach to governance of the Central Orange County IRWMP promotes partnership opportunities between cities, special districts, other stakeholders, and funding agencies. It facilitates ongoing and meaningful involvement of public and private stakeholder and group participation and decision making, with one administering agency for coordination and management. As the administering agency, the County of Orange will be accountable to the Newport Bay Watershed Management Committee and Executive Committee, along with funding agencies that require regional applications and agreements. The existing Newport Bay Watershed Stakeholders Group will continue to be updated on IRWMP development and will serve as the public voice during the process.

This Plan is the third phase of a watershed planning effort for this region. Modifications to the regional priorities have been incorporated into this Phase III Central Orange County Plan.

2.2 PLAN DEVELOPMENT

The stakeholders of the Central Orange County WMA have worked individually and collaboratively over the years to develop and integrate regional strategies that address environmental issues, raise community awareness, and coordinate numerous and varied projects to accomplish the following:

- Optimize watershed and coastal resources
- Improve water quality throughout the region
- Safeguard habitat
- Protect communities from drought
- Enhance the reliability of the local water supply and system
- Ensure continued water security

The Central Orange County Plan builds on these efforts, incorporating the goals, objectives, and recommendations of existing plans, research documents, and ongoing studies within the Newport Bay and Newport Coast Watersheds in a manner that integrates regional goals, objectives, strategies, and projects to accomplish the following:

- Address water quality issues
- Improve beneficial uses of water within the region
- Enhance local water supplies to improve reliability and reduce dependence on imported water

Some of these efforts are driven by regulations and others are the result of regional vision and goals for the quality and function of the Central Orange County WMA. The Plan establishes a prioritization methodology to help further regional efforts to investigate the feasibility of, and identify funding for, these projects. Individual projects are required to undergo the appropriate environmental review and permitting process.

The Central Orange County IRWMP is an extension of valuable planning efforts such as those described in the following sections.

2.2.1 Drainage Area Management Plan and Watershed Action Plans

The 2003 DAMP (Orange County 2003) addresses the requirements of the countywide National Pollutant Discharge Elimination System (NPDES) stormwater permit and includes watershed action plans specific to each watershed. The DAMP is implemented by means of the watershed action plans and local implementation plans developed by each permittee.

2.2.2 Total Maximum Daily Loads

The Newport Bay Watershed currently has four adopted TMDLs. In addition, three other technical TMDLs have been adopted for which implementation plans are being developed by stakeholders in coordination with the regional water board. Working groups have been formed with partnering agencies to make management decisions, implement management plans, and share costs.

2.2.3 U.S. Army Corps of Engineers Newport Bay/San Diego Creek Watershed Study

The U.S. Army Corps of Engineers (Corps) conducted a study focused on broad watershed ecosystem planning issues (USACE 2005). The 2005 study resulted in a list

of multipurpose watershed-scale ecosystem restoration projects in which the Corps had a federal interest, as well as a watershed management plan that focused on management issues within the watershed rather than on project issues.

2.2.4 U.S. Army Corps of Engineers Special Area Management Plan for San Diego Creek Watershed

The final 2009 Special Area Management Plan (SAMP) (USACE and CDFG 2009), prepared in conjunction with the California Department of Fish and Game's (CDFG's) Master Streambed Alteration Agreement (MSAA) (CDFG), is a cohesive, watershed-specific plan that addresses anticipated permitting needs and compensatory mitigation, including long-term management of aquatic resources within the watershed. A program environmental impact report/environmental impact statement (EIR/EIS) was prepared for the SAMP/MSAA, and the SAMP/MSAA underwent environmental review pursuant to the California Environmental Quality Act (CEQA) (California Public Resources Code, Section 21000 et seq.) and the National Environmental Policy Act of 1969 (NEPA) (United States Code, Title 42, Section 4321 (42 U.S.C. 4321 et seq.). Comments received on the draft program EIR/EIS were considered in the finalization of the SAMP/MSAA and program EIR/EIS for adoption by the Corps and CDFG.

2.2.5 Newport Coast Watershed Management Plan

The Newport Coast comprises several small coastal drainages southeast of Newport Bay. The City of Newport Beach developed a watershed management plan specific to the Newport Coast (City of Newport Beach, 2007). The watershed management plan includes an analysis of the critical issues and recommends programs and projects to reduce impacts on the CCAs and two ASBSs that border the coastline.

2.2.6 Newport Harbor Area Management Plan, Upper Newport Bay Watershed Management Plan, and San Diego Creek Strategic Watershed Plan

The City of Newport Beach is developing a watershed management plan for Newport Harbor within Lower Newport Bay, Upper Newport Bay, and the San Diego Creek subwatersheds. These integrated plans will be based on an adaptive management process.

2.2.7 Serrano Creek Collaborative Use Plan

The Serrano Creek Collaborative Use Plan, which was prepared for the City of Lake Forest, addresses erosion and flood control, recreation and landscaping improvements, biological resource enhancement, and funding for improvements along Serrano Creek (City of Lake Forest, 1999).

2.2.8 Natural Treatment System Plan

In 2005, the Irvine Ranch Water District IRWD, in cooperation with Orange County and the Cities of Irvine, Lake Forest, Newport Beach, Orange, Santa Ana, and Tustin, developed a natural treatment system plan, an ecosystem-based network of constructed water quality treatment wetlands for improving water quality in San Diego Creek.

2.2.9 Orange County Great Park Comprehensive Master Plan

The Great Park Comprehensive Master Plan for the 2,300-acre Great Park incorporates natural treatment systems, recycled water use, a wildlife corridor, and other sustainable features (City of Irvine 2002). The wildlife corridor is part of an important linkage between the Cleveland National Forest and coastal open space in this area. The Agua Chinon channel, part of the backbone infrastructure for the site, serves dual functions as a wetlands mitigation area and flood control facility and is being designed as a naturalized channel.

2.2.10 Urban Water Management Plans

Each of the water agencies within the Central Orange County WMA has adopted an urban water management plan, in accordance with the Urban Water Management Planning Act (California Water Code, Section 10610 et seq.). In ongoing urban water management planning, the water agencies in the region are addressing matters of regional interconnection, groundwater basin stewardship, water use efficiency, recycling, desalination, and rainfall harvesting as an outcome of implementing low-impact development strategies.

2.2.11 Groundwater Management Plan

The Orange County Water District (OCWD) adopted an update to its Groundwater Management Plan in 2009 (OCWD 2009), in compliance with the Groundwater Management Act and California Water Code, Section 10753.7 (Assembly Bill 3030, 1999).

2.2.12 Natural Community Conservation Plan/Habitat Conservation Plan for Central and Coastal Subregion

A natural community conservation plan/habitat conservation plan (NCCP/HCP) was developed to protect and manage habitat supporting a broad range of plant and animal populations that are now found within the Central and Coastal subregion (County of Orange, July 1996). The Central and Coastal subregion is an extensive area that includes the Central Orange County WMA. It consists of an approximately 325-square-mile area that covers the area of central Orange County from the coast inland to Riverside County. Along the coast, it extends from the mouth of the Santa Ana River to the mouth of San Juan Creek; inland its boundaries follow State Route 91 along the west and El Toro Road and Interstate 5 (I-5) to San Juan Creek to the east. To accomplish its goal, the NCCP/HCP created a subregional habitat reserve system and implemented a coordinated program to manage biological resources within the habitat reserve (County of Orange, July 1996).

2.3 REGIONAL WATER MANAGEMENT GROUP

The Newport Bay Watershed Executive Committee, which provides oversight and leadership for the IRWMP, also serves as the regional water management group for the Central Orange County WMA. Per California Water Code, Section 10537, the regional water management group consists of three or more local public agencies, at least two of which have statutory authority over the water supply, that participate by means of a written agreement that is approved by the governing bodies of those local public agencies. The Newport Bay Watershed Executive Committee is the successor committee to the Upper Newport Bay Sediment Control Executive Committee, which was established under a cooperative agreement in the early 1980s to assist the Cities of Irvine, Newport Beach, and Tustin; the County of Orange; CDFG; and the Irvine Company in developing and implementing a comprehensive program to manage sediment in the San Diego Creek Watershed and in Upper Newport Bay.

Numerous studies and projects were undertaken in Newport Bay in the late 1990s. These actions were prompted by many decisions of independent public agencies and community interest in the water quality of Newport Bay and its tributaries. These studies and projects all contributed to improvements in the water quality in Newport Bay and its tributaries. Due to limited funding and the desire to continue the closely coordinated development of solutions to problems, the Upper Newport Bay Sediment Control Executive Committee expanded its interests to include other issues that could affect Newport Bay. This led to the establishment of the Newport Bay

Watershed Executive Committee, which was formed in 1999 by amending the Sediment Control Executive Committee Cooperative Agreement and expanding it to include in its interests impairment of Newport Bay caused by nutrients, toxic pollutants, and pathogens, in addition to sediment, as well as related environmental enhancement.

The Newport Bay Watershed Executive Committee expanded by adding membership from OCFCD, the City of Costa Mesa, the City of Lake Forest, the City of Santa Ana, the IRWD, and the Santa Ana Regional Water Quality Control Board. These agencies were added based on their interest in the water quality of Newport Bay along with having the resources available to support the enhancement initiatives. Like its predecessor committee, the Newport Bay Watershed Executive Committee forges voluntary solutions for documented problems and pursues research and enhancement opportunities.

2.3.1 Purpose of Newport Bay Watershed Executive Committee

According to the most recent cooperative agreement, the purpose of the Newport Bay Watershed Executive Committee is to provide a management framework for cooperation on sediment, water quality, and water resource issues in the Central Orange County WMA, including the following actions:

- Provide a forum to evaluate and assess progress toward implementing the Section 208 water quality plan prepared under the federal Clean Water Act, Section 208, Water Quality Planning Program
- Formulate project implementation agreements for the elements of the Section 208 water quality plan and evaluate the effectiveness of the various elements of the 208 plan
- Review progress and provide direction on projects that address water quality impairments, including sediment, nutrients, fecal indicator bacteria, toxicity, and any emerging pollutants
- Review opportunities and provide direction for pollutant trading or offset programs
- Review opportunities and provide direction for grant funding through IRWMPs
- Provide oversight for the Central Orange County WMA and any updates of the IRWMP
- Formulate project implementation agreements for any cost-shared projects

2.3.2 Member Roles and Responsibilities

The members of the regional water management group have various levels of responsibility for regional water management. The surface water quality responsibilities of the Cities of Costa Mesa, Irvine, Lake Forest, Newport Beach, Santa Ana, and Tustin are largely tied to their roles as members of the Orange County Stormwater Program, a partnership between the Orange County, all the Cities within Orange County, and OCFDC. As co-permittees, the six member cities in the regional water management group are responsible for the management of storm drain systems within their jurisdictions and for the following:

- Implementing management programs, monitoring programs, implementation plans, and all best management practices (BMPs) outlined in the DAMP within their respective jurisdictions; and taking any other actions that may be necessary to meet the MEP standard
- Coordinating among their internal departments and agencies, as appropriate, to facilitate the implementation of the stormwater permit and the DAMP
- Establishing and maintaining adequate legal authority, as required by the federal stormwater regulations;
- Conducting storm drain system inspections and maintenance in accordance with the criteria developed by the County, the principal permittee
- Taking appropriate enforcement actions for illicit discharges to the municipal separate storm sewer system (MS₄) owned or controlled by the co-permittees.

As the principal permittee for the Orange County Stormwater Program, the County is responsible for the following:

- Conducting chemical and biological water quality monitoring, as required by the executive officer of the regional water board
- Conducting inspections and maintaining the storm drain systems within its jurisdiction
- Reviewing and revising, if necessary, policies/ordinances necessary to establish legal authority as required by the federal stormwater regulations
- Responding to and/or arranging for responding response to emergency situations, such as accidental spills, leaks, illicit discharges, illegal connections, etc., to prevent or reduce the discharge of pollutants to storm drain systems and waters of the United States within its jurisdiction

- Taking appropriate enforcement actions for illicit discharges to the MS₄ systems owned or controlled by the principal permittee
- Preparing and submitting to the executive officer of the Santa Ana Regional Board unified reports, plans, and programs as required by the regional board order, including the annual report

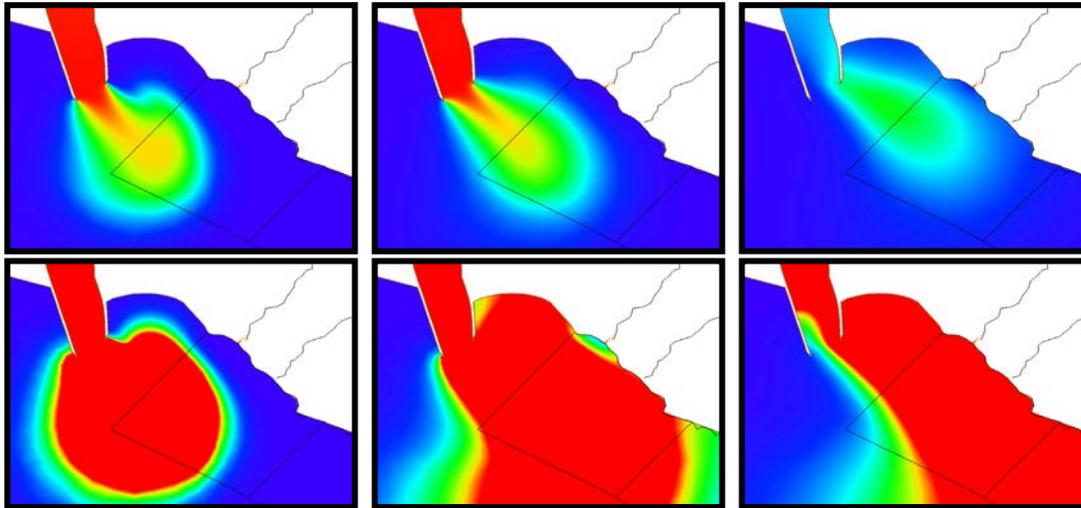
2.4 FRAMEWORK FOR DECISION-MAKING

OC Watersheds staff began the Phase III effort for the Central Orange County IRWMP. To aid staff with this process, an ad hoc steering committee was assembled to serve as a working group. This steering committee included members from each of the regional water management group organizations, except for the Santa Ana Regional Water Board and the CDFG. It also included members of the environmental community, specifically the Newport Bay Naturalists and Friends and the Orange County Coastkeeper. In collaboration with the steering committee, staff developed a first draft of goals and objectives for the Central Orange County WMA. Although goals and objectives were identified for the region in the previous two phases of the IRWMP, there was a need to refine and re-visit this information with the initiation of the Phase III effort and a broader focus on the entire Central Orange County WMA. A special stakeholder workshop was held on January 21, 2009, to discuss goals and objectives for the Central Orange County WMA. The meeting notice was e-mailed to the OC Watersheds Central Orange County WMA stakeholder list, which includes nearly 200 contacts. During this meeting, the goals and objectives from the Phase I and Phase II IRWMPs were discussed, and goals and objectives were agreed upon for the four water resource areas: water supply, water quality, flood risk management, and habitat. OC Watersheds staff took the stakeholder input and revised the goals and objectives for the four water resource areas; added goals and objectives for economics and collaboration; and included strategies for meeting the goals and objectives. The steering committee refined this information, and it was presented to the stakeholders group again in February 2009.

2.5 APPROPRIATENESS OF REGION AND GEOGRAPHIC BOUNDARIES

Extensive research and ongoing studies of these highly urbanized watersheds indicate that the water supply, water quality, flood control, and ecological issues in the Central Orange County WMA pose complex challenges that are intimately connected with the economic and environmental well-being of the watershed. Also, preliminary studies show an explicit link between pollutant discharges from Newport Bay to the downcoast ASBSs along the Newport Coast Watershed (Figure 2.1).

The results of a computer model in the top row of Figure 2.1 show the evolution of a pollutant plume flowing out of Newport Harbor during normal tidal flushing. The first two panels show the plume leaving the harbor during an ebb tide. The third panel shows the plume being drawn toward the shoreline during the flood tide. The bottom row shows the plume evolution during a storm event.



**FIGURE
2.1**

EVOLUTION OF POLLUTANT PLUME EXITING NEWPORT HARBOR

The complex and difficult issues that stakeholders face in the Newport Bay and Newport Coast Watersheds are different from those in adjacent watersheds that have no TMDL requirements or no issues related to discharge to sensitive marine life areas. With potential costs running into the hundreds of millions of dollars for remediation projects to protect shared water resources, sensitive marine life areas, and the coastal ecosystem as a whole, the Central Orange County WMA, as defined herein, is an appropriate region for integrated water resource and coastal watershed planning.

The participants of the Newport Bay Watershed Executive Committee and Management Committee work cooperatively to provide constructive management of the region's water and natural resources, including addressing water quality issues. They share in the planning and cost of TMDL compliance and capital improvements to regional water and wastewater system infrastructure. The appropriateness of the region for integrated water resource and coastal watershed planning is demonstrated by the following regional attributes:

- The drainage patterns in this region and impacts on receiving waters are attributable to upstream land uses.
- The boundaries of Santa Ana Regional Water Board jurisdiction encompass the Central Orange County WMA
- Stakeholders within this region have a long-term commitment to achieving environmentally sound management of the region's hydrologic and ecologic resources.

2.6 WATERSHED MANAGEMENT CHALLENGES

Within the Central Orange County region, the nexus between land use decisions, water resource management, and coastal zone impacts has been firmly established through numerous studies and ongoing monitoring programs. The reality of human impacts can hardly be a surprise in a 160-square-mile region with a population of approximately 700,000 people. In addition to the rapid transition of this region from open space to agriculture and then to urban land use, challenges include the diversity of geography in such a compact area, the diversity of jurisdictions, the diversity of demographics, and the multiplicity of connected issues. This region comprises significant ecological resources and valuable tracts of open space that have been set aside, while at the same time including the most densely populated urban area in California, in a portion of Santa Ana. The highly urban populace of Santa Ana may seem to have little in common with the affluent coast dwellers of Newport Beach and Corona del Mar, but they are necessarily neighbors in this watershed.

Within this area, approximately 154 square miles drain into Newport Bay through tributary subwatersheds and their drainage facilities, including San Diego Creek, Santa Ana–Delhi Channel, Big Canyon Creek, Costa Mesa Channel, and Arches Channel. Upper Newport Bay drains to Lower Newport Bay (which includes Newport Harbor), which subsequently drains to the Pacific Ocean approximately 0.25 miles north of the Newport Beach Marine Life Refuge (ASBS No. 32). Approximately 80 percent of the tributary flow to Newport Bay emanates from the San Diego Creek subwatershed, 15 percent from the Santa Ana–Delhi Channel, and the remaining 5 percent from other drainages. Six reaches within this watershed are included on the California Water Resources Control Board's (California Water Board) 2010 Section 303(d) list. TMDL allocations have been developed for the Newport Bay Watershed for nutrients, sediment, and toxic pollutants (including organophosphate pesticides,

selenium, metals, and organochlorinated compounds); there is also a TDML for fecal coliform bacteria in Newport Bay. Additional TMDLs are pending.¹

Directly south of the Newport Bay Watershed, the Newport Coast Watershed includes eight coastal canyons that drain directly to the two ASBSs bordering the coastline. Development within this watershed has resulted in hydromodification within the canyons, and the area is experiencing a significant increase in urban runoff containing fertilizers, metals, bacteria, and sediment. Two reaches within this watershed are included on the 2010 Section 303(d) list for impaired water quality.

The CCAs and ASBSs are directly affected by urban activities within the planning area, including freshwater drainage that carries pollutants of concern from the upper watershed and coastal canyons, creek bed erosion due to the increase in impervious surfaces, legacy pesticides from former agricultural operations, boat maintenance in Newport Harbor, and high concentrations of selenium and nitrogen in the groundwater that may rise to the surface and move downstream. These fragile coastal ecosystems are further affected by heavy recreational use within the coastal zone. Newport Harbor has approximately 10,000 registered yachts and boats, and Corona del Mar State Beach is very popular due to easy access, sandy beaches, and the nearby rocky tide pools.

2.7 PLAN FOCUS

The conditions described above for the Central Orange County WMA present both challenges and opportunities for land use jurisdictions, water resource agencies, and nongovernmental organizations with a vested interest or responsibility for water quality and habitat protection and enhancement, particularly in the coastal zone.

The stakeholders within the Central Orange County WMA have a long history of working collaboratively on studies, programs, and projects to address water quality, ecosystem restoration, and water supply. As a result, there is an extensive library of technical information about the watersheds that has been created through numerous studies and project planning efforts. These efforts continue, and this region is at the forefront in undertaking scientific studies to analyze impacts on coastal water quality and to identify effective solutions. Not only do the unique ecological resources in this region provide the impetus for integrated water resource planning, but the history of collaboration and the availability of technical information make effective planning,

¹ The toxics TMDL will be divided into five separate TMDLS: organophosphate pesticides, selenium, metals, organochlorinated compounds, and a TMDL for the Rhine Channel in Newport Harbor. The organophosphate pesticide TMDL has been incorporated into the Basin Plan (SARWQCB 2008).

analysis, and project implementation possible. The planning approach and framework of the Central Orange County IRWMP ensure that solution-oriented projects are coordinated within the region and that funding and project benefits are leveraged to the greatest extent possible.

2.8 COORDINATION EFFORTS

The Central Orange County WMA, as its name suggests, lies geographically between the North Orange County WMA and the South Orange County WMA, and each WMA has a unique IRWMP process. In addition, the Central Orange County WMA lies at the southern edge of the broader Santa Ana River Watershed, which originates in the San Bernardino Mountains and extends westward to the Pacific Ocean. Although the Central Orange County WMA shares groundwater resources and an imported water system with other areas in the Santa Ana region, its watershed management issues are distinct and integrally linked to the region's fragile coastal ecosystem. The Newport Bay Watershed Executive Committee is coordinating with the Santa Ana Watershed Project Authority's (SAWPA's) watershed planning efforts in the Santa Ana River Watershed. Specifically, the Central Orange County regional water management group has decided to partner with SAWPA as a member of the Santa Ana Region for the Proposition 84 Integrated Regional Water Management Program.

2.9 CONSISTENCY WITH CALIFORNIA WATER PLAN

The California Water Plan Update 2009 (CNRA 2009a) identifies a framework for action, or a roadmap, to ensure that California has sustainable water uses and reliable water supplies through 2030. Development of this IRWMP is consistent with this framework, and implementation of the IRWMP will contribute to the California's efforts to implement the California Water Plan.

The California Water Plan identifies two initiatives to ensure reliable water supplies for the state. Initiative 1 is to practice and promote IRWM, which is directly consistent with this IRWMP. Initiative 2 is to maintain and improve statewide water management systems and programs, which include reliable water supplies, flood management, environmental stewardship, efficiency of water use, and water quality improvements. This IRWMP address all of these topics by the identification of planning objectives and implementation of priority projects. IRWMP implementation also supports the CALFED Bay-Delta Program by increasing local water supplies and supply reliability, which decreases demands on water exports from the Bay-Delta. This IRWMP is consistent with the resource management strategies outlined in the California Water Plan. It identifies integrated projects that address multiple

strategies and promotes future collaboration to develop integrated solutions for water resource challenges.

2.10 MODIFICATION TO REGIONAL PRIORITIES IN RESPONSE TO REGIONAL CHANGES

This IRWMP is a living document, intended to reflect the dynamic watershed planning environment. Therefore, it is adaptable to changing conditions within the region due to new issues or project completions or other factors that may affect the objectives, strategies, and project priorities. It is also structured such that new technical information from studies being conducted in the watershed or other coastal areas can be incorporated as the data become available. This region is at the forefront in developing and conducting science-based studies to analyze impacts on coastal water quality and identify effective solutions. Information from these studies will be used to adjust water management strategies, identify additional project linkages, and evaluate regional priorities in future IRWMP updates.

Issues, concerns, changes, and activities related to the Central Orange County WMA are discussed at meetings of the Newport Bay Watershed Executive Committee, Management Committee, and Stakeholder Group meetings. In addition, each meeting includes an agenda item specifically for the opportunity to collectively hear, understand, and respond to points of concern, issues, and amendments. This will allow the effective refinement of regional priorities, as needed, for the benefit of the region and its individual stakeholders. In this manner, all stakeholders of the IRWMP will be afforded the opportunity to provide input to amend the Plan.

The agencies and stakeholders in the Central Orange County WMA routinely collaborate on regional issues. Therefore, by coordinating responses to regional concerns, this IRWMP can be modified, as needed. In addition to the Newport Bay Watershed committee coordination, member agencies also interact with various related task forces and work groups for the TMDLs, the Nitrogen and Selenium Management Program (NSMP), and the Orange County Stormwater Program. Through these established and intersecting networks, Central Orange County WMA stakeholders have extensive access to information and to one another, solidifying their ability to collectively respond to local watershed needs.