



Section C

VISION, MISSION, GOALS AND OBJECTIVES

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C. VISION, MISSION, GOALS AND OBJECTIVES

Section C Summary – Through a public outreach process that included multiple facilitated public workshops, the RWMG, RAC, and regional stakeholders developed a vision statement, mission statement, four goals, and nine objectives to address the Region’s primary water management challenges. Targets were developed for measuring progress toward achieving the objectives. Many challenges to attaining the IRWM Plan objectives have been identified. Several potential conflicts among the objectives have also been identified.

C.1 Vision and Mission

Vision. Stakeholder input on the IRWM Plan Vision was initially solicited through a series of three public meetings (see Section N) held in September 2006. Stakeholder input at these meetings focused on three central themes:

- many wide-ranging water management challenges exist within the region,
- a balanced approach is required to address the water management challenges, and
- significant coordination and cooperation among regional agencies and stakeholders will be required to address the water management challenges.

In recognition of these themes, the RWMG and RAC developed the following vision statement to provide overall direction to the Region’s IRWM planning approach:

IRWM Plan Vision

An integrated, balanced, and consensus approach to ensuring the long-term sustainability of San Diego’s water supply, water quality, and natural resources.

Mission. The RWMG and RAC developed the following mission statement for IRWM planning within the Region:

IRWM Planning Mission

To develop and implement an integrated strategy to guide the San Diego Region toward protecting, managing, and developing reliable and sustainable water resources. Through a stakeholder-driven and adaptive process, the Region can develop solutions to water-related issues and conflicts that are economically and environmentally preferable, and that provide equitable resource protection for the entire Region.

C.2 Plan Goals

The stakeholder outreach process (see Section N) identified water supply reliability, water quality protection, and natural resource protection as critical water management needs for the Region. Coordinating and integrating water management efforts to achieve these results was also identified as a critical component of the Plan. In accordance with the above Plan Vision and Planning Mission, the RWMG and stakeholders developed the following four IRWM Plan goals:

IRWM Plan Goals

- 1. Optimize water supply reliability.*
- 2. Protect and enhance water quality.*
- 3. Provide stewardship of our natural resources.*
- 4. Coordinate and integrate water resource management.*

In keeping with the Planning Mission, the goals are to be achieved so as to provide for reliable and sustainable water resources. (See Section G.3 for proposed action items related to addressing and defining Regional sustainability issues.)

C.3 Plan Objectives and Targets

Through a series of facilitated public workshops and facilitated RAC meetings, the RWMG, RAC, and regional stakeholders developed nine specific IRWM Plan objectives to accomplish the four IRWM Plan goals. Detailed descriptions of each of the nine objectives are presented in the following sections along with the rationale for development and inclusion of each objective.

With input from the RAC, the RWMG has also identified measurable targets for each objective. The targets are presented for purposes of measuring the Region's collective attainment of the Plan objectives. The RWMG and RAC assume no financial obligations in developing the measurable targets. Instead, the targets represent what needs to be achieved through the combined actions of the Region's governmental jurisdictions, non-government organizations, regulatory agencies, and stakeholders in order to attain the plan Objectives. (It should be emphasized that attaining the targets may involve actions or projects outside the purview of RWMG agencies or RAC-represented organizations.)

Many of the targets are derived from adopted plans that are periodically updated. A need will exist to update the targets as the local plans on which the targets are based are themselves updated. While it is acknowledged that the Plan targets must evolve in response to changing conditions and stakeholder input, the targets identified herein represent a useful means of measuring progress toward achieving the Plan objectives.

Objective A: Maximize stakeholder / community involvement and stewardship.

Coordinate efforts to foster a consistent message that will engage communities and educate the public on the interconnectiveness of water supply, water quality, and natural resources while promoting individual and community ownership of the problems and solutions.

The focus of this objective is to meet the requirements of Goal 3 (provide stewardship of our natural resources) and Goal 4 (coordinate and integrate water resource management). The Planning Vision emphasizes the need for a consensus approach in water resources management within the Region, and the Mission emphasizes the need for a stakeholder-driven process. Maximizing stakeholder and community involvement and stewardship is essential to the Plan Vision and Planning Mission.

Determination and Rationale for Objective A. Water supply, water quality, and other natural resources are important quality of life factors within the Region. Stakeholder involvement is a vital part of the IRWM Plan process as a means to identify and address public interests and perceptions, address stakeholder questions and issues, ensure that the Plan and any proposed solutions are in keeping with public interests, and provide for public ownership and support of the proposed solutions.

Stakeholder involvement may assist in identifying areas where increased public education and outreach is required and help focus the Plan toward the public's key water management issues and potential solutions. Public education and outreach at community events, workshops and school-based educational programs are required to promote the identification and understanding of the Region's resources. Public education also increases:

- awareness of water management opportunities,
- stakeholder input of water management ideas, and opportunities,
- public activism, and
- public and community ownership of both problems and solutions.

Stakeholder input also is an essential element in identifying and resolving potential water management conflicts within the Region.

Achieving the IRWM Plan public involvement and stewardship objective will require identifying:

- topics/areas where additional public education is needed or warranted,
- opportunities to increase stakeholder/involvement in water management issues, and
- partnerships (e.g., with governmental and non-governmental agencies or community groups) that may provide for increased public involvement and input.

Objective A Targets. Through a public stakeholder process, the RWMG and RAC developed four targets to provide stewardship and maximize stakeholder and community involvement. Table C-1 presents the Objective A targets.

Table C-1
Designated Targets for Achieving IRWM Plan Objective A
Maximize Stakeholder/Community Involvement and Stewardship

Targets for Measuring Progress Toward Achieving Objective A ¹	
1.	Develop by 2009 a regional IRWM website to provide centralized public access to water management data and information.
2.	Develop by 2008 and implement by 2010 regional approaches to water management education.
3.	Conduct water management outreach and solicit input from 2% of Region's population each year, including underserved and disadvantaged communities.
4.	Provide "hands-on" stewardship opportunities in the Region's watersheds to 1% of Region's population each year, including underserved and disadvantaged communities.

¹ IRWM Plan objective targets developed by the RWMG and RAC to be collectively achieved by the Region's IRWM institutional structure, government agencies, non-government organizations, and stakeholders.

Objective B: Effectively obtain, manage, and assess water resource data and information.

Increase and expand sharing, integration, and comprehensive analysis of water resource and water quality data to provide a basis for improved water resources management.

The focus of this objective is to meet the requirements of Goal 4 (coordinate and integrate water resource management). The RWMG and RAC recognize that obtaining and evaluating water quality, water supply, environmental, and recreational data are essential to the successful development and implementation of regional water management actions and programs. Data collection and analysis is required to identify trends, document water quality improvements or impairments, assess the effectiveness of programs, and provide direction for future program planning and management strategies.

Determination and Rationale for Objective B. Data collection organizations and individuals within the Region predominately work independently and lack a central repository where data can be evaluated, formulated, compared, and shared with interested stakeholders. The County has taken a central role in organizing the data collection efforts of stormwater Copermitees as described in Sections J and M of this plan. Other regional-based data collection efforts are led by San Diego Coastkeeper and the San Diego Bay Watersheds Common Ground Project. Challenges associated with trying to collect Regional data from multiple jurisdictions and organizations include (1) differences and sometimes incompatibilities in electronic formats (e.g. GIS, CAD, spreadsheet, and other computerized database systems), and (2) the lack of a centralized system or location for maintaining hard copy data such as reports or maps.

The RWMG and RAC recognize that the IRWM Plan process offers an opportunity for regional data managers to coordinate in the collection, storage, analysis, and distribution of water quality, water supply, and natural resources data. Potential opportunities for managers and stakeholders may include:

- making it possible to identify and update water supply, water quality, and other related data that will assist with water management issues,
- providing data collection and storage in compatible electronic formats, so that it is easily accessible to water managers and regional stakeholders,
- analyzing collected data from areas within the Region that will assist in supporting water management actions/decisions,
- developing a central or cooperative system for data collection, storage, analysis, and distribution,
- assessing integration efforts between managers and stakeholders to provide water quality, water supply, and natural resources data in a beneficial manner to all parties involved,
- developing a method to implement adequate quality controls for data collection, record keeping and analysis for the Region, and
- soliciting public/stakeholder involvement on data management and distribution.

Objective B Targets. Table C-2 presents Objective B (data management) targets that have been established by the RWMG and RAC to effectively obtain, manage and assess water resource data and information.

Table C-2
Designated Targets for Achieving IRWM Plan Objective B
Effectively Obtain, Manage, and Assess Water Resources Data and Information

Targets for Measuring Progress Toward Achieving Objective B ¹	
1.	Develop standards for the integration and assessment of water management data and information by 2010.
2.	Provide centralized public access to key water management data sets by 2010.

¹ IRWM Plan objective targets developed by the RWMG and RAC to be collectively achieved by the Region's IRWM institutional structure, government agencies, non-government organizations, and stakeholders.

Objective C: Further scientific and technical foundation of water management.

Promote actions, programs and projects that increase scientific knowledge and understanding of water management issues, effects of water management actions on water quality, relationships between water quality and beneficial uses, and how water quality improvements may translate to increased public benefit. Coordinate with regulatory agencies to assess and resolve ambiguous or conflicting regulatory standards or requirements.

The focus of this objective is to meet the requirements of Goal 3 (provide stewardship of our natural resources) and Goal 4 (coordinate and integrate water resource management). Objective C recognizes that additional scientific information and technical understanding is required to assess water quality and its relationship to beneficial uses, water management and the development and attainment of TMDLs. Increased knowledge and understanding will assist in developing water quality needs and promote new beneficial uses.

Determination and Rationale for Objective C. Water management actions for the Region must comply with existing water quality, public health, flood control, and environmental laws and regulations. (See Table M-4 on page M-11 for a summary of regulations related to water management.) While water management actions must be addressed within the framework of existing regulations, it is recognized that additional technical and scientific understanding is required to assess beneficial use attainment and support the determination of technically appropriate regulation and water management actions. Increased scientific and technical understanding is required to:

- assess water quality compliance,
- identify, assess, and implement watershed-specific or region-wide regulatory compliance issues/options,
- develop and implement region-wide best management practices as they apply to each jurisdiction,
- maximize regional effectiveness of compliance actions,
- improve coordination between habitat conservation programs, water quality improvement programs, and water quality regulation/permitting,
- ensure that regulations and plans appropriately reflect existing conditions,
- address potential inconsistencies or conflicts between regulations,
- optimize measures for meeting compliance of regulations and streamline permitting processes, and
- implement region-wide programs that address water quality and water supply (e.g., identifying effective regional water quality monitoring methods and parameters, establishing consistent approaches to TMDL implementation, and establishing water conservation criteria and goals).

By addressing scientific and technical issues through regional coordination efforts, implementing agencies may recognize benefits of cost sharing, economies of scale and the increased potential for outside funding through collaborative approaches. Additionally, increased technical and scientific understanding allows for more consistent and expedient implementation of programs and activities.

Increased scientific data and technical comprehension may allow for the identification and development of regionally-feasible compliance alternatives that may not have been feasible from site-specific or project-specific standpoints. The IRWM Plan process may also allow regional agencies to coordinate with regulators to identify areas where modification of regulations or regulatory procedures may be appropriate for maximizing beneficial use and protecting the Region's water resources.

The RAC and RWMG developed Objective C to address the need for greater scientific information and technical understanding to:

- assess relations between water quality and impacts to beneficial uses,
- relations between water management actions and water quality,
- better understand water quality needs for supporting beneficial uses, and
- support the development and attainment of TMDLs.

Objective C Targets. Table C-3 (page C-8) presents numerical targets established by the RWMG and RAC for Objective C (increase scientific understanding).

**Table C-3
Designated Targets for Achieving IRWM Plan Objective C
Further Scientific and Technical Foundation of Water Quality Management**

Targets for Measuring Progress Toward Achieving Objective C ¹	
1.	By 2010, develop an agreed-upon system and metrics for tracking the progress of Basin plan validation efforts through coordination with Regional Board staff.
2.	Conduct water quality assessment for beneficial use attainment within 75 percent of surface waters by 2015.
3.	Assess and validate Basin Plan beneficial uses and water quality objectives for the Region's watersheds by 2017.
4.	By 2013, develop an agreed-upon system and metrics for tracking groundwater assessment information.
5.	By 2015, develop an agreed-upon system and metrics for evaluating ocean water quality and marine habitat.

¹ IRWM Plan objective targets developed by the RWMG and RAC to be collectively achieved by the Region's IRWM institutional structure, government agencies, non-government organizations, and stakeholders.

Objective D: Develop and maintain a diverse mix of water resources.

Continue to develop diverse water resources to meet the local supply and conservation goals identified in the Region's local water plans, and reduce dependence on imported water supplies and avoid shortages during drought periods. The diverse mix of water resources being developed includes water transfers, recycled water, water conservation, seawater desalination, local surface water, and groundwater.

The focus of this objective is to meet the requirements of Goal 1 (optimize local water supply reliability). The Region's approximate population of three million and the Region's economy (gross regional product of more than \$160 billion, as shown in Table B-7) are both dependent upon a reliable water supply.

Determination and Rationale for Objective D. As documented within the *California Water Plan Update 2005* (DWR, 2005), water allocation, environmental, and hydrologic constraints present significant challenges to the sustainability of historic State Water Project and Colorado River supplies, particularly during long-term droughts. Additionally, the Region's reliance on Metropolitan water supplies renders the region vulnerable to short-term reliability issues (e.g., earthquake, landslides, terrorism). Water demands within the region are also expected to increase, based on SANDAG's Regional Growth Forecast despite conservation efforts (see Table B-28 on page B-67).

During the last major drought in California (1987-1992), the Region was over 90 percent reliant on supplies from Metropolitan. As a result of the drought, however, Metropolitan ordered a 50 percent cutback of the Region's imported supplies. The results of Metropolitan's cutback would have been devastating to the businesses and residents in the Region except for

a late season “Miracle March” rainfall that allowed Metropolitan to roll back its proposed imported water reductions from 50 to 31 percent. Even at this level the Region was impacted more than other regions in Southern California because of its high dependence upon imported supplies from Metropolitan.

Since the 1987-1992 drought, the Water Authority and its member water supply agencies adopted plans and policies to diversify the Region’s supplies and reduce reliance on a single supply source. Diversification of regional water portfolios is also a key element of Initiative 1 (see pages A-3 and A-4) of the *California Water Plan Update 2005* (DWR, 2005). Maximizing development of local supplies is a key objective of the Water Authority’s *Updated 2005 Urban Water Management Plan* and in water management plans developed by the Region’s water supply agencies. Objective D is consistent with these plans and policies.

Water conservation (reducing water demand and use) is the Region’s most cost effective option, and is a central component of the Region’s diversification program. Significant progress in water conservation has resulted in over 50,000 acre-feet of water savings within the region, and forecasted water conservation within the region is projected to result in water savings of more than 100,000 acre-feet per year by 2030 (see Table B-29 on page B-70).

Objective D Targets. Table C-4 presents quantifiable Objective D targets established by the RWMG with input from the RAC. Objective D targets were derived from the water supply targets and goals within water plans of the Water Authority and County

**Table C-4
Designated Targets for Achieving IRWM Plan Objective D
Develop and Maintain a Diverse Mix of Water Resources**

Targets for Measuring Progress Toward Achieving Objective D ¹	
1.	Increase water conservation savings from about 51,090 AFY in 2006 to at least 79,960 AFY by 2010 and 108,400 AFY by 2030.
2.	Increase seawater desalination capability within the region from zero AFY to 34,690 AFY by 2015
3.	Increase recycled water use from about 14,830 AFY in 2006 to 33,670 AFY by 2010 and 47,580 AFY by 2030.
4.	Increase groundwater supply within the Water Authority service area from about 14,960 AFY in 2006 to 28,580 AFY by 2010 and 31,180 AFY by 2030.
5.	Implement Colorado River conservation and transfer programs, increasing deliveries from 35,000 AFY in 2006 to 277,700 AFY by 2030.
6.	Include an analysis in the Water Authority 2010 Urban Water Management Plan that assesses the effect of climate change on future water supplies.
7.	Develop and implement regional drinking water source protection guidelines for the Region by 2012.
8.	Meet groundwater supply and water quality objectives identified in the County’s General Plan 2020 for groundwater-dependent communities by 2012.

¹ IRWM Plan objective targets developed by the RWMG and RAC IRWM Plan objective targets developed by the RWMG and RAC to be collectively achieved by the Region’s IRWM institutional structure, government agencies, non-government organizations, and stakeholders. Targets are from Water Authority’s Fiscal Year 2006 Annual Report. (Water Authority, 2007).

The numerical targets for Objective D (water supply diversity) address water conservation, seawater desalination, recycled water use, groundwater use, water transfers, climate change effects, and drinking water source protection. The targets also address sustaining water supply in groundwater-dependent areas of the Region.

Objective E: Construct, operate, and maintain a reliable infrastructure system.

Construct water conveyance, treatment, storage, and distribution facilities for reliable regional and local water infrastructure systems that are operated and maintained to meet demands for treated and untreated water, are consistent with the future mix of resources, and provide flexibility in system operations.

The focus of this objective is to meet the requirements of Goal 1 (optimize water supply reliability). The Region's approximate population of three million and economy (more than \$160 billion gross regional product) are both dependent upon a reliable infrastructure to deliver water to residents, businesses, industries, parks, and agricultural lands. The Region's existing water supply infrastructure is described in Section B, and is a complex system of aqueducts, reservoirs, filtration plants, and potable water pipelines, pump stations and other appurtenances.

Determination and Rationale for Objective E. Improvements to existing potable water supply infrastructure are required to ensure facilities are in place to deliver, store and treat supplies to reliably meet existing and future demands throughout the Region. Capital improvements will also address geographic differences in water supply reliability within the Region. Some of the Region's water agencies currently have a high degree of flexibility, storage, supply diversity, and reliability. Other local water agencies, however, may experience supply decreases during as little as a several day interruption of Metropolitan water supply deliveries.

Key improvements and upgrades to the Region's water infrastructure are needed to ensure water supply reliability for all portions of the Region, including:

- increasing long-term and emergency water storage capabilities to protect against water supply interruption due to drought or emergency conditions,
- increasing capacity for seasonal water storage to balance out fluctuating water demands and water availability,
- providing additional potable water treatment capacity to provide flexibility to accommodate additional delivery of treated or untreated Metropolitan supplies,

- improving the flexibility of conveyance systems between treatment and storage facilities,
- enhancing member agency interconnections to improve conveyance flexibility, and
- integrating groundwater and seawater desalination facilities with existing potable water conveyance systems.

This list of improvements is based on the facility master plans and capital improvement programs of the water agencies within the region. Objective E is consistent with these plans and programs.

Objective E Targets. Table C-5 presents Objective E targets established by the RWMG and RAC. Targets for Objective E are based on water agencies’ facilities master plans and capital improvement programs and address improving storage, conveyance, and treatment capacity within the Region.

**Table C-5
Designated Targets for Achieving IRWM Plan Objective E
Construct, Operate, and Maintain a Reliable Water Infrastructure System**

Targets for Measuring Progress Toward Achieving Objective E ¹	
1.	Develop facilities and manage supplies to ensure adequate emergency and carry-over deliveries.
2.	Increase local treatment of imported and local surface waters from 597 mgd to 860 mgd in 2010 and 920 mgd in 2030.
3.	Develop the conveyance facilities necessary to deliver a reliable supply and assure adequate resources to maintain existing conveyance systems.
4.	Develop the infrastructure needed to support the targets identified for developing recycled water, desalination, and groundwater supplies.

¹ IRWM Plan objective targets developed by the RWMG and RAC IRWM Plan objective targets developed by the RWMG and RAC to be collectively achieved by the Region’s IRWM institutional structure, government agencies, non-government organizations, and stakeholders.

Objective F: Reduce the negative effects on waterways and watershed health caused by hydromodification and flooding.

Promote development and best management practices that reduces the negative effects on natural stream systems. Runoff from impervious surfaces can result in erosion, sediment pollution, altered water temperatures, habitat degradation, and flooding. Channel modification may increase the likelihood of damages due to an altered natural drainage system.

The focus of this objective is to meet Goal 2 (protect and enhance water quality). Sediment pollution, erosion, and other development-related water quality and hydromodification occurrences have impacted the County's water resources (see Section B.5). Approximately eighteen percent of all land within the County has already been developed. By the year 2030, developed land within the County is projected to be comprised of approximately thirty-four percent (see Table B-6 on page B-10).

Determination and Rationale for Objective F. Sedimentation, erosion, and hydromodification present significant water management challenges within many of the Region's watersheds. Future development throughout the County will increase the volume and duration of stormwater runoff due to the increased amount of impermeable surfaces, such as paved areas and roofs. These developments will impact natural conveyance systems, such as creeks, streams and rivers due to increases of water loads from storm drain and other discharge points not originally part of the natural drainage system.

Pollution loads due to runoff will increase to reflect the change in residential, commercial, industrial, construction and agricultural activities. These changes can result in physical changes (hydromodification) to the Region's waterways.

While beach sand replenishment may benefit from such hydromodifications, the following negative impacts may occur:

- an increase of erosion, sedimentation, and physical modification of conveyance flow,
- changes in flow regime, affecting flow velocity, depth, and flow rate,
- alter land formations and decrease aesthetic appeal,
- increase the likelihood of flood related impacts, property damage and/or loss of life,
- destroy or alter current habitats, and
- assist in the proliferation of invasive species.

Addressing these problems will require regional cooperation in identifying and implementing strategies. By identifying and addressing areas that are affected by hydromodification, stakeholders and managers can prevent or decrease its impacts, mitigate its negative effects and address economic impacts that future development may have on the current infrastructure.

Objective F Targets. Table C-6 (page C-13) presents Objective F targets established by the RWMG and RAC. Measurable targets for Objective F address reducing impervious areas and developing and implementing standards and approaches to reduce hydromodification effects.

Table C-6
Designated Targets for Achieving IRWM Plan Objective F
Reduce the Negative Effects on Waterways and Watershed Health
Caused by Hydromodification and Flooding

Targets for Measuring Progress Toward Achieving Objective F ¹	
1.	Develop and implement regional standards for Low Impact Development (LID) practices by 2010.
2.	Develop and implement regional approaches to hydromodification management by 2010.
3.	By 2010, implement a system to track rates of change in area of impervious surfaces regionally.

¹ IRWM Plan objective targets developed by the RWMG and RAC IRWM Plan objective targets developed by the RWMG and RAC to be collectively achieved by the Region's IRWM institutional structure, government agencies, non-government organizations, and stakeholders.

Objective G: Effectively reduce sources of pollutants and environmental stressors.

Reduce pollutants and environmental stressors to maintain or improve water quality through the application of point source control, stormwater best management practices, management measures such as land use planning and conservation, and reservoir management.

The focus of this objective is to meet Goal 2 (to protect and enhance water quality). Existing regulatory programs control pollutants through a broad array of point source and non-point source programs. These programs are directed towards achieving compliance by mandating pollutant source controls and industry-standard best management practices.

Determination and Rationale for Objective G. As documented in Section B, more than 40 inland surface waters and 35 coastal waters or beach segments are currently listed as not attaining applicable water quality standards. Region-wide constituents of concern include bacteria, sediment, nutrients, and TDS. Toxic inorganic and toxic organic constituents are additional pollutants of concern in many of the Region's urbanized watersheds.

Reducing pollutant loads, sources, and stressors are essential to bring non-complying waters into compliance, achieve TMDLs, and prevent non-compliance in waters that currently meet the standards. Additional data and analysis are required to establish a correlation between the use of pollutant source controls and water quality improvements, which will assist in the identification of predominant pollutant sources.

The IRWM Plan process offers the opportunity for implementing agencies to coordinate efforts within the existing regulatory framework to:

- identify and prioritize pollutant source controls,
- review and evaluate the effectiveness of existing best management practices,
- ensure that pollutant source controls, management efforts and proposed water management strategies are effectively targeting pollutant sources and priority constituents, and
- identify and assess the benefits of non-structural best management practices to minimize pollutant impacts (e.g. Low Impact Development, smart growth, and sustainable development).

An important management consideration in addressing pollutants and stressors within local water supplies is reservoir and lake management. Reservoir and lake management strategies can be considered as a way to reduce problems associated with poor water quality and treatability resulting from stressors such as nitrogen, phosphorus, iron, manganese, and sulfur.

Objective G Targets. Table C-7 presents targets established by the RWMG and RAC for Objective G. Targets for Objective G (reduce pollutants) address attainment of TMDLs for pollutants such as TDS, bacteria, nutrients, and sediment.

**Table C-7
Designated Targets for Achieving IRWM Plan Objective G
Effectively Reduce Sources of Pollutants and Environmental Stressors**

Targets for Measuring Progress Toward Achieving Objective G ¹	
1.	Implement Total Maximum Daily Loads (TMDLs) according to established schedules.
2.	Reduce or avoid the need for TMDLs by monitoring and managing impacts to receiving waters, with an emphasis on 303(d)-listed water bodies and other Environmentally Sensitive Areas.
3.	Develop by 2012 a regional management plan for Total Dissolved Solids (TDS).
4.	Develop and implement comprehensive source management strategies to address regionally-significant constituents (e.g., pathogens, nutrients, sediments).
5.	Reduce the frequency of sanitary sewer overflows in excess of 1,000 gallons from 180 overflows per year in 2005 to 120 overflows per year in 2012.
6.	Reduce the volume of sanitary sewer overflows per mile of collection system.

¹ IRWM Plan objective targets developed by the RWMG and RAC IRWM Plan objective targets developed by the RWMG and RAC to be collectively achieved by the Region’s IRWM institutional structure, government agencies, non-government organizations, and stakeholders.

² Sanitary sewer overflows include any release of wastewater from sewage collection systems from spills, overflows, blockages, pipe or equipment failure, or any other cause.

³ Significant reduction of sewer spill/overflow events has occurred during recent years as the Region’s sewer agencies have implemented increased inspections, sewer line cleaning, and sewer line replacement. Per requirements established under State Board Order No. 2004-08, the Region’s sewer agencies are required to develop Sanitary Sewer Management Plans (SSMPs) that will establish agency goals for additional spill reduction and identify means of achieving the goals. Revision of the Objective G spill reduction targets may be required upon completion of the required SSMPs by the Region’s sewer agencies.

Objective H: Protect, restore and maintain habitat and open space.

Manage and acquire land to preserve open space and protect sensitive habitat, promote improved water quality, and limit activities that negatively affect water quality, habitat, and endangered, threatened, and key species. The creation of interconnected wildlife corridors, invasive species management, and water pollution prevention activities will help to maintain and enhance native biological diversity.

The focus of this objective is to meet Goal 3 (provide stewardship to our natural resources). As discussed in Section B.7, the Region features biologically diverse and important habitats. In recent decades, however, development and population growth within the Region have resulted in losses of open space and habitat. Additionally, remaining native habitat may be subject to impacts or stress from invasive species, water quality degradation, or hydromodification.

Determination and Rationale for Objective H. More bird and plant species live within the County than in any other county in the United States. With decreasing open space lands that can support wildlife habitats, some of the native plants and animals that once lived in the Region have become extinct. The trend of decreasing open space land within the Region is projected to continue. The Basin Plan identifies several beneficial uses that address the needs of aquatic, wildlife, and marine habitats.

By year 2030, development is projected to consume in excess of 420,000 acres of currently vacant developable land (see Table B-6 on page B-10). Preservation and maintenance of open space is an important component toward ensuring protection of the Region's water quality, water availability, and protection of endangered and threatened species and habitats. Preserving and maintaining open space is also important for maintaining the Region's natural aesthetics, preserving and enhancing recreational opportunities, enhancing the quality of life for residents, and providing benefits relative to tourism and the economy.

The IRWM Plan process offers the opportunity for regional cooperation and coordination by:

- allowing for the integration of water management planning actions with existing species and habitat conservation plans,
- ensuring protection and preservation of existing open space lands and wildlife corridors,
- identifying and controlling activities that may impact open space, habitats, and water quality,

- developing, implementing, and maintaining conservation plans which may include controlling invasive species and managing wetlands, freshwater habitat, and marine habitat, and
- monitoring, managing, and controlling nuisance aquatic species, with the intent of preventing the introduction and establishment of nuisance aquatic species in the Region.

Objective H Targets. Table C-8 presents numerical targets for Objective H (habitat/open space) established by the RWMG and RAC. Included are restoration targets for wetlands, riparian habitat, and vernal pools.

**Table C-8
Designated Targets for Achieving IRWM Plan Objective H
Protect, Restore and Maintain Habitat and Open Space**

Targets for Measuring Progress Toward Achieving Objective H ¹	
1.	Conserve by 2012 a minimum of 10,000 acres of habitat and open space, including functional riparian habitat and associated buffer habitat, and functional wetland habitat.
2.	Restore by 2012 a minimum of 1,000 acres of habitat and open space, functional riparian habitat and associated buffer habitat, and functional wetland habitat.
3.	Remove and control a minimum of 1,000 acres of non-native invasive plants by 2012. ²
4.	Monitor, manage, control, and prevent establishment of nuisance aquatic species in the Region.

¹ IRWM Plan objective targets developed by the RWMG and RAC IRWM Plan objective targets developed by the RWMG and RAC to be collectively achieved by the Region’s IRWM institutional structure, government agencies, non-government organizations, and stakeholders.

² Target includes acreage in which non-native invasive species are removed and continue to be controlled following removal.

Objective I: Optimize water-based recreational opportunities.

Protect and improve water quality to support water-based recreational activities such as swimming, fishing, boating, as well as picnicking and hiking along waterways, while ensuring that the recreational activities do not adversely affect other beneficial uses of water.

The focus of this objective is to meet the requirements of Goal 4 (coordinating and integrating water resource management). The Basin Plan designates both water contact recreation (swimming, wading, tide pooling, water skiing, surfing, etc.) and non-contact recreation (boating, fishing, hiking, bird watching, kayaking, etc.) as key beneficial uses of inland and marine waters within the Region.

Determination and Rationale for Objective I. Water contact and non-contact recreation are important components of the Region’s quality of life and tourism-dependent economy. As documented in Section B.8, a considerable amount of recreational opportunities exist at the beaches, rivers, streams, lakes, marine and estuarine waters within the Region.

**Note Concerning Objective I
Optimize Water-Based Recreational Opportunities**

This IRWM Plan recognizes that recreation can adversely affect water quality, water supply operations, and habitat. As a result, Objective I is defined as “optimize water-based recreational opportunities” (not “maximize” water-based recreational opportunities). With this definition, Objective I seeks to optimize recreational opportunities subject to the constraint that such recreation does not prevent attainment of the water supply objectives (Objectives D and E) or the restore/maintain habitat objective (Objective H).

Urban, agricultural and stormwater runoff frequently degrade the water quality of the Region’s coastal waters, resulting in the posting of advisories of potential public health threats and beach closures. Controlling these pollutant-contributing activities is key to enhancing and maintaining water-based recreational opportunities within the Region.

The Region’s inland lakes are man-made water supply reservoirs. Many of these reservoirs permit recreational uses that may adversely affect water quality by means of contact with swimmers, boating equipment, camping activities, and littering. Recreational activities within the Region’s reservoirs must therefore be balanced with water supply and water quality protection needs. While optimizing recreational opportunities is a Regional objective, restrictions in recreation (limiting public access, limiting certain recreational activities, or requiring implementation of best management practices) may be necessary to protect water supply and other beneficial uses.

Objective I Targets. Table C-9 presents numerical targets established by the RWMG and RAC for developing water-based recreational space within the Region.

**Table C-9
Designated Targets for Achieving IRWM Plan Objective I
Optimize Water-Based Recreational Opportunities**

Target for Measuring Progress Toward Achieving Objective I ¹	
1.	Develop 200 acres of water-based recreational open space that focuses on underserved areas and ensures equal access for disadvantaged communities.
2.	By 2015 provide 20 new public access points (boat launch facilities, fishing floats or piers, swim beaches, trails, stairs, parking areas, or similar) to recreational surface waters.

¹ IRWM Plan objective targets developed by the RWMG and RAC IRWM Plan objective targets developed by the RWMG and RAC to be collectively achieved by the Region’s IRWM institutional structure, government agencies, non-government organizations, and stakeholders.

Summary of Objectives. Table C-10 presents the nine IRWM Plan objectives and identifies the IRWM Plan goals to be attained in implementing the objectives:

**Table C-10
Summary of IRWM Plan Objectives¹**

IRWM Plan Objective	Primary IRWM Plan Goals Implemented by the Objective			
	Goal #1 Optimize water supply reliability	Goal #2 Protect and enhance water quality	Goal #3 Provide stewardship of our natural resources	Goal #4 Coordinate and integrate water resource management
A Maximize stakeholder/community involvement and stewardship	○	○	●	●
B Effectively obtain, manage, and assess water resource data and information	○	○	○	●
C Further the scientific and technical foundation of water quality management	○	○	●	●
D Develop and maintain a diverse mix of water resources	●			○
E Construct, operate, and maintain a reliable water infrastructure system	●			○
F Minimize the negative effects on waterways and watershed health caused by hydromodification and flooding		●	○	○
G Effectively reduce sources of pollutants and environmental stressors		●	○	○
H Protect, restore and maintain habitat and open space	○	○	●	○
I Optimize water-based recreational opportunities		○	○	●

- Primary IRWM Plan goal targeted by the IRWM Plan objective
- Additional IRWM Plan goals targeted by the objective

¹ IRWM Plan goals and objectives developed by the RWMG, RAC, and regional stakeholders through facilitated public workshops and an outreach process. See Section N for a description of stakeholder identification and outreach actions to solicit plan input.

C.4 Challenges and Conflicts

Challenges to Attaining Plan Objectives. Many challenges exist to attaining the IRWM Plan objectives. On the basis of water management issues presented in Section B, Table C-11 (pages C-19 through C-21) presents a summary of water management challenges for attaining Plan objectives.

Table C-11
Summary of Key Challenges to Achieving IRWM Plan Objectives¹

IRWM Plan Objective	Challenges to Achieving Objective
<p>A. Maximize stakeholder/ community involvement and stewardship</p>	<ul style="list-style-type: none"> • Water management interests and needs among stakeholders may differ • Lack of Regional coordination and collaboration • Stakeholder participation and disadvantaged community involvement is minimal given the size of the Region • Limitations and restrictions exist on program and grant funding availability • Lack of coordination and partnerships among common interest groups in public education and stakeholder involvement • Lack of involvement and participation from private corporations and local businesses • Local communities are not sufficiently tied into the problems and solutions to water management issues • The importance of water management is not currently recognized by the Region as a key component to sustaining quality of life • Public education efforts are not coordinated across the region and do not currently explain or promote the connectivity between water supply, water quality, and natural resource protection
<p>B. Effectively obtain, manage, and assess water resource data and information</p>	<ul style="list-style-type: none"> • Data collection and analysis efforts are not coordinated on a Regional basis • Data collection and management throughout the Region does not have a consistent format, content, or protocols • Data are not readily available or accessible to stakeholders or the general public • Lack of data focusing on the highest priority constituents and stressors • The Region does not have a centralized data management system • Some types of monitoring and research may not be supported through cost/benefit analysis • Water quality, water supply, and natural resource data are currently evaluated and assessed independently of one another; the data are not integrated to show inter-related effects • Additional technology, research, and development is needed to improve monitoring programs and BMP development
<p>C. Further the scientific and technical foundation of water management</p>	<ul style="list-style-type: none"> • Surface flows are highly seasonal • Water quality and habitat data are highly variable and difficult to understand • Relationships among beneficial uses, water quality, and water quality standards are not well understood • Management efforts have not always focused on the most important pollutant sources and priority constituents • Current methods for identifying and prioritizing pollutant sources may not be effective or consistent • Some Basin Plan water quality standards may be unattainable given existing conditions, uses and naturally occurring background levels • Some problems and concerns are not currently supported by regulations (e.g., Low Impact Development) • Regional commitment is currently lacking to tackle regulatory compliance questions and issues • Existing methods and standards for evaluating the cost-benefits of water management practices is insufficient • Lack of historical monitoring data limits knowledge of naturally occurring background levels of pollutants • Improved identification of pollutant sources/stressors is needed • Identification and implementation of watershed based non-point source controls are inadequate • Site specific objectives have not been adequately utilized/considered • Outdated or inadequately supported water quality standards cause negative economic impacts for the Region • Some Basin Plan beneficial use designations do not reflect past, present, and probable future uses • Basin Plan does not always support implementation of alternative strategies that support beneficial use attainment other than TMDLs • TMDLs may not always be achievable or feasible • TMDLs are not always appropriately and effectively implemented • While the State Board's 303(d) listing/delisting policy incorporated much public input, additional revisions to the process may be warranted to strengthen the scientific basis of the listing/delisting selections • 303(d) lists do not always reflect the priority water quality issues for the waterway • Regulatory requirements are not always consistent or coordinated between types (e.g., discharge prohibition and exemptions, BMP requirements, environmental permits, and land use restrictions) • High costs of monitoring and TMDL implementation effect long-term effectiveness

¹ IRWM Plan goals and objectives developed by the RWMG, RAC, and regional stakeholders through an outreach process. See Section N for a description of stakeholder identification and outreach actions to solicit plan input.

NOTE: Table C-11 is continued on the next page

Table C-11 (Continued)
Summary of Key Challenges to Achieving IRWM Plan Objectives¹

IRWM Plan Objective	Challenges to Achieving Objective
<p>D. Develop and maintain a diverse mix of water resources</p>	<ul style="list-style-type: none"> • Projected population increase will result in increased future water demands • Precipitation is limited and occurs primarily during winter/spring months • Highest water demands occur during summer/fall months • Regional groundwater and surface water storage capacities are limited • Groundwater quality limits usability of existing groundwater supplies • Recycled water quality is marginal for water quality-sensitive uses • Water treatment, storage, and conveyance limitations exist among the Region’s water agencies • Jurisdictional and water rights challenges for developing local groundwater supplies • Use-related limitations on recycled water use • Public acceptance of potable reuse • Differences exist in availability of local water sources among Region’s water agencies • Lack of public education on recycled water and water conservation • Diverse public opinion on seawater desalination
<p>E. Construct, operate, and maintain a reliable water infrastructure system</p>	<ul style="list-style-type: none"> • Lack of coordination among local water agencies to meet regional needs for both treated and untreated water • Differences exist in infrastructure reliability among the Region’s water agencies • Capacity and reliability improvements needed to meet regional and local water distribution needs • Need to manage increasing infrastructure costs and plan for improvement of delivery systems • Susceptibility of key imported water conveyance facilities to earthquake or pipeline failure • Community concerns with the construction and siting of new projects and facilities
<p>F. Reduce the negative effects on waterways caused by hydromodification and flooding</p>	<ul style="list-style-type: none"> • High growth rate and a lack of environmental mandates affect hydromodification of the Region’s watersheds • Regional information does not exist on the various causes and effects of hydromodification (e.g., land development, invasive species, lack of sufficient management of flood and riparian areas, private land use activities, watercourse modification) • Potential for flooding increases with increasing sedimentation, erosion, and changes in flow volume and velocity due to increased impervious surfaces • Existing land uses may contribute to hydromodification effects • Lack of coordinated mapping and management approaches • Hydromodification and flooding are causing impairments to beneficial uses of the Region’s waterways and is causing negative economic impacts to the Region
<p>G. Effectively manage sources of pollutants and stressors</p>	<ul style="list-style-type: none"> • Jurisdictional regulations and responsibilities may overlap or contradict, or they may not always consider potential effects on water quality, resource management, or public health • Some regulatory requirements don’t effectively support water quality, water supply, resource management, public health, or the need for change • Some problems and concerns are not currently supported by regulations (e.g., Low Impact Development) • Water management interests/needs among stakeholders may differ • Lack of Regional coordination and collaboration to obtain funding • Public/stakeholder participation, including disadvantaged community involvement is minimal given the size of the Region • Limitations and restrictions exist on program and grant funding availability • A Regional commitment for water management is needed • Existing methods and standards for evaluating the cost-benefits of water management practices is insufficient • Lack of coordination and partnerships between common interest groups impedes ability to accomplish shared goals • Lack of involvement and participation from private corporations and local businesses • Public education efforts are not coordinated across the region and do not currently explain or promote the connectivity between water supply, water quality, and natural resource protection • Some existing education efforts may actually be promoting bad behaviors (e.g., emphasizing community cleanup events may suggest to the public that polluting behaviors are acceptable because cleanup will occur)

¹ IRWM Plan goals and objectives developed by the RWMG, RAC, and regional stakeholders through an outreach process. See Section N for a description of stakeholder identification and outreach actions to solicit plan input.

NOTE: Table C-11 is continued on the next page

Table C-11 (Continued)
Summary of Key Challenges to Achieving IRWM Plan Objectives¹

IRWM Plan Objective	Challenges to Achieving Objective
<p>H. Protect, restore and maintain habitat and open space</p>	<ul style="list-style-type: none"> • Limited protection of aquatic, estuarine, wetlands, and marine habitats • Seasonal nature of surface flows makes habitat survival difficult • Need for coordinated and consistent management of open space and wildlife corridors • Invasive species impacts to native and endangered species, flood control, water supply, and groundwater recharge • Needs exist to identify and limit land use and public encroachment • Existing permitting requirements may limit effective habitat management • Need for inter-agency and inter-jurisdictional coordination of habitat management • Existing plans are not always consistent, accurate, or effective in addressing open space and habitat needs • Current management efforts do not always address the potential impacts from adjacent land uses (e.g., erosion, runoff, landscaping, invasive species, domestic animals, and human impact) • Planning efforts are not always proactive in accounting for the needs of local habitat that are not currently listed as endangered or threatened • Insufficient attention to community awareness and public education on the regional importance of habitat and species protection
<p>I. Optimize water-based recreational opportunities</p>	<ul style="list-style-type: none"> • The Region’s water quality (particularly bacterial quality) does not consistently support recreational uses • Need exists to maintain and enhance access to recreation sites • Invasive species may limit water-based recreational opportunities • Sewer line breaks and overflows continue to be a chronic problem for the Region and are the primary cause for beach closures • Recreational opportunities and recreational facilities need to be increased to accommodate the growing population and tourism industry • Water-related recreational programs and opportunities are disproportionate for disadvantaged communities and disabled persons • Few partnerships between NGOs , communities, and conservation groups exist to provide increased recreational opportunities

¹ IRWM Plan goals and objectives developed by the RWMG, RAC, and regional stakeholders through an outreach process. See Section N for a description of stakeholder identification and outreach actions to solicit plan input.

Potential Plan Conflicts and Means of Resolution. Several potential conflicts exist among the Plan objectives or the Region’s water management needs. Table C-12 (page C-22) summarizes potential Plan conflicts.

Potential conflicts will be evaluated and addressed through a stakeholder outreach process (see Section N) and a stakeholder-driven prioritization process led by the Region’s IRWM management organization (see Sections G.3 and G.4). This effort would be supported by appropriate scientific and technical studies. (See Table G-8 on page G-22 for an action plan for the development of required scientific and technical support.)

Table C-12
Summary of Potential Plan Conflicts

Potential Conflicts	IRWM Plan Objectives Potentially Affected by the Conflict ¹								
	A. Maximize Stakeholder/ Community Involvement and Stewardship	B. Effectively Obtain, Manage and Assess Water Resources Data	C. Further Technical and Scientific Foundation for Water Management	D. Develop, Operate, and Maintain a Diverse Mix of Water Resources	E. Construct, Operate, and Maintain Reliable Water Infrastructure	F. Reduce Negative Effects of Hydromodification & Flooding	G. Reduce Pollutant Sources and Environmental Stressors	H. Protect, Restore and Maintain Habitat and Open Space	I. Optimize Water-Based Recreational Opportunities
Some existing education efforts may be promoting bad behaviors (e.g., emphasizing community cleanup events may suggest to the public that polluting behaviors are acceptable because cleanup will occur)	●		●				●		
Some regulatory requirements don't effectively support water quality, water supply, resource management, public health, or the need for change			●				●	●	
Basin Plan does not always support implementation of alternative strategies that support beneficial use attainment other than TMDLs			●				●		
Jurisdictional and water rights issues exist in several groundwater basins				●	●				
Groundwater use may conflict with need to protect groundwater-dependent habitat				●	●			●	
Potential conflicts between infrastructure siting needs and the environment				●	●				
Recreational use can degrade water quality, adversely affecting water supply and other beneficial uses				●	●		●		●
Potential environmental impacts associated with brine discharges for demineralization or desalination facilities				●	●		●	●	
Diversion of surface water for water supply may conflict with downstream habitat needs				●	●			●	
Surface water detention and runoff control may conflict with habitat water and flow needs						●	●	●	
Sediment control measures may conflict with beach sand replenishment needs						●	●		●
Flood protection needs may conflict with needs to restore riparian and aquatic habitat						●		●	
Pollution control measures (e.g. diversions or groundwater recharge) may reduce or eliminate streamflow required by aquatic habitat							●	●	

● Plan objective potentially affected by the conflict

¹ Potential conflicts will be evaluated and addressed through a stakeholder outreach process (see Section N) and a stakeholder-driven prioritization process led by the Region's IRWM management organization (see Sections G.2 and G.3), supported by appropriate scientific or technical studies (see Table G-8 on page G-22).

Section C References

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