Section I
EVALUATION OF PLAN PERFORMANCE

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I. EVALUATION OF PLAN PERFORMANCE

Section I Summary *– This Plan is prepared in accordance with guidance presented within the 2004 and 2007 versions of the IRWM Program Guidelines. Existing local water management plans within the Region (including habitat protection, water quality enhancement, flood control, recreation, and water supply plans) form the basis for regional water management evaluations presented within this IRWM Plan. Methods used to develop this plan are consistent with these local plans and the IRWM Program Guidelines. A number of parameters are available for measuring plan benefits. The IRWM institutional structure will employ an iterative adaptive management process consisting of cycles of assessment, plan formulation, implementation, monitoring, and reassessment. This IRWM plan represents the initial assessment and plan formulation steps. Subsequent steps will be implemented by the proposed regional IRWM institutional structure using a stakeholder-driven process.*

I.1 Methods to Develop Plan

This Plan is prepared in accordance with guidance presented in the IRWM Planning Guidelines (DWR and State Board, 2004 and 2007).

Information Sources. This IRWM Plan integrates and builds on existing water management plans developed within the Region, including water quality and storm runoff plans, water supply plans, watershed plans, habitat protection plans, land use plans, flood control plans, and recreation plans.

Water Quality Protection. Water quality protection information presented in this Plan is based on information presented in local water quality plans, storm runoff plans, and Regional Board documents, including:

- the Basin Plan,
- State Board 303(d) impaired water body listings,

- Sanitary Surveys, SWAMP, TMDLs, investigations, monitoring, and assessments performed by Stormwater Copermittees, and
- watershed-based planning and investigations conducted by governmental and non-government-based watershed groups.

Habitat/Species Protection. Information presented in this Plan relating to habitat and ecosystems is based on existing local habitat protection plans, endangered species plans, conservation plans, and watershed plans that provide the basis for framing regional habitat protection issues, needs, and potential solutions.

Water Supply. Water supply data and information within this Plan is based on the Region's local water supply plans. Water supply plans developed by the Water Authority (e.g. *Updated 2005 Urban Water Management Plan*, ESP, CIP) provide the basis for IRWM planning of regional water supplies and demands, and infrastructure planning for the Region's backbone imported water delivery system. Water plans and Capital Improvements Plans/Projects developed by member agencies form the basis for subregional water infrastructure planning. Wastewater and recycled water facilities and planning within this IRWM Plan are based on wastewater, recycled water, and Capital Improvements Plans/Projects developed by regional wastewater agencies. Project plans summarized in the Water Authority's *Groundwater Report* (Water Authority, 1997) are combined with agency plans to form the basis for groundwater quality and groundwater supply planning within this IRWM Plan.

Land Use. Plans and information developed by the County, SANDAG, and the Region's 18 municipalities formed the basis for land use data and planning information presented in this Plan.

Flood Control. Plans developed by the County Flood Management District (along with the County's flood control CIP) formed the basis for flood control planning within this IRWM.

Project Information and Costs. Estimated costs and project implementation information presented within this Plan (see Section G.4) were derived from costs to a common basis, so costs for all projects presented herein should be considered preliminary planning estimates. Project costs will be subject to refinement and adjustment in future plan updates and in future grant funding applications.

Project information on benefits, impacts, technical feasibility, and schedules were also provided by project proponents. Additional analysis of submitted project information will be

required as part of future funding prioritization efforts to (1) confirm the submitted project information, and (2) to ensure consistency in the methods used to develop the project information.

Determination of Data Needs. While a significant amount of water management data were available on which to base this Plan, data gaps and needs were identified as part of developing this Plan. Section J identifies data gaps and how data needs were determined. Categories of data gaps identified to date (see Section J.3) include the following:
existing regional planning documents and information provided by project proponents.

In presenting estimated project costs, it is recognized that differences exist among the cost estimating, planning, and CIP procedures of individual agencies and project proponents. Additionally, cost estimates for planned and designed projects are considered firmer than costs presented for concept-level projects. This IRWM Plan does not attempt to adjust project

Pollutants and Sources

- Characterization of Nonpoint Sources
- Characterization of Agricultural Runoff and Sources
- Characterization of Pathogen Impacts and Loading
- Evaluation of Source Load Reductions

Receiving Water Monitoring

- Representative Watershed Sampling
- Streamflow Monitoring
- Groundwater Monitoring
- Monitoring Constituents

Habitat and Natural Resources Monitoring

Monitoring and Assessment Approaches

I.2 Methods to Evaluate Project and Plan Performance

As presented in Section G, attaining the short-term and long-term goals of this Plan will involve implementing priority projects, developing and implementing programs (series of actions or projects directed toward achieving performance measures and a common goal), and assessing Plan performance. Each project and program in the Plan has been selected through the IRWM Plan prioritization process described in Section F and meets project specific goals while maximizing IRWM goals and objectives. Projects for funding packages will be

selected using a funding application prioritization process (that, as discussed in Section F, is separate from the IRWM prioritization process presented herein). The project funding prioritization will be performed by the Region's long-term IRWM institutional structure in accordance with criteria that will be developed to ensure that selected projects contribute to achieving designated targets for implementing IRWM Plan objectives.

Until a long-term institutional structure has been formed and the long-term oversight of projects and the plan determined, the RWMG (with direction from the RAC) will be responsible for:

- managing project data and information for compliance with state funding requirements,
- evaluating project and program performance in achieving performance measures, and
- evaluating plan performance in accomplishing short and long-term priorities, and achieving goals and objectives.

Project Performance. A member agency of the RWMG will be delegated as a "Responsible Agency" for each project or program being implemented in the IRWM Plan. The Responsible Agency will be responsible for overseeing project implementation, providing ongoing assessment of project performance, and overseeing conformance with grant funding requirements.

Each project proponent will be responsible for implementing the project as well as project-specific monitoring strategies. Project proponents will be responsible for collecting project information, including project implementation status, throughout implementation. Projects that are included in the Plan but not grant-funded will be encouraged to follow a similar monitoring and reporting plan.

Project proponents will provide quarterly reports to the Responsible Agency describing project progress, performance with respect to stated performance metrics and include project deliverables and invoices. The metrics to be used in measuring implementation performance for each identified project are presented in Table I-1 (page I-5 through I-10). These metrics are intended to serve as measurable benchmarks for establishing success of projects following implementation. As projects become further developed, these metrics may evolve to better capture the performance of projects with respect to meeting project objectives.

The Responsible Agency will prepare an annual report summarizing the progress of each individual project and evaluate the projects to determine their progress towards achieving the anticipated outcomes defined by project performance metrics. The annual reports will be distributed to the public through the Region's IRWM Plan website, newsletters and e-mails.

Table I-1
Project Performance Measures

Project Name	Performance Metrics
51st St. Headwater Canyon Restoration Project	• Acres of wetland habitat restored • Quantity of invasive species removed • Number of individuals educated
Acquiring Willow Glen Farm	• Acres of open space lands permanently protected • Acres restored • Quantity of invasive species removed
Campo Creek Erosion, Habitat and Groundwater Recharge Improvement.	• Linear feet of streambed restored • Linear feet of stream bank stabilized
Campo Creek Watershed Groundwater Management Plan	• Development of Groundwater management plan
Capture and Reuse Storm Water Runoff from Visitor Parking Lot project	• Quantity of Stormwater captured • Water demand
Carlsbad Desalination Project Local Conveyance	• Miles of pipeline constructed
Central San Diego Formation Groundwater Desalination Demonstration Project	• Quantity of groundwater supply recovered (produced)
Chollas Creek Watershed Opportunities Assessment	• Development of Chollas Creek Watershed Opportunities Assessment
City of San Diego Green Mall Porous Paving and Infiltration, Phase 1	• Quality of Stormwater runoff • Square feet of impervious surface converted to porous surface • Reduction of Stormwater runoff • Number of individuals educated
City of San Diego Green Street Porous Paving and Infiltration, Phase 1	• Quality of Stormwater runoff • Square feet of impervious surface converted to porous surface • Reduction of Stormwater runoff • Number of individuals educated
City of San Diego Municipal Rooftop Rain Harvesting, Phase 1	• Quantity of water captured in rain barrels • Water demand savings
City of San Diego Parklands Recycled Water Retrofit Program and Distribution System	• Linear feet of infrastructure rehabilitated • Quantity of non-potable water distributed

Table I-1
Project Performance Measures

Project Name	Performance Metrics
City of San Diego Reservoir Sediment Removal and Storage Recovery Project	• Quantity of water storage restored
City of San Diego Recycled Water Infill Projects	• Linear feet of infrastructure rehabilitated • Quantity of non-potable water distributed
City of San Diego Watershed Based Street Sweeping Program – Phase 1	• Quantity of debris collected • Number of individuals educated
Conservation in the Campo Valley	• Acres of open space lands permanently protected
County of San Diego Chollas Creek Runoff Reduction and Groundwater Recharge Project	• Quality of on-site Stormwater runoff • Reduction of Stormwater runoff • Square feet of impervious surface converted to porous surface • Number of individuals educated
Dulzura Creek Source Water Protection through Property Acquisition and Habitat Restoration	• Acres of open space lands permanently protected • Development of drainage management plan • Non-native species distribution • Acres of invasive species removed
East Riparian Corridor project	• Quantity of water stored • Linear feet of channel lined • Acres of wetland developed • Quality of water from wetland treatment • Number of individuals educated
Educational Demonstration Wetland Project	• Quality of water from wetland treatment • Number of individuals educated • Acres of wetland developed
El Capitan Reservoir Hypolimnetic Oxygenation System for Water Quality Improvement	• Depth of anoxic zone • Increased dissolved oxygen concentrations in the reservoir • Reduced hydrogen sulfide concentrations at the raw water intake • Reduced manganese concentrations at the raw water intake • Number of taste and odor complaints • Reduction in frequency of algal blooms • Increased biological activity • Reduction in demand for Colorado River water
El Capitan Reservoir Watershed Acquisition Program	• Acres of open space lands permanently protected
El Monte Groundwater Recharge and Restoration Project – Phases 1 and 2	• Quantity of groundwater supply produced • Quantity of seasonal storage developed • Acres of native habitat restored
Green – San Dieguito	• Acres of open space lands permanently protected
Groundwater and Salt Management Program	• Quantity of groundwater demineralized • Quality of groundwater demineralized • Linear feet of pipeline installed • Amount of salt removed

Table I-1
Project Performance Measures

Project Name	Performance Metrics
Hodges Reservoir Water Quality Improvements Implementation Projects	• Improvements in water quality • Quantity of runoff reduced • Linear feet of wetland created
Hodges Reservoir Water Quality Improvement Plan	• Development of Water Quality Improvement Plan
Implementation of Agricultural Efficiency Programs	• Number of irrigation audits performed • Assessment of agriculture, by crop and water requirement • Improved efficiency of water use
Implementation of Integrated Landscape Program	• Development of web driven water budget software program and satellite imagery based landscape measurement tool • Number of sites enrolled in a water budget • Number of sites audited/home surveys conducted • Number of grants/incentives provided • Amount of water saved • Development of Landscape Ordinance for New Commercial Developments • Development of Plan for Landscape Certification and Training Program • Number of individuals educated • Development of a public outreach and marketing plan • Change in public attitudes towards water use
Implementing Improvements to the Rose Creek Watershed: Controlling Invasive Exotic Species	• Acres restored • Quantity of invasive species removed • Number of members of community participating • Increase in public safety
Implementing Improvements to the Rose Creek Watershed: Enhancing the Connection of Rose Creek to Mission Bay	• Development of Mission Bay Tidal Study • Development of three wetland designs • Number of people involved in water quality improvement
Integrated Commercial/Industrial/Institutional and Residential Indoor Conservation Programs.	• Number of audits conducted • Number of vouchers utilized • Number of customers enrolled in a water efficiency incentive program • Amount of water saved
Joint Water Agency Natural Community Conservation Plan/ Habitat Conservation Plan (JWA NCCP/HCP): Initial Implementation	• Development of Natural Community Conservation Plan/ Habitat Conservation Plan • Acres of conservation easements preserved
La Jolla Shores Ocean Protection Project	• Water Demand • Reduction of over-irrigation runoff • Quality of runoff • Number of individuals educated • Square feet of impervious surface converted to porous surface
Las Californias Binational Conservation Initiative: A Vision for Habitat Conservation and Watershed Protection	• Acres of open space lands permanently protected
Los Peñasquitos Habitat Diversification Project	• Acres feet of lagoon channels restored
Los Peñasquitos Lagoon Enhancement Plan and Program Update and Implementation.	• Development of updated lagoon enhancement plan • Development of updated maps

Table I-1
Project Performance Measures

Project Name	Performance Metrics
Los Peñasquitos Pollutant Monitoring Project	• Urban runoff quality • Assessment of runoff sources
Los Peñasquitos Watershed Sediment Transport Analysis and Monitoring Project.	• Quantity of sediment removed from Los Peñasquitos Creek
Mission Valley Brackish Groundwater Desalination Pilot Project	• Quantity of brackish groundwater recovered
Mountain Empire Watershed Preservation Program – "Pollution Prevention Education"	• Number of individuals educated • Development of water education program to protect groundwater
North City Recycled Water Distribution Expansion – Phase II	• Linear feet of infrastructure rehabilitated • Quantity of non-potable water distributed
Northern San Diego County Invasive Non-Native Species Control Program	• Acres restored • Non-native species distribution • Number of native plants planted
Over-Irrigation Runoff/Bacteria Reduction Project	• Amount of water saved • Reduction of over-irrigation runoff • Number of individuals educated • Quality of runoff
Preserve Wright's Field	• Acres of open space lands permanently protected
Preserving the Peutz Valley Watershed	• Acres of open space lands permanently protected
Ramona Grasslands	• Acres of open space lands permanently protected
Recycled Water and Groundwater Storage Facility Project	• Quantity of recycled water produced
Recycled Water Retrofit Assistance Program	• Number of retrofits funded • Increased recycled water use • Reduction of imported water demand
Recycled Water System Improvements	• Quantity of recycled water produced • Quantity of recycled water marketed
Rutherford Ranch West acquisition of 1,689 acres on Volcan Mountain	• Acres of open space lands permanently protected
Sage Hills Open Space Acquisition	• Acres of open space lands permanently protected
San Diego County Rural Community Watershed Councils (primarily targeting inland areas not served by CWA/MWD infrastructure)	• Number of Community Watershed Councils • Number of individuals educated • Development of data depository for rural groundwater quality and use
San Diego National Wildlife Refuge - Otay Unit Land & Crestridge Linkage Acquisition	• Acres of open space lands permanently protected
San Diego Region Four Reservoir Intertie Project Feasibility Study	• Flow rate/ capacity through Intertie • Quantity of water storage realized

Table I-1
Project Performance Measures

Project Name	Performance Metrics
San Diego Regional Water Quality Assessment and Outreach Project	• Number of streams monitored • Number of individuals involved in monitoring • Extent and quality of new data populated in two web-based, publicly accessible data portals. • Number of workshops to present data sharing • Number of individuals educated
San Diego River Watershed Coordinator	•
San Diego Water Department Cornerstone Lands Management and Source Water Protection	• Development of maps, resource inventory and database • Linear feet of fencing installed • Acres of invasive species removed • Non-native species distribution • Number of individuals educated
San Dieguito Watershed Council Staffing	• Hiring and payment of staff person for a three-year period
San Pasqual Basin Brackish Groundwater Desalination Full-Scale Project – Planning and Design	• Quantity of groundwater recovered (produced)
San Pasqual Basin Conjunctive Use (Storage and Recovery) Full-Scale Project – Planning and Design	• Number of acre-feet of seasonal storage developed
San Vicente Reservoir Hypolimnetic Oxygenation System for Water Quality Improvement Project	• Depth of anoxic zone • Increased dissolved oxygen concentrations in the reservoir • Reduced hydrogen sulfide concentrations at the raw water intake • Reduced manganese concentrations in the raw water intake • Number of taste and odor complaints • Frequency of algal blooms • Increased biological activity • Increased use of local supply
San Vicente Reservoir Source Water Protection through Watershed Property Acquisition	• Number of acres acquired
Santa Margarita Conjunctive Use Program	• Assessment of a range of actions to evaluate, address and reduce water quality impacts • Number of water quality sampling events • Development of watershed management priorities
Santee Water Reclamation Facility Expansion	• Quantity of recycled water produced • Quantity of effluent diverted from ocean outfall
South San Diego County Water Supply Strategy	• Number of wells developed • Quality of groundwater • Development of groundwater model
Sweetwater River Watershed Management Plan	• Development of a comprehensive watershed management plan
Tertiary Wastewater Treatment Upgrade	• Development of design and engineering report • Quantity of recycled water used for irrigation
Tijuana River Valley Invasive Plant Control Program – Phase IV	• Number of acres of invasive plants removed

Table I-1
Project Performance Measures

Project Name	Performance Metrics
Valley Well Improvement Project	• Quantity of groundwater pumping capacity
Water Brooms for Schools and Fast Food Restaurants	• Number of brooms distributed • Quantity of water saved • Number of individuals educated
West Riparian Corridor project	• Quantity of water stored • Linear feet of channel lined • Acres of wetland developed • Quality of water from wetland treatment • Number of individuals educated
Wetland Expansion Science & Technology Against Runoff (WESTAR II)	• Linear feet of in-stream habitat restored • Quantity of invasive species removed • Quality of creek water • Number of individuals educated

Program Performance. Programs consist of a group of projects that collectively address a specific need identified in the Plan. Each program will develop an assessment and evaluation plan that would identify performance measures based on individual project metrics, monitoring strategies and anticipated outcomes to directly address the plan targets. Program leads will also be responsible for tracking outcomes that are not directly related to the plan targets for use in evaluating future planning needs. The Responsible Agency for each program will prepare an annual report summarizing the progress of the program towards meeting the anticipated outcomes. The annual program reports will be distributed to the public through the Region's IRWM Plan website, newsletters and e-mails.

Plan Performance. Plan performance will be assessed annually by the RWMG and RAC. This process will be staggered approximately six months after the project and program annual reports. Assessment will include:

- the cumulative progress of projects and program towards obtaining individual plan targets (Figure I-1 on page I-11),
- a summary of progress on the short-term priority plans identified in Section G, and
- the overall progress of the long-term priorities identified in Section F.

A Plan Progress Report will be prepared for public distribution through the IRWM Plan website, newsletters and e-mails.

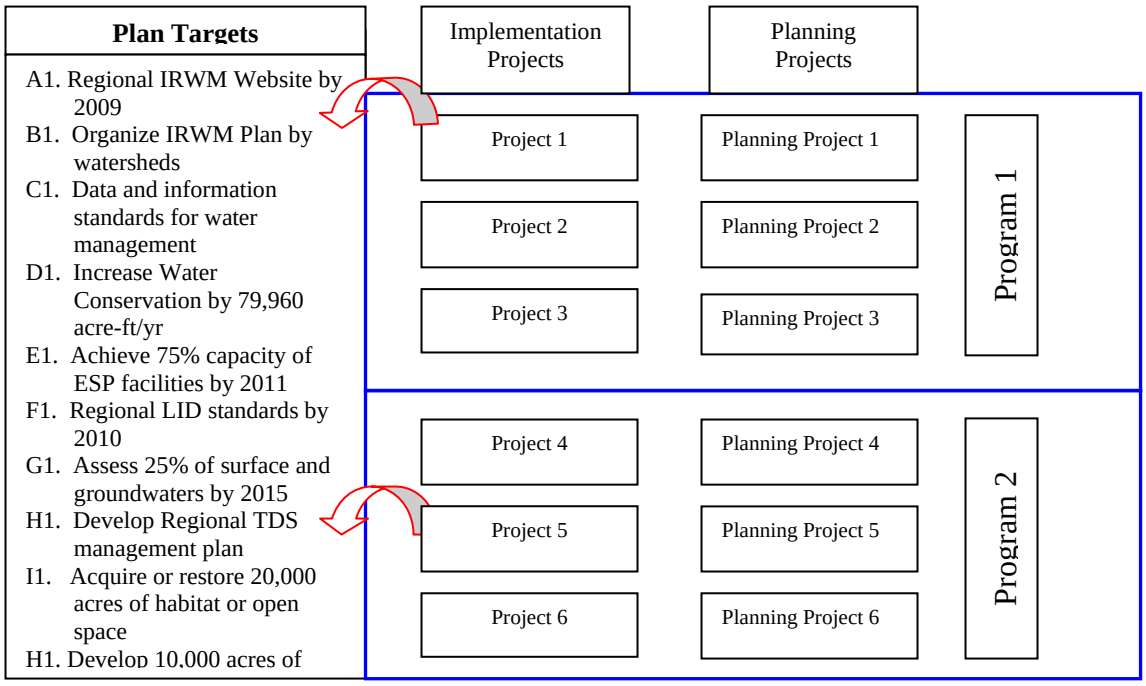

Figure I-1 Structure for Assessing Plan Performance

A Plan Progress Report will be prepared for public distribution through the IRWM Plan website, newsletters and e-mails.

Table I-2 (page I-12 through I-14) presents designated Plan objectives, targets established for measuring progress in achieving the objectives, and parameters for measuring their success. The IRWM management organization will develop thresholds of success for the parameters shown in Table I-2 as part of an adaptive management process.

Table I-2
IRWM Plan Objectives, Measurable Targets, and Measurement Parameters

IRWM Plan Objective	Designated Targets for Achieving IRWM Plan Objectives	Parameters for Measuring Success
A. Maximize stakeholder/community involvement and stewardship	• Develop by 2009 a regional IRWM website to provide centralized public access to water management data and information. • Develop by 2008 and implement by 2010 regional approaches to water management education. • Conduct water management outreach and solicit input from 2% of Region's population each year, including underserved and disadvantaged communities. • Provide "hands-on" stewardship opportunities in the Region's watersheds to 1% of Region's population each year, including underserved and disadvantaged communities.	• Number of stakeholder meetings • Number of outreach efforts to disadvantaged communities • Number of stakeholders engaged in IRWM Plan development and implementation • Number of user hits on Project Clean Water website
B. Effectively obtain, manage, and assess water resources data and information	• Develop standards for the integration and assessment of water management data and information by 2010. • Provide centralized public access to key water management data sets by 2010.	• Development of web-based, GIS-compatible data management system • Development of data standards • Number of Newsletters distributed
C. Further scientific and technical foundation of water quality management	• By 2010, develop an agreed-upon system and metrics for tracking the progress of Basin plan validation efforts through coordination with Regional Board staff. • Conduct water quality assessment for beneficial use attainment within 75 percent of surface waters by 2015. • Assess and validate Basin Plan beneficial uses and water quality objectives for the Region's watersheds by 2017. • By 2013, develop an agreed-upon system and metrics for tracking groundwater assessment information. • By 2015, develop an agreed-upon system and metrics for evaluating ocean water quality and marine habitat.	• Amount of surface water and groundwater assessed • Amount of basin plan beneficial uses assessed and validated • Progress towards developing a TDS management plan

Table I-2 is continued on the following page

Table I-2
IRWM Plan Objectives, Measurable Targets, and Measurement Parameters

IRWM Plan Objective	Designated Targets for Achieving IRWM Plan Objectives	Parameters for Measuring Success
D. Develop and maintain a diverse mix of water resources	• 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. • Increase seawater desalination capability within the region from zero AFY to 34,690 AFY by 2015 • Increase recycled water use from about 14,830 AFY in 2006 to 33,670 AFY by 2010 and 47,580 AFY by 2030. • 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. • Implement Colorado River conservation and transfer programs, increasing deliveries from 35,000 AFY in 2006 to 277,700 AFY by 2030. • Include an analysis in the Water Authority 2010 Urban Water Management Plan that assesses the effect of climate change on future water supplies. • Develop and implement regional drinking water source protection guidelines for the Region by 2012. • Meet groundwater supply and water quality objectives identified in the County's General Plan 2020 for groundwater-dependent communities by 2012.	• Increase in AFY of water conserved • Increase in AFY of groundwater supplies developed • Increase in AFY of seawater desalination implemented • Increase in AFY of recycled water used • Increase in AFY amount transferred from Colorado River • Implement an assessment of climate change on future water supplies • Number of low-flow plumbing fixtures/equipment installed • Number of acres of irrigation-efficient systems installed • Reduction in peak summer water demands • Increase in amount of regional water storage capacity • Increase in water treatment capacity • Reduction in imported water purchases • Increase in AFY of brackish groundwater reclaimed
E. Construct and maintain a reliable water infrastructure system	• Develop facilities and manage supplies to ensure adequate emergency and carry-over deliveries. • Increase local treatment of imported and local surface waters from 597 mgd to 860 mgd in 2010 and 920 mgd in 2030. • Develop the conveyance facilities necessary to deliver a reliable supply and assure adequate resources to maintain existing conveyance systems. • Develop the infrastructure needed to support the targets identified for developing recycled water, desalination, and groundwater supplies.	• Increase in amount of regional water storage capacity • Increase in regional water treatment capacity • Increase capacities of conveyance facilities
F. Reduce the negative effects on waterways and watershed health caused by hydromodification and flooding.	• Develop and implement regional standards for Low Impact Development (LID) practices by 2010. • Develop and implement regional approaches to hydromodification management by 2010. • By 2010, implement a system to track rates of change in area of impervious surfaces regionally.	• Reduce volume runoff from land development • Reduce impacts to natural watershed hydrologic processes • Reduce peak flood flows • Reduce loss of life or flood-related property damage

Table I-2
IRWM Plan Objectives, Measurable Targets, and Measurement Parameters

IRWM Plan Objective	Designated Targets for Achieving IRWM Plan Objectives	Parameters for Measuring Success
G. Effectively reduce sources of pollutants and environmental stressors.	• Implement Total Maximum Daily Loads (TMDLs) according to established schedules. • 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. • Develop by 2012 a regional management plan for Total Dissolved Solids (TDS). • Develop and implement comprehensive source management strategies to address regionally-significant constituents (e.g., pathogens, nutrients, sediments). • 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. • Reduce the volume of sanitary sewer overflows per mile of collection system.	• Reduce number of 303(d) listings • Number of TMDLs supported (or completed) • Reduce number of beach/lagoon/stream closures • Reduce concentrations of pollutants in receiving waters • Reduce mass emissions of pollutants in receiving waters • Reduce number and volume of sewer spills • Number of stormwater treatment facilities installed • Reduce volume of trash/litter deposited • Number of stormwater diversions implemented
H. Protect, restore and maintain habitat and open space.	• 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. • 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. • Remove and control a minimum of 1,000 acres of non-native invasive plants by 2012. • Monitor, manage, control, and prevent establishment of nuisance aquatic species in the Region.	• Amount of acres of acquired or restored • Amount of acres of riparian habitat acquired or restored • Amount of acres of invasive species removed • Number of wildlife corridor linkages implemented
I. Optimize water-based recreational opportunities	• Develop 200 acres of water-based recreational open space that focuses on underserved areas and ensures equal access for disadvantaged communities. • 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.	• Number of acres of water-based recreational open space created • Number of recreational site access improvements implemented • Reduction in number of beach/lagoon/stream closures • Number of new recreational sites improved or implemented

I.3 Adaptive Management

The IRWM Plan represents a continually evolving document. As the short-term priorities are implemented and new challenges present themselves, the Plan goals and objectives will evolve. The ability of projects to address these goals and objectives will need to change.

A set of metrics has been established to measure the performance of projects, to measure the overall performance of the Plan, and to facilitate future adjustments to objectives, planning targets, or project priorities, Metrics at the plan level were developed based on the Plan objectives. At the project level, metrics were developed to measure individual project performance based on established goals of each project. Monitoring at both levels are planned to collect performance-related data that will be analyzed and compared to established metrics. Performance data will provide feedback into an adaptive management process that will be used to modify both project composition and priorities and the Plan based on actual results.

The first level of performance-related adaptation will be at the project level. Agencies responsible for implementing projects have a vested interest in adjusting project operations for maximum benefit and also have familiarity with the technical aspects of the project. Documents that have been identified as the basis for scientific and technical merit for a project will be used to guide the response. Also sponsors of similar projects will be consulted. If certain projects do not perform as expected, then an alternate project may be designated to replace the underperforming project, if the costs are not prohibitive. Alternatively, if some projects exceed expectations or capacity, then investigation should be made to see if the project could be expanded. For instance, with stormwater capture projects it may be discovered that pollutant loading is higher than expected or the amount of water exceeds the design capture volume of a BMP. In this case, an additional or expanded BMP could be employed to take maximum advantage of the higher volumes. Another response to performance data may be the realization that certain assumptions used to design and/or locate the project were incorrect. As an example, TMDL implementation plans often use land use assumptions for initial BMP prioritization and placement. Once BMPs are in place, the data gained on the ground can be used to refine site selection.

At the plan level, if the planning targets are not being met, then the particular program would need to be analyzed to determine if a more optimal mix of project types and/or water

management strategies would offer improved results. Alternatively, the planning target may be adjusted if changed conditions or other factors warrant modification of the target.

If both project and plan level responses do not lead to satisfactory results, then a change in institutional structure may be appropriate. This could involve identifying and bringing on board missing players whose participation would improve success. Changes to the stakeholder process could be explored to bring new ideas. Finally, a change in governance structure or decision making process could be considered to bring a fresh approach.

Section I References

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