



## Stakeholder Reference Guide

(Revised October 2006)

The following pages represent a revised draft of the vision, goals, and objectives for an Integrated Regional Water Management (IRWM) Plan for the San Diego Region. Revisions to the working draft were made on the basis of comments received by the Regional Water Management Group at the IRWM Plan Stakeholder Meetings held on August 28<sup>th</sup>, 29<sup>th</sup>, and 30<sup>th</sup>, 2006.

Stakeholders will have additional opportunities to comment on all aspects of these guiding principles and contribute towards the final IRWM Plan expected to be adopted in late Spring/Summer of 2007. Updates will be posted on the Project Clean Water website (<http://www.projectcleanwater.org/html/sdirwm.html>).

### 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

### 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

### IRWM Plan Regional Objectives:

The eleven draft regional objectives are described below.



## Regional Objective #1

### **Develop and maintain a diverse mix of water resources**

**Background:** The San Diego Region's 3 million residents rely on a safe, reliable water supply to support quality of life and a \$150 billion economy. By the year 2030, the population is projected to increase to 3.7 million residents. To address the existing and increasing demand for water, the region continues to diversify its mix of water resources based on water supply conditions that are unique to the San Diego Region.

Diversification began following a six-year drought beginning in 1987 and 31 percent cutbacks in imported water supplies to the region. Water agencies began implementation of local water recycling, groundwater, and conservation programs throughout the region. With the implementation of the Quantification Settlement Agreement and the Imperial Irrigation District water conservation and transfer agreement in 2003, the San Diego Region began to significantly diversify its water resources.

Diversification of the San Diego Region's water resources continues in order to meet the local supply and conservation goals identified in 2005 Urban Water Management Plans of the various water agencies in the region and the County's General Plan 2020, to continue to reduce dependence on imported water supplies, and to avoid shortages during extended drought periods. The diverse mix of water resources being developed includes water transfers, recycled water, desalination (seawater and groundwater), local surface water, groundwater, and conserved water.



## Regional Objective #2

### **Construct, operate, and maintain a reliable water infrastructure system**

**Background:** To be reliable, the San Diego Region's water infrastructure system must be able to meet the daily needs of its customers, both in terms of supply and infrastructure system reliability. The objective of water infrastructure system reliability is accomplished by meeting demands for treated and untreated water, being consistent with the future mix of resources, and providing flexibility in system operations.

The construction of water infrastructure capital projects is necessary to create the infrastructure to transport, treat, and store the water that is needed to serve the region on a daily basis. Examples of the region's major projects designed to ensure water infrastructure reliability include construction of a 100 million-gallons-per-day regional water treatment plant to address the growing demand for additional treated water supplies in the region, especially during hot days. Another example is the Emergency Storage Project (ESP). The ESP is a \$939 million system of reservoirs, pipelines, pump stations, and other facilities that are designed to work together to store and move water around the county in case of a catastrophic interruption of the region's imported water supply. It is through the construction and maintenance of these and similar water infrastructure system projects that reliability can be achieved.



## Regional Objective #3

### **Minimize the negative effects on waterways caused by hydromodification and flooding**

**Background:** Hydromodification refers to increases in runoff discharge rates and durations. Such increased rates and durations (volumes, velocity, peak flows) can cause increased erosion of stream beds and banks, sediment pollutant generation, and other impacts to beneficial uses and habitat. These impacts can result in changes in the physical characteristics of river or stream channels. Managers should promote development and best management practices that minimize these negative effects on natural stream systems.

Hydromodification results from three main activities:

- (1) increased impervious surfaces
- (2) channel modification, and
- (3) dams

Runoff from impervious surfaces intensifies the effects of erosion and can cause a variety of problems including water quality impairments, changes in flow, sediment pollution, channelization, altered water temperatures, degradation of aquatic habitat, and flooding. Channel modification may increase the likelihood of damages due to an altered natural drainage system. Flooding impacts can further compound these impacts, as well as resulting in damage to or loss of property and life.



## Regional Objective #4

### **Support attainment of the beneficial uses of the Region's waters**

**Background:** Beneficial uses are the ways that water is used by humans and wildlife. These include water contact recreation, non-water contact recreation, municipal water supply, warm fresh water habitat, and more. Protecting and enhancing the quality of water supplies and natural waterways is necessary to maintain and promote beneficial uses. Every body of water in the region supports a set of beneficial uses, each potentially requiring a different water quality control strategy and a different set of water quality objectives to protect it. The Water Quality Control Plan for the San Diego Basin (Basin Plan) provides a blueprint for water quality management and control in the San Diego Region by:

- (1) designating beneficial uses of the region's surface and ground waters;
- (2) designating water quality objectives for the reasonable protection of these uses; and
- (3) establishing an implementation plan to achieve the objectives.

Section 303(d) of the federal Clean Water Act additionally requires states to identify waters that do not meet water quality standards. This list is known as the Section 303(d) list of impaired waters. As part of this listing process, states are required to prioritize waters / watersheds for future development of Total Maximum Daily Loads (TMDLs). A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. It is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources.



## Regional Objective #5

### **Effectively manage sources of pollutants and stressors**

**Background:** Management of pollutants and stressors to maintain or improve water quality is generally achieved through the application of point source control, stormwater Best Management Practices (BMPs), management measures such as land-use planning and conservation, and reservoir management. Existing regulatory programs require or promote control practices to address a broad array of point sources (e.g., municipal stormwater runoff, sewage overflows, and abandoned wells) and non-point sources (e.g., agriculture, forestry). In many cases, the impacts and relative importance of these sources are well understood. More often, management approaches follow established regulatory mandates rather than locally obtained data and information. For example, the regional municipal stormwater permit sets out twenty-two categories of mandated high priority commercial sources. Yet little data exist to establish the relationship of many of these sources to identified water quality problems. Conversely, although exceedances of nitrate water quality standards are common, key suspected sources (e.g., agriculture, fertilizers, and septic systems) are often not emphasized in current management approaches.

The selection and application of BMPs and other management measures (e.g., land use planning, water conservation) may also warrant additional review. For instance, BMPs are often selected based on an “industry standard” for a practice, source, or activity type rather than a detailed understanding of their threat to water quality. In addition, the benefits of many water management strategies are only considered within the context of individual, focused programs. In reality, many practices have benefits across multiple programs. For example, water conservation provides benefits for managing urban runoff quality, meeting water supply needs, and sustaining habitat.

Source management strategies also often suffer from a lack of long-term focus. Alternative approaches such as Low Impact Design (LID), smart growth, and sustainable development could preclude the need for reactive solutions in the future.

Raw water reservoir management is also critical in addressing pollutants and stressors once they reach the reservoir. Proper lake management and operations can reduce impacts from stressors such as nutrient loading, low dissolved oxygen and high iron, and manganese and sulfur concentrations, resulting in improvements in aquatic life, reduced treatment costs, and improvements in the quality of water delivered to customers.



## Regional Objective #6

### **Restore and maintain habitat and open space**

**Background:** Management and acquisition of land to preserve open space areas and limit activities that negatively affect water quality improves the viability of endangered, threatened, and key sensitive species and their habitats. The creation of interconnected wildlife corridors, invasive species management, and water pollution prevention activities also will help to maintain and enhance native biological diversity. Natural habitat and open space areas provide for improved quality of life by maintaining the area's scenic beauty and recreational opportunities. Given the status of the region as one of the most biologically diverse landscapes in the U.S., a unique opportunity exists to realize the economic benefits that arise from tourism.

Open space planning involves numerous agencies and organizations such as Multiple Species/Habitat Conservation Programs, Parks and Recreation programs, various jurisdictions, wildlife agencies, and a variety of non-governmental organizations (e.g., The Nature Conservancy, Southern California Wetlands Recovery Project, San Diego River Coalition). These groups work both independently and cooperatively toward a number of specific ends such as acquiring and managing land, providing flight and migration corridors for wildlife, creating connected blocks of preserves, removing invasive species, and educating and involving the public.



## Regional Objective #7

### **Promote economic, social, and environmental sustainability**

**Background:** Substantial investment in our region’s water management activities is necessary to support a vital economy, a healthy environment, and a reliable water supply. For all of these efforts, reliable and stable funding sources are required, and available funds must be spent wisely.

Equally important are public support and participation. The San Diego Region is comprised of very diverse social and economic populations, and they all must be included in water management decisions. While community participation by non-profit organizations and environmental groups is traditionally strong in the region, additional outreach efforts must be made to reach disadvantaged communities and vulnerable populations.

## Regional Objective #8

### **Optimize recreational opportunities**

**Background:** High quality parks and recreational experiences enhance the quality of life in the San Diego Region. Water-related recreation is a recognized beneficial use of the region’s waterways, and recreational uses can also promote environmental stewardship and an appreciation for natural resources. However, the demand for recreational use of the region’s waterways must be balanced with the need to sustain other beneficial uses, such as the need to protect water quality in drinking water reservoirs. Polluted runoff can degrade water quality, resulting in increased health risks to users or closure of waterways to recreational use.

Water-related recreation includes activities such as swimming, fishing, boating, other water sports, nature study (e.g., bird watching), and picnicking and hiking along waterways. The region’s ocean beaches and bays are renowned recreational areas; these waters serve millions of visitors each year. Inland surface waters are relatively scarce – all the region’s “lakes” are man-made water supply reservoirs, while most streams are ephemeral or seasonal. A large population and a warm and sunny climate lead to high demand for recreational use of these waterways. Water-related recreation fosters tourism and generates other economic activity.



## Regional Objective #9

### **Maximize stakeholder / community involvement and stewardship**

**Background:** Public education and involvement promotes the identification and understanding of the interconnectiveness of water quality, water supply, and natural resource problems, and encourages individual and community ownership of these problems and their solutions.

Additionally, stakeholder involvement allows for a clear understanding of public perceptions and desires, which is needed to ensure that stakeholder interests and concerns are addressed and that stakeholders are part of the solution. For example, understanding varying public perceptions of the application of water reuse can assist in determining its viability as a water management strategy.

Ultimately, long-term success must be built on a solid foundation of public involvement and activism. Coordinated efforts can help to identify new ways of engaging the community, foster consistency between messages, and promote innovative approaches to water management.

## Regional Objective #10

### **Promote integrated or regional approaches to regulatory compliance**

**Background:** Numerous existing laws and regulations have been established to address water supply, water quality, and natural resources. Examples include the federal Clean Water Act, the Endangered Species Act, Federal and State Drinking Water regulations, the Porter-Cologne Water Quality Control Act, the California Environmental Quality Act, and Federal Emergency Management Agency flood plain regulations.

Water management efforts for the region must be conducted within the overall framework established through these laws and regulations. Coordination with regulatory agencies can reduce or resolve any conflicting requirements. Existing regulations and programs should also be reviewed as needed to ensure that they support the broader goals and objectives of integrated regional management. Changes in identified discrepancies should be pursued.



## Regional Objective #11

### **Effectively obtain, manage, and assess water resource data and information**

**Background:** Data and information are the backbone of effective water management. Water supply, water quality, and environmental resource management each entail the generation or acquisition of a multitude of data and information during their respective program planning, implementation, monitoring, and assessment phases. Increased and expanded sharing, integration, and comprehensive analysis of water resource and water quality data provide a basis for improved water resources management.

Strategies for acquiring and analyzing monitoring and research data have traditionally been determined by the specific mandates of the agencies and organizations conducting the work. Typical water quality data include analytical results for priority constituents such as bacteria, nutrients, metals, and total dissolved solids (TDS). For water suppliers, priorities for raw surface water supplies data include iron, manganese, sulfides, algae, total organic carbon (TOC), and taste and odor compounds, as well as monitoring results for constituents under Title 22 requirements.

Recently, steps have been taken to increase integration of monitoring data and information with a focus on comprehensive and integrated analysis. For example, the San Diego Municipal Stormwater Copermittees completed a Watershed Data Assessment Framework in June 2004 to allow a broad-based and comprehensive analysis of various water quality data sets in the region. An important future focus of this project will be further integration and analysis of citizen monitoring data collected through local organizations such as the San Diego Coastkeeper. Coastkeeper works with regulatory agencies, academic institutions, businesses, and non-profit organizations to supplement limited data collection resources.

Other integration efforts have focused on making data and information more readily available to the interested public and other users. The San Diego Bay Watersheds Common Ground Project provides web-based access (<http://www.sdbay.sdsu.edu/>) to water quality monitoring data and user-friendly educational, mapping, and analytical tools. This is an example of how approaches to data integration can also be used to foster public participation and support. Managers recognize the importance of data sharing and public participation as part of an effective data management strategy. Future efforts must also include a broader inter-disciplinary focus on bringing together water quality, water supply, and natural resource data.