

**DRAFT**  
**ANNOTATED OUTLINE**  
**12/4/2006**

**INTEGRATED WATER MANAGEMENT PLAN**  
**SAN DIEGO REGION**

**A. INTRODUCTION AND REGIONAL WATER MANAGEMENT GROUP**

*Summary* – This Integrated Regional Water Management Plan (IRWM Plan) addresses a region that includes all of San Diego County that is tributary to coastal waters. The region is entirely within the jurisdiction of the California Regional Water Quality Control Board, San Diego Region (Regional Board). The IRWM Plan was prepared under the direction of a Regional Water Management Group (RWMG) that consists of representatives from the San Diego County Water Authority (Water Authority), City of San Diego, and County of San Diego. The IRWM Plan builds upon the many individual and sub-regional management plans within San Diego County, and was developed with input from a comprehensive array of water management stakeholders. The IRWM Plan provides a mechanism for stakeholders to work together to overcome potential project implementation constraints and effectively implement water management projects that achieve designated regional water management objectives.

- A.1 Plan Overview
    - Purpose of Plan
    - Existing Planning Environment
    - San Diego Region
    - California Water Plan Update
  - A.2 Regional Water Management Group
    - San Diego County Water Authority
    - City of San Diego
    - County of San Diego
  - A.3 Water Management Challenges
    - Benefits of Regional Approach
  - A.4 Plan Development
    - IRWM Plan Organization
    - Plan Preparation Team
    - Plan Development Process and Stakeholder Input
- Section A References

**B. DESCRIPTION OF REGION**

*Summary* – The region consists of 11 parallel and similar watersheds that discharge to coastal bays, estuaries, and lagoons. The regional boundaries were selected on the basis of watershed boundaries, regulatory jurisdictional boundaries, political boundaries, water service area boundaries, and similar physical and hydrological characteristics. Coastal areas of the region are urbanized, but significant open space exists in upstream areas of the

*region's watersheds. The region is home to numerous endangered species, and Multiple Species Conservation Plans were developed to protect important habitats. Precipitation and streamflows are highly seasonal. Key water quality constituents of concern within the region's 11 watersheds include coliform, sediment, nutrients, salinity, metals, and toxic organic compounds. Imported water supplied by the Water Authority typically comprises more than 80 percent of the region's current water supply. Water conservation, local surface waters, groundwater, and recycled water comprise the remaining supply. The region's water agencies have targeted increasing local supplies as a key element in meeting future regional water demands.*

- B.1 Selection of Regional Boundaries
  - Water Quality Regulation
  - Political Jurisdictions
  - Physical and Hydrologic Similarities
  - Common Imported Water Supply
  - Similarities in Wastewater Management
  - Future IRWM Plan Boundary Considerations
- B.2 Regional Overview
  - Population
  - Land Use
  - Regional Economy
  - Disadvantaged Communities
  - Climate and Precipitation
- B.3 San Diego Region Watersheds
  - Regional Watersheds
  - Beneficial Uses
- B.4 Agency Jurisdictions and Relations
  - Land Use Regulation Agencies
  - Water Supply Agencies
  - Wastewater Agencies
  - Storm Runoff Agencies
  - Flood Control Agencies
  - Environmental Management Organizations
- B.5 Surface Water Resources
  - Streamflow
  - Coastal Waters
  - Surface Water Quality Standards
  - 303(d) Listed Waters
  - Regional Constituents of Concern
- B.6 Groundwater Resources
  - Overview of Aquifers
  - Groundwater Quality Objectives
  - Groundwater Quality Issues
- B.7 Environmental Resources
  - Habitat Resources
  - Vegetation Communities
  - Wildlife and Endangered Species
  - Aquatic, Estuarine and Marine Habitats
  - Invasive Species
- B.8 Recreational Resources
- B.9 Water Supply Infrastructure

- Imported Water System
- Water Supplies
- Regional Water Supply Infrastructure
- Emergency Storage Program
- Wastewater/Recycled Water
- Water Supply Outside Water Authority Service Area
- B.10 Water Demand and Supply Diversification
  - Demand Forecasts
  - Supply Diversification
- Section B References

## C. CHALLENGES AND OBJECTIVES

*Summary – Principal water management challenges within the San Diego Region include: (1) water supply reliability; (2) water quality protection; (3) resource protection and enhancement; and (4) management coordination. A wide variety of plans were developed within the region that involve management of water resources, including the Basin Plan, watershed management plans, urban water management plans, recycled water and groundwater plans, habitat protection plans, land use management plans, recreational plans, and flood control plans. Through an extensive public outreach process, the RWMG and regional stakeholders developed a vision statement and a list of four goals to address the region’s water management challenges. Goals include: (1) develop reliable water supplies; (2) protect and enhance water quality; (3) provide stewardship of our natural resources; and (4) increase coordination and integration of water management planning. The RWMG and regional stakeholders also developed 11 specific IRWM Plan water management objectives for attaining the four IRWM Plan goals.*

- C.1 Water Management Challenges
  - Water Supply Reliability
  - Water Quality Protection
  - Resources Protection and Enhancement
  - Management Coordination
- C.2 Water Management Planning in the San Diego Region
  - Basin Plan
  - Water Supply Plans
  - Land Use Plan
  - Habitat Protection Plans
  - Water Quality/Storm Runoff Plans
  - Flood Control Plans
  - Recreation Plans
  - Watershed Management Plans
  - Watershed Management Regulation
- C.3 RWMG Vision and Goals
  - IRWM Plan Vision
  - IRWM Plan Goals
- C.4 Plan Objectives
- Section C References

## D. WATER MANAGEMENT STRATEGIES

*Summary – The California Water Plan Update 2005, the Water Authority’s 2005 Urban Water Management Plan, and local water management plans developed by San Diego Region agencies and groups identify a number of strategies for achieving water management goals. The plans address a variety of water management categories that include water supply diversification and reliability strategies, environmental and habitat enhancement strategies, water quality improvement strategies, flood control strategies, and recreational strategies. This section builds upon the water management actions proposed in the region’s existing plans to achieve designated regional water management goals and objectives. To this end, the plan incorporates more than 200 water management programs and projects proposed within regional or local plans that address a wide range of water supply, environmental, habitat, water quality, flood control, and recreational strategies.*

### D.1 Categories of Water Management Strategies

- Overview
- Ecosystem Restoration
- Environmental and Habitat Protection and Improvement
- Water Supply Reliability
- Flood Management
- Groundwater Management
- Recreation and Public Access
- Stormwater Capture and Management
- Water Conservation
- Water Quality Protection and Improvement
- Water Recycling
- Wetlands Enhancement
- Invasive Species Control
- Conjunctive Use
- Seawater Desalination
- Groundwater Demineralization
- Imported Water
- Land Use Planning
- Land Conservation/Management
- Non-Point Source Control
- Surface Storage/Reservoir Management
- Watershed Planning
- Water Treatment
- Wastewater Treatment and Disposal
- Water Transfers
- Public Education
- Brine Management

### D.2 San Diego Region Water Management Projects

- Overview
- Pollution Management/Water Quality Enhancement
- Habitat Enhancement and Preservation
- Flood Control
- Recreation and Public Access
- Water Conservation

Potable Water System  
Groundwater  
Recycled Water  
Brine Management

Section D References

## E. INTEGRATION OF STRATEGIES

*Summary – A variety of water management strategies are required to address the diverse water management issues facing the San Diego Region. In recognition of the diverse water management needs within each of the region’s watersheds, a watershed approach is used to integrate water management strategies. Under this approach, proposed projects are identified that address the water management needs within each specific watershed. The projects are assessed on a watershed-by-watershed basis to identify potential project conflicts, common coordination/implementation issues, and conformance with the IRWM Plan objectives. For each watershed, a diverse mix of habitat preservation, water quality protection, flood control, recreation, water conservation, water supply, groundwater, recycled water, and brine management projects are integrated to address both regional and watershed-specific water management challenges.*

- E.1 Watershed Approach to Integrating Projects
- E.2 Region-Wide Projects
  - Proposed Projects
  - Project Conflicts/Coordination
- E.3 Santa Margarita Watershed
  - Summary of Key Issues
  - Proposed Water Management Projects
  - Potential Conflicts/Coordination Needs
  - Compliance with Plan Objectives
- E.4 San Luis Rey Watershed
  - Summary of Key Issues
  - Proposed Water Management Projects
  - Potential Conflicts/Coordination Needs
  - Compliance with Plan Objectives
- E.5 Carlsbad Watershed
  - Summary of Key Issues
  - Proposed Water Management Projects
  - Potential Conflicts/Coordination Needs
  - Compliance with Plan Objectives
- E.6 San Dieguito Watershed
  - Summary of Key Issues
  - Proposed Water Management Projects
  - Potential Conflicts/Coordination Needs
  - Compliance with Plan Objectives
- E.7 Penasquitos Watershed
  - Summary of Key Issues
  - Proposed Water Management Projects
  - Potential Conflicts/Coordination Needs
  - Compliance with Plan Objectives

- E.8 San Diego River Watershed
  - Summary of Key Issues
  - Proposed Water Management Projects
  - Potential Conflicts/Coordination Needs
  - Compliance with Plan Objectives
- E.9 Pueblo Watershed
  - Summary of Key Issues
  - Proposed Water Management Projects
  - Potential Conflicts/Coordination Needs
  - Compliance with Plan Objectives
- E.10 Sweetwater Watershed
  - Summary of Key Issues
  - Proposed Water Management Projects
  - Potential Conflicts/Coordination Needs
  - Compliance with Plan Objectives
- E.11 Otay Watershed
  - Summary of Key Issues
  - Proposed Water Management Projects
  - Potential Conflicts/Coordination Needs
  - Compliance with Plan Objectives
- E.12 Tijuana Watershed
  - Summary of Key Issues
  - Proposed Water Management Projects
  - Potential Conflicts/Coordination Needs
  - Compliance with Plan Objectives
- E.13 Benefits of Regional Integration
- Section E References

## **F. REGIONAL PRIORITIES**

*Summary – Water management challenges within the San Diego Region are diverse, complex, and geographically distributed. To address these water management challenges, a multi-step process is used for designating short-term and long-term priorities among the proposed San Diego Region water management projects. Activities and projects are designated as short-term priority on the basis of: (1) near-term implementability; (2) conformance with multiple plan objectives; and (3) support needs other long-term water management programs. Projects designated as long-term priority include those that are not immediately implementable, but achieve multiple plan objectives. It is recognized that the preliminary short-term and long-term designations presented herein will require periodic updating in response to: (1) increased data collection and water management understanding; (2) changing water management conditions and needs; and (3) future changes in IRWM Plan water management objectives or priorities.*

- F.1 Overview
  - Complexity and Diversity of Water Management Challenges
  - Approach to Prioritization
- F.2 Short-Term and Long-Term Priorities
  - Regional-Wide Projects
  - Santa Margarita Watershed

San Luis Rey Watershed  
Carlsbad Watershed  
San Dieguito Watershed  
Penasquitos Watershed  
San Diego River Watershed  
Pueblo Watershed  
Sweetwater Watershed  
Otay Watershed  
Tijuana Watershed

F.3 Reassessment and Modification of Priorities  
Section F References

**G. IMPLEMENTATION**

*Summary* –A regional IRWM Plan management structure will be required to oversee implementation of the IRWM Plan, solicit stakeholder input, and provide for long-term coordination and management of regional water management issues. To represent the diverse water management interests within the San Diego Region, the IRWM institutional structure (either a Joint Powers Authority or council/committee formed by Memorandum of Agreement) will be comprised of regional land use, water, and wastewater agencies; environmental, business, and agricultural non-governmental organizations; and other regional stakeholders. The regional organization will assist project proponents in resolving implementation issues, coordinating regional funding efforts, coordinating monitoring/data management efforts, and coordinating resolution of regional regulatory or jurisdictional conflicts. As a roadmap to implementation, this section addresses the technical and economic feasibility of the proposed projects and identifies key implementation issues, regulatory approvals, and action items required to implement the projects.

- G.1 Implementation Overview
- G.2 Plan Implementation Management Structure
  - Management Structure Responsibilities
  - Management Structure Options
- G.3 Issues Affecting Project Implementation
- G.4 Feasibility of Proposed Projects
  - Regional-Wide Projects
  - Santa Margarita Watershed
  - San Luis Rey Watershed
  - Carlsbad Watershed
  - San Dieguito Watershed
  - Penasquitos Watershed
  - San Diego River Watershed
  - Pueblo Watershed
  - Sweetwater Watershed
  - Otay Watershed
  - Tijuana Watershed
  - Economic Feasibility of Plan

Section G References

## **H. BENEFITS AND IMPACTS**

*Summary – Proposed IRWM water management strategies and projects will result in a number of region-wide benefits, including water quality improvement, ecosystem improvement, fish and wildlife enhancement, flood control enhancement, erosion control enhancement, recreation and public access enhancement, public safety enhancement, enhancement of water supply reliability, cultural resource preservation, reduced wastewater discharges, improved water management coordination, enhanced scientific and public understanding, and economic benefits. Proposed IRWM projects will also result in inter-regional benefits associated with helping to achieve State Water Plan objectives and goals, including reducing reliance on Bay-Delta imported water supplies. Impacts associated with proposed projects are primarily limited to short-term construction-related impacts. Inter-regional benefits include: (1) reduced capacity needs for statewide and Metropolitan Water District imported water facilities; and (2) environmental benefits associated with reduced needs for Bay-Delta and Colorado River waters.*

### **H.1 Regional Benefits**

- Water Quality Improvements
- Ecosystem Improvement
- Fish and Wildlife Enhancement
- Flood Control
- Erosion Control
- Public Safety
- Recreation and Public Access
- Water Supply Reliability
- Preservation of Cultural Resources
- Reduced Wastewater Discharges
- Wastewater Management Coordination
- Increased Scientific Knowledge
- Increased Public Education and Environmental Awareness
- Economic Benefits

### **H.2 Regional Impacts**

### **H.3 Inter-Regional Benefits and Impacts**

### **H.4 Objectives Requiring Regional Solution**

- Water Supply
- Flood Control
- Water Quality and Habitat
- Recreation
- Stakeholder Involvement
- Regulatory Compliance
- Data Management

### **H.5 Environmental Justice Benefits and Impacts**

### **H.6 Benefits and Impacts to Other Resources**

Section H References

## **I. EVALUATION OF PLAN PERFORMANCE**

*Summary – This plan is prepared in accordance with guidance presented in the DWR/State Board Integrated Regional Water Management Grant Program Guidelines.*



*Existing regional and subregional water management plans (including habitat protection, water quality enhancement, flood control, recreation, and water supply) within the San Diego Region form the basis for evaluation of regional water management planning within this IRWM Plan. Methods used to develop this plan are consistent with these regional plans and IRWM guidelines. A number of parameters are available for measuring plan benefits. An iterative adaptive management process consisting of cycles of assessment, plan formulation, implementation, monitoring, and reassessment will be employed by the San Diego Region IRWM management group.*

- I.1 Basis of Analysis
  - I.2 Methods and Analyses to Develop Plan
  - I.3 Evaluation of Plan Performance
  - I.4 Adaptive management
- Section I References

## **J. DATA MANAGEMENT**

**Summary** – *A variety of governmental and non-governmental organizations currently collect surface water quality, surface flow, groundwater, habitat, and water use data within the San Diego Region. Regional stormwater data collection efforts have been coordinated and managed by the regional NPDES stormwater copermittees, but no central or organized data management structure exists for the majority of the collected San Diego Region water management data. Significant data gaps exist in the collection and assessment of regional surface water quality, groundwater quality, groundwater availability, and habitat data. Filling the data gaps and coordinating data collection and management within the San Diego Region will be required to assess regional water management needs and to assess the effectiveness of implemented water management projects.*

- J.1 Need for Integrated Data Management
  - Importance of Data Management
  - Regional Watershed Data and Information System
- J.2 Existing Surface Water Quality Monitoring Programs
  - Stormwater Monitoring
  - NPDES Point-Source Monitoring
  - Monitoring by Non-Government Organizations
  - State and Federal Water Resources Data Collection
  - Monitoring by Drinking Water Agencies
- J.3 Groundwater Quality Monitoring
  - Waste Discharge Permit Monitoring
  - Underground Tanks
  - Drinking Water Monitoring
  - Special Studies
  - Coastal Water Quality Monitoring
- J.4 Existing Streamflow Monitoring Programs
- J.5 Existing Habitat Management Programs
- J.6 Data Collection/Analysis Needs
  - Data Gaps – Surface Water Quality
  - Data Gaps - Streamflow

Data Gaps – Groundwater

Data Gaps - Habitat

J.6 Regional Support for Statewide Data Management Needs  
Section J References

## **K. FINANCING**

*Summary – The RWMG agencies funded development of this IRWM Plan, and are committing additional funding to facilitate development of a long-term IRWM management structure for the region. A variety of groups will benefit from implementation of the IRWM Plan, including: residential, business, industrial, and agricultural water customers; recreation participants; residents along floodways; and groundwater users. Primary means of financing IRWM capital projects will be through government agency Capital Improvement Program (CIP) budgets. State of California grant funds are also an important potential source of funding for capital projects. IRWM projects for environmental enhancement projects may be funded directly by agencies, by grant funds, or by non-government endowments or contributions.*

K.1 Plan Financing

K.2 Beneficiaries of Integrated Projects

K.3 Potential Funding Mechanisms for Project Implementation

Capital Improvements Program Funding

Funding Programs to Assist Government Agencies

Funding Programs to Assist Non-Government Organizations

K.4 Potential Funding Mechanisms for Project Operation/Maintenance

Section K References

## **L. STATEWIDE PRIORITIES**

*Summary – This IRWM Plan is in concert with IRWM Program Preferences established by California Department of Water Resources and the State Water Resources Control Board. Proposed IRWM projects include: (1) integrated projects with multiple benefits; (2) improve water supply reliability; (3) contribute to maintaining water quality standards; and (4) reduce pollution in impaired waters. The IRWM Plan is also consistent with statewide priorities established in IRWM guidelines, as the projects reduce water user conflicts, help implement TMDLs, implement Regional Board policies, and implement the State Board’s Non-Point Source Pollution Plan. Additionally, IRWM water supply diversity programs will reduce imported water demands, helping to achieve CALFED Bay-Delta goals and objectives.*

L.1 Program Preferences

L.2 Plan Conformance with Statewide Priorities

L.3 Environmental Justice Issues

Section L References

## M. CONSISTENCY WITH LOCAL PLANS

*Summary – This IRWM Plan builds on prior San Diego Region water management plans, including: water quality enhancement plans, watershed protection plans, stormwater control plans, habitat and endangered species plans, flood control plans, recreation plans, and water supply plans. Using a stakeholder-driven process, IRWM Plan goals and objectives are, in part, developed from goals and objectives within these regional and subregional plans. This IRWM Plan integrates projects from the regional and subregional water management plans and considers the projects within both a regional and watershed context. Projects considered within this IRWM Plan are consistent with: (1) implementing Basin Plan water quality objectives; (2) protecting existing and potential beneficial uses; and (3) implementing regional and subregional water management plans.*

- M.1 Consistency of IRWM Plan with Basin Plan
    - Importance of Basin Plan in IRWM Planning
    - Consistency with Basin Plan
  - M.2 Consistency of IRWM Plan with San Diego Region Water Management Plans
    - Consistency with Regional Water Management Plans
    - Consistency with Land Use Planning
- Section M References

## N. STAKEHOLDER INVOLVEMENT

*Summary – This IRWM Plan is being developed through a multi-faceted stakeholder-driven process. Stakeholder input is an important component of each plan development phase, and includes: (1) stakeholder input to provide initial plan guidance; (2) stakeholder input to identify proposed water management strategies and projects; (3) the creation of a broad-based advisory committee to provide policy-level plan direction; and (4) public review of the draft plan. A diverse range of stakeholders were identified, including land use agencies, water and wastewater agencies, flood control agencies, state and federal agencies, Native American Tribes, and a wide variety of environmental and other non-government organizations. The proposed outreach process includes partnering with Project Clean Water, conducting public workshops and presentations, posting information on the internet, holding meetings with stakeholders, and conducting stakeholder activities to incorporate the region’s disadvantaged communities in the IRWM process.*

- N.1 Overview
- N.2 Initial Stakeholder Outreach and Partnerships
  - Project Clean Water Partnership
  - Technical Advisory Committee Participation
  - Web Postings
  - Project Clean Water Annual Summit
- N.3 Outreach to Disadvantaged Communities
- N.4 Plan Development and Review
  - Initial Public Workshops
  - Identified Stakeholders
  - Stakeholder Contacts and Meetings
  - Advisory Groups
- N.5 Plan Adoption
- N.6 Ongoing Stakeholder Activities

Section N References

**O. COORDINATION**

*Summary – This IRWM Plan is developed in accordance with IRWM planning guidance developed by the California Department of Water Resources (DWR) and the State Water Resources Control Board (State Board). The RWMG coordinated with these agencies and the Regional Board in developing the IRWM Plan. Implementation of the IRWM Plan and proposed projects will require coordination between the IRWM management organization and a number of state and federal agencies, including regulatory agencies, land management agencies, and resource agencies. The IRWM management organization will also continue to coordinate with the regional land planning agency (San Diego Association of Governments, SANDAG) in implementing the IRWM and in developing future IRWM Plan updates.*

- O.1 Overview
  - O.2 State of California Agencies
    - Regional Board
    - DWR and State Board
    - Other State Agencies
  - O.3 Federal Agencies
    - Regulatory Agencies
    - Land Management and Water Resources Agencies
  - O.4 Regional Land Use Planning Agencies
- Section O References

- APPENDIX 1** Designated Beneficial Uses
- APPENDIX 2** Basin Plan Water Quality Objectives
- APPENDIX 3** Threatened and Endangered Species
- APPENDIX 4** Existing and Proposed 303(d) Impaired Waters
- APPENDIX 5** IRWM August 2006 Workshop Documents
- APPENDIX 6** Summary of Stakeholder Outreach Activities