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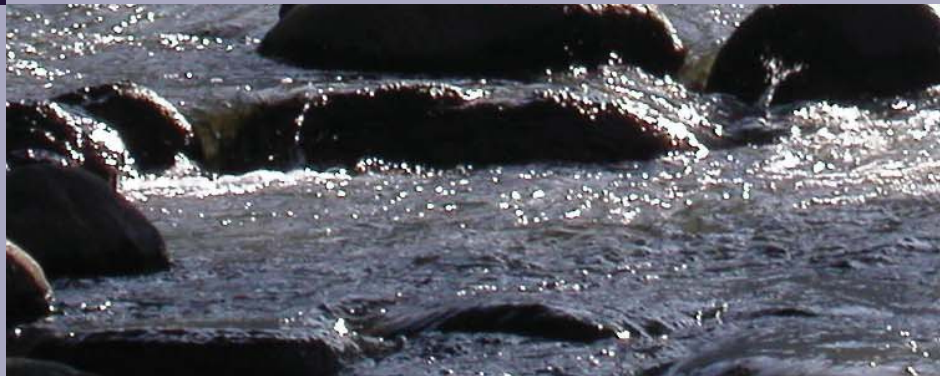
Implementation Plan

Technical Memorandum
September 1, 2006

Integrated Regional Water Management Plan For the Greater Los Angeles County Region



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Technical Memorandum for the Integrated Regional Water Management Plan for the Greater Los Angeles County Region prepared in partnership with:

BROWN AND CALDWELL

DMA
David Miller & Associates, Inc.

DUVIVIER architects
Architecture, Planning and Sustainable Design

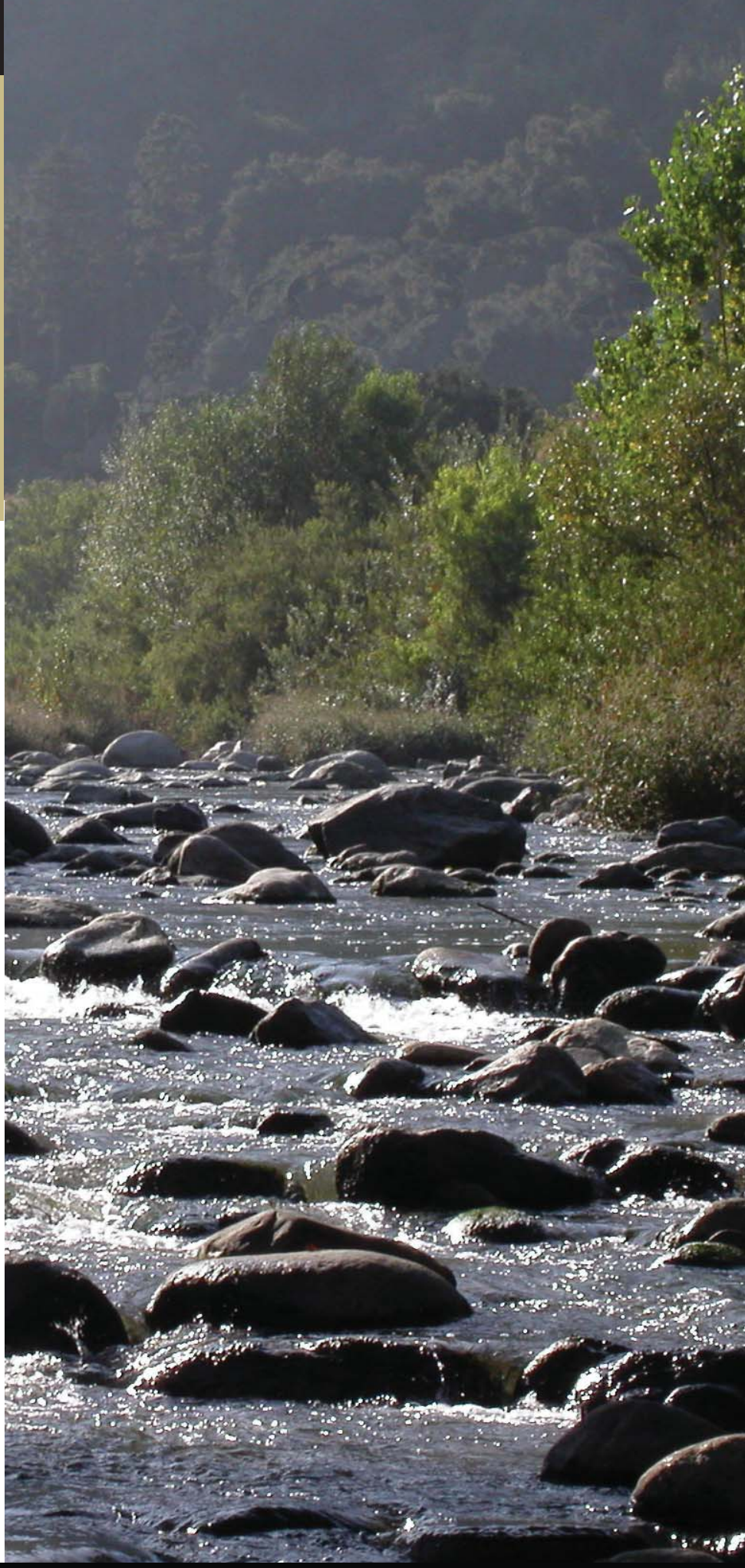
EIP
ASSOCIATES

HARGREAVES
ASSOCIATES

MALCOLM PIRNIE
INDEPENDENT ENVIRONMENTAL ENGINEERS, SCIENTISTS AND CONSULTANTS

RMC
Water and Environment

TREEPEOPLE



11111 Santa Monica Blvd.
Suite 750
Los Angeles, CA 90025

Tel: (310) 893-2700
Fax: (310) 893-2750

www.brownandcaldwell.com

September 1, 2006

BROWN AND CALDWELL

Mr. Don Wolfe
Chair
IRWMP Leadership Committee
Los Angeles County Flood Control District
900 South Fremont Avenue, 12th Floor
Alhambra, California

Subject: Greater Los Angeles Integrated Regional Water Management Plan Implementation Plan Technical Memoranda

Dear Mr. Wolfe:

We have uploaded today for your review and distribution the IRWMP Implementation Plan Technical Memoranda (TM) to our FTP site in a folder titled: "LAIRWMP". You have access to the FTP site through the following link: ftp://bc:bcftp@ftp.brwncald.com, Username: bc, and Password: bcftp. Thank you very much for the opportunity to provide these documents, as a part of our ongoing scope of work for the LA IRWMP project.

These documents will serve as the basis for the Implementation Chapter of the administrative draft IRWMP scheduled for public distribution on September 30, 2006. These documents should be considered working drafts intended to stimulate additional discussions on the next steps needed to implement the IRWMP over the next 20 years. We encourage you and other members of the Leadership Committee and Steering Committees to offer additions and revisions to the attached documents such that the final administrative draft IRWMP reflects the true direction and next steps of these committees.

These documents summarize and outline recommended next steps for the Region as well as all five Subregions, and include various recommendations from the Leadership Committee, Subregional Steering Committees, and stakeholders that may be applicable to all Subregions. While we have attempted to promote consistency with respect to next steps and recommended actions for each Subregion, it should be noted that each Subregion has unique issues, objectives and constraints which result in unique recommendations for implementation.

We look forward to discussing these documents with the Leadership Committee at their upcoming meeting on September 7, 2006. We also encourage review and feedback from the Steering Committees at their regularly scheduled meetings in September. Please contact me if you have any questions.

Very truly yours,

BROWN AND CALDWELL

Michael Drennan
Vice President

IMPLEMENTATION PLAN
TECHNICAL MEMORANDUM

Prepared for

Leadership Committee of Greater Los Angeles County
Integrated Regional Water Management Plan

September 2006

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ACRONYM LIST

ASCE	American Society of Civil Engineers
BMP	Best Management Practice
CEQA	California Environmental Quality Act
CUWCC	California Urban Water Conservation Council
DHS	Department of Health Services
DWR	Department of Water Resources
IRWMP or Plan	Integrated Regional Water Management Plan
JPA	Joint Powers of Authority
JWPCP	Joint Water Pollution Control Plant
LACFCD	Los Angeles County Flood Control District
MOU	Memorandum of Understanding
NPDES	National Pollutant Discharge Elimination System
NPS	Nonpoint Source
O&M	operations and maintenance
Region	Greater Los Angeles County Region
RWMG	Regional Water Management Group
RWQCB	Regional Water Quality Control Board
TM	Technical Memorandum
TMDL	Total maximum Daily Load
UWMP	Urban Water Management Plan

1. INTRODUCTION

1.1 Purpose

The purpose of this Technical Memorandum (TM) is to:

- Describe the relationship between existing plans and the Integrated Regional Water Management Plan (IRWMP or Plan);
- Identify governance options for implementation of the IRWMP;
- Describe procedures for coordination of IRWMP activities with state and federal agencies;
- Describe funding options;
- Identify next steps and a schedule of future activities for the IRWMP process; and
- Solicit input from the Leadership Committee and Steering Committee members on implementation issues and next steps in order to develop the final content of the administrative draft IRWMP.

1.2 Background

The Leadership Committee established to guide the development of the Greater Los Angeles County IRWMP has identified a list of water management strategies that are relevant to the Region, established quantitative planning targets for various water supply, water quality, and open space parameters, and solicited projects from agencies, jurisdictions and stakeholders in the Region. The more than 1,000 projects and project concepts submitted by stakeholders will increase water supplies, enhance water quality, improve water supply reliability, expand public open space and parkland, and conserve and restore habitat.

In recognition that sound regional integrated planning is more than simply a compilation of projects, the Leadership Committee has directed their the consultant team has developed six TMs on the following topics: Water Supply, Water Quality, Open Space, Integrated Water Management Strategy, Project Integration, and Benefits and Costs Assessment. The Project Integration TM identifies three regional planning tools (or approaches) which suggest combinations of several water supply, water quality, and open space projects which if implemented, would meet the water supply and water quality planning targets and substantially contribute to the habitat and open space targets. These planning tools are intended to help guide Region and the Subregions with the implementation of projects submitted by stakeholders through integration of existing projects as well as identification of new projects consistent with approaches appropriate to each Subregion.

This TM provides recommendations with respect to implementation of the IRWMP, based on the content of the Interim Draft Plan (submitted in support of the Step 2 grant application in support of project implementation), the content of the previous TMs, input provided by the Steering Committees, and comments received at the IRWMP regional stakeholder workshop on August 2, 2006. A summary of comments from the August 2, 2006 regional stakeholder workshop is included as Appendix F.

As the inclusion of planning targets and the development of the regional planning tools (or approaches) exceed the requirements of Proposition 50, to identify appropriate mechanisms to implement the Plan, it is

useful to consider a dual approach: 1) Short-Term Planning: the implementation of individual projects (over the next several years); and 2) Long-Term Planning: additional detailed planning required to develop fully integrated sets of projects and a comprehensive vision for the Region and the Subregions (over the next 20 years). Thus this TM discusses the concept of plan implementation as relates to this dual approach, as described below.

1.2.1 Project Implementation

In conjunction with development of the IRWMP, more than 1,000 projects and project concepts were submitted by stakeholders in early 2006 (as discussed more fully in the Project Integration TM). As funding opportunities arise in the future (within existing Proposition 50 grant opportunities and possible future, Proposition 84, opportunities), the projects in the project database will be prioritized, funded, and implemented to make progress towards meeting the objectives and planning targets. This "bottom-up" approach to project identification will rely upon the projects submitted by individual agencies, jurisdictions and stakeholder groups. From review of submitted projects in the project database, it is clear that many cities and agencies in the Region have not submitted projects to date, or projects could be improved through integration, collaboration and/or dialog with other stakeholders or proponents of other nearby projects. Thus, additional outreach to those entities will be needed to assure that all jurisdictions and agencies have an opportunity to benefit from the IRWMP process. Additionally, some jurisdictions, agencies, and stakeholder groups may lack adequate resources or experience to fully develop projects and would therefore benefit from some form of project development assistance.

1.2.2 Additional Planning

The regional planning tools identified in the Project Integration TM, can be used within each of the Subregions to develop customized project scenarios or visions for each Subregion, and will also provide an opportunity for a "top-down" approach to project identification and development. This additional planning is intended to occur throughout 2007 and 2008 and generate projects with a regional focus that incorporate multiple water management strategies. As many of the projects submitted in 2006 were only concepts, additional refinement will be required to generate specific projects with a well-defined scope of work. In addition, given the magnitude of regional needs, other projects will likely need to be defined and informed by the Subregional vision that will be emerging out of the additional planning in 2007. In addition, a funding strategy should be developed to support plan implementation.

Thus, this TM discusses the concepts of implementation as relates to the projects and project concepts included in the project database, the further development of customized visions and well-defined specific projects for each Subregion, a funding strategy to support plan implementation, and a schedule for future activities.

1.3 Framework for Implementation

1.3.1 Existing Plans and Programs

Given the size and complexity of the Region, a substantial number of agencies and jurisdictions are responsible for, or participate in, the development of plans, programs, and regulations that are relevant to the IRWMP. Table 1-1 identifies some of the agencies and jurisdictions that are involved in planning within the Region for each water management strategy. More specific information on the cities and water agencies involved in planning within each of the Subregions is provided in the Subregional Implementation TMs provided in Appendices A through E.

Table 1-1. Agencies and Jurisdictions Involved in Planning in IRWMP Region			
Water Management Strategy	Federal	State	Local / Regional
Asset Management	Bureau of Reclamation, U.S. Army Corps of Engineers	Water Resources	Los Angeles, Orange, and Ventura County Flood Control Districts, Sanitation Districts
Desalination	Bureau of Reclamation	Water Resources	Some water agencies
Environmental and Habitat Protection and Improvement	U.S. Army Corps of Engineers, Fish and Wildlife Service, Forest Service, National Park Service, National Resources Conservation Service	Baldwin Hills Conservancy, Coastal Conservancy, Fish and Game, San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy, Santa Monica Mountains Conservancy, State Parks	Cities and Los Angeles, Orange and Ventura Counties
Groundwater Management and Conjunctive Use		Health Services, Water Resources, Water Resources Control Board	Wholesale and Retail Water Agencies, San Gabriel Basin Water Quality Authority, Metropolitan Water District of Southern California,
Import Water	Bureau of Reclamation	Water Resources, Water Resources Control Board	Metropolitan Water District of Southern California and some Wholesale Water Agencies
Improve and Protect Water Quality	U.S. Environmental Protection Agency	Health Services, Water Resources, Water Resources Control Board	Cities, Water Agencies, Sanitation Districts, Los Angeles, Orange and Ventura Counties
Integrated Planning	U.S. Army Corps of Engineers	Water Resources, Water Resources Control Board	Some cities, water agencies, and Los Angeles, Orange and Ventura Counties
Land Use Planning			Cities and Los Angeles, Orange and Ventura Counties
Nonpoint Source (NPS) Pollution Control	U.S. Environmental Protection Agency	Water Resources, Water Resources Control Board	Watershed and Environmental Groups
Recreation and Public Access	National Park Service	State Parks	Cities and Los Angeles, Orange and Ventura Counties
Restore Ecosystems	Fish and Wildlife Service, Forest Service, National Park Service, National Resources Conservation Service	Baldwin Hills Conservancy, Coastal Conservancy, Fish and Game, San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy, Santa Monica Mountains Conservancy, State Parks	Some Cities and Los Angeles, Orange and Ventura Counties
Stormwater Capture and Management	Bureau of Reclamation, U.S. Army Corps of Engineers	Water Resources, Water Resources Control Board	Cities and Los Angeles, Orange and Ventura County Flood Control Districts
Surface Storage	Bureau of Reclamation, U.S. Army Corps of Engineers	Water Resources	Some cities and Los Angeles, Orange and Ventura County Flood Control Districts
Water and Wastewater Treatment	U.S. Environmental Protection Agency	Water Resources, Water Resources Control Board	Wholesale and Retail Water Agencies, Sanitation Agencies, San Gabriel Basin Water Quality Authority
Water Conservation	Bureau of Reclamation	Water Resources, Water Resources Control Board	Wholesale and Retail Water Agencies

Table 1-1. Agencies and Jurisdictions Involved in Planning in IRWMP Region			
Water Management Strategy	Federal	State	Local / Regional
Water Recycling	U.S. Environmental Protection Agency	Water Resources, Water Resources Control Board	Sanitation Districts and Cities with Sanitation Departments
Watershed Planning	U.S. Army Corps of Engineers, National Park Service	Baldwin Hills Conservancy, Coastal Conservancy, San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy, Santa Monica Mountains Conservancy	Some Cities and Los Angeles, Orange and Ventura Counties
Water Supply Reliability		Water Resources, Water Resources Control Board	Wholesale and Retail Water Agencies
Water Transfers	Bureau of Reclamation	Water Resources, Water Resources Control Board	Some Wholesale and Retail Water Agencies
Wetlands Enhancement and Creation	U.S. Army Corps of Engineers, Fish and Wildlife Service, Forest Service, National Park Service, National Resources Conservation Service	Fish and Game, State Parks, Baldwin Hills Conservancy, Coastal Conservancy, San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy, Santa Monica Mountains Conservancy	Some cities, Los Angeles, Orange and Ventura Counties, Southern California Wetlands Recovery Project

Implementation of projects and programs identified in the plans developed by individual agencies and jurisdictions will increase water supplies, enhance water quality, improve water supply reliability, expand public open space and parkland, and conserve and restore habitat, and thereby contribute to the objectives and targets identified in the IRWMP. The challenge is to ensure that their efforts are coordinated with the IRWMP process. Table 1-1 suggests the cross-agency coordination that could be required to develop comprehensive plans and projects for each water management strategy.

As the IRWMP proposes the integration of these various strategies into a single plan, instead of focusing on individual water management strategies, a broader form of coordination is appropriate. Table 1-2 summarizes the agencies and jurisdictions involved in planning (from Table 1-1) for the general categories of water supply, water quality, and habitat/open space (instead of the individual water management strategies), and includes other relevant organizations and entities, such as regional agencies and non-governmental organizations.

1.3.2 Relationship of IRWMP to Local Plans

Most jurisdictions and agencies develop plans and programs within their jurisdictional boundaries, consistent with their statutory responsibilities, although in the past decade, planning at the watershed scale has become more common in the Region. For some entities with large jurisdictional boundaries (e.g., state and federal agencies and state conservancies), planning is often at a regional scale, which often extends beyond the Greater Los Angeles IRWMP Region. Table 1-3 depicts the typical planning scales for most agencies, jurisdictions, and entities in the Region.

Table 1-2. Summary of Agencies and Organizations Involved in Planning in IRWMP Region			
Agencies and Entities	Water Supply	Water Quality and Stormwater Management	Open Space, Habitat, and Parkland
Federal Agencies	Bureau of Reclamation	U.S. Army Corps of Engineers	Fish and Wildlife Service, Forest Service, National Park Service, National Resources Conservation Service
State Agencies	Water Resources Control Board, Water Resources	Health Services, Water Resources Control Board, Water Resources	Fish and Game, State Parks
State Conservancies			Baldwin Hills Conservancy, Coastal Conservancy, San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy, Santa Monica Mountains Conservancy
Regional Entities	Metropolitan Water District of Southern California	Southern California Association of Governments	Southern California Association of Governments, Southern California Wetlands Recovery Project
County Departments	Los Angeles, Orange, and Ventura Counties	Los Angeles, Orange, and Ventura Counties	Los Angeles, Orange and Ventura Counties
Special Districts	County Sanitation Districts of Los Angeles County, Orange County Sanitation District, Water Replenishment District of Southern California	County Sanitation Districts of Los Angeles County, Orange County Sanitation District	Los Angeles County Regional Park and Open Space District
Water Agencies	Retail and Wholesale Water Agencies, Cities with Water Departments	Wholesale and Retail Water Agencies, San Gabriel Basin Water Quality Authority	Some water agencies
Cities	Cities with Water and/or Sanitation Departments	Cities with Sanitation Departments	All cities
Other Organizations	Southeast Water Coalition	Councils of Government	Watershed and Environmental Groups

Table 1-3. Typical Planning Scales				
Agencies and Entities	Individual Sites or Parcels	Within Jurisdictional Boundaries	Watersheds	Regional[1]
Federal Agencies	⊡		◘	■
State Agencies	⊡		◘	■
State Conservancies	⊡	■	◘	◘
Regional Entities	⊡	■		■
County Departments	⊡	■	◘	
Special Districts	⊡	■		
Water Agencies	⊡	■	◘	
Cities	⊡	■	◘	
Other Organizations	⊡	■	◘	

Notes:
[1] Scales such as Southern California, not the Greater Los Angeles IRWMP Region.

Symbol Key:
⊡ *Planning for Specific Projects*
■ *Most Prevalent Planning Scale*
◘ *Occasional Planning at this Scale*

Although the IRWMP establishes broad objectives and planning targets for the entire Region, the Regional Water Management Group created for the Plan cannot feasibly assume responsibility for meeting all of the objectives and targets. Further, it is unlikely individual agencies and jurisdictions will cede authority for activities that are within their statutory responsibilities or traditional mandates. Thus, projects and programs implemented by individual agencies and jurisdictions will likely remain the primary vehicle to achieve the Plan's objectives and targets. Individual agencies and jurisdictions are increasingly acknowledging the value of collaborating on the planning, design, implementation, funding, monitoring and maintenance of joint integrated projects. Implementation of the IRWMP:

1. supports development of integrated projects;
2. provides an over-arching framework that supports planning by individual agencies and jurisdictions; and
3. fosters integrated planning for those issues that could benefit from a regional approach.

To identify which planning activities could benefit from the regional approach suggested in the IRWMP, the planning scales identified in Table 1-3 were adjusted to add two additional scales: the five individual Subregions and the Greater Los Angeles IRWMP Region. For each water management strategy identified in the Plan, Table 1-4 suggests the appropriate scale of planning: 1) specific sites or parcels; 2) within jurisdictional boundaries; 3) at the watershed scale; 4) the Subregional scale; or 5) the Greater Los Angeles County Region.

Table 1-4. Suggested Planning Scales					
Water Management Strategy	Site or Parcel	Within Jurisdictional Boundary	Watershed	IRWMP Subregion	IRWMP Region
Asset Management		●		●	●
Desalination		●			●
Environmental and Habitat Protection/Improvement	●	●	●		●
Groundwater Management / Conjunctive Use		●	●		●
Import water		●			●
Improve and protect water quality	●	●	●	●	●
Integrated Planning	●	●	●	●	●
Land Use Planning		●			●
NPS Pollution Control	●	●	●	●	●
Recreation and Public Access		●			●
Restore Ecosystems		●	●		●
Stormwater Capture and Management	●	●		●	●
Surface Storage		●			●
Water and Wastewater Treatment		●		●	●
Water Conservation	●	●		●	●
Water Recycling		●		●	●
Water Supply Reliability		●			●
Water Transfers		●			●
Watershed Planning			●		●
Wetlands Creation and Enhancement	●	●	●		●

For each water management strategy, Table 1-5 suggests planning activities for the proposed planning scales.

Table 1-5. Suggested Planning Activities

Water Management Strategy	Scale	Activities
Asset Management	Jurisdiction	Implement asset management programs
	Subregion	Promote comprehensive assessment of infrastructure maintenance
	Region	Promote consistent regional approach to asset management
Desalination	Jurisdiction	Implement desalination projects where appropriate
	Region	Promote desalination as a component of a diversified water portfolio to enhance water supply reliability
Environmental and Habitat Protection/Improvement	Site	Inclusion of native habitat in all public sector projects
	Jurisdiction	Implement projects and programs to protect habitat and encourage native vegetation in public and private projects
	Watershed	Promote consistent watershed approach to habitat protection
	Region	Promote consistent regional approach to habitat protection
Groundwater Management / Conjunctive Use	Jurisdiction	Implementation of incentives by Cities and counties to protect and enhance groundwater recharge Water agencies projects and programs to protect and enhance groundwater recharge and utilization of groundwater as a water supply
	Watershed	Promote consistent watershed approach to protection and enhancement of groundwater recharge
	Region	Promote consistent regional approach to protection and enhancement of groundwater recharge
Import Water	Jurisdiction	Imported water as component of water agency's supply portfolio
	Regional	Promote imported water as a component of a diversified water portfolio that enhances water supply reliability
Improve and Protect Water Quality	Site	Implement multi-purpose projects that improve and protect water quality
	Jurisdiction	Implement integrated approaches to water quality programs and projects
	Watershed	Promote consistent watershed approach to water quality
	Region	Promote consistent regional approach to water quality
Integrated Planning	Site	Implement multi-purpose projects
	Jurisdiction	Implement integrated projects and programs for water quality, water supply and habitat
	Watershed	Promote integrated approach to water quality, water supply and habitat
	Subregion	Promote integrated approach to water quality, water supply and habitat
	Region	Promote integrated approach to water quality, water supply and habitat
Land Use Planning	Jurisdiction	Implement programs and incentives to increase water supply, improve water quality and conserve, expand public open space and restore habitat
	Region	Promote consistent programs and incentives across region
NPS Pollution Control	Site	Include onsite Best Management Practices (BMPs) in projects were feasible
	Jurisdiction	Widespread implementation of BMPs and public education
	Watershed	Promote consistent watershed approach to NPS pollution control
	Region	Promote region-wide implementation of NPS pollution control measures

Table 1-5. Suggested Planning Activities		
Water Management Strategy	Scale	Activities
Recreation and Public Access	Jurisdiction	Implement projects and programs to expand recreation and public open space
	Subregion	Promote consistent Subregional approach to expansion of recreation and public access
	Region	Promote consistent regional approach expansion of recreation and public access
Restore Ecosystems	Jurisdiction	Implement projects and programs to restore ecosystems
	Watershed	Promote consistent watershed approach to restoration of ecosystems
	Region	Promote consistent regional approach to restoration of ecosystems
Stormwater Capture and Management	Site	Implement projects that retain and cleanse stormwater
	Jurisdiction	Implement projects and programs that capture and manage stormwater
	Subregion	Promote Subregional solutions for capture and management of stormwater
	Region	Promote consistent regional approach to stormwater capture and management
Surface Storage	Jurisdiction	Implement projects and programs to enhance surface storage
	Region	Promote expanded utilization of surface storage
Water and Wastewater Treatment	Jurisdiction	Implement projects and programs to treat water and wastewater
	Subregion	Promote regional solutions to water and wastewater treatment
	Region	Promote regional projects and programs for water and wastewater treatment
Water Conservation	Site	Implement projects and programs that conserve water
	Jurisdiction	Implement water conservation programs
	Subregion	Promote Subregional projects and programs that conserve water
	Region	Promote water conservation projects and programs to enhance water supply reliability
Water Recycling	Jurisdiction	Implement projects and programs to expand water recycling
	Subregion	Promote Subregional projects and programs to expand water recycling
	Region	Promote expansion of water recycling to enhance water supply reliability
Water Supply Reliability	Jurisdiction	Implement projects and programs that enhance water supply reliability
	Region	Promote expansion of projects and programs that enhance water supply reliability
Water Transfers	Jurisdiction	Implement water transfers
	Region	Promote water transfers as a component of a diversified water portfolio that enhances water supply reliability
Watershed Planning	Watershed	Develop watershed plans for all major rivers and tributaries and update on a regular basis
	Region	Promote consistent content and approach for all watershed plans in region
Wetlands Creation and Enhancement	Site	Implement projects and programs to restore and create wetlands where appropriate
	Jurisdiction	Implement projects and programs to restore and create wetlands where appropriate
	Watershed	Promote restoration of native wetlands and creation of new wetlands where appropriate
	Subregion	Promote consistent Subregional approach to restoration and creation of wetlands
	Region	Promote consistent regional approach to restoration and creation of wetlands

2. INSTITUTIONAL STRUCTURE

2.1 Existing IRWMP Structure

The Leadership Committee established to guide the development and implementation of the Plan serves as the Regional Water Management Group (RWMG) for the IRWMP, and makes formal decisions with respect to the scope and content of the Plan. Five Subregional Steering Committees provide input to the Leadership Committee on the major issues contained in the Plan. Stakeholder workshops provide additional input to the process. As illustrated in Figure 2-1, stakeholder input to the RWMG is structured around the five Subregional Steering Committees and stakeholder workshops.

The governance structure for the Leadership Committee and the Steering Committees is currently governed by interim operating guidelines. These guidelines were developed as a draft Memorandum of Understanding (MOU) and are undergoing review by the agencies and organizations involved in the IRWMP. At this time it is anticipated that all members of the Leadership Committee will sign the MOU, and many organizations on the Steering Committees will also sign. At such time as the MOU is finalized and adopted, it is assumed the terms of that document will supersede the interim guidelines.

The Leadership Committee has eleven voting members, as shown in Figure 2-2, including the Los Angeles County Flood Control District ([LACFCD] - committee chair), the chairs of the five Subregional Steering Committees, and five stakeholder agencies representing the following water management strategy areas: groundwater; surface water; sanitation; habitat/open space; and stormwater. The committee also includes 14 ex-officio (non-voting members), including: U.S. Bureau of Reclamation; California Department of Fish and Game; California Coastal Commission; California Coastal Conservancy; California Department of Transportation; California Department of Water Resources (DWR); California Environmental Protection Agency; California Regional Water Quality Control Board Los Angeles Region (RWQCB); California Department of Parks and Recreation; California Department of Health Services (DHS); Metropolitan Water District of Southern California; National Parks Service; U.S. Army Corps of Engineers; and U.S. Department of Agriculture (USDA) Forest Service.

2.2 Existing Organizational Structures

2.2.1 Regional Structures

Existing organizations and jurisdictions that work at a regional scale include the Southern California Association of Governments, the Metropolitan Water District, and the Southern California Wetlands Recovery Project.

2.2.2 Subregional Structures

The only existing organizations that work at the precise scale of the IRWMP Subregions are the Steering Committees established for the Greater Los Angeles IRWMP process. Other Subregional groups include Councils of Government, and certain Joint Powers Authorities (JPAs), such as the Watershed Conservation Authority.

Figure 2-1. IRWMP Stakeholder Structure

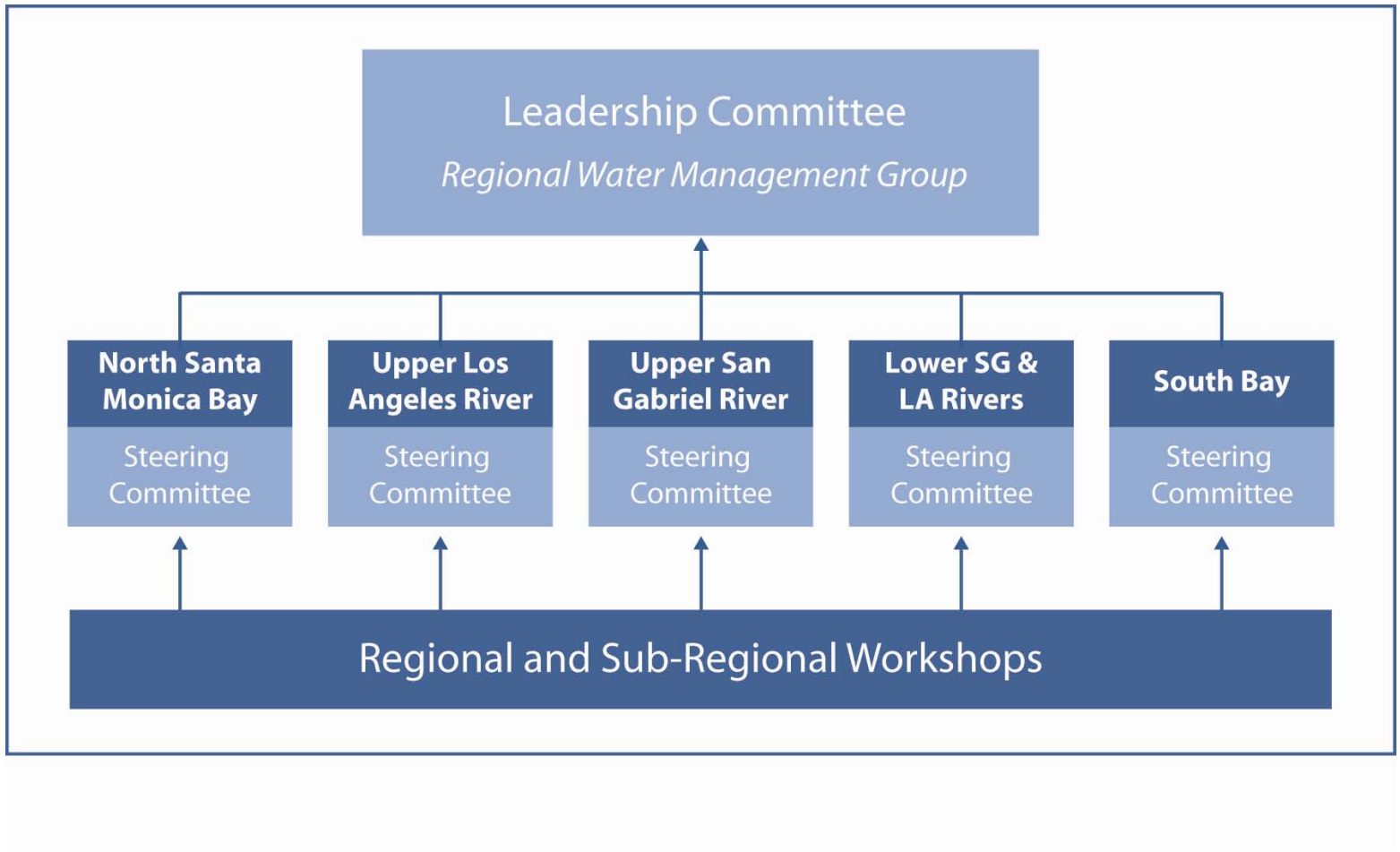
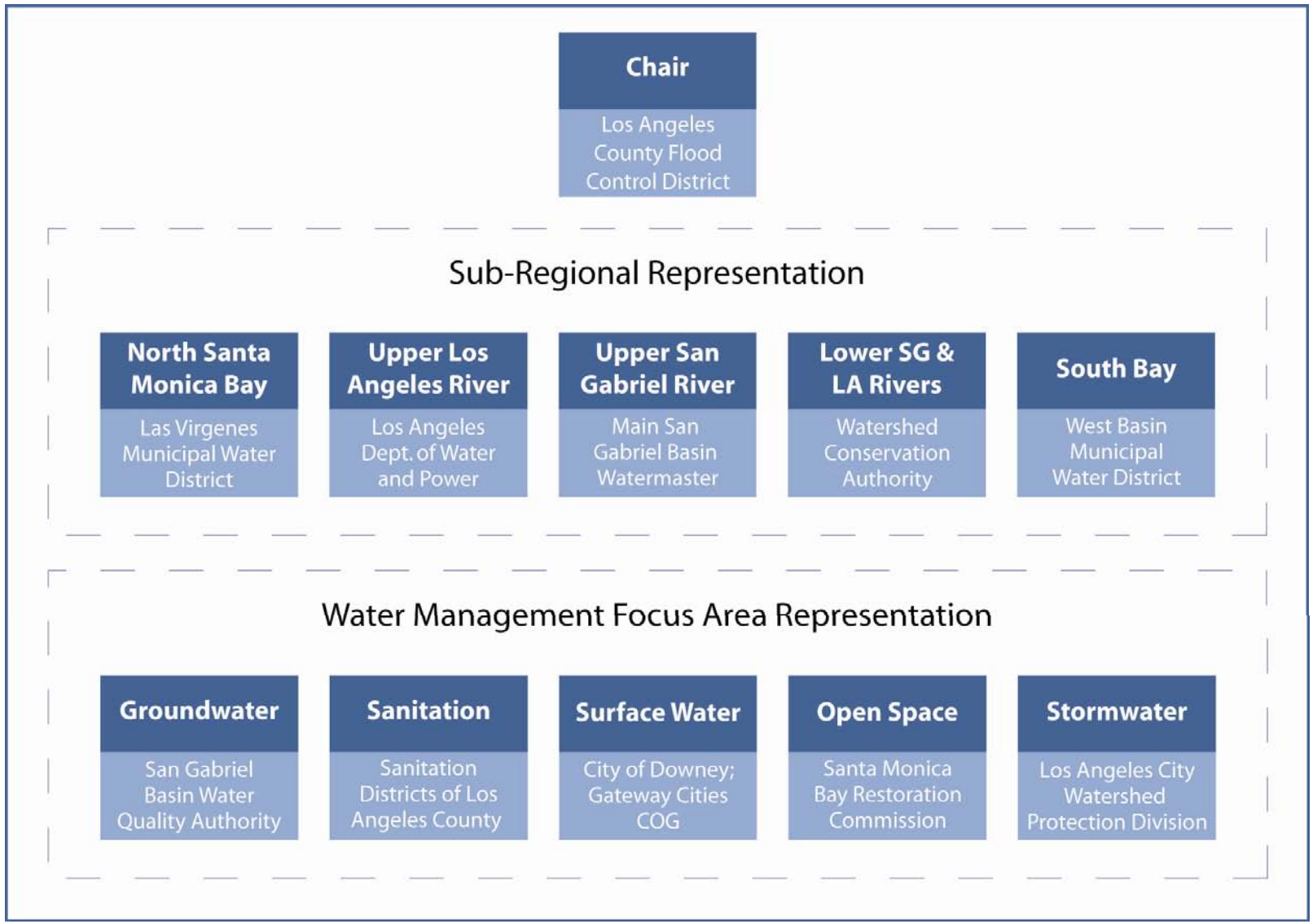


Figure 2-2. Leadership Committee Voting Members



2.2.3 Watershed-Based Structures

Stakeholder groups were established to support development of watershed plans, including the Arroyo Seco Watershed Restoration Feasibility Study, the Ballona Creek Watershed Management Plan, Compton Creek Watershed Management Plan, Dominguez Channel Watershed Management Master Plan, Rio Hondo Watershed Management Plan, Sun Valley Watershed Plan, and the Upper San Gabriel River Watershed Management Plan. Several of the watershed groups established during plan development are still active, although meet only meet occasionally. In addition, stakeholder groups are active for several plans that are currently under development, including the Tujunga Wash, the Headwaters of the Los Angeles River, and Coyote Creek.

Two recent total maximum daily loads (TMDLs) adopted by the Los Angeles RWQCB, the Santa Monica Bay (wet and dry-weather) bacteria and the Los Angeles River metals, require establishment of jurisdictional groups to develop monitoring and implementation plans. These are generally organized on a watershed basis. The Santa Monica Bay groups have been functioning since 2003, although the groups for the Los Angeles River metals TMDLs are relatively new.

2.3 Governance Options

2.3.1 Maintain Existing Structure

The existing governance structure, with a Leadership Committee, five Subregional Steering Committees, and input from occasional stakeholder workshops, could be maintained over the life of the IRWMP. This may require some clarification of the existing operating guidelines (or the proposed MOU) to specify terms of service for committee members and a process for the selection of future committee representatives.

2.3.2 Modify Existing Structures

To respond to stakeholder suggestions about representation, the existing governance structure could be expanded to provide representation for additional jurisdictions and agencies in the Region and add representation for non-governmental organizations on the Leadership Committee. For example, a representative could be identified for each of the watershed planning efforts underway in each Subregion (e.g. a representative from the Ballona Creek Watershed Task Force could be added to the South Bay Steering Committee), or for each of the cities and counties in each Subregion. Given the number of cities, this might suggest creation of a two-tiered structure for each Subregion, the entire group (which might meet only occasionally) and a steering committee with duly elected city representatives (which could meet more regularly).

Currently, the IRWMP committees (Leadership and Steering) are charged with discussing all IRWMP issues to foster integration. However, for some topics, sub-committees could be established, such as water supply, water quality, and habitat/open space. Although this might make some activities more efficient, it may also raise concerns about the potential to reduce the focus on integration. However, if participation in the IRWMP was expanded, some form of topical focus might be useful to keep individual meetings more manageable.

2.3.3 Integrate Existing Structures

The governance structure could be modified to include additional existing structures or organizations, consistent with some comments at the regional IRWMP workshop on August 2, 2006. Existing organization that might be integrated into the IRWMP governance structure include watershed-based groups (e.g.,

watershed stakeholder groups and jurisdictional groups formed for TMDL compliance), local Councils of Government, or other ad hoc organizations, such as the North Santa Monica Bay Task Force (formed to address bacteria TMDLs). As most of these groups work at a Subregional or watershed scale, the integration of these groups into the existing structure would most likely occur at the Subregional scale. For example, some stakeholder input could occur via these existing organizations (reducing or replacing future stakeholder workshops), which might also be included as members on the Subregional Steering Committees.

2.3.4 Create New Structures

Although informal associations of agencies, cities, counties, and stakeholder groups may be sufficient for the discussion and identification of issues, formulation of plans (such as watershed plans), more formal arrangements are typically required to plan, implement, operate, and maintain projects and programs.

Options for the creation of new structures include a formal agreement between multiple parties, such as a MOU, which is often implemented for individual projects or programs, or a cost-sharing agreement, which may extend over the life of a program or a plan. As an alternative, a new organizational entity could be created, such as a JPA, which typically is used for multiple actions and/or for long-term activities, or the formation of a non-profit group (e.g., 501(c)(3). A new governmental entity could be created (e.g., via legislative action) to form a new regional entity with specific authorities and responsibilities. Alternatively, an existing agency or organization could assume responsibility for plan implementation, or for implementation of a portion of the plan (e.g., surface water quality).

3. COORDINATION WITH STATE AND FEDERAL AGENCIES

3.1 Agencies Currently Involved in IRWMP Activities

As noted above, the Leadership Committee established for the IRWMP currently includes 14 ex-officio (non-voting members), including four federal agencies (Bureau of Reclamation, National Parks Service; U.S. Army Corps of Engineers; and the Forest Service), nine state agencies (Department of Fish and Game; Coastal Commission; Coastal Conservancy; Department of Transportation; DWR; Environmental Protection Agency; RWQCB (Los Angeles Region); Department of Parks and Recreation; and DHS), and one Regional agency (Metropolitan Water District of Southern California). Thus, coordination with federal and state agencies is currently ongoing.

3.2 Future IRWMP Activities

3.2.1 Project Development

As projects are developed and/or refined in the future, the involvement of some state and/or federal agencies may be warranted. State and federal agencies that may be relevant to the development and/or refinement of projects are identified in Table 1-2 for each water management strategy.

In general, for water supply projects, involvement of state agencies (such as the DWR, the State Water Resources Control Board, or the DHS) is typically limited to oversight or review in conjunction with funding applications or regulatory oversight. Projects that involve modifications to existing surface storage and/or flood protection structures or new structures would warrant involvement of the U.S. Army Corps of Engineers and possibly the Bureau of Reclamation.

For water quality projects, involvement of state agencies is also typically limited to oversight or review in conjunction with funding applications or regulatory oversight. Little interaction with federal agencies is likely, unless such projects might involve modifications to flood protection structures maintained by the U.S. Army Corps of Engineers.

For habitat projects, involvement with state and federal agencies is more typical, given the resource management responsibilities of key agencies (e.g., U.S. Fish and Wildlife, state Fish and Game, and the Coastal Conservancy), or the funding opportunities provided by the various state conservancies. In addition, projects that propose restoration of wetlands or riparian habitat could also be pursued in partnership with the U.S. Army Corps of Engineers.

3.2.2 Additional Planning

As more detailed planning occurs at the regional and Subregional scale, various federal agencies should be involved in that process. For example, water supply planning should include the California DWR. Water quality planning should include the Los Angeles RWQCB. Habitat Planning should include the Forest Service, Fish and Wildlife, California Fish and Game and state conservancies. Specific examples of state and federal agencies that should be involved in more detailed water supply, water quality, and habitat/open space planning are identified in Table 1-3.

Development of a funding strategy should include key state and federal agencies, including the DWR and State Water Resources Control Board (to assure eligibility for future state funding opportunities) and the U.S. Army Corps of Engineers (to assure eligibility for U.S. Army Corps of Engineers participation in ecosystem restoration activities. Please see the next section on Funding for a more complete discussion of activities recommended to develop a local, state, and federal funding strategy to support implementation of the IRWMP.

4. FUNDING

4.1 Funding Options for Project Implementation

The Leadership Committee has acknowledged that significant financial resources are needed to implement projects to achieve the Regional planning targets, and there are currently limited funding sources dedicated to these targets. Cost estimates have been developed which suggest it could take between $25 and $54 billion to achieve Regional planning targets, and it is clear that existing local revenue streams will not be sufficient to achieve these targets in 20 years. The Leadership Committee has acknowledged that additional funding sources are needed, and these will likely be a combination of local, state and federal sources. Following is a discussion of the major activities needed to assure a comprehensive funding plan is developed and implemented in support of the IRWMP.

4.1.1 Local Funding Strategy

The Leadership Committee has indicated that local funding measures should be considered as a part of their overall strategy to develop the appropriate revenue to achieve the Regional planning targets in the next 20 years. While existing funding mechanisms are in place for development of water supply and wastewater facilities and operation and maintenance of these facilities, they are not adequate to achieve these goals, and in addition, there is no widespread similar local revenue-generating mechanism in place to provide for management of stormwater quality.

The Los Angeles County Watershed Infrastructure Funding Workgroup, along with the American Society of Civil Engineers (ASCE) prepared a draft report in September 2005 which evaluated several options for developing local funding, as well as the advantages and disadvantages of those options. That draft report is attached with permission as Appendix F to this document. Of the funding sources evaluated in that report, three were judged to be the most promising for funding most of the costs of the watershed management program. They are special purpose property taxes, benefit assessments and utility fees. All three sources comply well with the following evaluation criteria described in Section 3:

- **Administrative Cost.** The sources have relatively low administrative costs.
- **Availability of Funds.** The sources all can provide funds for the entire IRWMP (i.e., capital projects as well as operation and maintenance [O&M])

Table 4-1 provides a comparison of the three best funding sources in relation to the remaining evaluation criteria. Please refer to Appendix F for a detailed summary of the advantages and disadvantages for various approaches to developing a local funding measure. It should be noted that it is extremely challenging to develop local funding in the state of California since the adoption of Proposition 218 in 1996 which extended the requirement for a 2/3-vote of the electorate (or 50 percent of the returned ballots of property owners) to most local funding options.

Table 4-1. Comparison of the Three Best Local Funding Alternatives					
Funding Source	Equity	Implementation Feasibility	Stability of Revenue	Acceptable	Flexibility
Bonds and Property Tax for Capital, Parcel Tax for O&M	All property owners pay for runoff from public places and would be appropriate for funding the general benefits of multipurpose projects. Poor nexus between payment and runoff from private properties.	Parcel taxes cannot be varied to fit well with the existing funding sources of the cities to guarantee that all residents pay their fair share. Parcel taxes could not vary between watersheds.	Property tax revenues could be reduced somewhat if falling property values force the County to lower assessed valuations. Parcel tax revenues are stable.	Requires 2/3 vote.	Can cover all types of costs.
Benefit Assessment	Good nexus between payment and contribution to runoff from private property. Must assume that responsibility for runoff from streets is proportion to runoff from private property.	Can vary to fit well with the existing funding sources of the cities to guarantee that all residents pay their fair share. Assessments could vary between watersheds.	Revenues are very stable.	Requires half of weighted vote of property owners. Large properties could defeat the vote.	May not cover the costs of general benefits, which could be much of the total.
Utility Fee	Good nexus between payment and contribution to runoff from private property. Must assume that responsibility for runoff from streets is proportion to runoff from private property.	Can be varied to fit well with the existing funding sources of the cities to guarantee that all residents pay their fair share. The fees could vary between watersheds.	Revenues are very stable.	Requires either half vote of property owners or 2/3 vote of the general electorate.	May not be used for general government services, but will likely cover more than assessments.

The ASCE draft report does not recommend a single best funding source for implementation of IRWMP projects. The advantages and disadvantage of the three alternative sources are presented in the paper so that policy-makers can choose among them.

In response to a unanimous motion by the Los Angeles County Board of Supervisors in September 2005, the Los Angeles County Department of Public Works, along with other County departments and agencies, is currently evaluating several options to fund solutions that would address surface water quality with an emphasis on multi-use projects. Options including those described would assist the IRWMP Leadership Committee to achieve progress towards Regional planning targets through the development of stable, long-term local revenue streams. Public Works, and its partners, are conducting additional research on the various funding options available and developing recommendations to the County Board of Supervisors on how to best proceed with a funding measure. Subsequent work will include identifying potential benefits that would be provided by the funding measure (e.g. progress towards IRWMP targets), developing a thorough assessment of existing operations, and developing a plan to educate the public. One option that may be considered as a model funding mechanism is the Los Angeles County Safe Neighborhood Parks Proposition of 1996 as it provided revenue to cities and directly to projects through three separate methods.

Possible next steps in developing the local funding plan include:

Develop Local Funding Plan

- Evaluate current sources of funding for water supply, water quality, and open space and determine funding gaps;
- Evaluate feasibility of implementing a local funding measure based on conclusions of ASCE draft report and other reliable sources, such as research provided by the County of Los Angeles Department of Public Works;
- Evaluate potential for state and federal partners so that an estimate of the required local share of funding can be developed;
- Identify and rank new local funding alternatives; and
- Prepare draft local funding plan.

Perform Partnering Activities

- Identify key local stakeholders;
- Meet with stakeholders to promote funding plan and partnerships;
- Compile feedback from stakeholders, revise funding plan based on stakeholders' input; and
- Develop education and outreach campaign to educate the public on the IRWMP targets, the need for infrastructure to achieve the targets, the need for additional local revenue, etc.

Implement Local Funding Plan

- Implement Local Funding Plan; and
- Fine-tune Local Funding Plan as Implemented.

4.1.2 State Funding Strategy

Voters of the State of California have been passing a number or statewide water-related funding measures in the past several years including Propositions 12, 13, 40 and 50. In addition there continues to be discussion about future funding measures (Proposition 84, which would provide significant funding for watershed infrastructure, is on the November 2006 ballot). The IRWMP Leadership Committee was formed because of the funding available through the State, and has acknowledged that future statewide funding could play a significant role in assisting them with achieving their Regional planning targets. The following activities are recommended as a part of a state funding strategy:

Evaluate and Apply for Existing State Funding Opportunities

- Continue to move forward with Proposition 50, Round 2, grant applications for IRWMP watershed planning and projects in 2007;
- Consider other Chapters of Proposition 50 grant funding and their applicability to IRWMP implementation.
- Evaluate other statewide funding opportunities including Cal Fed Watershed program grants, and Proposition 84 (if it passes).

Participate in Crafting and/or Providing Leadership of Future Statewide Funding Measures

- Participate in statewide discussions regarding the scope and projects to be funded in Proposition 84, as well as the appropriate distribution of funds statewide.

- Identify appropriate person(s) to represent the IRWMP Leadership Committee in the negotiations on development and interpretation of the language in any draft or final funding measure.

Perform Partnering Activities

- Identify key statewide stakeholders;
- Meet with stakeholders to promote state funding plan and partnerships;
- Compile feedback from stakeholders, revise funding plan based on stakeholders' input.

Implement State Funding Plan

- Implement Funding Plan
- Fine-tune Funding Plan as Implemented

4.1.3 Federal Funding Strategy

There are numerous federal agencies whose missions speak to one or more of the objectives identified in the IRWMP. Prominent among them are the U.S. Army Corps of Engineers, Bureau of Reclamation, and the Environmental Protection Agency. Merely coordinating future planning efforts with these agencies will provide considerable benefits, as agency representatives are able to contribute through their technical expertise as well as their knowledge of relevant federal regulation. In addition, these three agencies, and perhaps others, have the ability to provide funding and technical assistance to specific planning studies aimed at formulating projects to meet IRWMP objectives.

In addition to the funding for planning studies, some federal programs can provide more than half of the costs to design and build projects meeting the criteria for federal participation. Project features not eligible for funding by one agency may still be eligible for funding in a different department. Furthermore, the types of assistance available and the criteria for eligibility often change as Congress adds new programs or modifies existing ones and implementing policy is refined. Only by maintaining regular coordination with each agency can local groups be assured of realizing every opportunity for federal assistance.

The following activities are recommended as a part of a federal funding strategy:

- Develop a list of opportunities to leverage local funding for the design and construction of IRWMP projects through partnerships with federal agencies.
- Identify specific existing federal programs with the ability to share funding for the design and/or construction of single/multi-purpose facilities to achieve progress with IRWMP Regional planning targets.
- Identify ongoing joint local and federal investigations that could accelerate the future commitment of Federal funds.
- Redefine existing federal investigations that would provide federal funding for continuing stages of watershed planning in 2007.
- Meet with staff of the Los Angeles District of the U.S. Army Corps of Engineers and determine available avenues for federal participation and identify local actions required to initiate new studies/projects.
- Identify appropriate staff at Bureau of Reclamation Southern California Area Office to meet and discuss federal partnership opportunities.
- Meet with staff of Bureau of Reclamation and determine available avenues for federal participation and identify local actions required to initiate new studies/projects.
- Meet with staff of Environmental Protection Agency and determine available avenues for federal participation and identify local actions required to initiate new studies/projects.

- Summarize the various federal opportunities enumerating their pros and cons and recommending those best suited to the IRWMP Leadership Committee's objectives.
- Describe the actions/timelines under existing programs to initiate new local partnerships to secure federal contributions for the design and/or construction of new facilities.
- Determine appropriate agencies that could act as the local cost-sharing sponsor for new federal studies/projects.
- Identify appropriate members to form a Congressional delegation in support of the IRWMP to advocate new authorizing language and/or appropriation of Federal funds once a local sponsor has been established.
- Draft and promote authorizing language for a Southern California Coastal Ecosystem study/project authority that would be comparable to the U.S. Army Corps of Engineers umbrella authority for restoration of the Florida Everglades. Such legislation would help create a national identity for and awareness of the significance of the remaining ecosystem while uniting the regions entire congressional delegation to secure commitment of substantial federal resources to ecosystem restoration including projects that generate restoration benefits through water quality improvements.
- Meet with members of the congressional delegation and identify champion/sponsor for legislation and strategy for implementation of legislation.
- Participate in implementation of legislative strategy at the local level as advised by congressional delegation (e.g., coordinate/build buy-in with local elected officials at County and City levels).
- Coordinate with the IRWMP Leadership Committee Legislative Subcommittee on how to coordinate and implement strategy at local level.

While no definitive funding plan has been developed to date; a description of potential funding sources for implementation of IRWMP projects is identified in Table 4-2.

Table 4-2. Potential Sources of Funding to Implement IRWMP Projects

	Sources	Expected Contribution	Targeted Beneficiaries
Local	• Local sales tax • Bond and associated property tax • Utility fee or benefit assessment based on use of the property • Utility fee or benefit assessment based on total area and impervious area • Gasoline tax • Water sales • Parcel tax	High (>50%)	Region's residents, environment, and economy
State	• Competitive grants • Appropriations • State-wide Assessments	Moderate (10-50%)	Statewide environment and economy
Federal	• Appropriations • Competitive grants	Moderate (10-50%)	Areas of national environmental or economic significance
Others	• Individual and corporate donors • Foundations and other non-profit organizations	Low (<10%)	Particular communities or targeted interests in the Region

4.2 Funding Options – Additional Planning

The Leadership Committee and Steering Committees are acknowledging that additional planning is needed within the Region and Subregions during 2007 and 2008 to refine projects that have been identified through the call for projects, as well as to develop fully integrated sets of projects and a comprehensive vision for the Region and the Subregions (over the next 20 years) which will ultimately achieve the Regional planning targets.

To fund additional detailed IRWMP planning, several funding options may be possible:

- Contribution from local sources (e.g., Leadership and Steering Committee members);
- Grant from State Funds (e.g., Round Two of Proposition 50 or future bonds);
- Legislative Appropriation; or
- Federal Funds (e.g., via U.S. Army Corps of Engineers participation)

Of these, probably only local fund sources could be made available in a timeframe that would permit continuation of current IRWMP activities during 2007 (e.g., continued meetings of Leadership and Steering Committees). The other fund sources would likely have a substantial lead time, resulting in a delay in the onset of additional planning.

4.3 Funding - Proposition 50, Round 1 Project

While much of the focus of this TM is on future planning and implementation of future projects that have yet to be clearly defined, it is important to note that the Leadership Committee submitted a Proposition 50, Chapter 8 (Round 1) Implementation grant application for $25 million to support 13 projects submitted by various entities in the Region.

4.3.1 Proposed Funding

The cost and proposed funding sources for implementation of the 13 Round 1 projects is shown in Table 4-3.

Table 4-3. Proposed Sources of Funding to Implement Round 1 Projects

Project Short Name	Total Budget	Local Funds	Other Secured	State Funds Requested	Annual O & M Costs
Central Basin SWRP	$54,676,000	$51,146,000	-	$3,530,000	$1,750,000
Joint Power Pollution Control Plant (JWPCP) Marshland Enhancement	$2,637,065	$2,237,065	-	$400,000	$150,000
Large Landscape Conservation	$5,291,360	$3,191,360	-	$2,100,000	$702,000
Las Virgenes Creek Restoration	$1,063,090	$33,490	$514,600	$515,000	$43,500
Malibu Creek Water Conservation	$883,600	$457,600	-	$426,000	$117,000
Morris Dam Water Supply	$13,258,175	$8,122,541	-	$5,135,634	$243,600
North Atwater Creek Restoration	$5,600,000	$3,350,000	-	$2,250,000	$200,000
Pacoima Wash / 8th Street Park	$1,328,650	$435,150	$306,500	$587,000	$80,000

Table 4-3. Proposed Sources of Funding to Implement Round 1 Projects					
Project Short Name	Total Budget	Local Funds	Other Secured	State Funds Requested	Annual O & M Costs
San Gabriel Valley Arundo Removal	$198,000	$20,000	-	$178,000	$0
Solstice Creek Restoration	$235,733	$157,367	-	$78,366	$210,000
South Los Angeles Wetlands Park	$11,820,000	$8,520,000	-	$3,300,000	$210,000
Whittier Narrows Water Reclamation Plant UV	$7,741,960	$5,741,960	-	$2,000,000	$445,000
Wilmington Drain Restoration	$12,030,000	$7,530,000	-	$4,500,000	$200,000
Totals	$116,763,633	$90,942,533	$821,100	$25,000,000	$4,351,100

5. CALIFORNIA ENVIRONMENTAL QUALITY ACT COMPLIANCE

5.1 Strategy

The IRWMP is a feasibility or planning study which identifies possible future actions the members of the RWMG have approved, adopted, or funded. Potential environmental effects that might results from implementation of the Plan are identified in Section 6.2 (Benefits, Costs, and Impacts). Therefore, consistent with Section 21083 of the Public Resources Code, the IRWMP is statutorily exempt from the California Environmental Quality Act (CEQA).

Any agency decision to implement any project or program identified herein would be subject to CEQA compliance at such time as such agency commits to fund or implement the project.

6. DATA MANAGEMENT

6.1 Data Management

The collection, management, dissemination and utilization of data (e.g., information gathered from studies, sampling events, or projects) are an essential element to creating a sustainable integrated plan. Information needs to be available to regional leaders, stakeholders, and the public to facilitate effective planning and decision-making. A comprehensive data management approach will help to quickly identify data gaps, detect and avoid duplicate data collection efforts, support statewide data needs, and integrate with other regional and statewide programs.

A draft data management plan was presented in the Interim Draft IRWMP, which described the management and dissemination of data; statewide data needs; existing monitoring efforts; and integration into state programs. The draft data management plan did not identify which specific agency (or agencies) would be responsible to collect, manage, and disseminate the data.

The County of Los Angeles is the agency with the largest jurisdictional area within the Region. As the National Pollutant Discharge Elimination System (NPDES) permit holder for most of Los Angeles County, the County is already charged with the collection, management and dissemination of data related to surface water quality. Thus, for the purposes of the IRWMP, it would seem logical that the County should continue to be responsible for water quality data.

No single water agency has responsibility for the entire Region, and the boundaries of the Metropolitan Water District of Southern California exceed the Region's boundaries (and various local water agencies are not members of the Metropolitan Water District). As the County of Los Angeles is the agency with the largest jurisdictional area within the Region, and as the County Department of Public Works has a water resources division, it is proposed that the County assume responsibility for the collection, management, and dissemination of water supply data for the purposes of the IRWMP.

As the County of Los Angeles is the agency with the largest jurisdictional area within the Region, and as the County's has established a Regional Parks and Open Space District, it is proposed that the County assume responsibility for the collection, dissemination of data related to open space for the purposes of the IRWMP.

7. PERFORMANCE MEASURES

7.1 Performance Measures

To measure the performance of the IRWMP and the identified projects and to allow for adjustments where necessary, a set of metrics has been established. Metrics at the IRWMP level were developed based on regional objectives to allow progress of the overall IRWMP to be measured. At the project level, metrics were developed to measure individual project performance based on the established goals of each project. Monitoring programs at both levels are planned to collect performance related data which will be analyzed and compared to the established metrics. Performance data will provide feedback into an adaptive management process that will be used to modify both project operations and the IRWMP implementation plan based on actual results. This section describes the monitoring methods and programs that will be used to collect data and the mechanisms by which this data will drive future improvements to projects and the IRWMP.

Detailed monitoring procedures are established for all projects that will be implemented as part of the IRWMP. These procedures are summarized in Table 7-1.

Table 7-1. Project Monitoring and Program Performance Measures

IRWMP Program	Project Monitoring	Program Performance
Imported Water Reduction and Supply Reliability	• Number of water conservation devices provided • Volume of recycled water distributed • Volume of water created or stored	• Total volume of total water supply created or conserved
Watershed and Santa Monica Bay Water Quality Improvements	• Volume of stormwater captured • Water quality parameter measurements	• Total volume of total runoff captured, infiltrated, and/or treated • Observed water quality improvements
Recreational and Open Space Access	• Acreage created • Number of Trail/Park visitors	• Total acreage created
Natural Habitat Conservation and Restoration	• Acres restored • Acres maintained • Miles of river restored • Water quality measurements	• Miles of habitat created

7.1.1 Imported Water Reduction and Supply Reliability Monitoring

Since the goals of this program involve quantities of supply created, conserved or reused, monitoring will typically involve measuring volumes of water.

Project Monitoring

Quantities of water conservation devices will be tracked as well as the number and attendance of public awareness events.

For recycled water projects, quantities of recycled water distributed will be measured and recorded. This will provide information on how much imported water is being replaced. Examination of user data may provide information that can guide the future expansion of water recycling systems based on areas of high usage. Monitoring of water quality parameters required by the RWQCB will also be performed by the recycled water producer as part of water recycling requirements. This water quality information can be used to determine appropriate further treatment and usage of the recycled water.

For other water supply projects such as desalting and storage capacity, the amount of water created or stored will be measured through flow metering devices and recording of water levels.

Program Performance Measures

To track the progress at a program level, the total actual contributions of all implemented projects will be determined. As an independent evaluation, water use figures from water agencies will be compiled annually to determine if imported water reductions are indeed being realized. These will be obtained from water agency records, California Urban Water Conservation Council (CUWCC) reports, and urban water management plans (UWMPs) (every 5 years).

7.1.2 Watershed and Santa Monica Bay Water Quality Improvements Monitoring

The metrics for this program have been designed to match the objectives which are described in terms of water quality improvements realized and volumes of urban runoff captured.

Project Monitoring

Flow measurement devices will be installed at key outflow locations for urban and stormwater runoff projects to record amounts of flow captured by the project.

Additionally, for stormwater capture and infiltration projects, water quality will be sampled and analyzed for a variety of constituents, including bacteria (E. Coli,), oil and grease, nutrients (nitrogen and phosphorus compounds), heavy metals, and other compounds that are specific to the areas of concern. This will enable the effectiveness of the BMP to be evaluated and modified. Even though some projects are being implemented as part of a specific TMDL (e.g., bacteria, trash), they often capture a range of pollutants, thus monitoring these pollutants will allow the BMP to be factored into future TMDLs that are developed.

Program Performance Measures

Total quantities of runoff captured by IRWMP projects will also be used as a program metric. Water quality improvements on a regional or Subregional scale are the true measures of success for this program. The County of Los Angeles maintains a stormwater sampling program. There are many organizations that measure beach water quality and water quality in watersheds throughout the Region. The number of beach closures and postings from bacterial contamination will be used as a metric for water quality impacts on the Santa Monica Bay. There are many stakeholder-based volunteer monitoring efforts that also measure water quality. Data from these efforts will be compiled annually and compared against the developed metrics to assess the regional effects of IRWMP water quality projects.

7.1.3 Recreational and Open Space Access

The basic metric for Recreational and Open Space Access will be acres of open space created, particularly in urban areas.

Project Monitoring

The primary metric for open space will be to monitor the acreage created.

Program Performance Measures

The sum of all open space and recreation acreage created will be used to measure program performance on a five year basis when the IRWMP is updated.

7.1.4 Natural Habitat Conservation and Restoration

The objectives of the Natural Habitat Conservation and Restoration program are in terms of acres or linear miles restored and metrics have been developed in these terms.

Project Monitoring

Habitat Restoration/Exotics Removal projects will be measured in acres restored. Exotics removal projects will be monitored for regrowth periodically (e.g., every 3-5 years depending on the sensitivity of the site). Native fish habitat restoration projects will be measured in miles of river restored or transformed to be amenable to native fish species. Water quality monitoring will be used to measure project success in terms of creating suitable habitat for fish migration and reproduction.

The performance of wetlands creation projects will be measured by acres of observed suitable vegetation that is created. Site surveys will be conducted by qualified biologists to document vegetation survival rates and the presence and extent of non-native plants. The site will also be evaluated for proper hydrologic function. Water quality at the entrance(s) and exit(s) to the site will be measured to determine the water treatment effectiveness of the project.

Program Performance Measures

On a program level, one measure of success will be the total acreage and mileage of habitat that is restored and most importantly maintained. Another measure of program success will be the return of native fish, birds or other indicator animals to the targeted rivers and the increased presence of wildlife to restored areas. Performance will be reported on a 5 year basis.

7.1.5 Overall IRWMP Progress Measurement

One method for documenting progress of the IRWMP as a whole will be the preparation of periodic progress report summarizing the projects that were implemented that year as part of the plan and the corresponding program level performance data in terms of regional benefits observed. This will be based on a 2006 reference year so that progressive gains can be measured. Based on the rate of progress towards a specific regional planning target, the project prioritization and types will be altered to produce faster progress in those areas that are desired.

A forward looking report will also be prepared annually that determines the next set of projects that can be implemented based on anticipated funding. By establishing this list of "preferred projects" annually in advance, this will provide a proactive procedure for targeting upcoming funding opportunities.

8. NEXT STEPS

8.1 Project Implementation

8.1.1 Proposition 50, Round Two

In the spring of 2007 it is anticipated that Round 2 of Proposition 50, Chapter 8 funding for project implementation will become available. A list of candidate projects should be developed, which would ultimately be narrowed to a short list of projects that would form the basis of a grant application. This will require development of project prioritization criteria (presumably based on the Plan objectives), which would be applied to the projects in the project database. It is assumed that another call for projects will be issued to expand the number of projects in the database. The short list of projects (generated by identifying the highest ranking projects in the project database) would then be reviewed against the prioritization criteria in the grant application to create the list of specific projects that would be included in a grant application to the state.

8.1.2 Project Development Assistance

As noted in the Project Integration TM, only about one-third of the submitted projects submitted include quantified information on project benefits. Thus, it can be inferred that approximately two-thirds of the projects require some additional refinement before such information can be generated. In addition, only about half of the cities in the Region submitted projects. Thus, it is likely that additional projects and project concepts have yet to be submitted. In some instances, additional outreach may result in the submission of projects. However, it is also likely that some jurisdictions and agencies lack the staff resources to develop and submit projects. Thus, additional outreach on projects is needed, along with some form of project development assistance.

8.2 Additional Planning

8.2.1 Watershed Planning

As noted in the Interim Draft IRWMP, substantial portions of the Region are covered by existing or in-progress watershed plans. Preparation of additional watershed plans is suggested for those watersheds not currently covered by a plan, including: Burbank (east and west) Wash, Verdugo Wash, the mainstem of both the Los Angeles and San Gabriel Rivers (although the respective river Master Plans cover the river corridors and some adjacent lands), the Upper Los Angeles River (not covered by the Tujunga Plan and the Headwaters Plan), Los Cerritos Channel, and numerous smaller watersheds that drain directly to Santa Monica Bay and San Pedro Bay.

For these plans, the following water management strategies should be addressed: Environmental and Habitat Protection and Improvement; Groundwater Management/Conjunctive Use; Improve and Protect Water Quality; Integrated Planning; NPS Pollution Control; Recreation and Public Access; Restore Ecosystems; Stormwater Capture and Management; Watershed Planning; and Wetlands Creation and Enhancement

For the watershed plans that have already been completed, regular updates of those plans should be undertaken, to ensure that over time all local watershed plans address a consistent set of issues, and that each

plan is modified in response to changes in local conditions and supports the regional objectives established in the IRWMP.

8.2.2 Subregional Planning

To recognize the variation in conditions across the regions and assure more local input into the IRWMP process, additional planning at the Subregional scale is needed. As suggested in Table 1-4, the complete list of water management strategies that should be addressed at the Subregional scale include: Asset Management; Improve and Protect Water Quality; Integrated Planning; NPS Pollution Control; Stormwater Capture and Management; Water and Wastewater Treatment; and Water Recycling. In simpler terms, this suggests that subsequent planning at the Subregional scale should address:

1. management of the water, wastewater, and flood protection infrastructure;
2. the reduction, capture, treatment and reuse of urban and stormwater runoff;
3. water and wastewater treatment; and
4. recycled water distribution and use.

As part of the IRWMP development, a call for projects was issued which resulted in the submission of more than 1,000 projects and project concepts, which are currently available for review on the IRWMP website. To make progress towards the Regional planning targets, individual projects included in the database will be implemented as funding becomes available, and the projects and the project concepts included in the database will be continually refined. In addition to these projects, the Subregional Steering Committees are acknowledging the importance of developing a specific vision and plan for each Subregion which will be based on information provided in the Project Integration and Benefit Assessment TMs prepared in July 2006. These documents outlined three regional planning tools (or project scenarios) which suggest combinations of several water supply, water quality, and open space projects which if implemented, would meet the water supply and water quality planning targets and substantially contribute to the habitat and open space targets. These tools will allow each Subregion to prepare a Subregional Plan which will result in customized visions and well-defined specific projects for each Subregion.

More detailed planning is proposed to refine the regional planning tools into more specific solutions for each Subregion and more definitive projects. As those projects are identified, they could be merged with or replace those projects already included in the project database to create a comprehensive project list for the IRWMP Region which would achieve the objectives and planning targets.

At the same time that more detailed planning occurs at the Regional and Subregional scales, project development activities could also occur, including the preparation of schematics for generic projects (such as stormwater enhancement sites, which could be scaled as needed), and project development standards (to promote consistent project parameters).

As many of the projects submitted to the project database were only concepts, refinement of those project concepts is needed. In addition, additional outreach to cities and agencies that did not submit projects is needed, which may include some form of project development assistance. .

8.2.3 Regional Planning

Although Table 1-4 suggests that planning at the regional scale should address all of the water management strategies, three major topics warrant additional planning at this scale: water supply, habitat, and open space. In addition, the development of a funding strategy to support implementation of the IRMWP at the regional scale is proposed.

Water supply issues have traditionally been addressed within jurisdictional boundaries, or via adjudication of groundwater basins. Although the Metropolitan Water District of Southern California covers much of the Region, no water supply planning has been done at the Regional scale. Given the magnitude of some of the issues, the long standing debates between various water entities in some areas, and the volume of water demand, a Regional discussion of water supply issues could result in identification of data needs, ideas for cooperative projects, and agreement on Regional priorities.

Open Space and Parkland have traditionally been addressed within jurisdictional boundaries. Given the magnitude of the planning target, a regional approach to develop strategies and programs to address the parkland deficiency may be warranted.

Habitat issues have traditionally been addressed at different scales, with jurisdictions planning within their boundaries and resource management agencies planning at scales that are larger than the Region. Although some habitat planning is ongoing, much of this is limited to specific areas (e.g., coastal wetlands or the National Forest), and has yet to address the difficult questions of conservation and preservation of habitat around and within the urbanized portions of the Region. Although some long-term goals have been suggested (e.g., more naturalized stream channels), little work has been done to articulate the precise elements of that vision, or to define incremental steps that would contribute to that long-term version.

8.3 Plan Updates

8.3.1 Adaptive Management

After the first phase of implementation projects has begun, a process of adaptive management will be used to analyze performance data and guide the modification of projects and future IRWMP implementation.

Project Level Response

The first level of response to performance will be at the project level. Agencies 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. Sponsors of similar projects will also be consulted. In addition, working groups will be formed to share information and experience regarding specific types of project issues. 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. This may cause a change in project sequence if the projects in question are addressing higher priority issues. Alternatively, if some projects exceed expectations or capacity, then investigation should be made to see if the project can 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, 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 site 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. For instance, if a certain area is demonstrated to possess higher than assumed pollutant loads, then this information will also be fed back into the BMP prioritization database to allow updated models to be completed and new projects identified.

Programmatic Response

At the program level the regional targets are not being met, then the composition of a particular program will be analyzed to determine if a more optimal mix of project types and/or water management strategies would offer an improved chance for success.

Institutional Response

Finally, if both project level and programmatic 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 be critical for success. Changes to the stakeholder process could be explored to bring new ideas. Finally, a change in RWMG structure or decision making process could also be considered to bring a fresh approach.

8.3.2 IRWMP Responsiveness

The RWMG provides the forum for future decision making and will allow the IRWMP to be adjusted to account for regional changes. To facilitate response to changes, an annual integrated plan summit workshop will be held to discuss the past year's successes and challenges as well as future challenges. Following the workshop a leadership summit will be convened to make decisions for the upcoming year. Changes in regional priorities and/or project priorities can be addressed during these meetings and necessary updates voted upon and incorporated if necessary.

As part of the final IRWMP, a formal process for project nomination, submission and listing will be agreed upon, as well as the time and process for review. To provide the basis and information necessary for such decisions, the water management representatives and Subregional representatives should have responsibilities for collecting and processing information for projects in their respective water management areas.

Future projects will be incorporated into the IRWMP and prioritized against other projects through a nomination voting procedure to be established. In order to be considered for inclusion into the IRWMP, a project must establish the measurable criteria. A project can enter at three levels:

1. Ready to proceed: The project is ready to proceed and is seeking funding. The project must be prioritized against other projects in the same program.
2. Design Phase: The project is in design phase.
3. Conceptual Phase: Includes projects which may or may not have completed conceptual planning. At a minimum, a potential location has been established for the project.

8.3.3 Schedule for Updates

The IRWMP will be updated at a minimum every five years as further study and planning is conducted, projects continue to be developed and objectives and priorities are adjusted.

9. SCHEDULE

9.1 Proposition 50 Round 1 Projects

9.1.1 Background

To receive implementation funding, the Region submitted 13 projects to the DWR as part of the Round 1, Step 2 application process. Those 13 projects are described more fully in the Step 2 Application Package which is posted to the IRWMP website (www.lawaterplan.org).

9.1.2 Schedule

Table 9-1 provides the proposed schedule for the implementation of the 13 projects included in the Step 2 grant application.

Table 9-1. Round 1 Implementation Grant Project Schedules

Project Short Name	2006	2007	2008	2009	2010	Projected Construction Start Date
Central Basin SWRP						Jan 2007
JWPCP Marshland Enhancement						Jul 2006
Large Landscape Conservation						May 2007
Las Virgenes Creek Restoration						May 2007
Malibu Creek Water Conservation						May 2007
Morris Dam Water Supply						May 2007
North Atwater Creek Restoration						May 2007
Pacoima Wash / 8th Street Park						May 2007
San Gabriel Valley Arundo Removal						May 2007
Solstice Creek Restoration						Oct 2007
South Los Angeles Wetlands Park						May 2007
Whittier Narrows WRP UV						Apr 2007
Wilmington Drain Restoration						May 2007

Symbol Key: Design; Construction

9.2 Implementation of Additional Projects

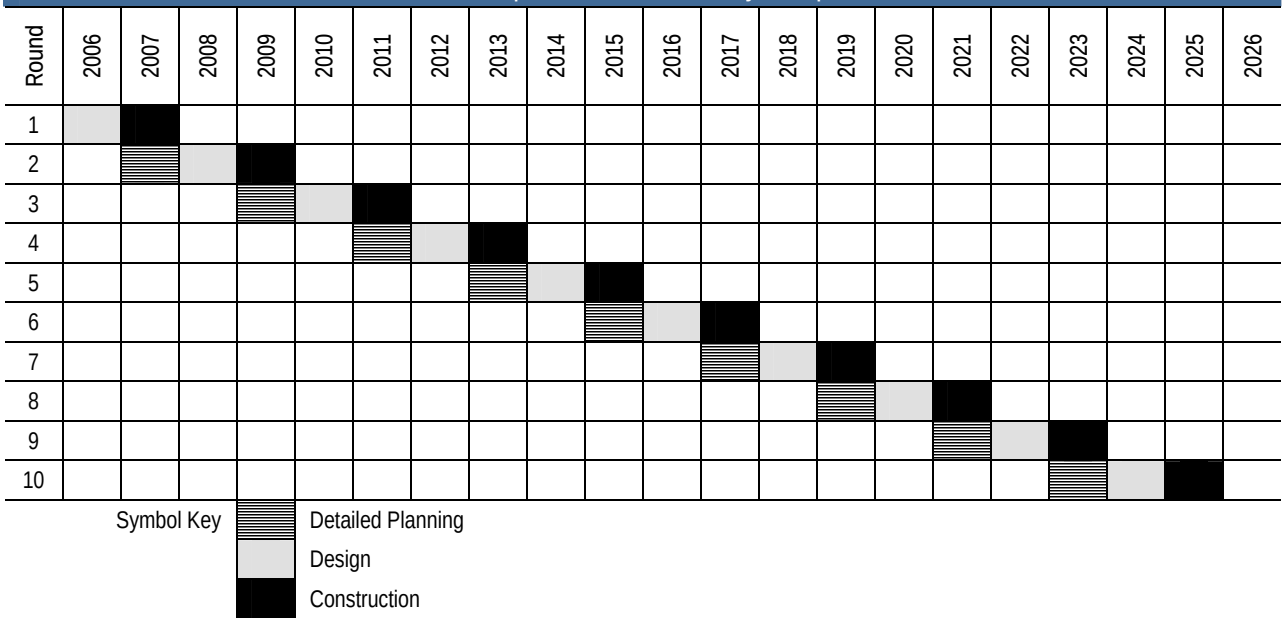
9.2.1 Background

To inform development of the IRWMP, a call for projects was issued which resulted in the submission of more than 1,000 projects and project concepts, which are currently available for review on the IRWMP website. To make progress towards the plan's objectives and planning targets, individual projects included in the database could be implemented as funding becomes available. In addition, the project concepts included in the database could be further refined as more definitive projects. This could include some form of project development assistance to jurisdictions, agencies and stakeholder organizations.

9.2.2 Conceptual Schedule

Although no specific schedule has been developed for refinement and implementation of the more than 1,000 projects and project concepts, assuming that a funding opportunity could be identified every two years, then approximately 100 projects would need to be implemented per funding cycle to fund and implement all 1,000 projects over the 20 year life of the Plan. Table 9-2 presents a conceptual schedule for project implementation, assuming 10 rounds of funding (with Rounds 1 and 2 funded by Proposition 50, Chapter 8) and subsequent rounds funded by a currently unknown fund source, which could include future state bonds and local funds). This schedule indicates that detailed planning for Round 1 projects has already occurred, and that construction of those projects would begin in 2007, consistent with Table 9-1. This schedule is intended to simply illustrate a possible approach to project implementation over the next 20 years. It should be acknowledged here that additional project development will need to occur over the next few years to refine the existing project ideas, as well as to develop new project ideas that may improve or replace the existing set of projects. This document as well as the following schedule is intended to provide a snapshot in time regarding the current progress of this project development effort, as well as to stimulate discussion on how to make progress towards the Region's targets for water supply, water quality, and open space.

Table 9-2. Conceptual Schedule for Project Implementation



9.3 Additional Planning

9.3.1 Background

The Project Integration TM identifies three conceptual regional planning tools (or approaches) which combine various project concepts to meet the established Regional planning targets. More detailed planning is proposed to refine the regional planning tools into more specific solutions for each Subregion and more definitive projects. As those projects are identified, they could be merged with or replace those projects already included in the project database to create a comprehensive project list for the IRWMP Region which would achieve the objectives and planning targets.

At the same time that more detailed planning occurs at the Regional and Subregional scales, project development activities could also occur, including the preparation of schematics for generic projects (such as stormwater enhancement sites, which could be scaled as needed), and project development standards (to promote consistent project parameters).

9.3.2 Schedule

Refinement of the regional planning tools and development of customized project solutions for each of the five Subregions is estimated to require approximately 18 months, as illustrated in Table 9-3.

Table 9-3. Conceptual Schedule for IRWMP Implementation

	2007												2008										
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Governance Options																							
Maintain Existing Leadership Committee/Steering Committees																							
Evaluate Modification of Existing Structure																							
Implement Recommended Modifications																							
Coordination with State and Federal Agencies																							
Coordinate project development with state and federal agencies																							
Funding																							
Develop and Implement Local Funding Plan																							
Develop and Implement State Funding Plan																							
Develop and Implement Federal Funding Plan																							
Project Development																							
Prepare Design Guide for Subregional Use																							
Provide Development Assistance to Subregions																							
Prop 50 Round 2 Project Development																							
Select Projects in Each Subregion (Estimated)																							
Prepare Regional Application (Est.)																							
Additional Planning - Subregional																							
Develop Subregional Planning Targets																							
Develop Subregional Vision (based on Regional Planning Tools)																							
Integrate Existing Projects																							
Develop New Projects to Achieve Subregional Targets/Vision																							
Prepare Subregional Plans																							
Additional Planning - Regional																							
Implement Data Management Plan																							
Identify Regional Water Supply Projects																							
Identify Regional Habitat Projects																							
Identify Regional Open Space Projects																							
Revise IRWMP to Reflect Regional and Subregional Projects																							
Future State Grant Project Development (e.g., Prop 84)																							
Select Projects in Each Subregion (Estimated)																							
Prepare Regional Application (Estimated)																							

10. LIMITATIONS

Report Limitations

This document was prepared solely for the Leadership Committee of Greater Los Angeles County Integrated Regional Water Management Plan in accordance with professional standards at the time the services were performed and in accordance with the contract between the Leadership Committee of Greater Los Angeles County Integrated Regional Water Management Plan and Brown and Caldwell dated May 15, 2006. This document is governed by the specific scope of work authorized by the Leadership Committee of Greater Los Angeles County Integrated Regional Water Management Plan; it is not intended to be relied upon by any other party except for regulatory authorities contemplated by the scope of work. We have relied on information or instructions provided by the Leadership Committee of Greater Los Angeles County Integrated Regional Water Management Plan and other parties and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.

Current and planned projects throughout the Region demonstrate local awareness of the value of integrating habitat creation and preservation with passive and active recreation as well as other water management objectives such as increased infiltration and natural treatment of runoff. Integrating these local efforts into a IRWMP will lead to more effective projects resulting from the sharing of information and resources between the various local proponents, increase available resources by facilitating new partnerships, and increase individual project benefits through integration with other projects into regional efforts.

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APPENDIX A

Implementation Plan for North Santa Monica Bay Subregion

Draft Technical Memorandum

Greater Los Angeles County IRWMP

Subject: **Implementation Plan for North Santa Monica Bay Subregion**

Prepared For: Michael Drennan, Brown & Caldwell (B&C)

Prepared by: Brett Kawakami (RMC)

Reviewed by: Tom West (RMC)

Date: September 1, 2006

RMC Reference: 0078-002.04

This technical memorandum (TM), prepared under Task 4 of the Greater Los Angeles County Integrated Regional Water Management Program (IRWMP), provides an outline for IRWMP implementation in the North Santa Monica Bay (NSMB) Subregion.

The intent of the TM is to spur discussion among the members of the Leadership Committee and the NSMB Steering Committee relative to the key implementation activities necessary for the NSMB Subregion for the region to ultimately achieve the objectives and planning targets identified in the IRWMP, over the next 20 years. Implementation of the IRWMP would likely occur in three phases as shown in **Table 1**.

Table 1. Anticipated Phases of Implementation

Implementation Phase	Timeframe	Projects to Be Implemented	Actions
Immediate Term	2007 (Before adoption of Final IRWMP)	Projects from "Call for Projects" that are well developed.	Identify linkages and strengthen interactions between projects based on goals and objectives established in the IRWMP
Near Term	2007-2008	Use new information to build upon project concepts and generate new project ideas.	Build integration directly into projects from an early stage.
Long Term	Beyond 2008	Project set for the NSMB Subregion	Design projects to fit into established project set.

The key implementation activities that are discussed herein are organized into the implementation elements defined by the Department of Water Resources (DWR) for the purpose of Proposition 50:

- Coordination with local plans and programs
- Institutional structure
- Coordination with state and federal agencies
- Implementation schedule
- Financing
- Data Management

- Performance Measures

The discussion under each element is generally organized as follows:

- Implementation element objectives
- Current status in the NSMB Subregion
- Potential next steps to ultimately achieve the objectives and planning targets identified in the IRWMP, over the next 20 years. These next steps might vary depending on the phase of implementation being considered.

1 Coordination with Local Plans and Programs

Coordination between the IRWMP and local planning is essential for generating long term support at the local level. The proposed IRWMP implementation objectives for coordination with local plans and programs are:

- Demonstrate a high degree of coordination with local planning efforts.
- Be consistent with locally expressed goals.
- Utilize the results of local planning where possible.

The following discussion presents current and future planning efforts in the NSMB Subregion and the relationship of the IRWMP to local planning efforts and proposed next steps to meet the implementation objectives.

1.1 Local Plans and Programs

Local plans and programs in the region are listed in **Table 2.** This list should be updated as necessary based on stakeholder input. Appendix **Tables A-1 and A-2** provide a summary of completed planning in the Region.

Known future planning for the NSMB Subregion includes updates to General Plans and Urban Water Management Plans (UWMPs) as well as a series of Total Maximum Daily Load (TMDL) implementation plans scheduled over the next five years. These plans and programs are shown in **Table 3**. Future planning efforts in the area of Habitat Restoration/Open Space needs to identified by stakeholders and added to this table.

Table 2: Current Local Plans and Programs

Plan type	Plan Name	Agency	Goals	Completion Date
General Plans	Agoura Hills General Plan Update	Agoura Hills	To guide the development of the city over the next 10 years.	2006-2007
Water Supply	Urban Water Management Plan	Los Angeles County DPW Water Works District No. 29, Las Virgenes Municipal Water District (LVMWD)	Determine projected water demand for next 25 years and determine water supply needs and sources.	2005
Water Quality	Regional Watershed Implementation Plan (RWIP)	LA County DPW	To improve water quality in the NSMB Watershed by using watershed based approaches to address NPDES, TMDL and AB885 regulations.	October 2006
	Malibu Civic Center Integrated Water Quality Management Feasibility Study	Malibu	Development of an integrated water resources management approach to address community wastewater treatment and stormwater management in the Civic Center Area	March 2005
	Santa Monica Bay (SMB) Beaches Wet Weather Bacteria Total Maximum Daily Load (TMDL) Implementation Plan J/G 1 & 4	LA County DPW, City of Malibu and Caltrans	Ensure compliance with the SMB Beaches Wet Weather TMDL.	August 2005
Habitat Restoration/Open Space	City of Malibu Local Coastal Program	City of Malibu	Assure preservation of coastal zone resources in conjunction with the growth and development plans for the City of Malibu.	Ongoing amendments
	Las Flores Creek Restoration Plan	City of Malibu	Restoration of Las Flores Creek	2005
	Malibu Lagoon Restoration and Enhancement Plan	California Coastal Conservancy and the California Department of Parks and Recreation	Restoration of Malibu Lagoon	2005

Table 3: Future Planning and Updates

Plan type	Plan Name	Agency	Goals	Completion Date or Next Update
General Plans	Calabasas General Plan Update	Calabasas	To plan for community needs in areas of land use, housing, open space, agriculture, resource conservation, public safety, transportation, public facilities and noise.	Unknown, last updated in 1993
	Malibu General Plan Update	Malibu		Unknown, last updated in 1995
	Westlake Village General Plan Update	Westlake Village		2008
Water Supply	UWMP Update	Los Angeles County DPW Water Works District No. 29	Update projected water demand for next 25 years and determine water supply needs and sources.	2010 (last updated in 2005)
	UWMP Update	Las Virgenes Municipal Water District (LVMWD)		2010 (last updated in 2005)
Water Quality	ASBS – Pre-exemption Monitoring Plan	Dischargers	To determine if ASBS requirements will apply	TBD
	ASBS Management Plan	Dischargers	To meet ASBS requirements	TBD
	SMB Near and Offshore Metals and Chlordane TMDL Implementation Plan	Regional Water Quality Control Board (RWQCB)	To meet water quality objectives for metals and chlordane in offshore areas of Santa Monica Bay.	Scheduled for completion in 2005-06
	Malibu Creek Watershed Trash TMDL Implementation Plan	RWQCB	To meet water quality objectives for trash in the Malibu Creek watershed.	2007
	Malibu Creek Watershed Metals TMDL Implementation Plan	RWQCB	To meet water quality objectives for metals in the Malibu Creek watershed.	2008
	Westlake, Malibou and Calabasas Lakes Pesticide TMDL Implementation Plan	RWQCB	To meet water quality objectives for pesticides in Westlake, Malibou and Calabasas Lakes.	2010
	SMB Beaches and SM Bay nearshore and offshore pesticides TMDL Implementation Plan	RWQCB	To meet water quality objectives for pesticides at Santa Monica Bay Beaches and offshore areas.	2010
Habitat Restoration /Open Space	**None Identified – Needs Updating**			

1.2 Relationship of IRWMP to Local Plans

The IRWMP objectives have been developed to be consistent with local planning documents. UWMPs, Watershed Plans and TMDL Implementation Plans in the NSMB Subregion will be considered in the water supply and water quality targets established by the IRWMP. Relevant information gathered from the Subregional UWMPs is found in Appendix **Table A-3**. Habitat restoration plans are accounted for in the habitat and open space targets established by the IRWMP.

1.3 Next steps

Potential next steps in meeting implementation objectives through improving coordination between the IRWMP and NSMB local plans and programs are identified in **Table 4**.

Table 4: Potential Next steps for Improved Coordination with NSMB Local Plans and Programs

Implementation Phase	Potential Next Steps
Immediate Term	• Identify additional future planning efforts and when results are expected. • Determine dates for General Plan updates. • Increase interagency communication and coordination where plans, studies and implementation projects overlap jurisdictions • Identify projects from existing plans, as well as IRWMP project database that are appropriate for consideration in upcoming grant opportunities such as Proposition 50, Round 2, and others (e.g. Proposition 84 if it passes in November 2006). • Develop a recommended set of projects through the Steering Committee to be included in the LA IRWMP Prop 50 Round 2 application.
Near Term	• Establish coordination and communication procedures with ongoing local planning efforts. • Create project "clearing house" to allow rapid identification of planned projects throughout the Region to avoid duplication and create opportunities for partnering. • Begin development of a Subregional Plan which identifies a comprehensive set of projects to address an appropriate subset of the IRWMP Regional Targets.
Long Term	• Integrate IRWMP into General Plan and UWMP updates. • Update IRWMP with updated Subregional goals. • Finalize Subregional Plan and comprehensive set of projects in consultation with local agencies. • Begin identifying local, state, and federal funding partners to assist with implementation of Subregional Plan.

2 Institutional Structure

The institutional structure will determine how effectively the IRWMP is managed in the NSMB Subregion into the future. The IRWMP implementation objectives associated with Institutional Structure are:

- Achieve representation of all agencies and organizations necessary to ensure successful IRWMP execution in the NSMB Subregion.
- Identify agency(ies) responsible for project implementation.

2.1 Current IRWMP structure

The current IRWMP structure at the Subregion level consists of the NSMB Steering Committee. The composition of the Steering Committee is summarized in **Table 5**.

Table 5: Composition of the NSMB Steering Committee

Cities and County agencies	Municipal Agencies	Other Stakeholders	State and Federal Agencies
Agoura Hills	LVMWD*	Heal the Bay	California (CA) Dept. of Parks and Recreation
Calabasas	Triunfo Sanitation District (TSD)	Mountains Restoration Trust	CA Coastal Conservancy
Malibu	LA County Water Works District No. 29	Santa Monica Baykeeper	CA Dept. of Transportation
Westlake Village	West Basin MWD		National Park Service
	LA County Beaches and Harbors		Resource Conservation District of the Santa Monica Mountains (RCDSMM)
	LA County Department of Public Works		Santa Monica Bay Restoration Commission (SMBRC)
			Santa Monica Mountains Conservancy (SMMC)

* Current Subregional chair

2.2 Existing Institutional Structures

Joint Powers Authorities (JPAs) have proven to be an effective institutional structure in the Subregion. JPAs allow the powers of two or more agencies to be combined to solve multi-issues problems. **Table 6** shows existing JPAs.

Table 6: Joint Exercise of Powers Agreements (JPAs) in the NSMB Subregion

JPA	Entities	Purpose
Las Virgenes Malibu Council of Governments	• Agoura Hills • Calabasas • Hidden Hills • Malibu • Westlake Village	To provide a vehicle for members to engage in regional and cooperative planning and coordination of government services and responsibilities.
Mountains Recreation and Conservation Authority (MRCA)	• Conejo Recreation and Park District • Rancho Simi Recreation and Park District • SMMC	To preserve and manage local open space and parkland, watershed lands, trails and wildlife habitat.
Santa Monica Bay Restoration Authority (SMBRA)	• Los Angeles County Flood Control District • SMBRC	To reduce storm drain pollutant discharges in order to improve the water quality of the Santa Monica Bay.
Tapia Water Reclamation Facility JPA	• LVMWD • TSD	To operate Tapia WRF for both wastewater treatment and water reclamation.

In addition to JPAs, informal partnerships have also been formed and have proven effective. One example of such partnership is the partnership between Heal the Bay and California State Parks to restore steelhead habitat in the Malibu Creek Watershed. These partnerships are typically formed at the project level. Committees such as the Malibu Creek Watershed Advisory Council (MWAC) have also formed around various issues to facilitate discussion, exchange of information and consensus building.

2.3 Potential Governance Options

Currently, no new formal structure has been considered or proposed by the stakeholders involved in the IRWMP process. Some specific recommendations have been generated by the NSMB Steering Committee for guiding the development of potential governance options:

- Provide better assurances and guarantees of funding for individual Subregions
- Provide clearly defined process to ensure that people and projects are not cut out arbitrarily
- Allow more independence for Subregions to chart their own direction

It was recommended that the Leadership Committee be restructured to be composed of two representatives from each Subregion. All other members would serve in an ex-oficio role. It was felt that the Leadership Committee should then serve in more of an advocate and facilitator role with less decision making responsibility.

2.4 Next Steps

Potential next steps towards meeting implementation objectives relative to institutional structure are shown in **Table 7**.

Table 7: Potential Next steps for Institutional Structure

Implementation Phase	Potential Next Steps
Immediate Term	• Agree on structure and mechanism for future IRWMP governance. o Consider continued use of the existing ad hoc structure of Subregional Steering Committees and Regional Leadership Committee. o Cleary define representation, roles and responsibilities o Clearly define decision making procedure
Near Term	• Form JPAs where appropriate. • Form partnerships for combined development and implementation of projects with mutual benefits.
Long Term	• Utilize adaptive management to determine appropriate institutional structures for the NSMB Subregion on a project or issue specific basis.

3 Coordination with State and Federal Agencies

Coordination with state and federal agencies is important to the NSMB Subregion to ensure that IRWMP projects are consistent with existing regulations and priorities. In addition, implementation of projects may require that state and federal approvals be obtained at different stages in the project. State and Federal agencies are also important sources of funding.

The implementation objectives associated with state and federal agency coordination are:

- Achieve coordination with appropriate state and federal agencies.
- Identify areas where state or federal agencies may be able to assist in communication or cooperation or funding.
- Determine where state or federal agencies can assist in implementation of plan activities, components or processes.

3.1 Current State and Federal Cooperation

In the NSMB region, there is on-going federal and state coordination due to the presence of large areas of park and forest land. **Table 8** illustrates current examples of where coordination is needed.

Table 8: Examples of Coordination with State and Federal Agencies and benefits

State or Federal Agency	Benefit of coordination
CA Dept. of Parks and Recreation	Stream restoration projects on Park property need state approval and assistance
US Army Corps of Engineers, CA State Parks and Recreation	Federal involvement necessary for Rindge Dam Removal.

3.2 Next Steps

Potential next steps for meeting implementation objectives by improving current coordination with State and Federal agencies as well as identifying additional opportunities are shown in **Table 9**.

Table 9: Potential Next steps for Improving State and Federal Coordination

Implementation Phase	Potential Next Steps
Immediate Term	• Identify further opportunities for coordination with state and federal agencies. • Identify need for state or federal approval or assistance on existing projects.
Near Term	• Develop future projects with state and federal partners where mutually beneficial. • Pursue funding available through state and federal programs.
Long Term	• Determine how state and federal agencies will influence long term project concepts.

4 Schedule

The IRWMP implementation schedule should be realistic and synchronized with schedules for other water management activities in the NSBM Subregion. The implementation objectives associated with the IRWMP schedule are:

- Determine timelines for active or planned projects.
- Ensure that IRWMP implementation schedule is coordinated with schedules for other water management activities in the NSMB Subregion.

4.1 Regulatory and Conceptual Implementation Schedules

A rough schedule of regulatory drivers is provided in **Figure 1**. A conceptual schedule for implementation of the IRWMP through projects and associated plans is shown in **Figure 2.**

4.2 Next Steps

Potential next steps for meeting implementation objectives by developing the IRWMP implementation schedule are shown in **Table 10.**

Table 10: Potential next steps for Developing Implementation Schedule

Implementation Phase	Potential Next Steps
Immediate Term	• Identify additional schedules or deadlines in the NSMB Subregion.
Near Term	• Select projects that will help meet upcoming regulatory deadlines. o Example: Malibu Civic Center Wastewater and Stormwater Treatment Facility help meet Bacteria TMDL requirements. • Determine periodic IRWMP "re-opener" periods that will allow for comprehensive updates of stakeholders, projects and implementation plans.
Long Term	• Determine the optimal combination of projects to meet long range deadlines. • Monitor/update project schedules and continue to identify needs and opportunities.

Figure 1: Regulatory Schedule for NSMB Subregion

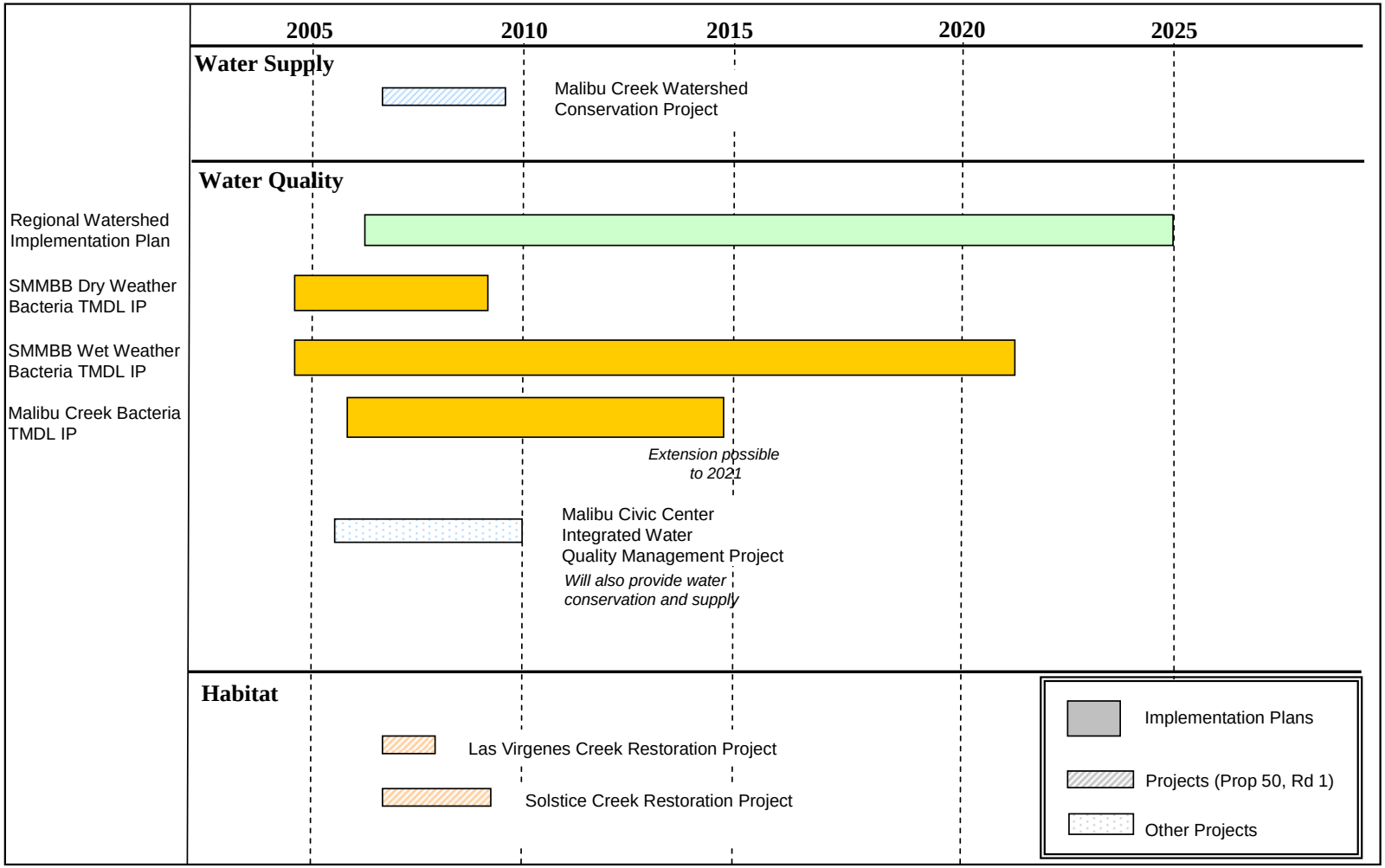


Figure 2: Plans and Projects for the NSMB Subregion

5 Financing

Proper financing will ensure that projects selected for implementation can be constructed and can be sustained for the long term. The implementation objectives associated with financing are:

- Identify funding for plan implementation in the NSMB Subregion
- Determine opportunities for ongoing financing for operations and maintenance (O&M) of projects

5.1 Subregional Efforts

Major current and known upcoming funding opportunities available to the NSMB Subregion are shown in **Table 11**.

Table 11: Major Funding Opportunities in the NSMB Subregion

Funding Category	Program
Current Grants and Loans	SWRCB Clean Beaches Initiative
	SWRCB Consolidated Grants
Future Grants and Loans	DWR & SWRCB Proposition 50 Chapter 8 Round 1 &2 Implementation Grants
	MWD Local Resources Program (LRP)
	SWRCB Recycled Water Funding Program
	SWRCB State Revolving Fund (SRF)
Local Fees	Fees, Assessments & Revenue Bonds

5.2 Recommended Future Financing Allocations

Participation in the IRWMP requires a high level of commitment and agency/stakeholder resources. It is important that there is some level of anticipated benefits in order to maintain active stakeholder engagement. To provide this and to ensure that funds received as a result of developing integrated regional plans are distributed fairly within the Region, it is proposed that each Subregion be guaranteed a minimum of 15% (75%) total of any future IRWMP related funds (including funds from Propositions 50 and 84, Countywide funding measures and vehicle license fees). The remaining 25% would be discretionary and could be applied in any Subregion(s) to projects of particular regional significance. The NSMB Steering Committee believes that there an ample supply of worthy projects in each Subregion where such an allocation scheme would be feasible.

In addition, it is recommended that funding that has been earmarked by the state be taken into account in determining funding allocations. For instance, Proposition 84, should it pass, requires specific levels of funding for Santa Monica Bay and the Los Angeles and San Gabriel Rivers.

5.3 Next Steps

Potential next steps for meeting financing implementation objectives are shown in **Table 12.**

Table 12: Potential Next Steps for Financing

Implementation Phase	Potential Next Steps
Immediate Term	• Provide information on local potential funding measures (fees, assessments etc.). • Compile list of current grants being pursued.
Near Term	• Develop detailed estimates of capital and O&M costs for existing projects. • Track all potential funding opportunities. • Develop innovative, multi-benefit projects to maximize opportunities for competitive funding.
Long Term	• Determine the most cost-effective combination of projects that can achieve Subregional objectives.

6 Data Management Improvements

The implementation objectives associated with Data Management are:

- Identify methods for efficient collection and dissemination of data.
- Identify data gaps.
- Determine how data collection will support statewide data needs.
- Identify obstacles to sharing data between agencies and determine methods to remove them

6.1 Consolidation and Dissemination of Data

There are a number of programs that support data gathering in the NSMB Subregion. These are listed below in Table 13.

Table 13: Water Quality Monitoring Programs

Program	Agency
Coordinated Shoreline Monitoring Program	LA County Department of Health Services (DHS) and City of LA
Malibu Creek Watershed Management Area Mass Emission Monitoring	LA County DPW
Ventura Countywide Stormwater Quality Management Program	Ventura County Watershed Protection District
Las Virgenes MWD NPDES Monitoring	LVMWD
Malibu Creek Stream Team	Heal the Bay
Topanga Creek Report Card	Topanga Creek Watershed Committee
Topanga Creek Watershed Water Quality Study	RCDSMM
NSMB J1/4 TMDL Implementation Plan Monitoring Work Plan	LA County DPW

Program	Agency
Malibu Creek Watershed Water Quality Monitoring Project	LA County DPW
Malibu Creek Watershed Monitoring Program	City of Calabasas
Surface Water Ambient Monitoring Program (SWAMP)	State Water Resources Control Board and RWQCB
Southern California Coastal Water Research Project (SCCWRP)	SCCWRP

* Source: Draft Regional Watershed Implementation Plan (RWIP)

A detailed summary of many of these programs is available in Appendix **Table A-4**.

6.2 Next Steps

Next steps for meeting data management implementation objectives are shown in **Table 14**.

Table 14: Potential Next Steps for Data Management

Implementation Phase	Potential Next Steps
Immediate Term	• Document known gaps in data. • Identify data overlaps. • Suggest opportunities for improved data sets. • Develop a data management collection and dissemination system for the Subregion.
Near Term	• Utilize data to guide development of existing and future projects. • Develop project monitoring plans that can also fill data gaps, if possible.
Long Term	• Identify long term trends for the Subregion.

7 Performance Measures

In order to determine progress towards IRWMP objectives and to gauge the effectiveness of the IRWMP component projects, appropriate measures of performance are required. The implementation objectives associated with Performance Measures are:

- Determine the appropriate measures to monitor for performance in the NSMB Subregion.
- Provide mechanisms for adapting project operation in response to performance data.
- Discuss results in an integrated fashion.

7.1 Current Performance Measures

Current performance measures being utilized are shown in **Table 15**.

Table 15: Current Performance Measures

Category	Performance Measure	How Determined
Water Supply	# of water conservation devices distributed	Sales receipts/Distribution records
	Amount of water conserved	Comparison of current and past use
	AFY of recycled water distributed	Flow measurement device
Water Quality	Reductions in pollutant concentrations observed in water quality data	Sample collection and testing
Habitat and Open Space	Acres of exotic vegetation removed	Measurement of cleared area
	Acres of native plants revegetated	Measurement of area of established vegetation after certain time
	Miles of riparian habitat restored	Measurement of habitat restored

7.2 Next Steps

Next steps for meeting implementation objectives relative to performance measures objectives are shown in **Table 16**.

Table 16: Potential Next steps for Performance Measures

Implementation Phase	Potential Next Steps
Immediate Term	• Determine what performance measures are appropriate for existing projects. • Identify potential project modifications in response to collected data.
Near Term	• Measure performance of all benefits of multi-objective projects.
Long Term	• Develop Subregion monitoring system. • Identify opportunities for coordinated Subregional responses to performance data.

8 Next Steps

Table 17 on the next page provides a consolidated summary of potential next steps for the NSMB Subregion. Recommended next steps for the Leadership Committee, NSMB Steering Committee and key stakeholders are:

- Review and comment on the information presented in this TM and provide identify information to be added.
- Review and comment on the propose next steps
- Determine how to assign responsibility for next steps

Table 17: Summary of Potential IRWMP Implementation Next Steps for the NSMB Subregion

Implementation Element	Implementation Objectives	Implementation Phase		
		Immediate Term	**Near Term**	**Long Term**
Coordination with Local Plans and Programs	➢ Demonstrate a high degree of coordination with local planning efforts. ➢ Be consistent with locally expressed goals. ➢ Utilize the results of local planning where possible.	• Identify additional future planning efforts and when results are expected. • Determine dates for General Plan updates. • Increase interagency communication and coordination where plans, studies and implementation projects overlap jurisdictions	• Establish coordination and communication procedures with ongoing local planning efforts. • Create project "clearing house" to allow rapid identification of planned projects throughout the Region to avoid duplication and create opportunities for partnering.	• Integrate IRWMP into General Plan and UWMP updates. • Update IRWMP with updated Subregional goals.
Institutional Structure	➢ Achieve representation of all agencies and organizations necessary to ensure successful IRWMP execution in the NSMB Subregion. ➢ Identify agency(ies) responsible for project implementation.	• Agree on structure and mechanism for future IRWMP governance. o Representation, roles and responsibilities • Decision making procedure	• Form JPAs where appropriate. • Form partnerships for combined development and implementation of projects with mutual benefits.	• Utilize adaptive management to determine appropriate institutional structures for the NSMB Subregion on a project or issue specific basis.
Coordination with State and Federal Agencies	➢ Achieve coordination with appropriate state and federal agencies. ➢ Identify areas where state or federal agencies may be able to assist in communication or cooperation or funding. ➢ Determine where state or federal agencies can assist in implementation of plan activities, components or processes.	• Identify further opportunities for coordination with state and federal agencies. • Identify need for state or federal approval or assistance on existing projects.	• Develop future projects with state and federal partners where mutually beneficial. • Pursue funding available through state and federal programs.	• Determine how state and federal agencies will influence long term project concepts.

Implementation Element	Implementation Objectives	Implementation Phase		
		Immediate Term	Near Term	Long Term
Schedule	➢ Determine timelines for active or planned projects. ➢ Ensure that IRWMP implementation schedule is coordinated with schedules for other water management activities in the NSMB Subregion.	• Identify additional schedules or deadlines in the NSMB Subregion. • Determine periodic IRWMP "re-opener" periods that will allow for comprehensive updates of stakeholders, projects and implementation plans.	• Select projects that will help meet upcoming regulatory deadlines.	• Determine the optimal combination of projects to meet long range deadlines. • Monitor/update project schedules and continue to identify needs and opportunities.
Financing	➢ Identify funding for plan implementation in the NSMB Subregion ➢ Determine opportunities for ongoing financing for O&M and maintenance of projects.	• Provide information on local potential funding measures (fees, assessments etc.). • Compile list of current grants being pursued.	• Develop detailed estimates of capital and O&M costs for existing projects. • Track all potential funding opportunities. • Develop innovative, multi-benefit projects to maximize opportunities for competitive funding.	• Determine the most cost-effective combination of projects that can achieve Subregional objectives.
Data Management	➢ Identify methods for efficient collection and dissemination of data. ➢ Identify data gaps. ➢ Determine how data collection will support statewide data needs. ➢ Identify obstacles to sharing data between agencies and determine methods to remove them	• Document known gaps in data. • Identify data overlaps. • Suggest opportunities for improved data sets. • Develop a data management collection and dissemination system for the Subregion.	• Utilize data to guide development of existing and future projects. • Develop project monitoring plans that can also fill data gaps, if possible.	• Identify long term trends for the Subregion.

Implementation Element	Implementation Objectives	Implementation Phase		
		Immediate Term	Near Term	Long Term
Performance Measures	➢ Determine the appropriate measures to monitor for performance in the NSMB Subregion. ➢ Provide mechanisms for adapting project operation in response to performance data. ➢ Discuss results in an integrated fashion.	• Determine what performance measures are appropriate for existing projects. • Identify potential project modifications in response to collected data.	• Measure performance of all benefits of multi-objective projects.	• Develop Subregion monitoring system. • Identify opportunities for coordinated Subregional responses to performance data.

Table A-1: Existing General Plan in the NSMB Subregion

City	General Plan Completion or Last Update
City of Agoura Hills	1993
City of Calabasas	1995
City of Hidden Hills	1995
City of Malibu Local Coastal Plan	2002
City of Westlake Village	1983
Los Angeles County General Plan	1980

Table A-2: Plans and Studies in the NSMB Subregion

Plan Name	Agency	Date of Completion
"A Creek Protection and Revitalization Plan for Las Virgenes Creek"	City of Calabasas	2001
City of Malibu Wastewater Management Program	City of Malibu	2005
Fish Migration Barrier Severity and Steelhead Habitat Quality in the Malibu Creek Watershed	California Coastal Conservancy and the California Department of Parks and Recreation	2005
North Santa Monica Bay Watersheds White Paper	LACDPW	2002
Las Flores Creek Restoration Plan	City of Malibu	2005
Las Virgenes, McCoy and Dry Canyon Creek- Master Plan for Restoration	City of Calabasas	2002
Los Angeles County Santa Monica Mountains North Area Plan	Los Angeles County	2000
Los Angeles Region Basin Plan	RWQCB	1994
Lower Malibu Creek and Lagoon Resource Enhancement and Management Study	California Coastal Conservancy	2000
Malibu Civic Center Integrated Water Quality Management Plan	City of Malibu	2005
Malibu Creek Watershed Natural Resources Plan	RCDSMM	1995
Malibu Lagoon Restoration and Enhancement Plan	California Coastal Conservancy and the California Department of Parks and Recreation	2005
Making Progress: Restoration of the Malibu Creek Watershed	SMBRC	2001

Plan Name	Agency	Date of Completion
Solstice Creek Fish Barrier Removal Plan	City of Malibu and the National Park Service	
Sediment Reduction and Streambank Stabilization — Las Virgenes Creek	RCDSMM	1998
Malibu Local Coastal Program	City of Malibu	2002
Malibu Creek Watershed Management Area Plan	Las Virgenes Council of Governments	2001
State of the Bay	SMBRC	2004
Topanga Creek Watershed Management Plan	Topanga Watershed Committee	2002

Table A-3: UWMP Water Demand and Recycled Water Projections

	2000	2005	2010	2015	2020	2025	2030
LADPW WWD #29 [1]							
Water Demand [3]	9,450	9,941	11,302	12,194	13,110	13,997	14,816
Recycled Water Use	140	140	140	140	140	140	140
Las Virgenes MWD [2]							
Water Demand [3]	21,747	21,827	24,010	25,240	26,120	27,190	28,140
Recycled Water Use	5,437	4,587	5,260	5,490	5,730	5,970	6,180

Notes:

(1) Per County of Los Angeles Department of Public Works Waterworks District No. 29, Malibu and The Marina del Rey Water System 2005 UWMP December 2005.

(2) Per Las Virgenes MWD 2005 UWMP.

(3) Does not include recycled water demands

Table A-4 – Malibu Creek Watershed Monitoring Program

Agency/ Organization	Parameters Monitored	Location																		
		Arroyo Sequit Creek	Carlysle Creek (Carlisle)	Cheeseboro Creek	Cold Creek	Lachusa Creek	Las Virgenes Creek	Liberty Creek	Lindero Creek	Malibu Creek	Malibu Creek Watershed	Malibu Lagoon	Malibou Lake Outlet	Medea Creek	Palo Comado Creek	Santa Monica Bay beaches	Solstice Creek	Trifuno Creek	Westlake Lake
HTB	Bioassessment, temperature, Dissolved Oxygen, pH, Turbidity, flow, conductivity, nutrients, enterococcus, stream mapping of outfalls, exotic species, eroded banks, stream modifications	X	X	X	X	X	X			X			X	X	X		X	X	
RCSD	pH, temperature, salinity											X							
LVMWD	Total coliform, nutrients, toxicity, conductivity, DO, pH, temp., algae, foam, scum, salinity, TDS									X		X							
Calabasas	Copper, Selenium, Zinc, temperature, DO, Biological Oxygen Demand, Nitrate, Phosphate, Ammonia, Total and Fecal Coliform, Enterococcus, pH, trash levels, scum and foam						X												
County of Los Angeles Dept. of Public Works	Conventional pollutants, indicator bacteria, general, nutrients, metals, semivolatile organics, chlorinated pesticides, organophosphate pesticides, herbicides									X									
	Water column toxicity testing				X		X							X				X	
	Bioassessment				X		X							X				X	
LAC DHS	Indicator bacteria, total coliform, fecal coliform, enterococci in surf zone at frequented beaches and adjacent to storm drains.															X			
SWRCB	Toxic substances monitoring program, Mussel watch										X								
SMB	Total Coliform, enteroccocus															X			
SMMNRA	Breeding amphibians, conductivity, pH, phosphate, nitrates, dissolved Oxygen, turbidity, flow, and macro-invertebrates		X	X	X		X	X	X	X				X	X			X	
	Deuterium Isotope Testing of Urban and Natural Watersheds		X	X	X		X	X	X	X				X	X			X	
Ventura VCWPD	Metals, bacteria, nutrients, pH, BOD, COD, Conductivity, TOC, TIE (toxicity), and other creek health parameters						X		X					X					
Malibu	Risk Assessment of Decentralized Wastewater Treatment Systems in High Priority Areas in the City of Malibu									X		X							
RWWQB Quality Control Board	Surface Water Ambient Monitoring Program (SWAMP) Metals monitoring at all sites. Toxicity and trace organic chemistry at Malibu Creek at Serra Retreat				X		X			X				X				X	
Surfrider Foundation	Local testing when needed for specific case															X			

Agency/ Organization	Parameters Monitored	Location																		
		Arroyo Sequit Creek	Carlysle Creek (Carlisle)	Cheeseboro Creek	Cold Creek	Lachusa Creek	Las Virgenes Creek	Liberty Creek	Lindero Creek	Malibu Creek	Malibu Creek Watershed	Malibu Lagoon	Malibou Lake Outlet	Medea Creek	Palo Comado Creek	Santa Monica Bay beaches	Solstice Creek	Trifuno Creek	Westlake Lake
UCSB	algal biomass and percent cover				X		X			X				X					
RWQCB	dissolved inorganic/organic/total N and P, canopy cover, current speed, water temp., conductivity, DO, pH				X		X			X				X					
Heal the Bay												X							
Responsible TMDL parties	TMDL based water quality study, also includes bioassessment										X								
Westlake MA	Aquatic herbicide and algaecide residues, chlorophyll a, Temp, Sp. Cond, Conductivity, TDS, DO, DO Conc, pH, ORP, Clarity, Phosphates, Nitrates, Total Coliform and aquatic vegetation																		X
Calabasas	Outfalls will be monitored for the following parameters: Total and Fecal Coliform, Dissolved Oxygen, phosphate, nitrate, ammonia, BOD, trash, temperature						X												
City of Malibu	Monitoring (bacteria, nutrients, sediment and trash) from storm water filtration and disinfection facilities – Malibu Civic Center, Paradise Cove and Marie Canyon (with LA County DPW)										X								

Source: Malibu Creek Watershed Advisory Council (http://www.malibuwatershed.org/2ndLevel/monitoringtable.html)

APPENDIX B

Implementation Plan for Upper Los Angeles River Subregion

DRAFT UPPER LOS ANGELES RIVER SUBREGIONAL IMPLEMENTATION TECHNICAL MEMORANDUM

This technical memorandum (TM), prepared under Task 4 of the Greater Los Angeles County Integrated Regional Water Management Program (IRWMP), provides an outline for IRWMP implementation in the Upper Los Angeles River Subregion.

The intent of the TM is to spur discussion among the members of the Leadership Committee and the Upper Los Angeles River Steering Committee relative to the key implementation activities necessary for the Upper Los Angeles River Subregion for the Region to ultimately achieve the objectives and planning targets identified in the IRWMP over the next 20 years. Implementation of the IRWMP would likely occur in three phases as shown in Table 1.

Table 1. Anticipated Phases of Implementation

Implementation Phase	Timeframe	Projects to be Implemented	Actions
Immediate Term	2007 (Before adoption of Final IRWMP)	Projects from "Call for Projects" that are well developed.	Identify linkages and strengthen interactions between projects based on goals and objectives established in the IRWMP.
Near Term	2007-2008	Use new information to build upon project concepts and generate new project ideas.	Build integration directly into projects from an early stage.
Long Term	Beyond 2008	Project set for the Upper Los Angeles River Subregion	Design projects to fit into established project set.

The key implementation activities that are discussed herein are organized into the implementation elements defined by the Department of Water Resources (DWR) for the purpose of Proposition 50:

- Coordination with local plans and programs ;
- Institutional structure;
- Coordination with state and federal agencies;
- Implementation schedule;
- Financing;
- Data Management; and
- Performance Measures.

Many of the implementation elements are coordinated and managed between Subregions and it is far more effective to consider these elements on a Regional basis. As a result the elements of implementation schedule and performance measures are discussed in the regional TM.

The discussion under each element is generally organized as follows:

- Implementation element objectives
- Current status in the Upper Los Angeles River Subregion

- Potential next steps to ultimately achieve the objectives and planning targets identified in the IRWMP, over the next 20 years. These next steps might vary depending on the phase of implementation being considered.

B.1 Coordination with Local Plans and Programs

Coordination between the IRWMP and local planning is essential for generating long term support at the local level. The proposed IRWMP implementation objectives for coordination with local plans and programs are:

- Demonstrate a high degree of coordination with local planning efforts.
- Be consistent with locally expressed goals.
- Utilize the results of local planning where possible.

The following discussion presents current and future planning efforts in the Upper Los Angeles River Subregion and the relationship of the IRWMP to local planning efforts and proposed next steps to meet the implementation objectives.

B.1.1 Local Plans and Programs

Local plans and programs in the Region as well as known future planning for the Upper Los Angeles River Subregion includes updates to General Plans and Urban Water Management Plans (UWMPs) and a series of Total Maximum Daily Load (TMDL) implementation plans scheduled over the next five years are listed in Table 2. This list should be updated as necessary based on stakeholder input.

Table 2. Current Local Plans and Programs

Plan type	Plan Name	Agency	Goals	Completion Date
General Plans	Water Augmentation Study Phase II Annual Monitoring Report	Los Angeles and San Gabriel Rivers Watershed Council		2004
Water Supply	UWMP	City of Los Angeles Department of Water and Power		2005
	UWMP	City of Glendale		2005
	UWMP	City of Burbank		2005
	UWMP Fiscal Year Annual Update	City of Los Angeles Department of Water and Power	Consistent with the California Urban Water Management Planning Act requirement that suppliers develop water management plans every five years, Department of Water and Power prepared its current plan in 2000, issued the UWMP Fiscal Year 2003-2004 Annual Updates, and is preparing the 2005 UWMP. Though specific water quality information is not a general requirement of the Act, Los Angeles Department of Water and Power issues Annual Water Quality Reports throughout its service area pursuant to requirements of the State's DHS.	2000 2003-2004
	SCCWRRS	CH2MHill		2002

Table 2. Current Local Plans and Programs				
Plan type	Plan Name	Agency	Goals	Completion Date
Water Quality	Wetlands Feasibility Study	City of Los Angeles	Considers feasibility of filtering wastewater effluent from the Tillman Water Reclamation Plant through created emergent wetland habitats with intention of reducing concentration of nitratenitrogen prior to discharge to the Los Angeles River. The project also provided the opportunity to promote water reclamation, reuse, and alternative treatment processes to the public.	2000
	Integrated Plan for the Wastewater Program, (IPWP Phase I) Integrated Resources Plan for the Wastewater Program: Facilities Plan Vols 1-4,	City of Los Angeles Department of Public Works Bureau of Sanitation and Department of Water and Power	Two phases, first complete in 2001, second in 2004. Purpose: develop and implement an integrated resource planning process that addresses the City's water resources and wastewater/biosolids collection, treatment, recycling and disposal practices through the year 2020 through a comprehensive stakeholder process. • Phase I outlines a future vision of storm- and waste-water management in Los Angeles explicitly recognizing the complex relationships among the City's water resources activities and functions. • Phase II examines the need to expand and locate wastewater facilities, reclaimed water, and deal with stormwater runoff, has an extensive public outreach and feedback component, is an excellent source on current water inputs/outputs and uses and future projections, but only covers the City of Los Angeles. • Phase II Los Angeles River Recycled Water Optimization Study, Phase 1 Draft Report, begins to determine what may limit how much recycled water and dry-weather urban runoff can be diverted from the River and to identify potential adaptive flow management strategies for balancing the need for water in the River and elsewhere in the watershed.	2001 2004
	Los Angeles County Drainage Area Water Conservation and Supply Reconnaissance Study	U.S. Army Corps of Engineers Los Angeles District	Investigated alternatives to raising flood control levee walls in the lower Los Angeles River. Investigated additional storage capability at Hansen Dam, Lopez Dam, Santa Fe Dam, and Whittier Narrows Dam. Sepulveda Dam and Basin, already considered at capacity, were not included. Reported positive cost/benefit ratios for additional dam storage, but there was not enough capacity added; the lower Los Angeles River levee walls were raised. Report is valuable for characterization of the Los Angeles County Drainage Area system and dam capacity, and economic analyses.	1994

Table 2. Current Local Plans and Programs				
Plan type	Plan Name	Agency	Goals	Completion Date
Water Quality (con't)	UWMP Annual Progress Report to the California Legislature	Metropolitan Water District	First annual report to the legislature required under SB160. Details Metropolitan Water District's efforts and accomplishments in complying with its mandate, California law and the UWMP. Primarily reviewed past efforts at promoting efficient use and management of its water resources. Proposed a number of legislative recommendations, including a requirement for the Regional UWMP to include a discussion about the relationship of source water quality to supply reliability to focus attention on the need for source water protection.	2003
	South Los Angeles Wetlands Park Concept Design	City of Los Angeles	Provides a conceptual overview and feasibility assessment of the proposed park. The park would serve as a community resource of wetlands and riparian habitat in a densely populated urban area now covered in concrete, asphalt, and buildings. Grouped around the wetlands and riparian habitats would be many other public use facilities and amenities, including a water treatment facility.	2003
	Sun Valley Watershed Management Plan	County of Los Angeles Department of Public Works	Primary objective: solve the chronic local flooding problem with a multipurpose solution, acknowledging rainfall as a significant component of water supply. The Sun Valley Watershed Stakeholders Group has been meeting since late 1998 to address the flooding problem in Sun Valley under the leadership of the Watershed Management Division, County of Los Angeles Department of Public Works.	2003
	Sun Valley Watershed Park Project	County of Los Angeles Department of Public Works	Proposes to manage stormwater runoff via infiltration and remedy existing stormwater flooding issues in the vicinity of the park. The proposed project facilities are designed to capture flows generated by a 50-year storm, pre-treatment including settling and metals removal, all using below-ground facilities. Treated water would infiltrate into park grounds.	2002
	Taylor Yard And The Los Angeles River Preliminary Groundwater And Surface Water Study	California Coastal Conservancy	Documents the results of a preliminary groundwater and surface water study for the portion of the Los Angeles River along Taylor Yard in Los Angeles, California. Objectives: • evaluate the potential for offsite contribution to subsurface contamination of soil/groundwater; and • collect subsurface parameters to establish a baseline groundwater water flow model. First phase of the study is summarized in the Environmental Records Review, which includes an evaluation of the potential for offsite contribution to subsurface contamination at Taylor Yard. The second phase is summarized in Groundwater Model Presentation and Model Report, which includes results of a baseline MOD-FLOW groundwater model of the Taylor Yard site.	2002

Table 2. Current Local Plans and Programs				
Plan type	Plan Name	Agency	Goals	Completion Date
Water Quality (con't)	Taylor Yard Multiple Objective Feasibility Study, Draft Report	California Coastal Conservancy	Goal was to investigate possible flood management, habitat enhancement, parks, and recreational opportunities on 61 acres that were designated as railroad operating and maintenance facilities. Objectives related to flood control and water management included: • reviewing site historical development and existing conditions; • developing alternatives that provide a mixture of habitat types, recreational opportunities, and flood storage management; evaluating the environmental impacts; • estimating the construction cost for each alternative; • determining the number of restoration/flood storage improvement projects similar to Taylor Yard needed to obtain a significant improvement in flood storage along the Los Angeles River; and • to prepare recommendations for the Phase 2 study.	2002
	Water Budget for the Arroyo Seco Watershed	Arroyo Seco Foundation		2003
	Water Quality Control Plan Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties	RWQCB Los Angeles Region		1994
Habitat Restoration/Open Space	Arroyo Seco Watershed Restoration Feasibility Study,	California Coastal Conservancy	Establishes ecosystem health, physical and cultural characteristics of the watershed and makes recommendations for future studies and technical analyses. Proposed projects sorted by stream reach across a large range of costs. Identifies watershed goals and years to fulfill. Briefly discusses economics, governance structures.	2002
	Geomorphologic and Hydrologic Feasibility Study: Tujunga Wash Restoration Project,	Mountains Recreation and Conservation Authority	Purpose was to provide an independent geomorphologic and hydrologic assessment, and professional opinion on a set of stream restoration alternatives developed jointly by the Mountain Recreation and Conservation Authority and the Los Angeles County Department of Public Works. In particular, the goal was to verify the minimum stream width required under each of the five alternatives to maintain flood protection while simultaneously restoring habitat and adding recreational amenities.	2000

Table 2. Current Local Plans and Programs				
Plan type	Plan Name	Agency	Goals	Completion Date
Habitat Restoration/Open Space (con't)	Hydrodynamic Study for Restoration Feasibility of the Tujunga Wash	The River Project	Addresses planning for ecological rehabilitation and enhancement projects within the Los Angeles River system's reach. A MIKE11 computer-based hydrodynamic model of the system was created that can be linked with an existing model of the Los Angeles River built for the Taylor Yard feasibility study. The Tujunga Wash model has predicted the effects of potential physical changes to parts of the system, including the effects of proposed modifications in flood management strategies. It also developed a planning framework that included five major design concepts or strategies. The most severe technical criterion is the need to reduce the high flood flow velocities. Decisions on future dam operations, together with the use of the gravel pits and spreading grounds to reduce peak flood flow, were found to be critical to the potential for and success of enhancing channel and riparian areas downstream.	2002
	Reconnaissance Study of Arroyo Seco Watershed	U.S. Army Corps of Engineers	An overview of the watershed, prepared to determine Federal interest in conducting a cost-shared feasibility study to develop information and analytical tools to define water problems and opportunities within the watershed. Identified opportunities and possibilities for future projects and plans. Concluded that the best potential for environmental benefits comes from environmental restoration projects. Final recommendation was for the study to proceed to the feasibility phase, continuing investigation of environmental restoration, water quality, flood control and related issues.	2002
	Wetlands of the Los Angeles River Watershed: Profiles and Restoration Opportunities	California Coastal Conservancy		2000

B.1.2 Relationship of IRWMP to Local Plans

The IRWMP objectives have been developed to be consistent with local planning documents. UWMPs, Watershed Plans, and TMDL Implementation Plans in the Upper Los Angeles River Subregion will be considered in the water supply and water quality targets established by the IRWMP. Habitat restoration plans are accounted for in the habitat and open space targets established by the IRWMP.

B.1.3 Next Steps

Potential next steps in meeting implementation objectives through improving coordination between the IRWMP and Upper Los Angeles River local plans and programs are identified in Table 3.

Table 3. Potential Next Steps for Improved Coordination with Upper Los Angeles River Local Plans and Programs	
Implementation Phase	Potential Next Steps
Immediate Term	• Identify additional future planning efforts and when results are expected. • Determine dates for General Plan updates. • Identify projects from existing plans, as well as IRWMP project database that are appropriate for consideration in upcoming grant opportunities such as Proposition 50, Round 2, and others (e.g., Proposition 84 if it passes in November 2006). • Develop a recommended set of projects through the Steering Committee to be included in the IRWMP Proposition 50 Round 2 application.
Near Term	• Establish coordination and communication procedures with ongoing local planning efforts. • Begin development of a Subregional Plan which identifies a comprehensive set of projects to address an appropriate subset of the IRWMP Regional Targets.
Long Term	• Integrate IRWMP into General Plan and UWMP updates. • Update IRWMP with updated Subregional goals. • Finalize Subregional Plan and comprehensive set of projects in consultation with local agencies. • Begin identifying local, state, and federal funding partners to assist with implementation of Subregional Plan.

B.2 Institutional Structure

The institutional structure will determine how effectively the IRWMP is managed in the Upper Los Angeles River Subregion into the future. The IRWMP implementation objectives associated with Institutional Structure are:

- Achieve representation of all agencies and organizations necessary to ensure successful IRWMP execution in the Upper Los Angeles River Subregion.
- Identify agency(ies) responsible for project implementation.

B.2.1 Current IRWMP structure

The current IRWMP structure at the Subregion level consists of the Upper Los Angeles River Steering Committee. The composition of the Steering Committee is summarized in Table 4.

Table 4. Composition of the Upper Los Angeles River Steering Committee			
Cities and County Agencies	Municipal Agencies	Other Stakeholders	State and Federal Agencies
Burbank	County Sanitation Districts of Los Angeles County	Amigos De Los Rios	California Department of Parks and Recreation
Calabasas	City of Los Angeles Department of Public Works, Bureau of Sanitation	Arroyo Seco Foundation	California Department of Transportation
Los Angeles	City of Los Angeles Department of Water and Power*	Center for Government Studies	National Park Service
Glendale	Las Virgenes Municipal Water District	Center for Law in the Public Interest	California Conservation Corps
La Canada Flintridge	Los Angeles County Department of Public Works	Citizens Commission to Save Elysian Park	
Los Angeles County	Burbank Department of Water and Power	Conservation Strategy Group	
Pasadena	Calleguas Municipal Water District	Environment Now	
San Fernando	Crescenta Valley Water District	F.O.R.C.E.	

Table 4. Composition of the Upper Los Angeles River Steering Committee			
Cities and County Agencies	Municipal Agencies	Other Stakeholders	State and Federal Agencies
South Pasadena	Foothill Municipal Water District	Foothill Trails	
	Glendale Department of Water and Power	Foothills Wildlife Conservancy	
	Pasadena Municipal Water District	Friends of Los Angeles Park	
	San Fernando	Friends of Colorado Lagoon	
	Metropolitan Water District	Friends of the Los Angeles River	
		Glendale Focus	
		Los Angeles and San Gabriel Rivers Watershed Council	
		Los Cerritos Wetlands Task Force	
		Mountain Restoration Trust	
		Mountains Restoration and Conservation Authority	
		National Audubon Society	
		North East Trees	
		Pacoima Beautiful	
		People for Parks	
		Rivers and Mountains Conservancy	
		River and Trails Program	
		San Joaquin River Conservancy	
		Santa Monica Mountains Conservancy	
		Santa Susana Mountains	
		Shane's Inspiration	
		Sierra Club	
		Southern California Wetland Recovery Project	
		The Better World Group	
		The Conservation Fund	
		The Nature Conservancy	
		The River Project	
		The Trust for Public Land	
		Think Earth Foundation	
		Trails 4 All	
		Tree People	
		Wetlands Action Network	
		Wild Bird Unlimited	
		Wildlife Corridor Authority	

** Current Subregional chair*

B.2.2 Existing Institutional Structures

Joint Powers Authorities (JPAs) have proven to be an effective institutional structure in the Subregion. JPAs allow the powers of two or more agencies to be combined to solve multi-issues problems. Table 5 shows some examples of existing JPAs.

Table 5. Joint Powers Authorities in the Upper Los Angeles River Subregion

JPA	Entities	Purpose
Mountain Recreation and Conservation Authority	• Conejo Recreation and Park District • Rancho Simi Recreation and Park District • Santa Monica Mountains Conservancy	To preserve and manage local open space and parkland, watershed lands, trails and wildlife habitat

In addition to JPAs, development of informal partnerships between stakeholder groups and municipal agencies can be effective means to the implementation of the IRWMP goals. These partnerships can be formed around various issues to facilitate discussion, exchange of information and consensus building.

B.2.3 Potential Governance Options

Currently, no new formal structure has been considered or proposed by the stakeholders involved in the IRWMP process. As needs are identified, alternative governance options will be considered by the affected parties.

B.2.4 Next Steps

Potential next steps towards meeting implementation objectives relative to institutional structure are shown in Table 6.

Table 6. Potential Next steps for Institutional Structure

Implementation Phase	Potential Next Steps

Immediate Term	• Agree on structure and mechanism for future IRWMP governance.
	  • Consider continued use of the existing ad hoc structure of Subregional Steering Committees and Regional Leadership Committee.
	  • Cleary define representation, roles and responsibilities
	  • Clearly define decision making procedure

Near Term	• Form JPAs where appropriate. • Form partnerships for combined development and implementation of projects with mutual benefits.
Long Term	• Utilize adaptive management to determine appropriate institutional structures for the Upper Los Angeles River Subregion on a project or issue specific basis.

B.3 Coordination with State and Federal Agencies

Coordination with state and federal agencies is important to the Upper Los Angeles River Subregion to ensure that IRWMP projects are consistent with existing regulations and priorities. In addition,

implementation of projects may require that state and federal approvals be obtained at different stages in the project. State and Federal agencies are also important sources of funding.

The implementation objectives associated with state and federal agency coordination are:

- Achieve coordination with appropriate state and federal agencies.
- Identify areas where state or federal agencies may be able to assist in communication, cooperation or funding.
- Determine where state or federal agencies can assist in implementation of plan activities, components or processes.

B.3.1 Current State and Federal Cooperation

In the Upper Los Angeles River Region, there is on-going federal and state coordination due to the presence of large areas of park and forest land. Table 7 illustrates some examples of where coordination is needed.

Table 7. Examples of Coordination with State and Federal Agencies and Benefits

Implementation Phase	Potential Next Steps
State or Federal Agency	Benefit of coordination
California Department of Parks and Recreation	Stream restoration projects on Park property need state approval and assistance
California DWR	Partner in local and statewide water resources planning

B.3.2 Next Steps

Potential next steps for meeting implementation objectives by improving current coordination with state and federal agencies as well as identifying additional opportunities are shown in Table 8.

Table 8. Potential Next Steps for Improving State and Federal Coordination

Implementation Phase	Potential Next Steps
Immediate Term	• Identify further opportunities for coordination with state and federal agencies. • Identify need for state or federal approval or assistance on existing projects.
Near Term	• Develop future projects with state and federal partners where mutually beneficial. • Pursue funding available through state and federal programs.
Long Term	• Determine how state and federal agencies will influence long term project concepts.

B.4 Schedule

The IRWMP implementation schedule should be realistic and synchronized with schedules for other water management activities in the Upper Los Angeles River Subregion. The implementation objectives associated with the IRWMP schedule are:

- Determine timelines for active or planned projects.

- Ensure that IRWMP implementation schedule is coordinated with schedules for other water management activities in the Upper Los Angeles River Subregion.

B.4.1 Regulatory and Conceptual Implementation Schedules

A rough schedule of regulatory drivers is provided in Figure 1. A conceptual schedule for implementation of the IRWMP through projects and associated plans is shown in Figure 2.

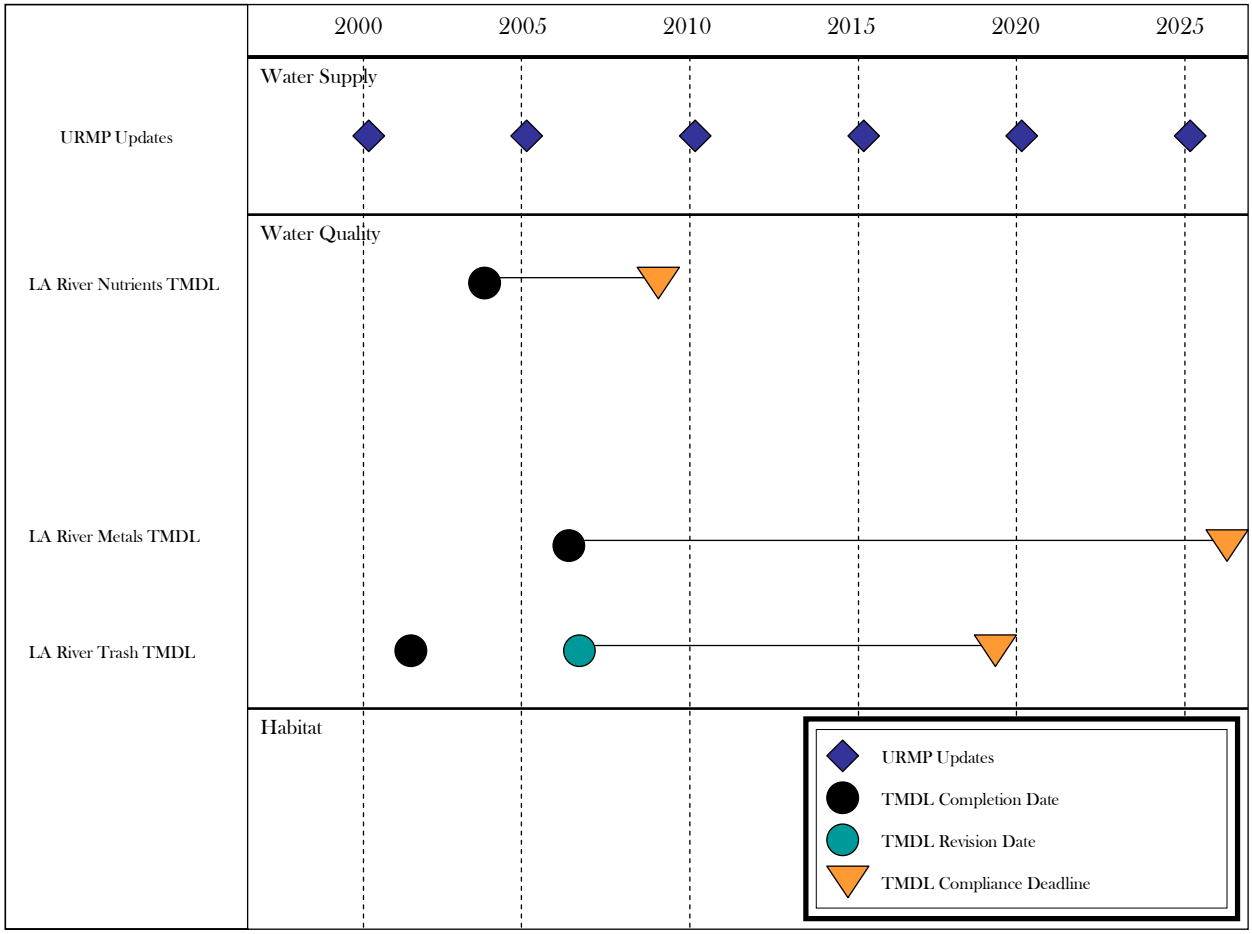


Figure 1. Regulatory Schedule for Upper Los Angeles River Subregion

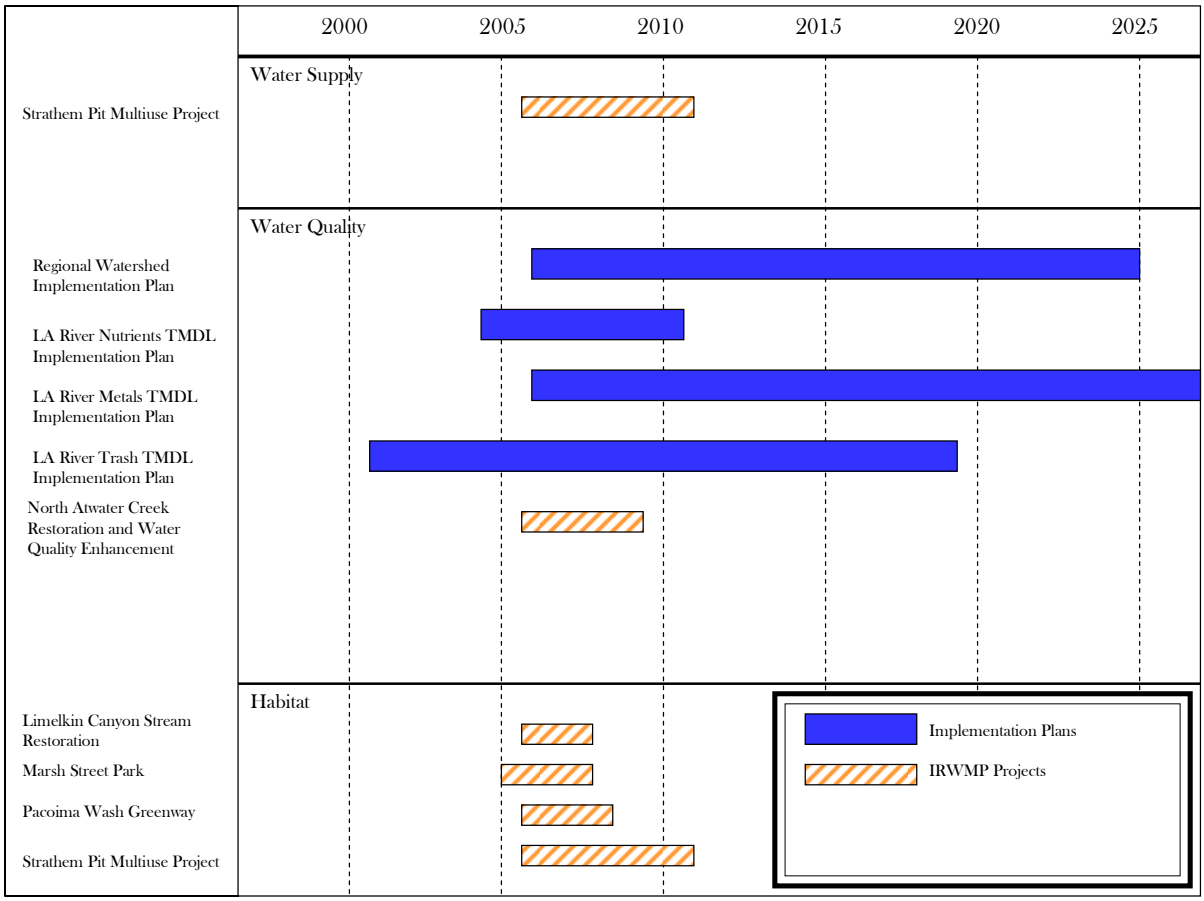


Figure 2. Plans and Projects for the Upper Los Angeles River Subregion

B.4.2 Next Steps

Potential next steps for meeting implementation objectives by developing the IRWMP implementation schedule are shown in Table 9.

Table 9. Potential next steps for Developing Implementation Schedule

Implementation Phase	Potential Next Steps
Immediate Term	• Identify additional schedules or deadlines in the Upper Los Angeles River Subregion.
Near Term	• Select projects that will help meet upcoming regulatory deadlines.
Long Term	• Determine the optimal combination of projects to meet long range deadlines. • Monitor/update project schedules and continue to identify needs and opportunities.

B.5 Financing

Proper financing will ensure that projects selected for implementation can be constructed and can be sustained for the long term. The implementation objectives associated with financing are:

- Identify funding for plan implementation in the Upper Los Angeles River Subregion
- Determine opportunities for ongoing financing for operations and maintenance (O&M) of projects

B.5.1 Subregional Efforts

Major current and known upcoming funding opportunities available to the Upper Los Angeles River Subregion are shown in Table 10.

Table 10. Major Funding Opportunities in the Upper Los Angeles River Subregion

Funding Category	Program
Current Grants and Loans	Clean Beaches Initiative
	Consolidated Grants
Future Grants and Loans	Proposition 50 Chapter 8 Round 1 Implementation Grant
Local Fees	Fees, Assessments, and Revenue Bonds

B.5.2 Next Steps

Potential next steps for meeting financing implementation objectives are shown in Table 11.

Table 11. Potential Next Steps for Financing

Implementation Phase	Potential Next Steps
Immediate Term	• Provide information on local potential funding measures (fees, assessments, etc.). • Compile list of current grants being pursued.
Near Term	• Develop detailed estimates of capital and O&M costs for existing projects. • Track all potential funding opportunities. • Develop innovative, multi-benefit projects to maximize opportunities for competitive funding.
Long Term	• Determine the most cost-effective combination of projects that can achieve Subregional objectives.

B.6 Data Management Improvements

The implementation objectives associated with Data Management are:

- Identify methods for efficient collection and dissemination of data;
- Identify data gaps; and
- Determine how data collection will support statewide data needs.

B.6.1 Consolidation and Dissemination of Data

There are a number of programs that support data gathering in the Upper Los Angeles River Subregion. These are listed below in Table 12.

Table 12. Water Quality Monitoring Programs

Program	Agency
Los Angeles River water quality monitoring	Friends of the Los Angeles River RiverWatch (319(h) grant program)
Surface Water Ambient Monitoring Program	State Water Resources Control Board and RWQCB
State of the Watershed Report/Water Quality Characterization Report Draft	RWQCB
Highway Runoff Monitoring	Caltrans
NPDES Monitoring Program	Los Angeles County Department of Public Works
TMDL Monitoring Program	Los Angeles County Department of Public Works
Cleaner Rivers through Effective Stakeholder-led TMDLs	City of Los Angeles

* Source: Draft Regional Watershed Implementation Plan (RWIP)

B.6.2 Next Steps

Next steps for meeting data management implementation objectives are shown in Table 13.

Table 13. Potential Next Steps for Data Management

Implementation Phase	Potential Next Steps
Immediate Term	• Document known gaps in data. • Identify data overlaps. • Suggest opportunities for improved data sets. • Develop a data management collection and dissemination system for the Subregion.
Near Term	• Utilize data to guide development of existing and future projects. • Develop project monitoring plans that can also fill data gaps, if possible.
Long Term	• Identify long term trends for the Subregion.

APPENDIX C

Implementation Plan for Upper San Gabriel and Rio Hondo River Subregion

Draft Technical Memorandum

Greater Los Angeles County IRWMP

Subject: **Implementation Plan for Upper San Gabriel and Rio Hondo River Subregion**

Prepared For: Michael Drennan, Brown & Caldwell (B&C)

Prepared by: Ed Means and Nina Jazmadarian (Malcolm Pirnie, Inc.)

Date: August 28, 2006

This technical memorandum (TM), prepared under Task 4 of the Greater Los Angeles County Integrated Regional Water Management Program (IRWMP), provides an outline for IRWMP implementation in the Upper San Gabriel and Rio Hondo (USG&RHR) Subregion.

The intent of the TM is to stimulate discussion among the members of the Leadership Committee and the USG&RHR Steering Committee relative to the key implementation activities necessary for the USG&RHR Subregion to ultimately achieve the objectives and planning targets identified in the IRWMP, over the next 20 years. Implementation of the IRWMP would likely occur in three phases as shown in **Table 1**.

The key implementation activities that are discussed herein are organized into the implementation elements as shown below:

- Coordination with local plans and programs
- Institutional structure
- Coordination with state and federal agencies
- Implementation schedule
- Financing
- Data Management
- Performance Measures

1 Coordination with Local Plans and Programs

There are a number of local plans and programs underway within the USG&RHR Subregion. Planning is most advanced for water supply development and relatively less so for stormwater and dry weather quality and habitat, open space and recreation. Progress on the water supply elements is largely governed by elected boards and city councils. Progress on water quality elements is governed by the efforts of the LA County Department of Public Works and local city government. Progress on Open Space, Habitat and Recreation has been historically driven by county and local city government and has been increasingly driven in recent years by active involvement of non-governmental organizations in the Subregion. These various planning efforts are integrated under the IRWMP, however, implementation of projects will require significant coordination among the parties. These various plans and planning efforts are described in the following section.

Table 1: Anticipated Phases of Implementation

Implementation Phase	Timeframe	Actions
Immediate Term	2007 (Before adoption of Final IRWMP)	• Continue support of Steering Committee • Re-examine USG&RHR priorities for the next round of funding • Continue outreach • Identify linkages and strengthen interactions between projects based on goals and objectives established in the IRWMP
Near Term	2007-2008	• Continue support of Steering Committee • Develop Subregional targets • Re-examine call-for projects results to add additional projects by examining city/district CIPs • Continue outreach • Establish and support a process/forum to assess integration opportunities • Conduct a conceptual study of gravel pit(s) for recharge/storage, open space, parks, habitat potential • Study configuration for an expanded recycled water pipeline in the Subregion • Conduct conceptual siting assessment of alternatives for spreading or retaining more stormwater runoff • Preparation of grant proposal submittals • Build integration directly into projects from an early stage.
Long Term	Beyond 2008	• Continue support of Steering Committee • Continue outreach • Prepare grant proposal submittals • Support a process/forum to assess integration opportunities • Revisit IRWMP periodically to update targets • Design projects to fit into established sets of projects.

1.1 Local Plans and Programs

1.1.1 Water Supply

Water supply development in the region occurs in the context of the California Water Plan, the Metropolitan Water District of Southern California's (Metropolitan's) Integrated Resources Plan, and the local water agency Urban Water Management Plans. This is augmented by the treatment and cleanup plans of the San Gabriel Basin Water Quality Authority.

The Subregion has developed a diverse mix of local and imported water supply sources. Local water resources include groundwater (including recovery and treatment of contaminated groundwater), recycled water, and water saved through conservation.

Water supply plans and programs that impact the region are listed in **Table 2**. This list should be updated as necessary based on stakeholder input.

Table 2: Local Plans and Programs

Plan Name	Agency	Goals	Completion Date
California Water Plan	Department of Water Resources	1. State Government will support good water planning and management through leadership, oversight, and public funding. 2. Regional efforts will play a central role in California water planning and management. 3. Water planning and urban development will protect, preserve, and enhance environmental and agricultural resources. 4. Natural resource and land use planners will make informed water management decisions. 5. Water decisions and access are equitable across communities.	2005
Metropolitan Integrated Resources Plan (IRP)	Metropolitan Water District of Southern California	Six objectives of the plan included increasing water supply reliability, affordability, quality, diversity, flexibility and environmental and institutional constraints.	2004
Urban Water Management Plans	Water purveyors throughout Region	Plan for demands and supplies for a 20-year horizon.	2005
San Gabriel Basin Groundwater Quality and Remediation Plan	San Gabriel Basin Water Quality Authority	1. Accelerate Removal of Contaminant Mass in the Basin; 2. Prevent Migration of Contamination into Critical Groundwater Supplies; 3. Integrate Cleanup with Water Supply; and 4. Minimize Economic Impact to the Public.	2006

In addition to the plans shown in Table 2, the following planning efforts occur within the institutional constructs of various agencies.

Local Water Management Plans - Four water wholesalers that serve numerous retailers (cities and private water companies) and several independent cities provide the primary water service in the San Gabriel Valley. The wholesalers are San Gabriel Valley MWD, Upper San Gabriel Valley MWD, Foothill MWD and Three Valleys MWD. San Gabriel Valley MWD is also a State Water Project contractor and imports State Project water directly. Upper San Gabriel Valley MWD and Three Valleys MWD are member agencies of Metropolitan and purchase imported from it. The cities are Pasadena and San Marino. All produce Urban Water Management Plans that document the demand projections and resource strategies that drive the capital improvement planning for these agencies. The capital improvement plans are implemented based upon funding priorities within each of the jurisdictions. Many of the 386 projects that have been identified in the USG&RHR Subregion appear in capital improvement plans. Others will be identified in subsequent iterations of the IRWMP.

The USG&RHR Subregion is heavily dependent on groundwater resources and conjunctive use of surface water and groundwater within the Main San Gabriel Basin and the Raymond Basin (discussed later). Contamination of the groundwater in many areas of the Basin has constrained its expanded use. This has lead to concerted efforts to recover and treat contaminated groundwater and to restore the basin.

Groundwater Plans - The recharge facilities in Los Angeles County are generally owned and operated by the Los Angeles County Department of Public Works (LACDPW). Public Works currently owns 27 spreading facilities in the County, where it recharges imported water, local runoff, and recycled water. These spreading facilities are generally located along the main water courses and their tributaries, and can be categorized by four major geographic areas: San Fernando Valley, San Gabriel Valley, SG River Percolation Reach, and Coastal Plain. Most of these facilities are operated through a system of dams, reservoirs, controlling gates and valves, and diversion structures.

Four adjudications exist for groundwater basins in the USG&RHR Subregion. These are for the Main San Gabriel Basin, the Raymond Basin, the Puente Basin and Six Basins. The institutional framework of each of these basins varies according to their Judgment, size, facilities and water quality considerations.

Recycled Water Plans - Wastewater treatment services within the USG&RHR Subregion are primarily the responsibility of the County Sanitation Districts of Los Angeles County (LACSD).

In times when increasing demand and diminishing supply of fresh water is the main trend, recycled water (or reclaimed water) becomes one of the most dependable and abundant source of water supply. The effort to augment supply by recycling water in Southern California has been substantial. State and local agencies have cooperated to develop regional and local, short and long-term implementation plans. The efforts in the USG&RHR Subregion are illustrated in several water recycling programs such the Southern California Comprehensive Water Reclamation and Reuse Study (SCCWRRS), LACSD water reclamation projects, and the Upper San Gabriel Valley MWD recycling project. Implementation of further recycling (especially to achieve the aggressive targets in the IRWMP) will likely require additional funding/subsidies) and significant inter-agency coordination/cooperation to move recycled water from its source to end users.

Water Conservation Plans -Water conservation is a critical strategy in the USG&RHR Subregion. The strong reliance on imported water and the inherent variability in this supply has spurred efforts throughout the region to minimize the use of water where possible through water efficiency. Conservation is an element for emergency and drought planning as well as an ongoing strategy to ensure long term availability of supplies in the face of population growth. Southern California has been a leader in conservation in the country. Expanded conservation will be implemented through strong incentive programs provided by the Metropolitan Water District of Southern California and its member agencies.

1.1.2 Water Quality

Improvement and protection of water quality plays an important role in the IRWMP. This includes the quality of potable water, the quality of groundwater, the quality of urban stormwater, and dry-weather runoff. The protection of surface water quality is regulated by the Los Angeles Regional Water Quality Control Board through the Basin Plan. The Clean Water Act requires Total Maximum Daily Loads (TMDLs) be developed for all impaired waterbodies as defined by the 303(d) list. Several TMDLs have been developed for the San Gabriel River.

TMDL Implementation Plans - The San Gabriel River Watershed completed one trash TMDL program at East Fork (FY2000) and currently has three other scheduled TMDL programs. These include metals (FY2005/06), toxicity (FY2006/07), and nitrogen (FY2007/08). In support of TMDL work, a San Gabriel River Watershed Monitoring Work Group also monitors a variety of constituents and models pollutant loadings. This monitoring is expected to continue.

The Trash TMDL addresses impairment of the East Fork (3 miles north of the City of Azusa) of the San Gabriel River due to trash deposition and litter. This TMDL establishes a target of zero trash in the river.

The Metals TMDL is being developed for San Gabriel River Reach 2 and Coyote Creek. The TMDL will regulate four metals including copper, lead, selenium, and zinc. Numeric targets for the TMDL are based on the California Toxics Rule (CTR) criteria and separate targets are developed for wet and dry weather conditions. The Regional Board is expected to adopt this TMDL in 2006.

Groundwater Contamination and Remediation Plans - Groundwater contamination presents serious threats to local water supplies in the USG&RHR Subregion. Groundwater remediation allows water agencies in the USG&RHR Subregion to tap into previously unused contaminated sections of groundwater basins as part of supply augmentation. San Gabriel Basin Water Quality Authority leads the clean up effort in the region and is expected to continue to do so.

San Gabriel Basin Water Quality Authority (WQA) was established by the Senate Legislature (SB1679) in 1993 to develop, finance, and implement groundwater treatment programs in the San Gabriel River Basin. The primary objective of WQA is to address the problem of the migration of contaminated groundwater within the San Gabriel Basin, in particular, of those through the Whittier Narrows into the Central Basin. WQA identified four main goals:

1. Accelerate removal of contaminant mass in the basin
2. Prevent migration of contamination into critical groundwater supplies
3. Integrate cleanup with water supply
4. Minimize economic impact to the public

WQA's approach is the integration of clean up and water supply objectives through the use of clean up plans developed by the Main San Gabriel Basin Watermaster. WQA controls five operable units at five EPA Superfund sites: El Monte, Baldwin Park, Puente Valley, South El Monte, and Whittier Narrows. The remediation programs target containment and removal of VOC, perchlorate, and NDMA.

1.1.3 Watershed Plans

The dual watershed of the Los Angeles and San Gabriel Rivers have received great interest and focus on water supply, water quality, habitat restoration, and recreation issues. Significant resources for assessment and planning have been acquired for these watersheds. Planning efforts are summarized in the Watershed Management Plan Characterization Report for Coastal Southern California prepared by Environment Now/Southern California Wetlands Recovery Project (2002). **Table 3** lists Watershed Plans within the Subregion.

Table 3: Watershed Plans within the USG&RHR Subregion

Plan Name	Participant	Goals	Completion Date
Common Ground from the Mountains to the Sea	Rivers and Mountains conservancy and Santa Monica Mountain Conservancy	1. Articulate a vision for the future San Gabriel and Los Angeles Rivers Watersheds 2. Provide a framework for future watershed and open space planning	2001
Rio Hondo Watershed Management Plan	San Gabriel Valley Council of Governments (SGVCOG) Rivers and Mountains Conservancy (RMC) Los Angeles County Department of Public Works Los Angeles Regional Water Quality Control Board	This multi-objective project will integrate issues of land use, water supply, water quality, recreation and habitat into a workable implementation plan. When completed, the Watershed Management Plan will serve as a catalyst for future efforts throughout the watershed.	2004
San Gabriel River Corridor Master Plan	Los Angeles County Board of Supervisors	Guide the efforts of cities regarding habitat, recreation, open space, flood control, water supply, water quality and economic development	2006
Upper San Gabriel River Watershed Management Plan	San Gabriel Mountains Regional Conservancy, LADWP, LARWQCB, RMC, Cal Poly Pomona, SCE and USDA Forest Service	1. Improve Water Quality and Reduce Nonpoint Source Pollution 2. Protect and Enhance Local Water Resources 3. Protect and Restore Terrestrial and Aquatic Habitat and Habitat Connectivity 4. Provide for Open Space Protection and Beneficial Land Use Relationships 5. Identify Key Pilot Projects and Monitoring/Stewardship Programs 6. Ensure Community/Stakeholder Involvement	Under development
Coyote Creek/Carbon Creek Watershed Management Plan	USACE, Orange County Public Facilities and Resources Department, Watershed and Coastal Resources Division	Multipurpose water quality improvements, ecosystem restoration, recreation and education programs	2001

Planning Gaps and Potential Future Studies to Address Gaps

Each of the plans should be reviewed by the primary planning entity to ensure consistency with the LA IRWMP.

Los Cerritos Watershed and Estuary is the only portion of the San Gabriel River without a Watershed Management Plan. The development of a Los Cerritos Wetlands Conceptual Restoration Plan was on the Southern California Wetlands Recovery Project Tier 2 Work Plan list for FY 2002-03. There has been much effort to saving Los Cerritos Wetlands by the Los Cerritos Wetlands Task Force, Surfrider of Long Beach, Long Beach Audubon Society, and Wetlands Action Network However, these organizations lack plans for land acquisition, remediation, and restoration.

The Los Angeles County Gaps Report identifies the following priorities:

- Collaborative action led by the RMC and involving Orange County, LA County, cities of Long Beach and Seal Beach, and other parties;
- Innovative strategies for hydrologic connectivity and wetland/riparian restoration;
- SCWRP should promote local capacity to develop resource plans and to identify projects with restoration objectives.

1.1.4 Habitat

The IRWMP integrates regional solutions with the potential for habitat, recreation, and open space to affect or enhance water resources. The IRWMP addresses wetland habitats and riparian habitats, which are types of habitat directly related to rivers, streams, and other water bodies. There are several projects targeted at restoring and acquiring wildlife habitat in the USG&RHR Subregion. The predominant ones are the California Resources Agency's (RMC/SMMC) Common Ground from the Mountains to the Sea, LADPW's San Gabriel River Corridor Master Plan, and the California Council of Land Trusts' work. Appendix A-1 discusses the Plans in more detail.

1.1.5 Parks and Open Space

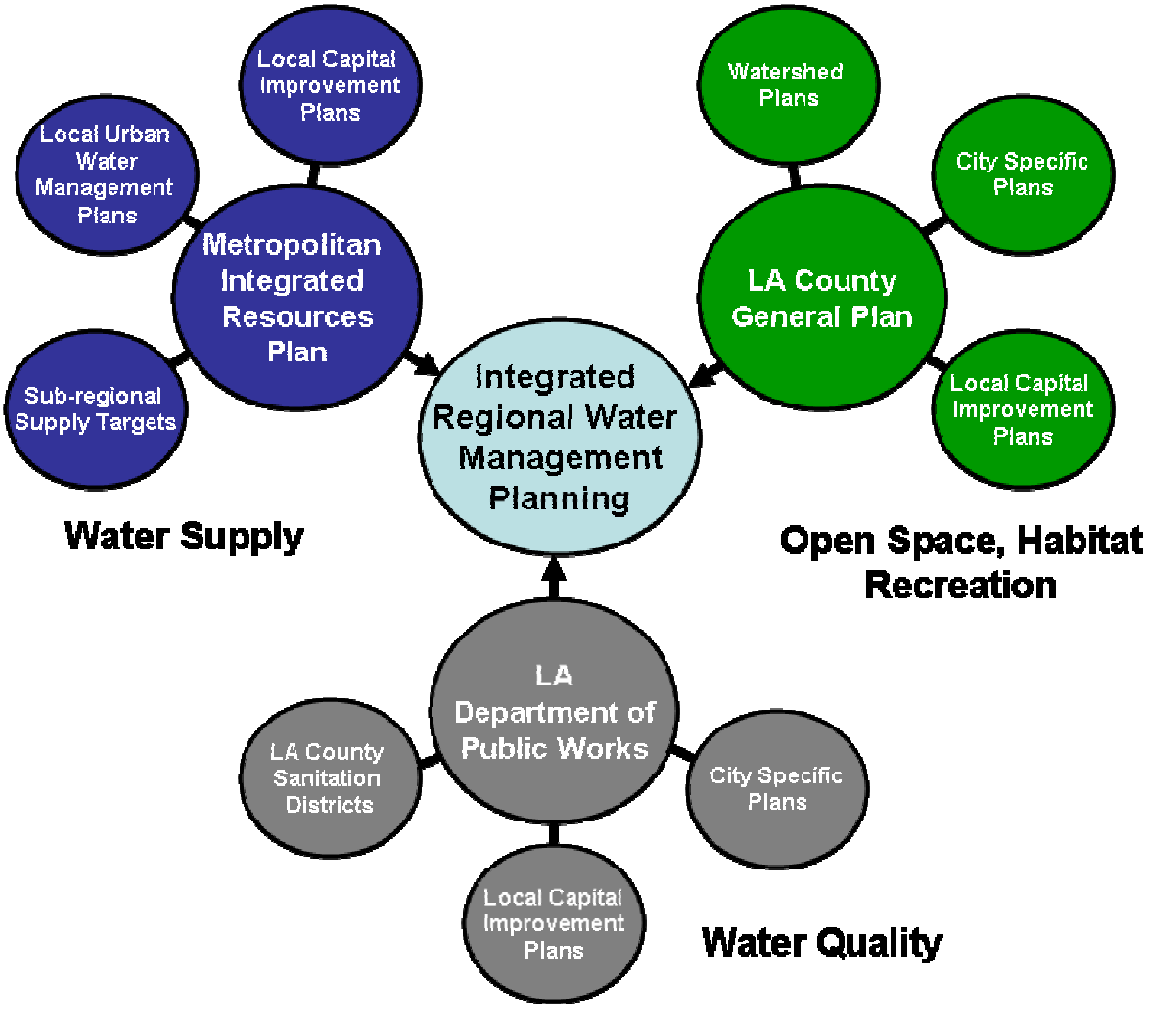
Recreation and open space are essential elements to the well-being of the San Gabriel Valley's four million residents. IRWMP includes recreation and open space as one of the prime objectives of the plan. Since the coastal plains and the inland valleys have been heavily urbanized, most of the remaining native habitat is located in the Santa Monica and the San Gabriel Mountains. Thus, USG&RHR Subregion represents major open spaces which will provide various recreational opportunities and facilities. The main programs are San Gabriel and Los Angeles Rivers Watershed and Open Space Plan, and the San Gabriel River Corridor Master Plan. Appendix A-2 discusses the Plans in more detail.

1.2 Relationship of IRWMP to Local Plans

The goals of the IRWMP are implemented through the collective efforts of regional, Subregional and local actions. These actions include coordinated supply development under the Metropolitan Integrated Resources Plan that was developed by a top-down/bottoms-up approach engaging all the water supply interests in the region. The Urban Water Management Plans incorporate local water supply development targets and priorities under the framework of Metropolitan's Integrated Resources Plan (**Figure 1**).

IRWMP's Water Quality programs are under the regional framework of LADPW. The planning efforts at the Subregional and local levels to protect and improve water quality are integrated in LACSD's programs, City Specific Plans, and local Capital Improvement Plans. These involve the use of existing tools and activities such as the Federal and State regulating programs, for example, National Pollutant Discharge Elimination System (NPDES) Permits (Federal), Waste Discharge Requirements (State), and TMDLs.

The Open Space, Habitat, and Recreation elements of the IRWMP are framed by the County General Plan and supported by local Capital Improvement Plans, City Specific Plans, and Watershed Plans.



Local plans should be reviewed to ensure consistency with the targets of the LA IRWMP.

1.3 Next steps

There are several areas that provide opportunities for further development during implementation. These steps are identified in **Table 4**.

Table 4: Potential Next steps for Improved Coordination with USG&RHR Local Plans and Programs

Implementation Phase	Potential Next Steps
Immediate Term	• Identify additional future planning efforts and when results are expected. • Identify projects from existing plans, as well as IRWMP project database that are appropriate for consideration in upcoming grant opportunities such as Proposition 50, Round 2, and others (e.g. Proposition 84 if it passes in November 2006). • Develop a recommended set of projects through the Steering Committee to be included in the LA IRWMP Prop 50 Round 2 application.
Near Term	• Establish coordination and communication procedures with ongoing local planning efforts. • Establish quantifiable Subregional goals/targets for water supply, water quality and open space, habitat and recreation. • Further develop specific projects to achieve those goals. • Establish a process to actively integrate project efforts to achieve multiple benefits. • Begin development of a Subregional Plan which identifies a comprehensive set of projects to address an appropriate subset of the IRWMP Regional Targets.
Long Term	• Integrate IRWMP into General Plan and UWMP updates. • Consider ordinances that require water savings devices or penalize water waste generation. • Expand incentives for conservation. • Consider assessing fines for runoff and providing public recognition for water conservation. • Evaluate changing the Covenants, Conditions and Restrictions (CCR) in many homeowner associations that restrict the ability to utilize native or water friendly landscaping. • Establish a goal for water conservation directly tied to the Region's share of imported water. • Reassess grey water use opportunities. • Develop conservation master plans to integrate conservation efforts regionally. • Finalize Subregional Plan and comprehensive set of projects in consultation with local agencies. • Begin identifying local, state, and federal funding partners to assist with implementation of Subregional Plan.

2 Institutional Structure

The institutional structure within the USG&RHR Subregion will determine how effectively the IRWMP is further developed and implemented within the USG&RHR Subregion into the future. The IRWMP implementation objectives associated with Institutional Structure are:

- Achieve representation of all agencies and organizations necessary to ensure successful IRWMP execution in the USG&RHR Subregion.
- Identify agency(ies) responsible for project implementation.

2.1 Current IRWMP structure

The current IRWMP structure at the Subregional level consists of the USG&RHR Steering Committee. The composition of the steering committee is summarized in **Table 5**.

Table 5: Composition of the USG&RHR Steering Committee

Cities and County agencies	Municipal Agencies	Other Stakeholders
City of El Monte	Upper San Gabriel Valley Municipal Water District	Rivers and Mountains Conservancy
	San Gabriel Valley Municipal Water District	Amigos de los Rios
	Three Valleys Municipal Water District	Los Angeles/San Gabriel Rivers Watershed Council
	Main San Gabriel Basin Watermaster *	San Gabriel Valley Water Association
	San Gabriel Basin Water Quality Authority	
	Los Angeles County Department of Public Works	

* Current Subregional chair

2.2 Existing Institutional Structures

The existing institutional structure in the USG&RHR Subregion has made significant progress in addressing Subregional objectives. Generally, these objectives have been driven from the perspective of the agency or institution promoting the project. This has effectively accomplished many single-purpose projects in the Subregion. These existing institutional structures include:

- County
- Cities
- Wholesale and retail water agencies and
- Non-governmental organizations

Collaborative processes between various agencies allow optimal use of funds as well as sharing of resources. There are a number of ongoing cooperative efforts among local, state, and federal agencies (in addition to water supply planning through the Metropolitan IRP described in the Water Supply TM).

Table 6 reflects current programs taking place in the USG&RHR Subregion. Appendix A-3 provides a brief discussion of the Programs.

Table 6: Existing Programs

Program	Partners	Goals or Objectives
Southern California Foothill Communities Water Supply Reliability Program	USACE, local communities	Planning, design and construction of groundwater quality and supply projects throughout the San Gabriel Mountain Foothill region over a 15-year planning period.
Los Angeles Basin Water Augmentation Project	Los Angeles and San Gabriel Rivers Watershed Council, USBR, LARWCB, LADWP, LADPW, and UC Riverside	To more fully evaluate the capacity and feasibility of new stormwater management practices through infiltration, and whether these can be achieved without impacting groundwater quality
Southern California Wetlands Recovery Project	California Coastal Commission, California Environmental Protection Agency (OEHHA, SWRCB), Local Government Commission, National Oceanic and Atmospheric Administration, UC Davis Extension - Land Use and Natural Resource Program, and USC Sea Grant	To increase the quantity and quality of Southern California's wetlands
Los Angeles County Weed Management Areas	United States Bureau of Land Management; United States Forest Service; California Department of Fish and Game; California Department of Food and Agriculture; San Gabriel Mountains Regional Conservancy	To control invasive species

2.3 Potential Governance Options

Despite various ongoing cooperative efforts among governmental and non-governmental organizations at the local, state, and federal levels, there are many opportunities for additional agency cooperation. The following are potential means of increasing cooperation:

- **Establish a broad based council or other entity** with appropriate representatives of the various stakeholders that meet periodically to facilitate coordination. There is a need to maintain the planning effort, coordination and monitoring of progress going forward. This can be accomplished by maintaining the current Leadership/Steering committee and consultant structure and working to refine the committee representation to ensure the voice of stakeholders is appropriately represented. Empower the Leadership Committee to work with the Legislature and funding agencies in the support of the Subregions. Assign responsibility for updating the LA IRWMP.

- **Consider development of detailed integrated master plans at the local level** within the Subregion. This effort would identify specific projects that can be cost effective/integrated including timeline, funding sources, etc.
- **Establish a comprehensive monitoring system** to determine water quality impacts of water management strategy implementation.
- **Provide for data sharing** - Consider expanding the project database to track all capital project development progress for all institutions/NGO's in the watershed. The database could include water quality monitoring information and be available to all on-line.
- **Review all planning efforts within the Subregion** to ensure consistency with the LA IRWMP targets.
- **Develop a system to actively identify, integrate and prioritize future projects** - The system would examine projects on a project by project basis and seek multi benefit additions that improve fundability and value for the Subregions stakeholders. The Steering Committees could provide this role. The system would also serve to vet proposed projects in the Subregion and establish, where possible, funding priorities.
- **Expand outreach to increase involvement of city government, elected officials and the public.** Expanded outreach will require a funding commitment.
- **Encourage managing water resources high in the watershed** to reduce sediment loading from forests, and to improve habitats.
- **Identify specific facility limitations and institutional constraints** to expanded water management strategy implementation (e.g. Corps of Engineers flood control limitations).

2.4 Next Steps

Potential next steps towards meeting implementation objectives relative to institutional structure are shown in **Table 7**.

Table 7: Potential Next steps for Institutional Structure

Implementation Phase	Potential Next Steps
Immediate Term	• Agree on structure and mechanism for future IRWMP governance. o Consider continued use of the existing ad hoc structure of Subregional Steering Committees and Regional Leadership Committee. o Cleary define representation, roles and responsibilities o Clearly define decision making procedure
Near Term	• Form JPAs where appropriate. • Form partnerships for combined development and implementation of projects with mutual benefits.
Long Term	• Utilize adaptive management to determine appropriate institutional structures for the USG&RHR Subregion on a project or issue specific basis.

3 Coordination with State and Federal Agencies

Coordination with state and federal agencies is important to the USG&RHR Subregion to ensure that IRWMP projects are consistent with existing regulations and priorities. In addition, implementation of projects may require that state and federal approvals be obtained at different stages in the project due to impacts to federal and state property or facilities. State and federal agencies are also important sources of funding.

The implementation objectives associated with state and federal agency coordination are:

- Achieve coordination with appropriate state and federal agencies.
- Identify areas where state or federal agencies may be able to assist in communication or cooperation or funding.
- Determine where state or federal agencies can assist in implementation of plan activities, components or processes.

3.1 Current State and Federal Cooperation

In the USG&RHR region, there is on-going federal and state coordination due to the presence of large areas of park and forest land and flood control facilities. **Table 8** illustrates current examples of where coordination is needed.

Table 8: Examples of Coordination with State and Federal Agencies and benefits

State or Federal Agency	Benefit of coordination
USDA Forest Service	Development of nature trails near or using property near Angeles National Forest need federal approval and assistance
Corps of Engineers	Federal involvement necessary for further development of conservation of stormwater

3.2 Next Steps

Potential next steps for meeting implementation objectives by improving current coordination with state and federal agencies as well as identifying additional opportunities are shown in **Table 9**.

Table 9: Potential Next steps for Improving State and Federal Coordination

Implementation Phase	Potential Next Steps
Immediate Term	• Identify further opportunities for coordination with state and federal agencies. • Identify need for state or federal approval or assistance on existing projects.
Near Term	• Develop future projects with state and federal partners where mutually beneficial. • Pursue funding available through state and federal programs.
Long Term	• Determine how state and federal agencies will influence long term project concepts.

4 Schedule

The IRWMP implementation schedule should be realistic and synchronized with schedules for other water management activities in the USG&RHR Subregion. The implementation objectives associated with the IRWMP schedule are:

- Determine timelines for active or planned projects.

- Ensure that IRWMP implementation schedule is coordinated with schedules for other water management activities in the USG&RHR Subregion.

4.1 Regulatory and Conceptual Implementation Schedules

IRWMP schedules should consider updates to UWMPs, Metropolitan's Integrated Resources Plan, Metropolitan Integrated Area Studies, TMDL Plan implementation and other watershed, habitat, open space plans.

4.2 Next Steps

Potential next steps for meeting implementation objectives by developing the IRWMP implementation schedule are shown in **Table 10.**

Table 10: Potential next steps for Developing Implementation Schedule

Implementation Phase	Potential Next Steps
Immediate Term	• Identify schedules or deadlines in the USG&RHR Subregion.
Near Term	• Select projects that will help meet upcoming regulatory deadlines. • Select projects that are ready-to-proceed and are high priority.
Long Term	• Determine the optimal combination of projects to meet long range deadlines. • Establish Subregional funding priorities. • Monitor/update project schedules and continue to identify needs and opportunities.

5 Financing

Groundwater cleanup, expansion of recycled water and conservation, open space, recreation and habitat, TMDL compliance and education and outreach programs will require significant capital to initiate and maintain (the lack of O&M funds is especially serious for TMDL compliance strategies). The USG&RHR Subregion has a large population of disadvantaged groups with limited financial capability to fund water management strategy implementation. Accordingly, financial limitations are a serious impediment to achieving the LA IRWMP goals in the USG&RHR Subregion.

Stakeholders and Steering Committee members indicated the critical need for a sustainable funding source through fees. This is especially important to pay for continued operations and maintenance of implemented water management strategies.

- **Fund and staff the effort to continue implementation.** The USG&RHR Steering Committee supported maintenance of consultant support.
- **Consider incentives for the gravel pit owners** to provide land for water management strategies. Detailed studies of pit opportunities should be considered including:
    - Identification of specific storm water management opportunities and proximal pits.
    - Feasibility studies on specific pits to examine integration issues including potential for introduction of contaminants to groundwater supplies if used for storm water

management identification of legal and institutional issues associated with converting pits to water management facilities.

- **Project Funding Opportunity Database:** A project funding database should be developed, maintained and made accessible on-line to all stakeholders. Potential LA County Funding Sources are included in Appendix A-4 (source: Los Angeles and San Gabriel Rivers Watersheds Council website).

5.1 Subregional Efforts

Major current and known upcoming funding opportunities available to the USG&RHR Subregion are shown in **Table 11**.

Table 11: Major Funding Opportunities in the USG&RHR Subregion

Funding Category	Program
Current Grants and Loans	Consolidated Grants
Future Grants and Loans	Proposition 50 Funding Potential Proposition 84 Funding Bureau of Reclamation Funding Other Grant Funding as it develops
Local Fees	Fees, Assessments & Revenue Bonds

5.2 Next Steps

Potential next steps for meeting financing implementation objectives are shown in **Table 12.**

Table 12: Potential Next Steps for Financing

Implementation Phase	Potential Next Steps
Immediate Term	• Provide information on local potential funding measures (fees, assessments etc.). • Compile list of current grants being pursued.
Near Term	• Develop detailed estimates of capital and O&M costs for existing projects. • Track all potential funding opportunities. • Develop innovative, multi-benefit projects to maximize opportunities for competitive funding. • Pursue special earmarks for specific projects.
Long Term	• Determine the most cost-effective combination of projects that can achieve Subregional objectives.

6 Data Management Improvements

The implementation objectives associated with Data Management are:

- Identify methods for efficient collection and dissemination of data.
- Identify data gaps.
- Determine how data collection will support statewide data needs.

6.1 Consolidation and Dissemination of Data

There are a number of programs and plans that support data gathering in the USG&RHR Subregion. These are listed below in Table 13.

Table 13: Data Gathering Programs and Plans

Program	Agency
Urban Water Management Plan	Department of Water Resources
Consumer Confidence Reports	California Department of Health Services
Watermaster Reports	Groundwater Basin Watermasters
Surface Water Ambient Monitoring Program (SWAMP)	State Water Resources Control Board and RWQCB
Metropolitan Water District of Southern California Area Studies	Metropolitan Water District of Southern California and member agencies

6.2 Next Steps

Next steps for meeting data management implementation objectives are shown in **Table 14**.

Table 14: Potential Next Steps for Data Management

Implementation Phase	Potential Next Steps
Immediate Term	• Document known gaps in data. • Identify data overlaps. • Suggest opportunities for improved data sets. • Develop a data management collection and dissemination system for the Subregion.
Near Term	• Utilize data to guide development of existing and future projects. • Develop project monitoring plans that can also fill data gaps, if possible.
Long Term	• Maintain data and continue to collect information

7 Performance Measures

In order to determine progress towards IRWMP objectives and to gauge the effectiveness of the IRWMP component projects, appropriate measures of performance are required. The implementation objectives associated with Performance Measures are:

- Determine the appropriate measures to monitor for performance in the USG&RHR Subregion.
- Provide mechanisms for adapting project operation in response to performance data.
- Discuss results in an integrated fashion.

7.1 Current Performance Measures

Current performance measures being utilized are shown in **Table 15**.

Table 15: Current Performance Measures

Category	Performance Measure	How Determined
Water Supply	# of water conservation devices distributed	Sales receipts/Distribution records
	AFY of recycled water distributed	Flow measurement device
	Additional local water produced	Flow measurement device
Water Quality	Reductions in pollutant concentrations observed in water quality data	Sample collection and testing
	Groundwater treated	Flow measurement device
Habitat and Open Space	Acres of exotic vegetation removed	Measurement of cleared area
	Miles of riparian habitat restored	Measurement of habitat restored

7.2 Next Steps

Next steps for meeting implementation objectives relative to performance measures objectives are shown in **Table 16**.

Table 16: Potential Next steps for Performance Measures

Implementation Phase	Potential Next Steps
Immediate Term	• Determine what performance measures are appropriate for targets. • Determine what performance measures are appropriate for existing projects. • Identify potential project modifications in response to collected data.
Near Term	• Measure and report performance of all benefits of multi-objective projects.
Long Term	• Develop Subregional monitoring system. • Identify opportunities for coordinated Subregional responses to performance data.

8 Next Steps

Table 17 provides a consolidated summary of potential next steps for the USG&RHR Subregion. Recommended next steps for the Leadership Committee, USG&RHR Steering Committee and key stakeholders are:

- Review and comment on the information presented in this TM and provide identify information to be added.
- Review and comment on the proposed next steps
- Determine how to assign responsibility for next steps

Table 17: Summary of Potential IRWMP Implementation Next Steps for the USG&RHR Subregion

Implementation Phase			
Implementation Element	**Immediate Term**	**Near Term**	**Long Term**
Coordination with Local Plans and Programs	• Identify additional future planning efforts and when results are expected.	• Establish coordination and communication procedures with ongoing local planning efforts. • Establish quantifiable Subregional goals/targets for water supply, water quality and open space, habitat and recreation. • Further develop specific projects to achieve those goals. • Establish a process to actively integrate project efforts to achieve multiple benefits.	• Integrate IRWMP into General Plan and UWMP updates. • Consider ordinances that require water savings devices or penalize water waste generation. • Expand incentives for conservation. • Consider assessing fines for runoff and providing public recognition for water conservation. • Evaluate changing the Covenants, Conditions and Restrictions (CCR) in many homeowner associations that restrict the ability to utilize native or water friendly landscaping. • Establish a goal for water conservation directly tied to the Region's share of imported water. • Reassess grey water use opportunities. • Develop conservation master plans to integrate conservation efforts regionally.
Institutional Structure	• Agree on structure and mechanism for future IRWMP governance. o Representation, roles and responsibilities o Decision making procedure	• Form JPAs where appropriate. • Form partnerships for combined development and implementation of projects with mutual benefits.	• Utilize adaptive management to determine appropriate institutional structures for the USG&RHR Subregion on a project or issue specific basis.

Implementation Phase			
Implementation Element	**Immediate Term**	**Near Term**	**Long Term**
Coordination with State and Federal Agencies	• Identify further opportunities for coordination with state and federal agencies. • Identify need for state or federal approval or assistance on existing projects.	• Develop future projects with state and federal partners where mutually beneficial. • Pursue funding available through state and federal programs.	• Determine how state and federal agencies will influence long term project concepts.
Schedule	• Identify schedules or deadlines in the USG&RHR Subregion.	• Select projects that will help meet upcoming regulatory deadlines. • Select projects that are ready-to-proceed and are high priority.	• Determine the optimal combination of projects to meet long range deadlines. • Establish Subregional funding priorities. • Monitor/update project schedules and continue to identify needs and opportunities.
Financing	• Provide information on local potential funding measures (fees, assessments etc.). • Compile list of current grants being pursued.	• Develop detailed estimates of capital and O&M costs for existing projects. • Track all potential funding opportunities. • Develop innovative, multi-benefit projects to maximize opportunities for competitive funding. • Pursue special earmarks for specific projects.	• Determine the most cost-effective combination of projects that can achieve Subregional objectives.
Data Management	• Document known gaps in data. • Identify data overlaps. • Suggest opportunities for improved data sets. • Develop a data management collection and dissemination system for the Subregion.	• Utilize data to guide development of existing and future projects. • Develop project monitoring plans that can also fill data gaps, if possible.	• Maintain data and continue to collect information

Implementation Phase			
Implementation Element	**Immediate Term**	**Near Term**	**Long Term**
Performance Measures	• Determine what performance measures are appropriate for targets. • Determine what performance measures are appropriate for existing projects. • Identify potential project modifications in response to collected data.	• Measure and report performance of all benefits of multi-objective projects.	• Develop Subregional monitoring system. • Identify opportunities for coordinated Subregional responses to performance data.

Appendix A-1

Habitat Plans

Common Ground from the Mountains to the Sea (refer to 3. Watershed Plans and 5. Parks and Open Space)

San Gabriel River Corridor Master Plan – The original Master Plan developed by LADPW focused on three major goals: habitat, recreation, and open space. The plan envisions the San Gabriel River as a major habitat corridor, connecting fragmented open space areas in Puente Hills and the San Gabriel Mountains. The habitat element of the Master Plan presents various opportunities to preserve and restore habitat and wildlife. Among these projects are the Habitat Passage around Santa Fe Dam; the Hellman Ranch Wetlands Freshwater Marsh and Los Cerritos Wetlands Restoration projects; and the San Jose Creek Habitat and Trail Enhancement Project.

California Council of Land Trusts work through partnerships with local communities, landowners, public and private funders, non-profit organizations, and public agencies to conserve California's natural areas. The California Council of Land Trusts work to diversify financial resources for land conservation needs; ensure that laws and policies support land conservation; and increase awareness and support of land trusts and local land conservation.

Local plans should be reviewed to ensure consistency with the targets of the LA IRWMP.

Reconnecting the San Gabriel Valley: A Planning Approach for the Creation of Interconnected Urban Wildlife Corridor Networks is a watershed management plan project for the Upper San Gabriel River led by SGMRC and funded in partnership with Southern California Edison. Completed in June 2000, the work was carried out by the Graduate Landscape Architecture Program of California State Polytechnic University, Pomona. The plan discusses protecting and creating habitat linkages, offers strategies on how to incorporate sustainable watershed management into local land use plans, and recommends the development of a coordinated GIS/information database network.

Appendix A-2

Parks and Open Space Plans

Common Ground from the Mountains to the Sea is a comprehensive plan for open space in the Los Angeles and San Gabriel River Watersheds. The plan identifies opportunities and develops projects in the following areas:

- Land Acquisition, Connectivity, and Open Space (river parkways; urban lands; mountains, foothills and hills; tributaries; trails and bike paths; community gardens)
- Public Access (improve and expand existing facilities; create new facilities)
- Water Resources (flood protection; surface water; groundwater)
- Native Plants and Wildlife (habitat/corridors; wetlands)

More details are discussed in section **1.1.3. Watershed Plans.**

San Gabriel River Corridor Master Plan - The original Master Plan developed by LADPW focused on three major goals: habitat, recreation, and open space. The recreation element of the Master Plan involves expanding and enhancing recreation for four million residents of the San Gabriel Valley. Projects include new and improved access points to the San Gabriel River Bike Trail; new and improved pedestrian,

bicycle and equestrian trails, and bike connections to the Rio Hondo and Los Angeles River bike trails, for example.

- The objectives of the open space element of the Master Plan include:
- To create, expand, and improve public open space throughout the region;
- To improve access to open spaces and recreation for all communities
- To promote stewardship of the landscape
- To develop a cross-jurisdictional safety and maintenance program

Parks for People Program- Los Angeles is a program created by The Trust for Public Land in 2004 with funding from Proposition 40 grants and public matching funds. With the goal to solve the open space crisis in the Los Angeles metropolis area and provide new recreational opportunities, the program plans to create 25 parks in five years. El Monte/Gibson Road Community Park is an example of a current project underway in the USG&RHR Subregion.

Appendix A-3

Existing Institutional Programs

Southern California Foothill Communities Water Supply Reliability Program represents a federal/local partnership between the Army Corps of Engineers and local communities. The project budget of $50M will provide for planning, design and construction of groundwater quality and supply projects throughout the San Gabriel Mountain Foothill region over a 15-year planning period. These projects will bring surplus water into local groundwater basins, enhance the efficiency and reliability of regional raw water delivery systems, and augment water quality. The program involves three projects:

- A 14-mile imported replenishment water pipeline from Azusa into the Raymond Basin
- An interconnection from the Metropolitan's Foothill Feeder to the San Gabriel Valley MWD pipeline in the San Dimas/La Verne area
- Emergency interconnections from the San Gabriel Valley MWD pipeline to the Water Facilities Authority, Three Valley Municipal Water District and Inland Empire Utilities Agency treatment plants in the eastern San Gabriel Valley and Inland Empire.

Los Angeles Basin Water Augmentation Project (LASGRWC) is a long-term research project led by the Los Angeles and San Gabriel Rivers Watershed Council partnered with several organizations at the state and federal levels (USBR, LARWCB, LADWP, LADPW, and UC Riverside). Initiated in 2000, the main goal of the project is to more fully evaluate the capacity and feasibility of new stormwater management practices through infiltration, and whether these can be achieved without impacting groundwater quality. The project consists of three phases involving a monitoring program structured to assess infiltration characteristics and water quality ramifications of different land use, soils, and types of Best Management Practices for infiltration. Overall, this project will lead to the establishment of a regional strategy for developing this new source of water for Southern California.

Southern California Wetlands Recovery Project (SCWRP) - chaired by the Resources Agency with support from the State Coastal Conservancy together with public agencies, non-profits, scientists, and local communities working cooperatively to acquire and restore rivers, streams, and wetlands in coastal southern California. The project consists of five subgroups (Task Forces), one for each south coastal county. The project goal is to increase the quantity and quality of Southern California's wetlands by developing and implementing a regional prioritization plan for the acquisition, restoration, and enhancement of the region's wetlands and watersheds.

California Water and Land Use Partnership (CA WALUP) is a partnership of state, federal, and non-profit organizations with a strong interest in improving water quality in California. Key partners of CA WALUP include the California Coastal Commission, California Environmental Protection Agency (OEHHA, SWRCB), Local Government Commission, National Oceanic and Atmospheric Administration, UC Davis Extension - Land Use and Natural Resource Program, and USC Sea Grant. CA WALUP's mission is to protect natural resources by providing technical information and practical tools for informed land use decision-making at the local level.

Los Angeles County Weed Management Areas (WMA) is a coordinating effort between landowners and managers from federal, state, local, and non-profit organizations to control invasive species. WMA address both agricultural weeds and wildland weeds. Among the member organizations of WMA are United States Bureau of Land Management; United States Forest Service; California Department of Fish and Game; California Department of Food and Agriculture; San Gabriel Mountains Regional Conservancy.

Appendix A-4

Potential Sources of Funding

- Liberty Hill Foundation 2121 Colorado Boulevard, Santa Monica, CA 90404 310/453-3611 www.libertyhill.org, Environmental sustainability, environmental justice, funding for established as well emerging/developing CBOs.
- Environment Now 2515 Wilshire Boulevard, Santa Monica, CA 90403 310/829-5568 www.environmentnow.org, Dave Myerson, Brian Machovina, Coastal restoration, urban renewal, fresh water.
- Arthur M. Blank Family Foundation 3290 Northside Parkway NW, #600 Atlanta, GA 39034, 404/239-0600, Focuses on a range of LA issues.
- Pasadena Foundation 16 N Marengo, #300 Pasadena, CA 91101, 626/796-2097 www.pasadenafoundation.org, Community development & the environment, education, arts & the humanities applications available June 1, deadline October 1, Focuses on Pasadena, Sierra Madre, and Altadena.
- Bannerman Foundation 9255 Sunset Boulevard, #400, Los Angeles, CA 90069, 310/273-9933, Funds local activities.
- Barbara Streisand Foundation 10100 Santa Monica Boulevard, Los Angeles, CA 90067 310/535-3767 www.barbarastreisand.com, Local environmental causes and organizations.
- Weingart Foundation 1055 West Seventh Street, #3051, Los Angeles, CA 90017, A www.weingartfnd.org, Pres & CAO Public & social benefit, education, health, arts & culture.
- Rose Hills Foundation 444 S Flower Street, #1450, Los Angeles, CA 90071, 213/439-9690 x3 www.rosehillsfoundation.org, Victoria B. Rogers, Pres Projects that benefit East Los Angeles and the San Gabriel Valley: accepts processes applications throughout year
- Entertainment Industry Foundation 11132 Ventura Boulevard, #401, Studio City, CA 91604, 818/760-7722 www.eifoundation.org, Compelling and significant environmental and community needs: application due Friday, June 29, 2003. Funds on an annual basis.
- Ralph M. Parsons Foundation 1955 Wilshire Boulevard, #1701, Los Angeles, CA 90017, 213/482-3185 Wendy G. Hoppe, Ex Dir social impact, civic & cultural, health & higher ed: first step test letter or full proposal, applications accepted through the year.
- Metropolitan Water District PO Box 54153, Los Angeles, CA 90054-0153 213/217-6485 www.mwd.dst.ca.us, A Community Partners Program funds regional water issues, research, education, community-related activities. Applications due in January.

- Ahmanson Foundation 9215 Wilshire Boulevard, Beverly Hills, CA 90210 N/A Environment, education, arts/culture, disadvantaged.
- Edison International 2244 Walunt Grove Ave, Rosemead, CA 91770 626/302-1033 kevin.kelly@edisonintl.com Kevin Kelly Education, environment, economic development.
- California Wellness Foundation 6320 Canoga Avenue, #1701 Woodland Hills, CA 91367 818/593-6600 www.tcwf.org Environmental health with a focus on underserved populations: first step, letter of interest.
- Ralph's Food -4-Less Eduation Fnd PO Box 54143, Los Angeles, CA 90054, 310/884-6205 www.ralphs.com Executive Director
- American Honda www.hondacorporate.com
- Northrop Grumman Corporation LA www.northgrum.com Corp. Dir of Diversity, EEO, & Contributions Human services, environment, civic & cultural, education, health services: applications submitted by December 31st for funding the following year.
- Unocal Corporation 2141 Rosecranz Ave, #400, El Segundo, CA 90245, 310/726-7665 crp@unocal.com
- Nissan Foundation PO Box 191, Mail-Stop N-3-A, Gardena, CA 90248-0191 www.nissanUSA.com/communityrelationsapply Environment, education, arts & culture.
- BP Foundation 310/816-3565 Walter Neil
- ExxonMobile Torrance (Public Affairs) 310/212-4756 Amy McCleod
- Chevron Products Company 324 W El Segundo Blvd., El Segundo, CA 90245 310/615-5281 Rod Spackman Written request sent to Rod Spackman on company letterhead with tax id #, mission statement and goals. Funds education, environment, among others
- Paramount Petroleum Paramount (Public Affairs) 562/531-2060 Bill Winters
- Valero Refining Wilmington (Public Affairs) 562/491-6608
- Union Pacific Foundation N/A 402/271-5034 www.up.com/found Darlynn Herweg Funds organizations s in communities where UP operates. Funds arts, education, health, capacity building. Online application process commence May and applicationss are due in August for funding in the next year.
- Malibu Surfrider Foundation PO Box 935, Malibu, CA 90265 www.malibu@surfrider.org
- South Bay Surfrider Foundation PO Box 3825, Manhattan Beach, CA 90266 310/535-3136 www.surfrider.org/southbay
- Long Beach Surfrider Foundation PO Box 14627, Long Beach, CA 90853 562/433-4323 www.surfrider.org/longbeach

Agency Mitigation and Discretionary Funds

- CalTrans DOT 120, S. Spring Street, LA CA 90012 M&F 858/454-0485 Tu - Th 213/897-0782 dkane002@san.rr.com Diane Kane Stormwater mitigation for CalTrans.
- Department of Fish & Game 4665 Lampson Ave., Suite C, Los Alamitos, CA 90720 562/493-6897 www.dfg.ca.gov Laura Crum Mitigation within same watershed.
- US Fish and Wildlife Service Ventura, Fish and Wildlife Office ARCO and EXXON mitigation funds, 2493 Portola Road, Suite B, Ventura, CA 93003 805/644-1766 www.fws.gov Denise Steurer $11.7 million: 60% acquisition, 20% invasive species removal, 10% restoration grants, 5% education, 5% evaluation & monitoring.

(source: Los Angeles and San Gabriel Rivers Watersheds Council website)

APPENDIX D

Implementation Plan for Lower San Gabriel and Los Angeles River Subregion

DRAFT LOWER SAN GABRIEL AND LOS ANGELES RIVER SUBREGIONAL IMPLEMENTATION TECHNICAL MEMORANDUM

This technical memorandum (TM), prepared under Task 4 of the Greater Los Angeles County Integrated Regional Water Management Program (IRWMP), provides an outline for IRWMP implementation in the Lower San Gabriel and Los Angeles River Subregion.

The intent of the TM is to spur discussion among the members of the Leadership Committee and Steering Committee relative to the key implementation activities necessary for the Lower San Gabriel and Los Angeles River Subregion to ultimately achieve the objectives and planning targets identified in the IRWMP, over the next 20 years. Implementation of the IRWMP would likely occur in three phases as shown in Table 1.

Table 1. Anticipated Phases of Implementation

Implementation Phase	Timeframe	Projects to Be Implemented	Actions
Immediate Term	2007 (Before adoption of Final IRWMP)	Projects from "Call for Projects" that are well developed.	Identify linkages and strengthen interactions between projects based on goals and objectives established in the IRWMP.
Near Term	2007-2008	Use new information to build upon project concepts and generate new project ideas.	Build integration directly into projects from an early stage.
Long Term	Beyond 2008	Project set for the Lower San Gabriel and Los Angeles River Subregion	Design projects to fit into established project set.

The key implementation activities that are discussed herein are organized into the implementation elements defined by the Department of Water Resources (DWR) for the purpose of Proposition 50:

- Coordination with local plans and programs;
- Institutional structure;
- Coordination with state and federal agencies;
- Implementation schedule;
- Financing;
- Data Management; and
- Performance Measures.

Many of the implementation elements are coordinated and managed between Subregions and it is far more effective to consider these elements on a Regional basis. As a result the elements of implementation schedule and performance measures are discussed in the Regional TM.

The discussion under each element is generally organized as follows:

- Implementation element objectives;
- Current status in the Lower San Gabriel and Los Angeles River Subregion; and

- Potential next steps to ultimately achieve the objectives and planning targets identified in the IRWMP, over the next 20 years. These next steps might vary depending on the phase of implementation being considered.

D.1 Coordination with Local Plans and Programs

Coordination between the IRWMP and local planning is essential for generating long term support at the local level. The proposed IRWMP implementation objectives for coordination with local plans and programs are:

- Demonstrate a high degree of coordination with local planning efforts;
- Be consistent with locally expressed goals; and
- Utilize the results of local planning where possible.

The following discussion presents current and future planning efforts in the Lower San Gabriel and Los Angeles River Subregion and the relationship of the IRWMP to local planning efforts and proposed next steps to meet the implementation objectives.

D.1.1 Local Plans and Programs

Local plans and programs in the Region as well as known future planning for the Lower San Gabriel and Los Angeles River Subregion includes updates to General Plans and Urban Water Management Plans (UWMPs) and a series of Total Maximum Daily Load (TMDL) implementation plans scheduled over the next five years are listed in Table 2. This list should be updated as necessary based on stakeholder input.

Table 2. Plans and Programs

Plan type	Plan Name	Agency	Goals	Completion Date or Next Update
General Plans	Coyote and Carbon Canyon Creeks Watershed Feasibility Study	Orange County Watershed and Coastal Resources Division		
	Three Valleys Water Management Plan	Three Valleys Water District		
	San Gabriel River Corridor Master Plan Environmental Impact Report	County of Los Angeles Department of Public Works		
Water Supply	UMWP	Central Basin Municipal Water District		2005
	UWMP	City of Long Beach		2005
	UWMP	City of Los Angeles Department of Water and Power		2005
	UWMP	Municipal Water District of Orange County		2005
	UWMP	SGVMWD		2002
	UWMP	USGVMWD		
	Water Augmentation Study	Los Angeles and San Gabriel Watershed Council		
	Main San Gabriel Watermaster	Main San Gabriel Watermaster Annual Report		
	Integrated Water Resources Plan, 2003	Metropolitan Water District of Southern California		

Table 2. Plans and Programs				
Plan type	Plan Name	Agency	Goals	Completion Date or Next Update
Water Quality	Los Angeles County Drainage Area Feasibility Study	U.S. Army Corps of Engineers, County of Los Angeles Department of Public Works		
	Common Ground from the Mountain to the Sea	RMC and SMMC		
	Watershed Management Initiative Chapter	California EPA, LKA RWQCB		
	Rio Hondo Watershed Management Plan	Rivers and Mountains Conservancy, San Gabriel Council of Governments		
	Los Angeles River Master Plan	County of Los Angeles Dept. of Public Works Summary of Coverage		
	Water Quality Control Plan: Los Angeles Region Basin Plan for the Coastal Watersheds of Los Angeles and Ventura County	Los Angeles RWQCB		
	Five Year Water Quality Management Plan, Main San Gabriel Basin Watermaster	Main San Gabriel Basin Watermaster		
	Orange County Stormwater Program 2003 Drainage Area Management Plan	Orange County		2003
	County of Los Angeles Discharge Permits	County of Los Angeles Department of Public Works to RWQCB		
	Waste Discharge Requirements for Municipal Stormwater and Urban Runoff Discharges within City of Long Beach	City of Long Beach Dept. of Parks, Recreation, and Marine		
	Watershed-wide Monitoring Program for the San Gabriel River	Sanitation District of Los Angeles County		
	Hydraulic/Hydrologic Model of Los Angeles River and San Gabriel River Systems	U.S. Army Corps of Engineers and County of Los Angeles Department of Public Works		
	Floodplain Management Plan	City of Los Angeles		
	San Gabriel Canyon Sediment Management Plan: Draft Supplemental EIR	County of Los Angeles Department of Public Works		
	Long Beach Stormwater Management Plan	City of Long Beach Dept. of Parks, Recreation, and Marine		
	The Los Angeles River: Reshaping the Urban Landscape	Los Angeles River Connection		
	Managing Mosquitoes in Stormwater Treatment Devices	Vector Control District		
	Managing Mosquitoes in Surface-Flow Constructed Treatment Wetlands	Vector Control District		

Table 2. Plans and Programs				
Plan type	Plan Name	Agency	Goals	Completion Date or Next Update
Water Quality (con't)	Toward a Sustainable Water Future: Water Supply and Management in the Los Angeles Area	Independent Review		
	Hydrology/Sedimentation Manual	County of Los Angeles Department of Public Works		
Habitat Restoration/Open Space	Community and Ecological Revitalization	Occidental College		
	San Gabriel River Corridor Master Plan	County of Los Angeles Department of Public Works		
	Watershed Management Plan for the San Gabriel River above Whittier Narrows	San Gabriel Mountains Regional Conservancy		
	Southern California Wetlands Recovery Regional Strategy	State Coastal Conservancy		
	Wetlands of the Los Angeles River Watershed: Profiles and Restoration Opportunities	California Coastal Conservancy		
	Recovery Plan for the Arroyo Southwestern Toad	U.S. Fish and Wildlife Service		
	Western Snowy Plover Pacific Coast Population Draft Recovery	U.S. Fish and Wildlife Service		
	Recovery Plan for the Vernal Pools of Southern California	U.S. Fish and Wildlife Service		
	Rio Hondo Vision Plan (Emerald Necklace Concept)	Amigos de Los Rios		

D.1.2 Relationship of IRWMP to Local Plans

The IRWMP objectives have been developed to be consistent with local planning documents. UWMPs, Watershed Plans, and TMDL Implementation Plans in the Lower San Gabriel and Los Angeles River Subregion will be considered in the water supply and water quality targets established by the IRWMP. Habitat restoration plans are accounted for in the habitat and open space targets established by the IRWMP.

D.1.3 Next steps

Potential next steps in meeting implementation objectives through improving coordination between the IRWMP and Lower San Gabriel and Los Angeles River local plans and programs are identified in Table 3.

Table 3. Potential Next Steps for Improved Coordination with Lower San Gabriel and Los Angeles River Local Plans and Programs	
Implementation Phase	Potential Next Steps
Immediate Term	• Identify additional future planning efforts and when results are expected. • Determine dates for General Plan updates. • Identify projects from existing plans, as well as IRWMP project database that are appropriate for consideration in upcoming grant opportunities such as Proposition 50, Round 2, and others (e.g., Proposition 84 if it passes in November 2006). • Develop a recommended set of projects through the Steering Committee to be included in the IRWMP Proposition 50 Round 2 application.
Near Term	• Establish coordination and communication procedures with ongoing local planning efforts. • Begin development of a Subregional Plan which identifies a comprehensive set of projects to address an appropriate subset of the IRWMP Regional targets.
Long Term	• Integrate IRWMP into General Plan and UWMP updates. • Update IRWMP with updated Subregional goals. • Finalize Subregional Plan and comprehensive set of projects in consultation with local agencies. • Begin identifying local, state, and federal funding partners to assist with implementation of Subregional Plan.

D.2 Institutional Structure

The institutional structure will determine how effectively the IRWMP is managed in the Lower San Gabriel and Los Angeles River Subregion into the future. The IRWMP implementation objectives associated with Institutional Structure are:

- Achieve representation of all agencies and organizations necessary to ensure successful IRWMP execution in the Lower San Gabriel and Los Angeles River Subregion.
- Identify agency(ies) responsible for project implementation.

D.2.1 Current IRWMP structure

The current IRWMP structure at the Subregional level consists of the Lower San Gabriel and Los Angeles River Steering Committee. The composition of the Steering Committee is summarized in Table 4.

D.2.2 Existing Institutional Structures

Joint Powers Authorities (JPAs) have proven to be an effective institutional structure in the sub-region. JPAs allow the powers of two or more agencies to be combined to solve multi-issues problems. Table 5 shows some examples of existing JPAs.

Table 4. Composition of the Lower San Gabriel and Los Angeles River Steering Committee			
Cities and County Agencies	Municipal Agencies	Other Stakeholders	State and Federal Agencies
Anaheim	County Sanitation Districts of Los Angeles County	Amigos De Los Rios	California Department of Parks and Recreation
Artesia	City of Los Angeles Department of Public Works, Bureau of Sanitation	Arroyo Seco Foundation	California Department of Transportation
Bell	City of Los Angeles Department of Water and Power	Audubon Society	National Park Service
Bell Gardens	Anaheim Municipal Water District	Center for Governmental Studies	California Conservation Corps
Bellflower	Central Basin Municipal Water District	Center for Law in the Public Interest	California Coastal Commission
Brea	Compton Municipal Water District	Coastal Conservancy	
Buena Park	Fullerton Municipal Water District	Environment Now	
Cerritos	Municipal Water District of Orange County	F.O.R.C.E.	
City of Los Angeles	Orange County Sanitation District	Foothill Trails	
Commerce	Metropolitan Water District	Foothills Wildlife Conservancy	
Compton	Three Valleys Municipal Water District	Friends of Los Angeles Parks	
Cudahy	Upper San Gabriel Municipal Water District	Friends of the Colorado Lagoon	
Cypress	West Basin Municipal Water District Municipal Water District	Friends of the Los Angeles River	
Diamond Bar	Los Angeles County Beaches and Harbors	Friends of the San Gabriel River	
Downey		Heal the Bay	
Fullerton		Los Angeles and San Gabriel Rivers Watershed Council, Los Angeles	
Hawaiian Gardens		Los Cerritos Wetlands Task Force	
Huntington Park		Mountain Restoration Trust	
La Habra		Mountains Recreation and Conservation Authority	
La Habra Heights		National Audubon Society	
La Mirada		North East Trees	
La Palma		People for Parks	
Lakewood		Rivers and Mountains Conservancy	
Long Beach		Rivers and Trails Program	
Los Alamitos		San Joaquin River Conservancy	
Los Angeles County		San Pedro Bay Estuary Project	
Lynwood		Santa Susana Mountains	
Maywood		Save Belvedere Park Committee	

Table 4. Composition of the Lower San Gabriel and Los Angeles River Steering Committee			
Cities and County Agencies	Municipal Agencies	Other Stakeholders	State and Federal Agencies
Montebello		Shane's Inspiration	
Monterey Park		Sierra Club	
Norwalk		Southern California Wetland Recovery Project	
Orange County		Southern California Marine Institute	
Paramount		Surfrider Foundation	
Pico Rivera		The Better World Group	
Placentia		The Conservation Fund	
Santa Fe Springs		The Nature Conservancy	
Seal Beach		The River Project	
Signal Hill		The Trust for Public Land	
South Gate		Think Earth Foundation	
Vernon		Trails 4 All	
Whittier		Tree People	
		Wetlands Action Network	
		Wild Bird Unlimited	
		Wildlife Corridor Conservation Authority	
		Watershed Conservation Authority*	

** Current sub-regional chair*

Table 5. Joint Powers Authorities in the Lower San Gabriel and Los Angeles River Subregion		
JPA	Entities	Purpose
Watershed Conservation Authority	• Los Angeles County Flood Control District • San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy	The focus of the Watershed Conservation Authority is on projects which will provide open space, habitat restoration, and watershed improvement projects in the watersheds of both the San Gabriel River and the Lower Los Angeles River.
Southern California Coastal Water Research Project	• Cites of Los Angeles and San Diego • County Sanitation Districts of Los Angeles and Orange Counties • Los Angeles, San Diego, and Santa Ana RWQCBs • State Water Resources Control Board • U.S. Environmental Protection Agency • Ventura County Watershed Protection District • Los Angeles County Department of Public Works • Orange County	Address limited knowledge of the effects of wastewater and other discharges to the Southern California coastal marine environment.
Gateway Cities Council of Governments	• Cities of Artesia, Avalon, Bell, Bellflower, Bell Gardens, Cerritos, Commerce, Compton, Cudahy, Downey, Hawaiian Gardens, Huntington Park, La Habra Heights, La Mirada, Lakewood, Long Beach, Lynwood, Maywood, Montebello, Norwalk, Paramount, Pico Rivera, Santa Fe Springs, Signal Hill, Vernon, Whittier • County of Los Angeles • Port of Long Beach	The goal and intent of the council is one of voluntary cooperation among the cities for the collective benefit of cities in Southeast Los Angeles County

In addition to JPAs, development of informal partnerships between stakeholder groups and municipal agencies can be effective means to the implementation of the IRWMP goals. These partnerships can be formed around various issues to facilitate discussion, exchange of information and consensus building.

D.2.3 Potential Governance Options

Currently, no new formal structure has been considered or proposed by the stakeholders involved in the IRWMP process. As needs are identified, alternative governance options will be considered by the affected parties.

D.2.4 Next Steps

Potential next steps towards meeting implementation objectives relative to institutional structure are shown in Table 6.

Table 6. Potential Next Steps for Institutional Structure	
Implementation Phase	Potential Next Steps

Immediate Term	• Agree on structure and mechanism for future IRWMP governance.
	  • Consider continued use of the existing ad hoc structure of Subregional Steering Committees and Regional Leadership Committee.
	  • Cleary define representation, roles and responsibilities.
	  • Clearly define decision making procedure.

Near Term	• Form JPAs where appropriate. • Form partnerships for combined development and implementation of projects with mutual benefits.
Long Term	• Utilize adaptive management to determine appropriate institutional structures for the Lower San Gabriel and Los Angeles River Subregion on a project or issue specific basis.

D.3 Coordination with State and Federal Agencies

Coordination with state and federal agencies is important to the Lower San Gabriel and Los Angeles River Subregion to ensure that IRWMP projects are consistent with existing regulations and priorities. In addition, implementation of projects may require that state and federal approvals be obtained at different stages in the project. State and Federal agencies are also important sources of funding.

The implementation objectives associated with state and federal agency coordination are:

- Achieve coordination with appropriate state and federal agencies.
- Identify areas where state or federal agencies may be able to assist in communication, cooperation or funding.
- Determine where state or federal agencies can assist in implementation of plan activities, components or processes.

D.3.1 Current State and Federal Cooperation

In the Lower San Gabriel and Los Angeles River Region, there is on-going federal and state coordination despite the lack of large areas of park and forest land. Table 7 illustrates some examples of where coordination is needed.

Table 7. Examples of Coordination with State and Federal Agencies and Benefits	
State or Federal Agency	Benefit of Coordination
California Department of Parks and Recreation	Stream restoration projects on Park property need state approval and assistance.
California Coastal Conservancy	Important role in habitat restoration and open space projects near coast.
California DWR	Partner in local and statewide water resources planning.

D.3.2 Next Steps

Potential next steps for meeting implementation objectives by improving current coordination with State and Federal agencies as well as identifying additional opportunities are shown in Table 8.

Table 8. Potential Next Steps for Improving State and Federal Coordination	
Implementation Phase	Potential Next Steps
Immediate Term	• Identify further opportunities for coordination with state and federal agencies. • Identify need for state or federal approval or assistance on existing projects.
Near Term	• Develop future projects with state and federal partners where mutually beneficial. • Pursue funding available through state and federal programs.
Long Term	• Determine how state and federal agencies will influence long term project concepts.

D.4 Schedule

The IRWMP implementation schedule should be realistic and synchronized with schedules for other water management activities in the Lower San Gabriel and Los Angeles River Subregion. The implementation objectives associated with the IRWMP schedule are:

- Determine timelines for active or planned projects.
- Ensure that IRWMP implementation schedule is coordinated with schedules for other water management activities in the Lower San Gabriel and Los Angeles River Subregion.

D.4.1 Regulatory and Conceptual Implementation Schedules

A rough schedule of regulatory drivers is provided in Figure 1. A conceptual schedule for implementation of the IRWMP through projects and associated plans is shown in Figure 2.

D.4.2 Next Steps

Potential next steps for meeting implementation objectives by developing the IRWMP implementation schedule are shown in Table 9.

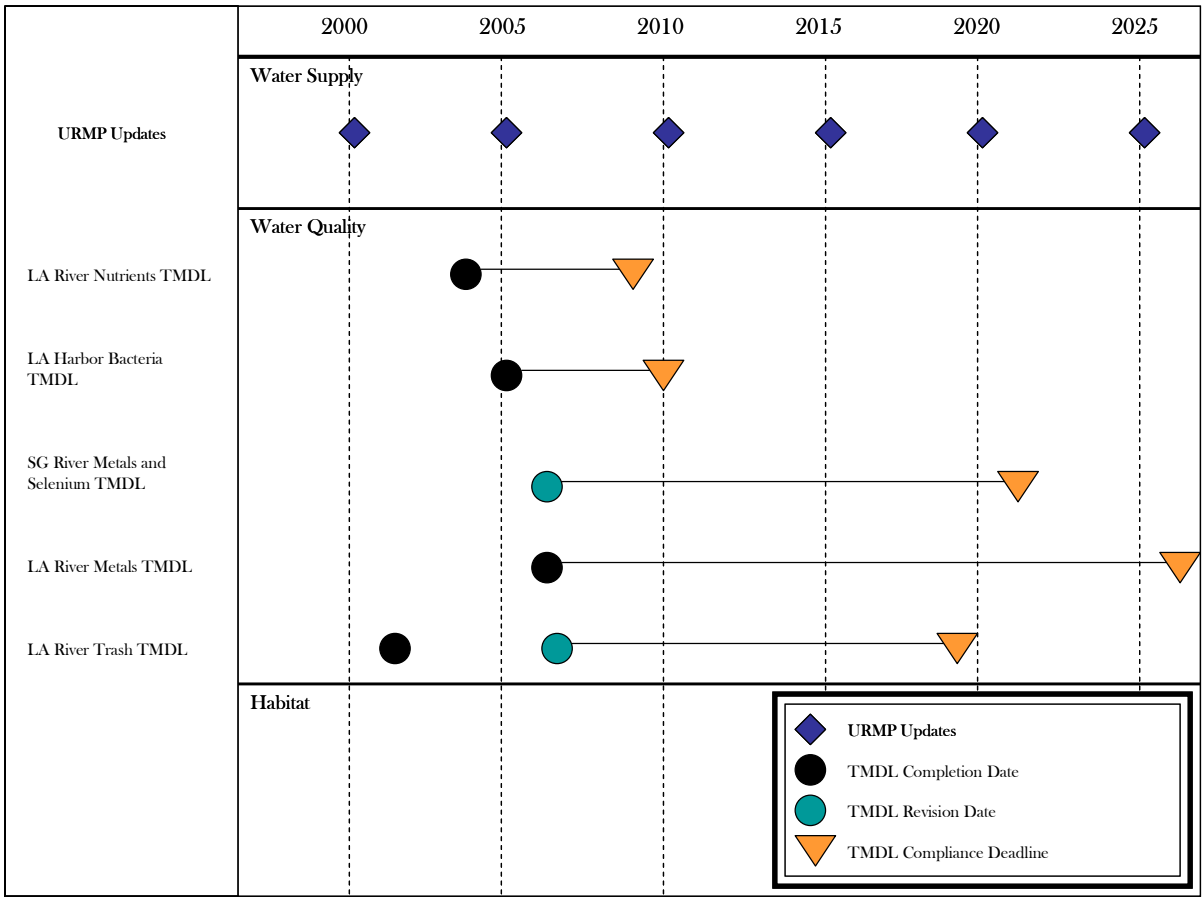


Figure 1. Regulatory Schedule for Lower San Gabriel and Los Angeles River Subregion

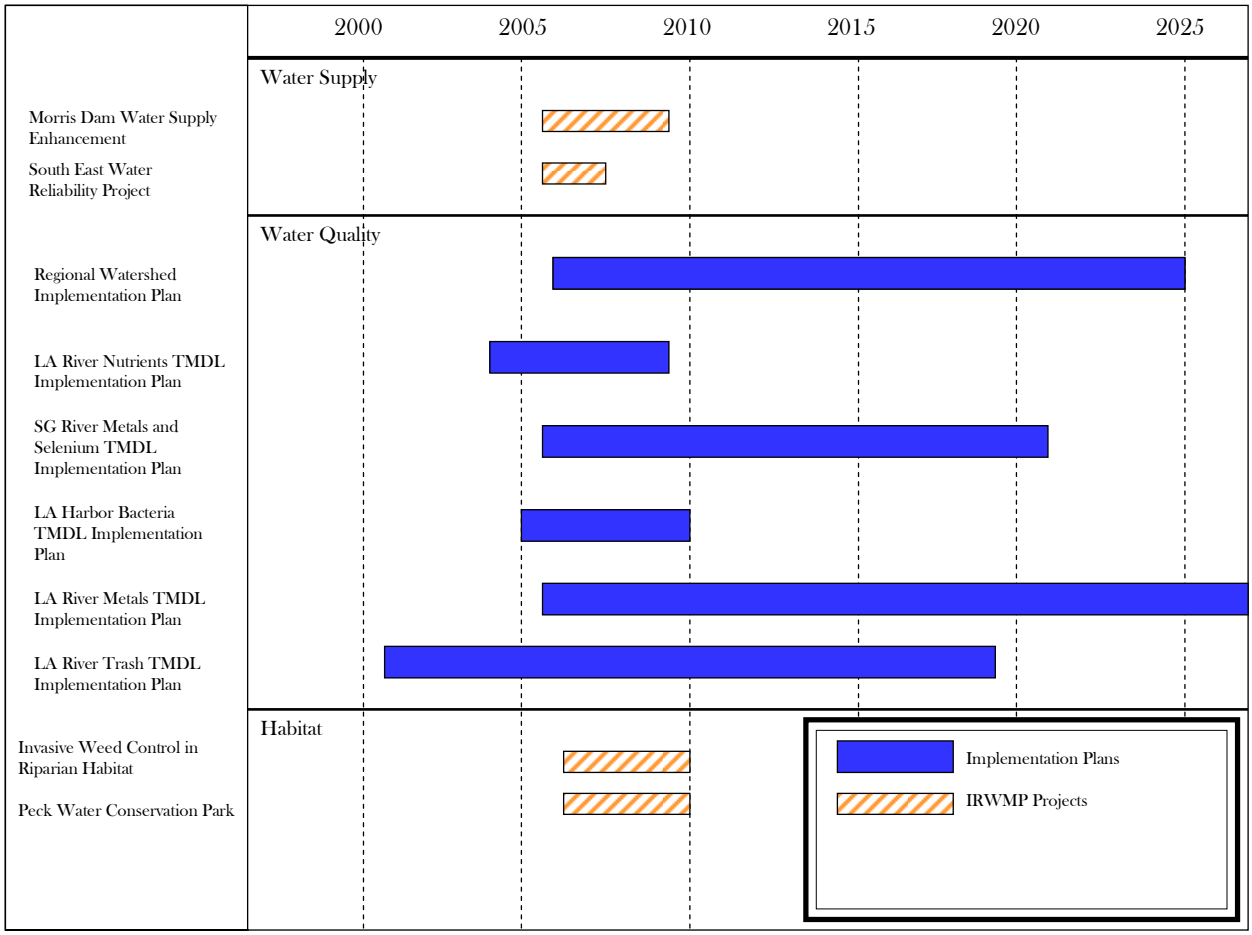


Figure 2. Plans and Projects for the Lower San Gabriel and Los Angeles River Subregion

Table 9. Potential Next Steps for Developing Implementation Schedule	
Implementation Phase	Potential Next Steps
Immediate Term	• Identify additional schedules or deadlines in the Lower San Gabriel and Los Angeles River Subregion.
Near Term	• Select projects that will help meet upcoming regulatory deadlines.
Long Term	• Determine the optimal combination of projects to meet long range deadlines. • Monitor/update project schedules and continue to identify needs and opportunities.

D.5 Financing

Proper financing will ensure that projects selected for implementation can be constructed and can be sustained for the long term. The implementation objectives associated with financing are:

- Identify funding for plan implementation in the Lower San Gabriel and Los Angeles River Subregion; and
- Determine opportunities for ongoing financing for operations and maintenance (O&M) of projects.

D.5.1 Subregional Efforts

Major current and known upcoming funding opportunities available to the Lower San Gabriel and Los Angeles River Subregion are shown in Table 10.

Table 10. Major Funding Opportunities in the Lower San Gabriel and Los Angeles River Subregion	
Funding Category	Program
Current Grants and Loans	Clean Beaches Initiative
	Consolidated Grants
Future Grants and Loans	Proposition 50 Chapter 8 Round 1 Implementation Grant
Local Fees	Fees, Assessments, and Revenue Bonds

D.5.2 Next Steps

Potential next steps for meeting financing implementation objectives are shown in Table 11.

Table 11. Potential Next Steps for Financing	
Implementation Phase	Potential Next Steps
Immediate Term	• Provide information on local potential funding measures (fees, assessments etc.). • Compile list of current grants being pursued.
Near Term	• Develop detailed estimates of capital and O&M costs for existing projects. • Track all potential funding opportunities. • Develop innovative, multi-benefit projects to maximize opportunities for competitive funding.
Long Term	• Determine the most cost-effective combination of projects that can achieve Subregional objectives.

D.6 Data Management Improvements

The implementation objectives associated with data management are:

- Identify methods for efficient collection and dissemination of data;
- Identify data gaps; and
- Determine how data collection will support statewide data needs.

D.6.1 Consolidation and Dissemination of Data

There are a number of programs that support data gathering in the Lower San Gabriel and Los Angeles River Subregion. These are listed below in Table 12.

Table 12. Water Quality Monitoring Programs

Implementation Phase	Potential Next Steps
Los Angeles River water quality monitoring.	Friends of the Los Angeles River RiverWatch (319(h) grant program)
Surface Water Ambient Monitoring Program	State Water Resources Control Board and RWQCB
San Gabriel River water quality monitoring	San Gabriel River Regional Monitoring Program Group
Port of Los Angeles Consolidated Slip Restoration Project Draft Plan	Port of Los Angeles
State of the Watershed Report/Water Quality Characterization Report Draft	RWQCB
Highway Runoff Monitoring	Caltrans
NPDES Monitoring Program	Los Angeles County Department of Public Works
TMDL Monitoring Program	Los Angeles County Department of Public Works
Cleaner Rivers through Effective Stakeholder-led TMDLs	City of Los Angeles
Multiple Monitoring Programs	Southern California Marine Institute

** Source: Draft Regional Watershed Implementation Plan (RWIP)*

D.6.2 Next Steps

Next steps for meeting data management implementation objectives are shown in Table 13.

Table 13. Potential Next Steps for Data Management

Implementation Phase	Potential Next Steps
Immediate Term	• Document known gaps in data. • Identify data overlaps. • Suggest opportunities for improved data sets. • Develop a data management collection and dissemination system for the Subregion.
Near Term	• Utilize data to guide development of existing and future projects. • Develop project monitoring plans that can also fill data gaps, if possible.
Long Term	• Identify long term trends for the Subregion.

APPENDIX E

Implementation Plan for South Bay Subregion

Draft Technical Memorandum

Greater Los Angeles County IRWMP

Subject: **Implementation Plan for South Bay Subregion**

Prepared For: Michael Drennan, Brown & Caldwell (B&C)

Prepared by: Brett Kawakami (RMC)

Reviewed by: Tom West (RMC)

Date: September 1, 2006

RMC Reference: 0078-002.04

This technical memorandum (TM), prepared under Task 4 of the Greater Los Angeles County Integrated Regional Water Management Program (IRWMP), provides an outline for IRWMP implementation in the South Bay Subregion.

The intent of the TM is to spur discussion among the members of the Leadership Committee and the South Bay steering committee relative to the key implementation activities necessary for the South Bay Subregion for the region to ultimately achieve the objectives and planning targets identified in the IRWMP, over the next 20 years. Implementation of the IRWMP would likely occur in three phases as shown in **Table 1**.

Table 1: Anticipated Phases of Implementation

Implementation Phase	Timeframe	Projects to Be Implemented	Actions
Immediate Term	2007 (Before adoption of Final IRWMP)	Projects from "Call for Projects" that are well developed.	Identify linkages and strengthen interactions between projects based on goals and objectives established in the IRWMP.
Near Term	2007-2008	Use new information to build upon project concepts and generate new project ideas.	Build integration directly into projects from an early stage.
Long Term	Beyond 2008	Project set for the South Bay Subregion.	Design projects to fit into established project set.

The key implementation activities that are discussed herein are organized into the implementation elements defined by the Department of Water Resources (DWR) for the purpose of Proposition 50.

- Coordination with local plans and programs
- Institutional structure
- Coordination with state and federal agencies
- Implementation schedule
- Financing
- Data Management
- Performance Measures

The discussion under each element is generally organized as follows:

- Implementation element objectives
- Current status in the South Bay Subregion
- Potential next steps to ultimately achieve the objectives and planning targets identified in the IRWMP, over the next 20 years. These next steps might vary depending on the phase of implementation being considered.

1 Coordination with Local Plans and Programs

Coordination between the IRWMP and local planning is essential for generating long term support at the local level. The proposed IRWMP implementation objectives for coordination with local plans and programs are:

- Demonstrate a high degree of coordination with local planning efforts.
- Be consistent with locally expressed goals.
- Utilize the results of local planning where possible.

The following discussion presents current and future planning efforts in the South Bay Subregion and the relationship of the IRWMP to local planning efforts and proposed next steps to meet the implementation objectives.

1.1 Local Plans and Programs

Local plans and programs in the Subregion are listed in **Table 2.** This list should be updated as necessary based on stakeholder input. Appendix **Tables A-1** and **A-2** provide a summary of completed general plans and other planning in the Region.

Known future planning for the South Bay Subregion includes updates to General Plans and Urban Water Management Plans (UWMPs) as well as a series of Total Maximum Daily Load (TMDL) implementation plans scheduled over the next few years. These are shown in **Table 3**. This table should be updated with any future plans known at this time.

Table 2: Current Local Plans and Programs

Plan type	Plan Name	Agency	Goals	Completion Date
General Plans	General Plan Updates	Beverly Hills, Gardena, and Redondo Beach	To plan for community needs in areas of land use, housing, open space, agriculture, resource conservation, public safety, transportation, public facilities and noise.	2006-07
Water Supply	Central Basin Water Conservation Master Plan	Central Basin MWD	To expand long term water conservation efforts through the introduction of new, regionally tailored programs	2006-07
	Santa Monica Bay (SMB) Beaches Wet Weather Bacteria Total Maximum Daily Load (TMDL) Implemtation Plan (IP) (J/G 2,3,5,6 & 7)	LA County DPW, City of El Segundo, Los Angeles and Santa Monica	Ensure compliance with the SMB Beaches Wet Weather TMDL.	August 2005
Habitat Restoration/Open Space	Ballona Creek and Trail-Focused Special Study	Culver City, California Coastal Conservancy, Community of Culver City	To identify Ballona Creek Trail improvement projects needed along the Ballona Creek Corridor.	2004

Table 3: Future Planning and Updates

Plan type	Plan Name	Agency	Goals	Completion Date or Next Update
General Plans	General Plan Updates	South Bay Subregion cities	To plan for community needs in areas of land use, housing, open space, agriculture, resource conservation, public safety, transportation, public facilities and noise.	Ongoing
Water Supply	UWMP Updates	Cities of Beverly Hills, Long Beach and Torrance, City of Los Angeles Department of Water and Power (DWP), West Basin Municipal Water District (WBMWD)	Update projected water demand for next 25 years and determine water supply needs and sources.	2010 (Updated in 2005)
Water Quality	SMB Near and Offshore Metals and Chlordane TMDL Implementation Plan	Regional Water Quality Control Board (RWQCB)	To meet water quality objectives for metals and chlordane in offshore areas of Santa Monica Bay.	Scheduled for completion in 2005-06
	Dominguez Channel, Los Angeles and Long Beach Harbors Toxics and Metals Implementation Plan	RWQCB	To meet water quality objectives for toxic pollutants and metals in the Dominguez Channel, Los Angeles Harbor and Long Beach Harbor	2006-07
	SMB Beaches and SM Bay nearshore and offshore pesticides TMDL Implementation Plan	RWQCB	To meet water quality objectives for pesticides at Santa Monica Bay beaches and in offshore zones.	2010
Habitat Restoration/Open Space	**None Identified – Needs Updating**			

1.2 Relationship of IRWMP to Local Plans

The IRWMP objectives have been developed to be consistent with local planning documents. UWMPs, Watershed Plans and TMDL Implementation Plans in the South Bay Subregion will be considered in the water supply and water quality targets established by the IRWMP. Relevant information gathered from the Subregional UWMPs is found in Appendix **Table A-3**. Habitat restoration plans are accounted for in the habitat and open space targets established by the IRWMP.

1.3 Next steps

Potential next steps in meeting implementation objectives through improving coordination between the IRWMP and South Bay Subregion local plans can be made by following the actions in **Table 4**.

Table 4: Next steps for Coordination with Local Plans and Programs

Implementation Phase	Potential Next Steps
Immediate Term	• Identify additional future planning efforts and when results are expected. • Determine dates for General Plan updates. • Increase interagency communication and coordination where plans, studies and implementation projects overlap jurisdictions • Identify projects from existing plans, as well as IRWMP project database that are appropriate for consideration in upcoming grant opportunities such as Proposition 50, Round 2, and others (e.g. Proposition 84 if it passes in November 2006). • Develop a recommended set of projects through the Steering Committee to be included in the LA IRWMP Prop 50 Round 2 application.
Near Term	• Establish coordination and communication procedures with ongoing local planning efforts. • Create project "clearing house" to allow rapid identification of planned projects throughout the Region to avoid duplication and create opportunities for partnering. • Begin development of a Subregional Plan which identifies a comprehensive set of projects to address an appropriate subset of the IRWMP Regional Targets.
Long Term	• Integrate IRWMP into General Plan and UWMP updates. • Update IRWMP with updated Subregional goals. • Finalize Subregional Plan and comprehensive set of projects in consultation with local agencies. • Begin identifying local, state, and federal funding partners to assist with implementation of Subregional Plan.

2 Institutional Structure

The institutional structure will determine how effectively the IRWMP is managed in the South Bay Subregion into the future. The IRWMP implementation objectives associated with Institutional Structure are:

- Achieve representation of all agencies and organizations necessary to ensure successful IRWMP execution in the South Subregion.
- Identify agency(ies) responsible for project implementation.

2.1 Current IRWMP structure

The current IRWMP structure at the Subregion level consists of the South Bay Steering Committee. The composition of the steering committee is summarized in **Table 5**.

Table 5: Composition of the South Bay Steering Committee

Cities and County agencies	Municipal Agencies	Other Stakeholders
Torrance	City of Los Angeles Bureau of Sanitation (BOS)	Mono Lake Committee
South Bay Cities Council of Governments	City of Los Angeles Department of Water and Power (DWP)	Santa Monica Bay Restoration Commission
Westside Cities Council of Governments	County Sanitation Districts of Los Angeles County (LACSD)	
	LA County Department of Public Works (LACDPW)	
	Water Replenishment District	
	West Basin Municipal Water District*	

* Current Subregional chair

2.2 Existing Institutional Structures

Joint Powers Authorities (JPAs) have proven to be effective institutional structures the Subregion. JPAs allow the powers of two or more agencies to be combined to solve multi-issues problems. **Table 6** shows the current JPAs.

Table 6: Joint Exercise of Powers Agreements (JPAs) in the South Bay Subregion

JPA	Entities	Purpose
Mountains Recreation and Conservation Authority (MRCA)	o Conejo Recreation and Park District o Rancho Simi Recreation and Park District o Santa Monica Mountains Conservancy	To preserve and manage local open space and parkland, watershed lands, trails and wildlife habitat.
Santa Monica Bay Restoration Authority (SMBRA)	o Los Angeles County Flood Control District o SMBRC	To reduce storm drain pollutant discharges in order to improve the water quality of the Santa Monica Bay.
South Bay Cities Council of Governments (COG)	o Carson, El Segundo, Gardena, Hawthorne, Hermosa Beach, Inglewood, Lawndale, Lomita, Manhattan Beach, Palos Verdes Estates, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Torrance, and the Harbor City/San Pedro communities of the City of Los Angeles.	To maximize the quality of life and productivity of the South Bay region.
Westside Cities COG	o Beverly Hills o Culver City o Los Angeles o Santa Monica o West Hollywood	To forge consensus on policies and programs of regional significance that enhance the quality of daily life, sustain the environment and enrich the future.

In addition to JPA's, informal partnerships have also been formed and have proven effective. Examples are a partnership between the Surfrider Foundation and WBMWD to promote water conservation. These typically form at the project level. Committees such as the Dominguez Watershed Advisory Council and the Ballona Creek Watershed Task Force have also formed around various issues which facilitate discussion, exchange of information and consensus building.

2.3 Potential Governance Options

Currently, no new formal structure has been considered or proposed by the stakeholders involved in the IRWMP process. As needs are identified, alternative governance options will be considered affected parties.

2.4 Next Steps

Potential next steps towards meeting implementation objectives relative to institutional structure are shown in **Table 7**.

Table 7: Next steps for Institutional Structure

Implementation Phase	Potential Next Steps
Immediate Term	• Agree on structure and mechanism for future IRWMP governance. o Consider continued use of the existing ad hoc structure of Subregional Steering Committees and Regional Leadership Committee. o Cleary define representation, roles and responsibilities o Clearly define decision making procedure
Near Term	• Form JPAs where appropriate. • Form partnerships for combined development and implementation of projects with mutual benefits.
Long Term	• Utilize adaptive management to determine appropriate institutional structures for the South Bay Subregion on a project or issue specific basis.

3 Coordination with State and Federal Agencies

Coordination with state and federal agencies is important to the South Bay Subregion to ensure that IRWMP projects are consistent with existing regulations and priorities. In addition, implementation of projects may require that state and federal approvals be obtained at different stages in the project. State and federal agencies are also important sources of funding.

The implementation objectives associated with state and federal agency coordination are:

- Achieve coordination with appropriate state and federal agencies.
- Identify areas where state or federal agencies may be able to assist in communication or cooperation or funding.
- Determine where state or federal agencies can assist in implementation of plan activities, components or processes.

3.1 Current State and Federal Cooperation

An example of federal cooperation in the South Bay Subregion is that the United States Army Corps of Engineers (ACE) is a necessary partner in the restoration of the Ballona Creek Ecosystem.

3.2 Next Steps

Potential next steps for improving state and federal coordination and finding additional opportunities for coordination are shown in **Table 8**.

Table 8: Next steps for State and Federal Coordination

Implementation Phase	Potential Next Steps
Immediate Term	• Identify further opportunities for coordination with state and federal agencies. • Identify need for state or federal approval or assistance on existing projects.
Near Term	• Develop future projects with state and federal partners where mutually beneficial. • Pursue funding available through state and federal programs.
Long Term	• Determine how state and federal agencies will influence long term project concepts.

4 Schedule

The schedule for implementation should be realistic and synchronous with schedules for other water management activities in the South Bay Subregion. The implementation objectives associated with the IRWMP schedule are:

- Determine timelines for active or planned projects.
- Ensure that IRWMP implementation schedule is coordinated with schedules for other water management activities in the South Bay Subregion.

4.1 Regulatory and Conceptual Implementation Schedules

The schedule of regulatory drivers is shown in **Figure 1** on the following page. The conceptual schedule for implementation of the IRWMP through projects and associated plans is shown in **Figure 2.**

4.2 Next Steps

Potential next steps for meeting implementation objectives by developing the IRWMP implementation schedule are shown in **Table 9.**

Table 9: Next steps for Developing Implementation Schedule

Implementation Phase	Potential Next Steps
Immediate Term	• Identify additional schedules or deadlines in the South Bay Subregion.
Near Term	• Select projects that will help meet upcoming regulatory deadlines. o Example: Los Angeles Harbor Low-Flow Diversion project to help meet Bacteria TMDL requirements.
Long Term	• Determine the optimal combination of projects to meet long range deadlines. • Monitor/update project schedules and continue to identify needs and opportunities.

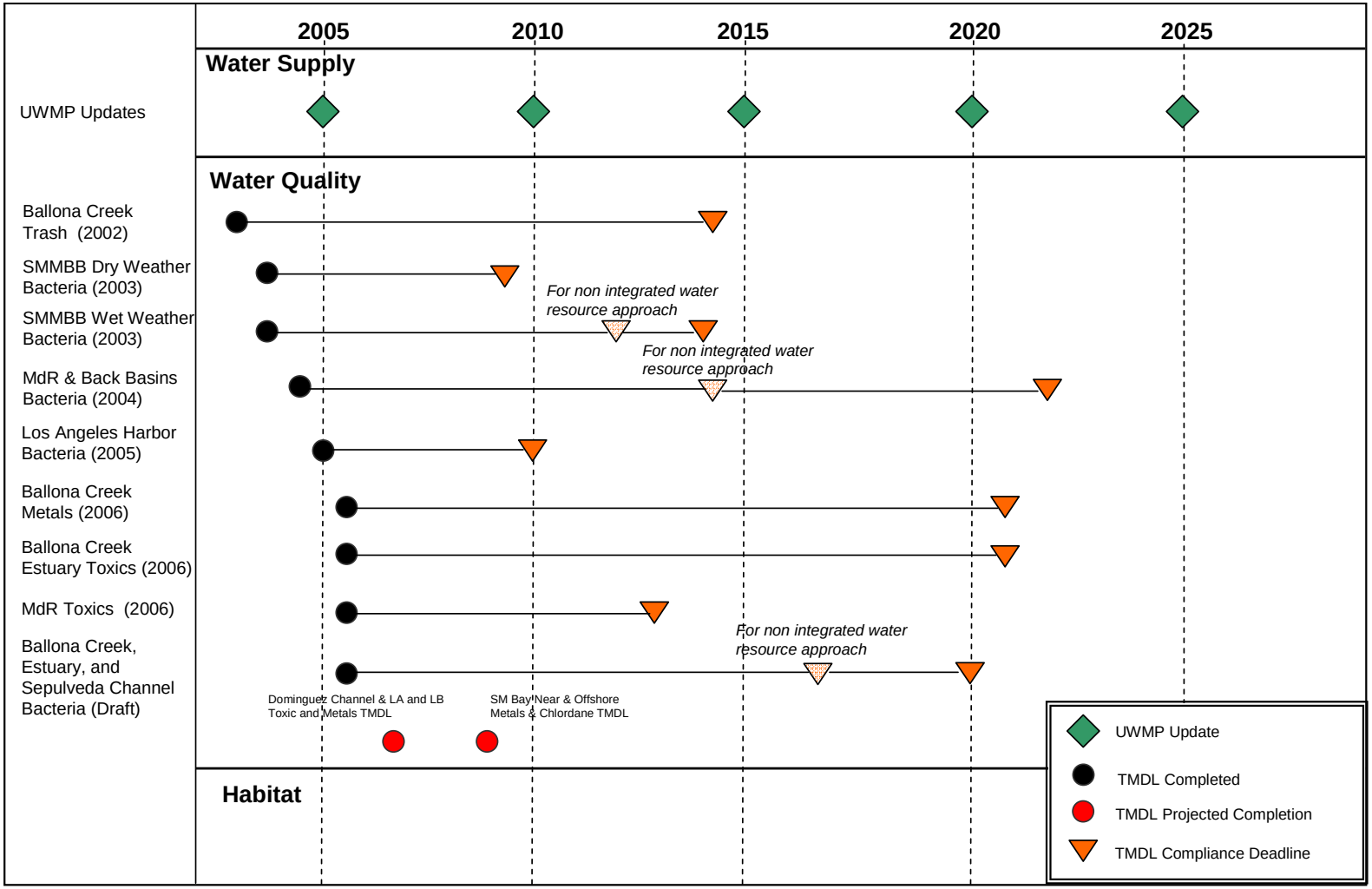


Figure 1: Regulatory Schedule for South Bay Subregion

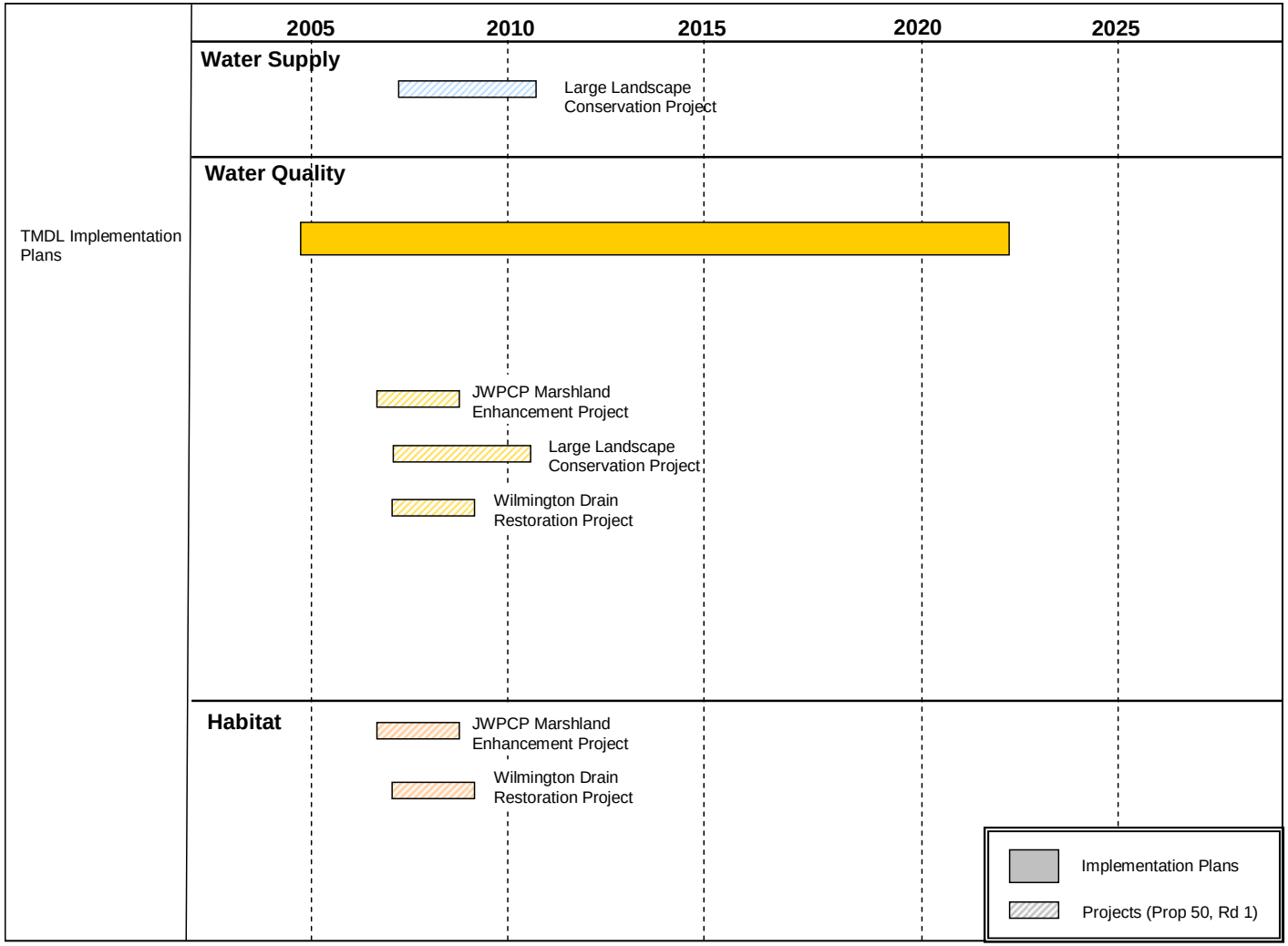


Figure 2: Plans and Projects for South Bay Subregion

5 Financing

Proper financing will ensure that projects selected for implementation can be constructed and can be sustained for the long term. The implementation objectives associated with financing are:

- Identify funding for plan implementation in the South Bay Subregion
- Determine opportunities for ongoing financing for operations and maintenance (O&M) of projects

5.1 Subregional Efforts

Current and future funding opportunities available to the South Bay Subregion are shown in **Table 10**.

Table 10: Funding Opportunities in the South Bay Subregion

Funding Type	Program
Current Grants & Loans	SWRCB Clean Beaches Initiative
	SWRCB Consolidated Grants
Future Grants & Loans	DWR & SWRCB Proposition 50 Chapter 8 Round 1& 2 Implementation Grants
	MWD Local Resources Program (LRP)
	SWRCB Recycled Water Funding Program
	SWRCB State Revolving Fund (SRF)
Local Fees	Fees, Assessments & Revenue Bonds

5.2 Next Steps

Potential next steps for meeting financing implementation objectives are shown in **Table 11.**

Table 11: Next Steps for Financing

Implementation Phase	Potential Next Steps
Immediate Term	• Provide information on local potential funding measures (fees, assessments etc.). • Compile list of current grants being pursued.
Near Term	• Develop detailed estimates of capital and O&M costs for existing projects. • Track all potential funding opportunities. • Develop innovative, multi-benefit projects to maximize opportunities for competitive funding.
Long Term	• Determine the most cost-effective combination of projects that can achieve Subregional objectives.

6 Data Management Improvements

The implementation objectives associated with Data Management are:

- Identify methods for efficient collection and dissemination of data.
- Identify data gaps.
- Determine how data collection will support statewide data needs.
- Identify obstacles to sharing data between agencies and determine methods to remove them

6.1 Consolidation and Dissemination of Data

There are a number of programs that support data gathering in the South Bay Subregion. These are listed below in Table 12.

Table 12: Water Quality Monitoring Programs

Program	Agency
o Snapshots o Mapping Storm Drain Outlet Locations o Storm Drain and Creek Sampling	Santa Monica Baykeeper
o Ballona Creek Water Quality Improvement Project	City of Culver City
o Storm Drain Bacteria Analysis o Pollutant Removal Devices o Daily and Weekly Sampling	City of Los Angeles
o Pollutant Removal Devices	City of Santa Monica
o Catch Basin Debris Excluder Devices	City of West Hollywood
o Manage and Remediate Contaminated Sediments from Dominguez Estuary and Consolidated Slip o Manage and Remediate Contaminated Sediments from Los Angeles and Long Beach Harbors o Develop and Implement a Sediment Management Plan for Machado Lake	Contaminated Sediment Task Force (CSTF) LA Region
o Monitoring Malibu Creek Watershed and Santa Monica Bay	Heal the Bay
o Coordinated Shoreline Monitoring Program	LA County Department of Health Services (DHS) and City of LA
o South Bay J1/4 TMDL Implementation Plan Monitoring Work Plan o Ballona Creek Litter Monitoring and Collection Project o Dry Weather Discharge Treatment Feasibility Study o Mass Emissions Station o Bio-assessments	LA County DPW
o Monthly Sampling	LA County Beaches and Harbors
o Southern California Coastal Water Research Project (SCCWRP) o Contaminated Sediments Task Force o Multipurpose Dry Weather Sampling o Development and Evaluation of Wet Weather Watershed Models o Regional Monitoring Program (Bight '03) o Temporal Storm Drain Variability Study o Dilution Study	SCCWRP

Program	Agency
o Integrated Wetlands Regional Assessment Program (IWRAP) - Proposed	Wetlands Recovery Project
o Ballona Stormwater Structural BMPs	SMBRC
o Surface Water Ambient Monitoring Program (SWAMP) o State Mussel Watch Program	State Water Resources Control Board and RWQCB
o Comparison of Dry vs. Wet Weather Flows o Metals in Ballona Creek Tributaries o Storm Drain Assessment	UCLA
o Sediment Sampling o Marina del Rey Dredge Material Management Plan Study and Sediment Control Plan F3 Report o Marina del Rey and Ballona Creek Feasibility Study o Marina del Rey Entrance Channel Dredging	USACE
o Ventura Countywide Stormwater Quality Management Program	Ventura County Watershed Protection District

Sources: Ballona Creek Watershed Management Plan 2004, Dominguez Watershed Management Master Plan 2004.

Notes: The CTSF includes local, state, and federal agencies involved in the regulation and management of dredging, and includes the U.S. Army Corps of Engineers (USACE), U.S. Environmental Protection Agency (EPA), California Coastal Commission (CCC), Los Angeles Regional Water Quality Control Board (LARWQCB), County of Los Angeles, City of Long Beach, Port of Long Beach, and Port of Los Angeles.

* Source: Draft Regional Watershed Implementation Plan (RWIP)

6.2 Next Steps

Potential next steps for meeting data management implementation objectives are shown in **Table 13**.

Table 13: Potential Next Steps for Data Management

Implementation Phase	Potential Next Steps
Immediate Term	• Document known gaps in data. • Identify data overlaps. • Suggest opportunities for improved data sets. • Develop a data management collection and dissemination system for the Subregion.
Near Term	• Utilize data to guide development of existing and future projects. • Develop project monitoring plans that can also fill data gaps, if possible.
Long Term	• Identify long term trends for the Subregion.

7 Performance Measures

In order to determine progress towards IRWMP objectives and to gauge the effectiveness of the IRWMP component projects, appropriate measures of performance are required. The implementation objectives associated with Performance Measures are:

- Determine the appropriate measures to monitor for performance in the South Bay Subregion.
- Provide mechanisms for adapting project operation in response to performance data.

- Discuss results in an integrated fashion.

7.1 Current Performance Measures

Current performance measures being utilized are shown in **Table 14**.

Table 14: Current Performance Measures

Category	Performance Measure	How Determined
Water Supply	# of water conservation devices distributed	Sales receipts/Distribution records
	AFY of recycled water distributed	Flow measurement device
Water Quality	Reductions in pollutant concentrations observed in water quality data	Sample collection and testing
Habitat and Open Space	Acres of wetland habitat restored	Measurement of habitat restored
	Miles of riparian habitat restored	Measurement of habitat restored

7.2 Next Steps

Next steps for meeting implementation objectives relative to performance measures are shown in **Table 15**.

Table 15: Next steps for Performance Measures

Implementation Phase	Potential Next Steps
Immediate Term	• Determine what performance measures are appropriate for existing projects. • Identify potential project modifications in response to collected data.
Near Term	• Measure performance of all benefits of multi-objective projects.
Long Term	• Develop Subregion monitoring system. • Identify opportunities for coordinated Subregional responses to performance data.

8 Next Steps

Table 16 on the next page provides a consolidated summary of next steps for the South Bay Subregion.

Table 16: Summary of IRWMP Implementation Next Steps for the South Bay Subregion

Implementation Element	Implementation Objectives	Implementation Phase		
		Immediate Term	**Near Term**	**Long Term**
Coordination with Local Plans and Programs	➢ Demonstrate a high degree of coordination with local planning efforts. ➢ Be consistent with locally expressed goals. ➢ Utilize the results of local planning where possible.	• Identify additional future planning efforts and when results are expected. • Determine dates for General Plan updates. • Increase interagency communication and coordination where plans, studies and implementation projects overlap jurisdictions.	• Establish coordination and communication procedures with ongoing local planning efforts. • Create project "clearing house" to allow rapid identification of planned projects throughout the Region to avoid duplication and create opportunities for partnering.	• Integrate IRWMP into General Plan and UWMP updates. • Update IRWMP with updated Subregional goals.
Institutional Structure	➢ Achieve representation of all agencies and organizations necessary to ensure successful IRWMP execution in the South Bay Subregion. ➢ Identify agency(ies) responsible for project implementation.	• Agree on structure and mechanism for future IRWMP governance. o Representation, roles and responsibilities • Decision making procedure	• Form JPAs where appropriate. • Form partnerships for combined development and implementation of projects with mutual benefits.	• Utilize adaptive management to determine appropriate institutional structures for the South Bay Subregion on a project or issue specific basis.
Coordination with State and Federal Agencies	➢ Achieve coordination with appropriate state and federal agencies. ➢ Identify areas where state or federal agencies may be able to assist in communication or cooperation or funding. ➢ Determine where state or federal agencies can assist in implementation of plan activities, components or processes.	• Identify further opportunities for coordination with state and federal agencies. • Identify need for state or federal approval or assistance on existing projects.	• Develop future projects with state and federal partners where mutually beneficial. • Pursue funding available through state and federal programs.	• Determine how state and federal agencies will influence long term project concepts.

Implementation Element	Implementation Objectives	Implementation Phase		
		Immediate Term	**Near Term**	**Long Term**
Schedule	➢ Determine timelines for active or planned projects. ➢ Ensure that IRWMP implementation schedule is coordinated with schedules for other water management activities in the South Bay Subregion.	• Identify additional schedules or deadlines in the South Bay Subregion.	• Select projects that will help meet upcoming regulatory deadlines.	• Determine the optimal combination of projects to meet long range deadlines. • Monitor/update project schedules and continue to identify needs and opportunities.
Financing	➢ Identify funding for plan implementation in the South Bay Subregion ➢ Determine opportunities for ongoing financing for O&M and maintenance of projects.	• Provide information on local potential funding measures (fees, assessments etc.). • Compile list of current grants being pursued.	• Develop detailed estimates of capital and O&M costs for existing projects. • Track all potential funding opportunities. • Develop innovative, multi-benefit projects to maximize opportunities for competitive funding.	• Determine the most cost-effective combination of projects that can achieve Subregional objectives.
Data Management	➢ Identify methods for efficient collection and dissemination of data. ➢ Identify data gaps. ➢ Determine how data collection will support statewide data needs. ➢ Identify obstacles to sharing data between agencies and determine methods to remove them	• Document known gaps in data. • Identify data overlaps. • Suggest opportunities for improved data sets. • Develop a data management collection and dissemination system for the Subregion.	• Utilize data to guide development of existing and future projects. • Develop project monitoring plans that can also fill data gaps, if possible.	• Identify long term trends for the Subregion.

Implementation Element	Implementation Objectives	Implementation Phase		
		Immediate Term	**Near Term**	**Long Term**
Performance Measures	➢ Determine the appropriate measures to monitor for performance in the South Bay Subregion. ➢ Provide mechanisms for adapting project operation in response to performance data. ➢ Discuss results in an integrated fashion.	• Determine what performance measures are appropriate for existing projects. • Identify potential project modifications in response to collected data.	• Measure performance of all benefits of multi-objective projects.	• Develop Subregion monitoring system. • Identify opportunities for coordinated Subregional responses to performance data.

Table A-1: Existing South Bay General Plans

City	General Plan Completion or Last Update
Beverly Hills	Update in Progress
Carson	2003
Compton	1991
Culver City	2001
El Segundo	2004
Gardena	Update in Progress
Hawthorne	2005
Hermosa Beach	1995
Inglewood	2000
Lawndale	2001
Lomita	1998
Long Beach	2002
Port of Long Beach	2006 (Master Plan)
Los Angeles	2001
Port of Los Angeles	1991
Palos Verdes Estates	2001
Rancho Palos Verdes	1988
Redondo Beacj	Update in Progress
Rolling Hills	1996
Rolling Hills Estates	1992
Santa Monica	2001
Torrance	2001
West Hollywood	2002

Table A-2: South Bay Plans and Studies

Plan Type	Agency	Date of Completion
Ballona Creek Watershed Master Plan	LACDPW, Ballona Creek Renaissance, City of LA, National Park Service, SMBRC	2004
Bay Restoration Plan	SMBRP	1994
City of Culver City: Ballona Creek and Trail – Draft Focused Special Study Strategic Plan	Culver City, California Coastal Conservancy	2004
City of Santa Monica – Sustainable City Plan Adopted 2003 Plan	Santa Monica	2004
Dominguez Watershed Management Master Plan	LACDPW	2004
Final Report on Measuring and Modeling Atmospheric Deposition on Santa Monica Bay and the Santa Monica Bay Watershed	SMBRC	2001
Heal the Bay Beach Report Card	Heal the Bay	
Integrated Plan for the Wastewater Program	City of Los Angeles	2001
Integrated Resources Plan for the Wastewater Program: Facilities Plan Vols 1-4	City of Los Angeles	2004
Ken Malloy Harbor Regional Improvement Program: Habitat Restoration and Lake Water Quality Improvement Design Development Report (DDR), Volume 1	City of Los Angeles	2001
Ken Malloy Harbor Regional Improvement Program: Machado Lake Watershed Management Plan, Volume II	City of Los Angeles	2001
Ken Malloy Harbor Regional Improvement Program Master Plan Update, Volume III	City of Los Angeles	2002
MWD Integrated Water Resources Plan 2003 Update	MWD	2003
Santa Monica Bay Epidemiological Study, SMBRC	SMBRC	2003
State of the Bay	SMBRC	2004
Stormwater Impact	Michael K. Stenstrom, Ph.D., P.E.), UCLA	1999
Strategic Plan,	WRD	2003
Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties. California Regional Water Quality Control Board Los Angeles Region (Basin Plan)	RWQCB	1994

Plan Type	Agency	Date of Completion
Watershed Management Initiative (WMI), Los Angeles Regional Water Quality Control Board Section 2.9 Dominguez Channel and Los Angeles/Long Beach Harbors Water Management Area Section 2.10 Santa Monica Bay WMA	RWQCB	2004

Table A-3: UWMP Water Demand and Recycled Water Projections

	2000	2005	2010	2015	2020	2025	2030
City of Beverly Hills [1]							
Water Demand [6]	NA	13,280	13,668	13,927	14,044	14,426	14,661
Recycled Water Use	0	0	0	0	0	0	0
City of Los Angeles Department of Water and Power [2]							
Water Demand [6]	677,000	661,000	683,000	705,000	731,000	755,000	776,000
Recycled Water Use	NA	1,950	16,950	19,950	21,950	26,950	30,950
City of Long Beach [3]							
Water Demand [6]	NA	69,894	73,342	73,342	74,596	73,172	72,200
Recycled Water Use	NA	5,210	8,558	10,158	13,804	16,628	18,600
City of Torrance [4]							
Water Demand [6]	23,025	23,026	23,820	23,990	24,160	24,330	24,510
Recycled Water Use	7,040	7,045	7,100	7,250	7,250	7,250	7,250
West Basin Municipal Water District [5]							
Water Demand [6]	NA	170,851	175,000	149,319	150,665	152,140	153,747
Recycled Water Use	NA	13,065	21,848	32,500	36,250	40,000	43,750

Notes:
(1) Per City of Torrance 2005 Urban Water Management Plan (UWMP).
(2) Per City of Los Angeles DPW 2005 UWMP.
(3) Per City of Long Beach 2005 UWMP.
(4) Per City of Torrance 2005 UWMP.
(5) Per WBMWD 2005 UWMP.
(6) Does not include recycled water or ocean desalination demands.

APPENDIX F

Greater Los Angeles County IRWMP Regional Workshop #3

Breakout Session Notes

August 2, 2006

GREATER LOS ANGELES COUNTY IRWMP REGIONAL WORKSHOP #3 BREAKOUT SESSION NOTES AUGUST 2, 2006

Group 1 Breakout Session

Question: What are the constraints to, or opportunities for, broader cooperation on solutions to water management issues?

Constraints:

1. Regulatory and jurisdictional barriers to success and project implementation.
2. Conflicting mandates/agendas between agencies or municipalities that prevent forward movement on projects.
3. Identifying post-project responsible parties...who will maintain and take on liability.
4. Appearance of inequitable distribution of costs and benefits of projects.
5. Lack of general knowledge of rationale for one project over another.
6. Funding for a regional JPA to manage IRWMP.

Opportunities:

1. Pre-authorized or pre-negotiated MOUs between partnering agencies or cities that will allow for easier implementation.
2. Identification of a point of contact within each agency to allow for quick, responsive, and consistent communication.
3. Early realization of the limits and rolls of each parties function in a particular project or project type.
4. Promote and incorporate the use of existing utility easements and municipal owner properties to reduce costs of land.
5. Continue to expand existing relationships to optimize multi-benefit projects.
6. Allow individuals and NGOs with local knowledge to participate in project development and consider alternate viewpoints.
7. Promote early consultation and coordination with regional water quality boards and use existing relationships with staff to gather input into project feasibility.
8. Actively educate public officials as to benefits and necessity of projects to ensure political backing and foster opportunities for state/federal funds.

Question: What roles can Subregional or regional organizations provide during the implementation of the IRWMP?

1. Consider a regional entity (JPA?) to oversee projects, identify and pursue funding opportunities, and be a clearinghouse for project and stakeholder information.
2. Regional entity would allow for the integration of multiple funding sources into projects with an equitable distribution of benefits.
3. Regional entity would promote consistent goals.

4. Subregional organization should be maintained within the regional structure to ensure sub-regional differences in needs are taken into consideration.
5. Regional entity could promote non-biased implementation of projects to ensure the equitable distribution of benefits and costs.

Question: How can implementation and maintenance of projects be assured for the long term?

1. Introduce and promote legislation that would provide maintenance funds.
2. Consider user-fees.
3. Implement a maintenance and operation endowment fund that would be funded by excess local and county tax revenues and overseen by the JPA.
4. Need to identify a sustainable energy source for the IRWMP projects specifically the reverse osmosis portion of the project?
5. Realize and identify potential impacts of projects prior to implementation (e.g., limitations and costs of RO water).
6. Identify top social pollutants (i.e., cigarettes) and assess user-fees to be used for operation and maintenance of IRWMP projects.
7. Work with existing agencies to utilize, share, and update existing data from IRWMP projects in region including lessons learned, cost-effective strategies and resources, stakeholder participation, and personnel and expertise of project staff.
8. Continue multi-jurisdictional/ agency and use database to identify and foster multi-integrated projects.

Group 2 Breakout Session

Discussion on Scenarios and Implementation Constraints/Opportunities

Scenario discussion

- It is called an IRWMP but doesn't adequately cover habitat in all 3 scenarios, i.e. integration of all areas – water supply, water quality, water habitat.
- All 3 scenarios need to include habitat integration.
- The overall vision should be conversion to "Green Infrastructure":
  - Think differently about design and take the money that would normally be spent on concrete facilities (and the O&M dollars) and spend it on green infrastructure (reduce impermeable surfaces, cisterns, etc…). All 3 scenarios should emphasize green infrastructure.
  - No scenarios include source reduction (removal of impermeable surfaces).
- No scenarios should be the status quo.
  - All should incorporate "Green Infrastructure"
- A combination of scenarios 1 & 3 might show greatest benefits.
- Targets – should be "no increase in imported water in all 3 scenarios", it should reduce the imported needs.
- Don't use MWD IRP/unrealistic despite IRP assumptions. We can't expect more water from imported sources.

- There is competition between water funding and habitat, open space and recreation funding.
- Benefits:
  - Opportunity to find extra benefits in scenario #1 – potential to reduce heat island effects.
  - Scenarios that decentralize produce more community benefits (#3 has more local focus).
  - Economic benefit of wetlands is restricted to recreation which undervalues other benefits (like habitat).
  - Value increase in property values - consider environmental justice, economic effects of higher value property due to "greening" and it's affect on affordable housing.
- Emphasize projects in IRWMP that pilot "New ways of thinking".
- Examine projects in pipeline and "fit" with IRWMP.
- Maintain outputs of infrastructure – e.g. maintain flood protection but don't be married to traditional ways.

Governance

- Competition – so many agencies & stakeholders.
- Communication will be difficult.
- Need regional entity leading with strong support from steering committees:
  - Need Regional Advocacy entity for funding.
  - Consider JPA – assure projects / funding/integration.
  - Use MOUs/not JPAs.
  - Current model could serve as interim, but no NGOs are on steering committee, which is a problem.
  - Executive entity wouldn't meet as frequently as watershed group (e.g. steering committee).
  - Leadership committee without steering committees is a mistake. The steering committees will strengthen the process and is a step above advisory role.
- Possible to organize by watershed and manage areas with cost sharing.
- Plans need to be adopted in general plans/building codes.
- Ensure broad stakeholder involvement:
  - To date water agencies seem to dominate discussion.
  - Bigger than that - governance must include ALL stakeholders.
  - Need to increase involvement of all demographic groups.
  - Public agencies may have conflicts of interests.
  - Must "Pay-to-Play" is wrong.
- Pay attention to "demand-side management".
- Concern over adding layers of governance and "More Meetings"!
- Non-profit organizations are not adequately integrated and the process could be improved.
- Regional processes can undermine local groups.
- Ensure alignment of IRWMP goals with local goals.
- Maintaining existing infrastructure not in local goals.

- Compensate NGOs to participate.

Communication/Education

- Include outreach and education:
  - Component for stakeholders
  - Speakers
  - Elected officials/appointed officials
  - Residents
  - Business community.
- Communicate benefits to greatest number of people – put in terms that stakeholders understand.
  - Cost Sharing – Health Care Benefits
  - Energy Benefits
  - Green Infrastructure
- City of LA - PROP "O" – good case study for Do's and Don'ts.

Finance

- Fund stakeholders to install and maintain project.
- Redirect current O&M costs to support new way of thinking. Finance must be considered in implementation planning:
  - Increase stormwater fees
  - Repeal Proposition 13
  - Increase water rates

Summary of Group – Priority Issues

1. All scenarios should emphasize "Green Infrastructure":
   a. Include storage (e.g., cisterns, removal of impermeable surfaces, etc.)
   b. Find O&M dollars here – money not spent on impermeable surfaces can be spent on green infrastructure.
2. Governance – There is a clear need for regional leadership but it needs to be integrated with local needs and local governance (e.g., watershed councils).
3. Habitat should be integrated into all three scenarios.
4. Education of the public is essential to success.

Group 3 Breakout Session

Scenario Response

- Too rigid, need synthesis that takes the best of each.
  - Better to get a decision-making matrix instead—what will be the basis of decision making?
- Don't get locked in Scenarios. Synthesize.
- Need upland projects for riparian project to work—Rivers and streams can be end of pipe.
- Parks could be used in all scenarios.
- Equity Issues: i.e., - Santa Monica parks vs. parks in disadvantaged communities.
- Green building design & BMP standards for all Cities:
  - Policy
  - Establish common standards for policy.
- Bicycle Transportation:
  - Along River Corridors
  - Scenarios as part of a regional bike network and access to funding.
  - Public access in each scenario - Bike and equestrians.
- Larger open space/habitat needed in all scenarios – don't fear costs. Lots of sources of funding can be developed over time, including public/private matching:
  - 8,000 acres may not be enough for our task—not visionary enough.
  - Present value costs don't all hit now.
  - Habitat is cheaper to maintain than Parks.
- We need to see the analytical process. Where did the numbers come from for the cost estimates?
  - Sub regional committee's should be providing this information.
  - I.e. – what is the analytical basis for reverse osmosis? What does it do for us?
  - Have an Analysis 101 type presentation in the August Steering Committee meetings.
- Cities need to know about TMDL/NPDES compliance. What's the outcome we want to achieve? Will this get us there?
  - For cities to spend money and time, they need to know specifically how these efforts will relate to their compliance needs.
  - Use a city perspective-approach to encourage implementation, which has a TMDL focus.
- What about O&M costs? And Education & Outreach? Were these included in the costs?
- Hector: O&M is included in the costs.
- We should have an Education objective.

Governance and Funding

- Governance in Arroyo Seco is an example of what would work here. They are now finding they need an umbrella organization that includes the agencies. But it was important that they started working on this through citizen groups & non-profits first in order to gain local support for this. They took their efforts as far as they could and found on their own that they are now ready for a higher level group with more authority. A JPA to do the PLANNING and FUNDING.
  - Grass roots will continue to drive the process, but with the help of a larger umbrella group of some kind.
  - Arroyo Seco was a "bottom-up" approach. They created the JPA solution, so they trust it.
- Buy-in from public will matter. Existing disenfranchised communities will take extra effort to engage, or else they will perceive the process as too inconvenient.
- People need a stake in the projects & process & governance for most of the DACs to support this or care about it at all. There is already much apathy in these communities.
  - Local program & involvement driven. Bottom up management approach.
  - Need to have complementary public education, outreach & community programs that go hand in hand with the projects.
- Governance flows from your funding approach.
- Funding – Flood Control Districts with a JPA arm? Regional organization that could buy land.
- But we don't have to buy all the land. Just get current owners to use land differently through financial incentives like we do for encouraging agricultural land uses.
- Governance – Region is too large to remove local control. No eminent domain or land use authority for regional organization should be considered-will alienate cities, land use planners & implementers.
- What about O&M for old infrastructure?
- Personal commitment – Should be funding to address the individual resident to get your community to feel a personal commitment to this.
  - Consider "Neighborhood Watch"-type involvement.
  - Invest some resources on this and support will follow. Inform people what they should do.
  - Consider grant funding for this.
  - Consider sending info out in the water bill through the mail.
  - Use the existing programs & infrastructure of agencies to get word out.
- Need an agency that bridges other agencies. Not one that takes authority away from them for itself. In many cases these groups already exist. Like SCAG. Utilize these rather than reinvent them or create redundancy.
- Education outreach is a no-brainer because there is so little of it now. Supports bottom up. We need to fund more of this in our plan.
- Cost/benefit education for people, not just agencies. What's the benefit to the average person?

Group 4 Breakout Session

Summary of Implementation Issues

1. Financial constraints currently limit many parties' ability to think, plan and execute in an integrated manner.
2. In order to gain the support and buy-in from cities and other resource-constrained parties, the direct benefits they will realize from this integrated planning process need to be better defined and articulated.
3. Success will depend on influencing the behavior of the public and elected officials

General Comments on Planning Scenarios and Benefit Assessment Analysis

1. Don't want to choose scenarios; More than one scenario will apply; ultimate solution set will be a portion of each; scenarios are only a starting place.
2. Natural solutions seem to need more emphasis; for example, reverse osmosis may be too much treatment to solve the water quality problems.
3. One key challenge is how to combine recreation and pollution cleaning; don't want to end up with a park or field that contains metals, trash or other pollutants.
4. Groundwater recharge in the scenarios wasn't well articulated; regardless, we need to avoid just letting treated stormwater run to the ocean.
5. Benefits aren't limited to just water and open space; analysis should consider other benefits such as air quality.

Constraints to Broader Cooperation on Solutions

1. Consider how to arrive at projects that benefit more that just agencies/or get the job done?
   - Regional thinking is needed
   - Need better understanding of costs and benefits of all parties
   - More opportunities for cooperation and communication need to be created.
2. How do we balance achieving the greater good while balancing political freedom of cities and entities?
3. Educate larger community about the benefits of integrated water supply and water quality solutions in order to develop their support in the future. Outreach is imperative.
4. Existing funds that cities have are almost all committed. Need to keep talking after Prop. 50 is finished and if Prop. 84 doesn't pass.
5. Need more funding in general:
   - Most don't have a plan for obtaining the funding they need to meet future water quality needs.
   - Some parties already have a plan for how much funding they need and where they intend to get at least some of it (Santa Monica).
   - A few already have some money (Los Angeles); need to implement wisely.
6. Small cities, in general, seem to be at a disadvantage; not enough resource to implement broader projects which results in them doing small single purpose projects to meet immediate needs.
7. Land is needed to implement solutions; need to work together to acquire or utilize.

8. Need to have long term thinking; need politicians to commit to long-term solutions even though they won't be around.
9. Currently there is no over-arching governance to really integrate projects or develop integrated solutions; happens now on an ad hoc basis.
10. There needs to be a clear incentive for participants to cooperate.

What Kind of Support Can Subregional or Regional Organizations Provide?

1. How do small groups have a voice among the Giants?
2. Because of the power of education, sub-regional or regional entities should do more to outreach to students and schools, particularly universities; potentially utilize students to help implement projects at lower cost while creating advocates for change.
3. One role for regional organization is to fully vet projects of all sizes and take a broader perspective and highlight and support those that reflect the proper priorities.
4. Currently, steering committee participation by cities is lacking. Especially small cities. There are too many meetings, too little time and too little staff.

How Can Implementation and Maintenance of Projects be Assured for the Long Term?

1. Implement projects that address technical issues (e.g., hydrology) as well as aesthetic ones.
2. Need to promote demand management to lower water use which in general reduces pressure on water systems. Ideas suggested included using more native plants, promote further use of ultra low flow toilets, and create more incentives for further demand management.
3. Pass ordinances requiring household and building retrofits at time of sale or construction. Have Building and Safety departments use Plan Check to drive change.
4. Agencies need to do more to promote a change in thinking by the public as well as anti-tax advocacy groups (e.g., Jarvis) to see the future benefit. Better communication of benefit to each entity is needed.

APPENDIX G

Draft Report - Evaluation of Watershed Management Funding Options for Los Angeles County

September 14, 2005

DRAFT REPORT

AMERICAN SOCIETY OF CIVIL ENGINEERS

EVALUATION OF WATERSHED MANAGEMENT FUNDING OPTIONS FOR LOS ANGELES COUNTY

September 14, 2005

EXECUTIVE SUMMARY

[To be provided later]

SECTION 1. INTRODUCTION

The Los Angeles County Watershed Funding Workgroup, a committee sponsored by the American Society of Civil Engineers (ASCE), is comprised of representatives of various cities, the County Public Works Department, environmental and industry groups and other stakeholders within Los Angeles County. The workgroup is working cooperatively towards a long-term regional watershed management master plan for Los Angeles County by 2007 and to seek a voter approved mechanism for funding the master plan projects by 2008. The Workgroup is comprised of the Funding, Steering, Public Education and Plan Development Subcommittees.

This paper was prepared by the Funding Subcommittee and is intended to evaluate several alternative sources of funding the County's watershed management needs, expanding upon the "Stormwater Quality Needs Funding Options and Implementation Tasks" report prepared in 2003 by the County Department of Public Works. This report presents a qualitative, not a quantitative, analysis of the possible funding options, because cost data will not be available until the master planning effort is completed at the end of 2006. The report considers funding watershed management efforts in the County, not the flood-control responsibility of the County Flood Control District or of the cities.

The need to meet increasingly stringent NPDES permits and Total Maximum Daily Loads (TMDLs) has necessitated that local agencies find sustainable ways of funding their watershed management needs. This includes reducing the pollution in both stormwater and dry-weather runoff, to enhance the quality of the County's beaches and waterways. A TMDL establishes by permit a maximum limit for a specific pollutant that can be discharged into a water body without causing it to become impaired. The pollutants targeted in this report are trash and bacteria (both dry weather and wet weather). The source of the trash is littering, while bacteria comes from animal droppings, food waste, naturally occurring bacteria and decaying organic matter. Additional TMDLs, such as for heavy metals, are expected in the future. These may require additional types of capital projects besides those used in this report to evaluate the methods of funding the projects.

Nationwide, several approaches to funding either are in use or contemplated, the most prominent of which are property-related fees and assessments. In California, the biggest

obstacle to any funding method based on parcel ownership is getting voter approval under Proposition 218, which was approved by voters on November 5, 1996. This Proposition imposed landowner approval procedures for assessments on real property and for fees imposed “incident of real property ownership’.” The proposition also limited the types of costs that can be recovered by taxes, assessments and fees, making a distinction between general taxes that are not covered by the Proposition, “general benefits” that cannot be assessed against real property and “special benefits” than can.

A number of possible funding sources for watershed management projects and activities are introduced and evaluated in the remainder of this report. Section 2 describes the various sources of funding evaluated in the report. Section 3 discusses considerations in the evaluation and implementation of the funding sources. Section 4 groups the likely future projects into broad categories and then evaluates their possible funding sources from the perspective of equity. Section 5 summarizes existing watershed maintenance operation and maintenance (O&M) activities that may have to be incorporated into any future funding mechanism. Section 6 develops the advantages and disadvantages of the various funding sources. Section 7 summarizes the recommended choices of the possible funding sources.

SECTION 2. DESCRIPTION OF FUNDING SOURCES

Following are descriptions of the funding sources that are evaluated in this report. These do not include all of the sources discussed in the 2003 County report, omitting those sources that 1. are applicable only for localized areas, such as Mello Roos taxes, 2. are methods of borrowing funds, but do not actually provide revenues to pay debt service or other costs, and 3. are deemed to be not as practical as those analyzed in this report.

Special Purpose Local Option Sales Tax

In California, a sales tax is imposed on retailers selling tangible goods. An equivalent “use” tax is imposed on users of products purchased out of state but brought into California to be used. The use tax provides much less revenuethan the sales tax, partly because use taxes are difficult to collect. A number of sales are not taxed, such as food for home consumption, prescriptions, utilities and most services.

The minimum sales tax rate in California is 7.25 percent, of which 6.25 percent is collected by the State and 1.00 percent is used to fund city and county operations and local transportation. Cities and counties may also impose, in 0.25 percent increments, a maximum 2.00 percent local option sales tax. The maximum possible sales tax in California is therefore 9.25 percent, though no county’s tax exceeds 8.75 percent.

In Los Angeles County, the sales tax rate is 8.25 percent. The local option sales tax is therefore 1.00 percent, including additional funds for transportation under Propositions A and C. Recently, an additional public safety sales tax failed to receive the necessary two-thirds vote. If a quarter cent sales tax were approved for watershed management, it would

generate approximately $280 million per year. However, the County's local option rate can be increased by only 1.00 percent for all purposes, including public safety. The rate can only be increased by 0.50 percent without exceeding the rate in any other county in the State.

Bond and Associated Property Tax for Capital with a Special Purpose Parcel Tax for O&M

Property, or Ad Valorem, taxes are based on the assessed valuation of property, multiplied by an annual tax rate. Because of Proposition 13 in 1978, the valuation can increase a maximum two percent per year, unless the property is sold. In that case, the valuation is reset to reflect the sales price. The valuation can be reduced if property values fall and the owner petitions the County. State law provides certain exemptions from property taxes, including government-owned, non-profit, educational, religious, hospital, charitable and cemetery properties.

The property tax is an example of a "general" tax, which proceeds are placed in a City's or County's general fund and used for general government purposes. Special districts cannot levy general taxes. Proposition 13 limits the property tax to one percent of the assessed valuation, plus an additional percentage to pay debt service on bonds approved by the voters. It is very unlikely that the County will be able to fund any of its watershed management program from revenues of the one-percent property tax, because the revenues are sorely needed for general County and city purposes. However, the voters could be asked to approve the issuance of bonds to fund the capital needs of the program, with debt service paid from additional property tax. The feasibility of this was demonstrated when City of Los Angeles voters recently approved Proposition O. A two-third's vote of the general electorate would be needed to approve the bonds. Bonds can only be used to fund capital projects and do not provide the funds for operating the facilities once they are constructed.

While capital needs would be funded by bonds and property taxes, operation and maintenance needs could be funded by special taxes, often called "parcel taxes." These taxes can be imposed by special districts, but require a two-third's vote for approval. The taxes are often used to fund general services such as public safety, parks, libraries, and open-space protection. In recent years, parcel taxes have been increasingly used to fund school district operations because the legislature reduced the voting threshold to 55 percent for education. Parcel taxes are also popular for these types of general services because Proposition 218 prohibits their funding by assessments and fees.

Parcel taxes are most often levied as a flat amount per parcel, though an amount per square foot or some other calculation of the tax is possible. An annual inflation adjustment can also be incorporated in the formula. The rate must be applied evenly throughout the County or District; no authority is given for zones with different tax rates. In the past, parcel taxes have often been levied for four years, though there is no time limit in the law. They could be levied for longer periods or even permanently if the voters would allow it.

Santa Clara Valley Water District implemented a parcel tax costing each single-family homeowner $39 a year to fund watershed protection projects. The assessment was approved by voters in 2000 and will be in effect for fifteen years. The funds will be used for flood protection, pollution reduction and providing recreation and open space. The assessment is based on the acreage of the properties and varies by watershed. Industrial and commercial properties pay more per acre than residential, reflecting their greater potential for discharging runoff and pollutants.

Surcharge on Vehicle License and Registration Fees

A surcharge could be added to vehicle license and registration fees to fund watershed management in the County. Special state legislation would probably be needed for the County to impose the surcharge.

The County of San Mateo was recently given permission by the State to impose such a surcharge. Assembly Bill 1546, which allows the County to impose a $4 surcharge, passed the Legislature in 2004 and took effect on July 1, 2005. The purpose of the fee is to help fund projects to reduce traffic congestion and stormwater pollution. The fees will be collected by the Department of Motor Vehicles with the annual vehicle registration renewal. Collection of the fees terminates on January 1, 2009. The bill requires that the fees collected may only be used to pay for programs bearing a relationship or benefit to the motor vehicles paying the fee.

Gasoline Tax Surcharge

Currently, gasoline and diesel taxes fund highway improvements in California. These are excise taxes assessed for each gallon of fuel that is sold. An additional per-gallon charge applicable in Los Angeles County could be used for watershed management, based on the logic that vehicles and streets are responsible for much of the runoff pollution. Special state legislation would probably be needed for the County to impose the surcharge.

Benefit Assessment

The current Flood Control District Benefit Assessment collects approximately $108 million per year primarily to provide flood protection. Some of the revenue supports the District's efforts in meeting the NPDES and TMDL water quality requirements. However, the amount will not be sufficient to pay for future water quality efforts. Moreover, the District does not cover the entire County and would not cover all the areas contributing polluted runoff. One option would be to abolish the current assessment and impose a new assessment that would cover all the costs of flood control and watershed management. Another option would be to retain the current assessment to cover flood control costs and another assessment to cover watershed management.

Establishing a new assessment would require the approval of a majority of returned ballots from property owners. However, the ballots would be weighted by the amount of the proposed assessment, so that larger property owners would have greater influence

over the outcome of the balloting. Proposition 218 requires that assessments be used to provide a special benefit to the properties and not a general benefit to the public. A new assessment would therefore need to be structured to account for each property's contribution to runoff pollution.

Utility Fee

A utility fee would be similar to a benefit assessment, except that a fee would not necessarily be property-related, but would be charged to people who are beneficiaries of the utility. However, in practice, it would probably be charged to properties on the County tax roll because of the low cost. The disadvantage of including the fee on the tax roll is that non-taxable properties, such as churches and government facilities, would not pay for their share of runoff and pollution. However, it would not be practical to include the fee on water bills, because there are hundreds of different water purveyors in the County. It also would not be practical for the County to develop a separate billing database including non-taxable properties because of the complication and expense.

An important difference between a utility fee and a property assessment is that, while the assessment must be approved by a majority of the weighted balloting of the property owners, a utility fee could be approved by either a majority of property owners or by a two-thirds vote of the general electorate. The Ventura County Watershed Protection District has requested legislation that would allow it to charge an annual fee of $25 per parcel to fund watershed protection, because the District's management feels that obtaining a two-third's vote of the general electorate would be easier than obtaining a majority vote of the property owners for an assessment. The bill passed the Legislature but was vetoed by the Governor because of his concern that it "would not protect against the possibility of imposing a fee without voter approval". A revised bill has been submitted for the Governor's consideration in fall 2005.

More recently, Orange County Sanitation District proposed a countywide fee which will cost property owners as much as $50 a year to keep the beaches clean. The fee would pay for a $25 million project to divert urban runoff from the north and central County into its sewage treatment plants. A vote on the fee has been postponed to 2008.

Proposition 218, applies to any fee "imposed by an agency upon a parcel or upon a person as an incident of property ownership, including a user fee or charge for a property-related service." This would seem to apply to the utility fee as described in this report, because it would be billed to parcels and the property owners cannot avoid payment by declining the service. As such, the fee cannot 1. generate funds greater than required to provide the property related service, 2. be used for any purpose except that for which the fee is imposed, 3. exceed the proportional cost of the service attributable to the parcel, and 4. be imposed unless the service is actually used by, or immediately available to the owner of the property.

The following table compares the utility fees of several cities in California.

Table 2.1
Comparison of Stormwater Utility Fees in California

City or County	Typical Household Annual Fee	2004 Population	
Riverside County	$ 4.00	1,871,950	(b)
City of San Clemente	$ 8.00	59,550	(e)
City of San Diego	$ 10.08	1,263,756	(a)
City of Los Angeles	$ 24.00	3,845,541	(c)
City of Santa Monica	$ 36.00	87,823	(e)
City of San Jose	$ 40.44	904,522	(e)
City of Davis	$ 45.00	63,722	(e)
City of Alameda	$ 53.52	71,136	(e)
Sacramento County	$ 70.20	1,352,445	(d)
City of Palo Alto	$ 120.00	56,862	(e)

Grants

Following are different types of grants that may be available for watershed protection projects.

Grants from State General Obligation Bonds. These competitive grants have been funded by state general obligation bonds authorized by Propositions 13, 40 and 50, though the State's voters may also authorize future bonds. Grants that will be funded in fiscal year 2005-06 and that may be applicable to watershed management in Los Angeles County include the following:

- **Nonpoint Source Pollution Control Program.** This program includes projects that protect the beneficial uses of water throughout the state through the control of nonpoint source pollution.

- **Urban Storm Water Grant Program**. This program includes projects designed to implement stormwater runoff pollution reduction and prevention programs, including diversion of dry weather flows to publicly owned treatment works for treatment, acquisition, and development of constructed wetlands and the implementation of approved best management practices, as required by stormwater permits.

- **Integrated Watershed Management Program.** This program includes projects for development of local watershed management plans and for implementation of watershed protection and water management projects.

Grants that will be funded by Proposition 50 include the Coastal Nonpoint Source Pollution Control Program. This program includes projects that restore and protect the water quality and environment of coastal waters, estuaries, bays and near shore waters, and groundwater.

U.S. Department of Transportation SAFETEA-LU Grants. The Safe, Accountable, Flexible, Efficient Transportation Equity Act – Legacy for Users (SAFETEA-LU), enacted on August 10, 2005, provides grants for retrofitting or construction of stormwater treatment systems to address environmental problems caused or contributed to by transportation facilities. These grants may be applicable to runoff watershed management projects because much of the runoff arises from public streets and highways. In Los Angeles County, the Metropolitan Transit Authority administers the grants. The Cities of Santa Monica and Los Angeles used a transportation grant under a previous authorization to pay part of the cost of constructing the Santa Monica Urban Runoff Reclamation Facility (SMURRF).

Section 319(h) Nonpoint-source Implementation Grants. These grants are made according to Section 319(h) of the 1987 Clean Water Act Amendments. They are intended to fund projects that "prevent, control and/or abate non-point source water pollution." The grants are administered in California by the State Water Resources Control Board. Application for the grants is very competitive.

Direct Appropriations from State and Federal Governments. The County can ask its represenatives in the state legislature and U.S. Congress to sponsor legislation that will fund certain projects. A specific appropriation can be a line item for an existing program or as part of general appropriations.

Metropolitan Water District Operating Subsidy

In its Local Resources Program, MWD offers annual operating subsidies for projects that recycle water that otherwise would have to be imported. The subsidy may be available, on a competitive basis, for projects that treat and reuse urban runoff. In 2004, the subsidy was $117 per acre-feet of water that is treated and delivered for use. The amount of the subsidy therefore depends on the ability to market and sell recycled water. MWD provides the subsidy for SMURRF because the project provides water for irrigation.

Water Sales

Water that is recycled in urban runoff treatment plants can be sold at a discount from potable water rates. However, at current rates, the sales revenue from recycled water is often insufficient to cover the capital and operating costs of distributing the water to the customers. It is also often difficult to find enough customers within a reasonable distance of the plant to purchase all of the available recycled water.

U.S. Army Corps of Engineers

The Corps' Civil Works Directorate spends about $500 million per year on environmental activities. Major projects require congressional approval. This funding source may be applicable for environmental projects along the Los Angeles River and other waterways owned by the Corps.

Participation by Water Agencies

Runoff treatment projects may produce water that can be used for irrigation or industrial use or used to recharge groundwater aquifers. Storage projects may recharge aquifers by allowing the infiltration of runoff. Water agencies may be willing to participate in the construction costs of the projects in return for rights to the water. As a wastewater example, the Los Angeles Department of Water and Power paid the costs of the Advanced Wastewater Treatment Facility at the City's Terminal Island Treatment Plant so that the Department could sell the recycled wastewater to neighboring industries. Perhaps similar arrangements could be made for treated or infiltrated runoff.

Runoff Discharge Permit Fees

Permits would be issued similar to the permits for discharging industrial waste to the wastewater system. Inspection fees would recover the costs of performing the inspections. Penalties would be imposed for violations. The amounts of the penalties would be set to discourage unlawful runoff discharges, with the proceeds used to fund general watershed management activities. Additional fees could be imposed on the permits to recover system wide watershed management costs. However, these additional fees are not evaluated in this report because they would be largely duplicative of the other funding sources evaluated in this report and would not be generally applicable.

SECTION 3. CONSIDERATIONS IN EVALUATING THE FUNDING SOURCES

This section discusses the considerations that must be made in evaluating the possible funding sources.

Varying Funding by Watershed

The County may wish to vary a watershed management fee, assessment or tax by watershed, in consideration of the varying costs of the projects in the different watersheds. This report considers if the selected funding source can be varied by watershed, if such is needed for equity and/or political reasons.

Distribution Of Funds And Providing Credits For City Taxes

One issue that needs to be resolved is how to ensure equity across all of the cities and areas of the County. Some cities are already charging their residents for watershed management projects and activities. For example, the City of Los Angeles will charge property taxes to pay debt service on its Proposition O bonds funding capital projects. It is

important to ensure that the residents of some cities, such as Los Angeles, are not unfairly paying more for pollution control than other County residents because these cities have already acted on the runoff pollution problem. Another important issue is how to distribute funds for projects in the various cities. The solutions to these two issues are linked together. Following are options for resolving these issues.

Option 1 – Reducing Payments for Cities Already Charging their Residents. One option is to reduce the countywide fee or tax to the residents of these cities so that the total payments are the same throughout the County or watershed. More funds would need to be obtained on a countywide basis than with Option 2 below. Funds in excess of the needs of the County's watershed management projects would be distributed to the different cities for their own projects. With all residents paying the same, there would be no need to distribute the funds in proportion to the cities' contribution of funds. The funds would be distributed to those projects with the greatest impact on pollution, regardless of location. However, if some projects have multiple benefits such as recreation, then the funds paying for these other benefits may still need to be distributed more or less evenly across the County or watersheds.

Advantages of this option include the following:

- Funding resources would be put to the greatest benefit because more of the funds would come from the countywide source. These funds would be distributed to the projects with the greatest impact on pollution, regardless of location. This would result in greater overall pollution control.
- With more funds coming from the countywide source, there would be greater economies of scale in obtaining the funds. There would be less administrative cost than if each city obtained more of its own funds.

This option has the following disadvantage:

- This option would require that funding sources allow reductions for those cities with their own funding sources. Property taxes, for example, would work well, because different rates can be made to be applicable in different areas. It probably would not be possible, or very effective even if it were possible, to vary sales tax rates in different cities depending on how much they fund their own runoff pollution projects. This option would therefore limit the funding sources that can be used.

Option 2 – Charging Residents the Same Across the County or Watershed. Another option would be to charge all residents a reduced amount to fund only County projects. The cities would be expected to pay for other projects in their own jurisdictions. This option has the following advantages:

- This option would simplify the administration of the countywide funding source because the same rate would apply in all areas.

- The option would allow a greater range of funding sources, because it would not be necessary to reduce the payments of residents in those cities with their own funding sources.

Disadvantages include the following:

- With each city selecting and paying for its own projects, resources may be used by some cities to fund projects having limited benefit in reducing runoff pollution, while other cities may not have sufficient resources to fund projects with greater watershed management benefit. Overall pollution control may therefore be less than with Option 1.
- Residents in unincorporated areas and in cities that fail to obtain their own funding sources would pay less overall for runoff watershed management than would the residents of the other cities. This would be unfair because the residents of all areas contribute to the pollution problem.

Option 3 – Variant of Option 1. This is similar to Option 1, except that funds from the County are distributed to the cities based on their populations, contributions of funds by their residents or businesses, or some other formula. Option 3 has the following advantage:

- With more funds coming from the countywide source, there would be greater economies of scale in obtaining the funds. There would be less administrative cost than if each city obtained more of its own funds.

Disadvantages include the following:

- This option would require that funding sources allow reductions for those cities with their own funding sources. This option would therefore limit the funding sources that can be used.
- The distribution of funds would be made without regard to the need for projects. Overall pollution control may therefore be reduced.

Conclusion. Based on the above analysis, Option 1 is the preferable method of distributing funds and accounting for cities with their own funding sources. It provides a greater amount of pollution control benefit for the same expenditure and guarantees that residents of all cities pay their fair share of watershed management costs.

Evaluation Criteria

Following is a summary of the criteria that are used to evaluate the funding options in this report:

- **Equity.** Generally, those people that contribute the pollution should pay the costs of watershed management projects in proportion to their contribution. Fairness requires that a relationship, or “nexus,” exist between the payment and

contribution. This requires consideration of whether runoff was generated on private or public property, on what basis the capital and operating costs are incurred and if the selected funding source results in people paying in proportion to the costs of removing the pollution that they contribute.

- **Administrative Cost.** The report considers the costs of collecting the revenue and if an existing system is in place to collect the revenue.
- **Availability of Funds.** The report considers if the source will contribute significant funds.
- **Implementation Feasibility.** The report considers if the funding sources fit well with the existing funding sources of the various cities in the County so that the residents in each city contribute their fair share of the Countywide watershed management costs. The report also considers if the funding sources can vary between watersheds, if the County decides this is needed.
- **Stability of Revenue.** The report considers if the funding source will provide a dependable revenue stream.
- **Acceptable.** The report considers the hurdles that must be surmounted for the funding sources to be adopted, such as voting requirements, legislative action and state or federal appropriations.
- **Flexibility.** The report considers if the funding sources can be used to cover the different types of costs.

SECTION 4. APPLICABLE FUNDING SOURCES FOR CAPITAL PROJECTS

This section groups the likely future projects into broad categories and then evaluates the funding sources that may be applicable for the projects from the perspective of equity. The analysis for future projects includes both the capital costs and O&M costs arising from the projects.

Description of the Project Categories

After a review of activities and projects related to watershed management, six broad categories of likely projects have been identified. This grouping may not be exhaustive and is based primarily on the type of structure(s) and the purpose of project. The six main project categories, discussed below, are runoff treatment, low flow diversion, trash capture, stormwater storage and infiltration, dry weather flow storage and infiltration and improvements along waterways and lakes.

Runoff Treatment. These are runoff treatment facilities similar to SMURRF. The purposes of the facilities are to treat the runoff, thus removing a source of pollution, and to provide water suitable for irrigation and other uses.

Low Flow Diversion. These are diversions of dry-weather runoff to the sewer system for treatment at the sanitary treatment plants. The purpose of the facilities is to remove a source of pollution. Due to economies of scale, sanitary treatment costs are much lower than with runoff treatment plants such as SMURRF. However, the diversions do not

provide additional water for reuse because the plant owners cannot typically reuse all of the water that they treat.

Trash Capture. These are devices, such as catch-basin screens and continuous deflection separators, which capture trash for later disposal. The devices need ongoing maintenance to remove and dispose trash.

Stormwater Storage and Infiltration. These projects include devices that 1. store wet-weather runoff, including retention grading, driveway dry wells and bioretention that may also filter the runoff or remove organic material, 2. cisterns that serve to reduce peak flows and reduce water use as the cistern water is used for irrigation and 3. porous pavement in areas with permeable soils, such as the East San Fernando Valley, that reduces peak storm flows and enhances infiltration into the groundwater. The devices may be small enough to be installed and paid for by individual property owners, as required for construction permits.

The projects may also include larger flood control basins and detention basins to store stormwater. Such storage may allow infiltration of stormwater over time, with the benefits of capturing pollutants in the soil and augmenting the groundwater. Storage will also reduce downstream peak stormwater flows, allowing downstream facilities to remove a larger percentage of the polluted stormwater.

Dry Weather Flow Storage and Infiltration. Devices such as retention grading, driveway dry wells and bioretention may also be used to store and filter dry-weather runoff. The devices may be small enough to be installed and paid for by individual property owners, as required for construction permits.

Improvements Along Waterways and Lakes. These projects divert polluted runoff from waterways and lakes, often filtering out pollutants in constructed wetlands or strip filters. They often have the added benefits of improving the appearance of the waterways and providing recreational opportunities.

Multi-benefit Projects

Many of the projects discussed above provide opportunities for multiple benefits. For example, a constructed wetland could provide recreational benefits in addition to filtering pollutants from runoff. In some cases, these additional benefits may allow the use of additional funding sources for constructing or operating the projects. For example, selling water for irrigation could offset some of the operating costs of the projects. Including other benefits may also reduce the cost of the watershed management portions of the projects. Following are some of the possible benefits of the projects besides removing pollutants from runoff:

Flood Control. The wet weather storage and infiltration projects discussed above have an added flood control benefit of reducing the peak flows of runoff. A portion of the project

costs could therefore be paid from the existing flood control assessment in recognition of this benefit.

Water Reuse. Some of the projects provide water that can be reused, thereby reducing the need for water that must be imported. Projects with runoff infiltration will augment groundwater supplies, while projects that treat runoff will provide water for direct use. The Metropolitan Water District, Los Angeles Water and Power and other water agencies may be willing to contribute funds towards projects that reduce the amount of water that they must import.

Water sales for irrigation or other uses might offset some of the costs of multi-benefit projects. Unfortunately, at today's water prices, the capital costs of distributing such water will most often exceed the water sales. In the short run, there will probably be no net revenues that can be used to offset the capital costs of capturing and treating the water, though the net sales may offset some of the operating costs.

Recreation. Constructed wetlands and other vegetated areas used for removing pollutants might also provide recreational and esthetic benefits. This might be used to justify using park bond funds to pay for portions of the projects. However, there may be considerable competition for park funds.

Possible Funding Sources for the Projects

For each of six project categories, the tables below identify a target parameter and contributors to the problem, which in turn determines the possible sources of funding based on the principle of "polluter pays''. The tables also discuss how well the possible funding sources provide the nexus between payment of the project costs and their pollution contribution for the project categories. Benefits other than watershed management, such as flood control, recreation and water supply, are also shown in the tables.

Table 4.1
Funding Sources for Runoff Treatment Projects

Cost	Cost Allocation Parameter	Source of Parameter	Possible Funding Sources	Comments
Capital	Dry-weather flow	Runoff from streets and other public areas	Local sales tax	This funding source is appropriate for this general benefit in that it makes all people play to control runoff from public places.
			Bond and associated property tax	This funding source is appropriate for this general benefit in that it makes all people pay for runoff from public places, either through tax bills or through rents.
			Utility fee or benefit assessment based on use of the property	This provides a reasonable nexus if one assumes that responsibility for runoff volume from streets is proportional to runoff volume from properties.
			Flat surcharge on vehicle License and registration fees	Assumes that all vehicles use the streets equally. This provides a reasonable nexus between payment and use of the streets that contribute to runoff, but not as good a nexus as a gasoline tax.

Cost	Cost Allocation Parameter	Source of Parameter	Possible Funding Sources	Comments
			Gasoline tax	Good nexus between payment and use of the streets that contribute to runoff.
		Runoff from private property (Car washing, irrigation overspray, etc.)	Utility fee or benefit assessment based on use of the property	Can provide a good nexus if studies provide a reasonable estimate of dry-weather runoff based on property use.
			Utility fee or benefit assessment based on total area and impervious area	Payment is based on an estimate of storm runoff generation. This provides a poor nexus between payment and the amount of dry-weather runoff.
			Bond and associated property tax	The nexus between dry-weather runoff and assessed value is poor.
			Construction grants	
	Beneficial use of water		Participation by the Metropolitan Water District or other water agency	Water agencies may be willing to pay some of the cost, because this should reduce the amount of water that they must import.
			Water Sales	Water sales may be used in some limited cases to cover the capital costs of producing the water. However, at current water prices, the distribution costs will exceed the water sales in most situations, so that there will be no net revenues to cover treatment capital costs.
O&M	Bacteria and other pollutants	Pollution from streets and other public areas (dog feces, littering, gasoline, brake lining dust, etc.)	Local sales tax	This funding source is appropriate for this general benefit in that it makes all people play to control runoff from public places.
			Parcel tax	This funding source is appropriate for this general benefit in that it makes all people pay for runoff from public places, either through tax bills or through rents.
			Utility fee based on use of the property	This provides a reasonable nexus if one assumes that responsibility for runoff pollution from streets is proportional to runoff pollution from properties.
			Flat surcharge on vehicle License and registration fees	Assumes that all vehicles use the streets equally. This provides a reasonable nexus between payment and use of the streets that contribute to runoff, but not as good a nexus as a gasoline tax.
			Gasoline tax	Good nexus between payment and use of the streets that contribute to pollution from vehicles.
		Runoff from private property (Car washing, irrigation overspray, etc.)	Parcel tax	Although the formula can be varied somewhat from a per-parcel tax, it probably cannot be structured to provide a good nexus between pollution contribution and payment.
			Utility fee or benefit assessment based on use of the property	The fee or assessment can be structured to provide a good nexus between pollution contribution and payment.
			Utility fee or benefit assessment based on total area and impervious area	Payment is based on an estimate of storm runoff generation. This provides a poor nexus between payment and the amount of dry-weather runoff.
	Beneficial use of water		Metropolitan Water District operating subsidy	Water agencies may be willing to pay some of the cost, because this should reduce the amount of water that they must import.
			Water sales	Water sales less the costs of distribution pumping may cover some of the O&M costs of producing the water.

Table 4.2
Funding Sources for Low Flow Diversion Projects

Cost	Cost Allocation Parameter	Source of Parameter	Possible Funding Sources	Comments
Capital	Dry-weather flow	Runoff from streets and other public areas	Local sales tax	This funding source is appropriate for this general benefit in that it makes all people play to control runoff from public places.
			Bond and associated property tax	This funding source is appropriate for this general benefit in that it makes all people pay for runoff from public places, either through tax bills or through rents.
			Utility fee or benefit assessment based on use of the property	This provides a reasonable nexus if one assumes that responsibility for runoff volume from streets is proportional to runoff volume from properties.
			Flat surcharge on vehicle License and registration fees	Assumes that all vehicles use the streets equally. This provides a reasonable nexus between payment and use of the streets that contribute to runoff, but not as good a nexus as a gasoline tax.
			Gasoline tax	Good nexus between payment and use of the streets that contribute to runoff.
		Runoff from private property (Car washing, irrigation overspray, etc.)	Utility fee or benefit assessment based on use of the property	Can provide a good nexus if studies provide a reasonable estimate of dry-weather runoff based on property use.
			Utility fee or benefit assessment based on total area and impervious area	Payment is based on an estimate of storm runoff generation. This provides a poor nexus between payment and the amount of dry-weather runoff.
			Bond and associated property tax	The nexus between dry-weather runoff and assessed value is poor.
			Construction grants	
O&M	Bacteria and other pollutants	Pollution from streets and other public areas (dog feces, littering, gasoline, brake lining dust, etc.)	Local sales tax	This funding source is appropriate for this general benefit in that it makes all people play to control runoff from public places.
			Parcel tax	This funding source is appropriate for this general benefit in that it makes all people pay for runoff from public places, either through tax bills or through rents.
			Utility fee based on use of the property	This provides a reasonable nexus if one assumes that responsibility for runoff pollution from streets is proportional to runoff pollution from properties.
			Flat surcharge on vehicle License and registration fees	Assumes that all vehicles use the streets equally. This provides a reasonable nexus between payment and use of the streets that contribute to runoff, but not as good a nexus as a gasoline tax.
			Gasoline tax	Good nexus between payment and use of the streets that contribute to pollution from vehicles.
		Pollution from private property (Car washing, pesticides, nutrients, fertilizer, etc.)	Parcel tax	Although the formula can be varied somewhat from a per-parcel tax, it probably cannot be structured to provide a good nexus between pollution contribution and payment.
			Utility fee or benefit assessment based on use of the property	Can provide a good nexus if studies provide a reasonable estimate of pollution based on property use.
			Utility fee or benefit assessment based on total area and impervious area	Easier to calculate, but not as good a nexus, because pollutant contribution is poorly related to property size and imperviousness, especially when comparing industrial, commercial and residential uses of property.

Table 4.3

Funding Sources for Trash Capture Projects

Cost	Cost Allocation Parameter	Source of Parameter	Possible Funding Sources	Comments
Capital and O&M	Volume of trash	Littering on streets and in other public areas	Property tax and Parcel Tax	This funding source is appropriate for this general benefit in that it makes all people pay for trash in public places, either through tax bills or through rents.
			Local sales tax	There may be a nexus between purchases subject to sales tax and littering. Moreover, this funding source is appropriate for this general benefit in that it makes all people play to control trash in public places.
			Flat surcharge on vehicle License and registration fees	Reasonable nexus between payment and use of the streets. However, this works only for the trash contributed by vehicle owners, forcing vehicle owners to pay for the trash contributed by pedestrians.
			Bond and associated property tax, Parcel tax	These funding sources are appropriate for this general benefit in that they make all people pay for trash in public places, either through tax bills or through rents.
			Gasoline tax	Good nexus between payment and use of the streets. However, this works only for the trash contributed by vehicle owners, forcing vehicle owners to pay for the trash contributed by pedestrians.
			Tax on commodities	This would provide a good nexus between the payment and costs of trash removal, if it were possible to tax all the different sources of trash. However, it would not be feasible to do so.
			Construction grants	

Table 4.4
Funding Sources for Stormwater Storage and Infiltration Projects

Cost	Cost Allocation Parameter	Source of Parameter	Possible Funding Sources	Comments
Capital	Wet-weather flow	Storm runoff from streets and other public areas	Local sales tax	This funding source is appropriate for this general benefit in that it makes all people pay to control runoff from public places.
			Bond and associated property tax	This funding source is appropriate for this general benefit in that it makes all people pay for runoff from public places, either through tax bills or through rents.
			Utility fee or benefit assessment based on are and impervious area	This provides a reasonable nexus if one assumes that responsibility for runoff volume from streets is proportional to runoff volume from properties.
			Flat surcharge on vehicle License and registration fees	Assumes that all vehicles use the streets equally. This provides a reasonable nexus between payment and use of the streets that contribute to runoff, but not as good a nexus as a gasoline tax.
			Gasoline tax	Good nexus between payment and use of the streets that contribute to runoff.
		Storm runoff from private property	Utility fee or benefit assessment based on total area and impervious area	Payment is based on an estimate of storm runoff generation, provides a good nexus between payment and the amount of runoff.
			Bond and associated property tax	The nexus between wet-weather runoff and assessed value is poor.

Cost	Cost Allocation Parameter	Source of Parameter	Possible Funding Sources	Comments
			Individual property owners	Devices, such as retention grading, driveway dry wells and bioretention, may be required of new development to mitigate increased peak flows and pollution caused by the development.
			Construction grants	Water agencies may be willing to pay some of the cost, because this should reduce the amount of water that they must import.
			Participation by the Corps of Engineers	
	Flood control benefit		Current flood control assessment	The flood control benefit may justify using funds from the current assessment, unless the assessment is replaced by a funding source covering both watershed management and flood control.
	Beneficial use of water infiltrated into the groundwater		Participation by the Metropolitan Water District or other water agencies	Water agencies may be willing to pay some of the cost, because this should reduce the amount of water that they must import.
O&M	Bacteria and other pollutants	Pollution from streets and other public areas (dog feces, littering, gasoline, brake lining dust, etc.)	Local sales tax	This funding source is appropriate for this general benefit in that it makes all people pay to control runoff from public places.
			Parcel tax	This funding source is appropriate for this general benefit in that it makes all people pay for runoff from public places, either through tax bills or through rents.
			Utility fee based on use of the property	This provides a reasonable nexus if one assumes that responsibility for runoff pollution from streets is proportional to runoff pollution from properties.
			Flat surcharge on vehicle License and registration fees	Assumes that all vehicles use the streets equally. This provides a reasonable nexus between payment and use of the streets that contribute to runoff, but not as good a nexus as a gasoline tax.
			Gasoline tax	Good nexus between payment and use of the streets that contribute to pollution from vehicles.
		Pollution from private property (Car washing, pesticides, nutrients, fertilizer, etc.)	Parcel tax	Although the formula can be varied somewhat from a per-parcel tax, it probably cannot be structured to provide a good nexus between pollution contribution and payment.
			Utility fee or benefit assessment based on use of the property	Can provide a good nexus if studies provide a reasonable estimate of pollution based on property use.
			Utility fee or benefit assessment based on total area and impervious area	Easier to calculate, but not as good a nexus, because pollutant contribution is poorly related to property size and imperviousness, especially when comparing industrial, commercial and residential uses of property.
	Flood control benefit		Current flood control assessment	The flood control benefit may justify using funds from the current assessment, unless the assessment is replaced by a funding source covering both watershed management and flood control.
	Beneficial use of water infiltrated into the groundwater		Reimbursement for water that is available for future pumping.	Water agencies may be willing to pay some of the cost, because this should reduce the amount of water that they must import.

Table 4.5
Funding Sources for Dry Weather Flow Storage and Infiltration Projects

Cost	Cost Allocation Parameter	Source of Parameter	Possible Funding Sources	Comments

Cost	Cost Allocation Parameter	Source of Parameter	Possible Funding Sources	Comments
Capital	Dry-weather flow	Runoff from streets and other public areas	Local sales tax	This funding source is appropriate for this general benefit in that it makes all people pay to control runoff from public places.
			Bond and associated property tax	This funding source is appropriate for this general benefit in that it makes all people pay for runoff from public places, either through tax bills or through rents.
			Utility fee or benefit assessment based on use of the property	This provides a reasonable nexus if one assumes that responsibility for runoff volume from streets is proportional to runoff volume from properties.
			Flat surcharge on vehicle License and registration fees	Assumes that all vehicles use the streets equally. This provides a reasonable nexus between payment and use of the streets that contribute to runoff, but not as good a nexus as a gasoline tax.
			Gasoline tax	Good nexus between payment and use of the streets that contribute to runoff.
		Runoff from private property	Utility fee or benefit assessment based on use of the property	Can provide a good nexus if studies provide a reasonable estimate of dry-weather runoff based on property use.
			Utility fee or benefit assessment based on total area and impervious area	Payment is based on an estimate of storm runoff generation. This provides a poor nexus between payment and the amount of dry-weather runoff.
			Bond and associated property tax	The nexus between dry-weather runoff and assessed value is poor.
			Individual property owners	Devices, such as retention grading, driveway dry wells and bioretention, may be required of new development to mitigate increased peak flows and pollution caused by the development.
			Construction grants	
O&M	Bacteria and other pollutants	Pollution from streets and other public areas (dog feces, littering, gasoline, brake lining dust, etc.)	Local sales tax	This funding source is appropriate for this general benefit in that it makes all people pay to control runoff from public places.
			Utility fee based on use of the property	This provides a reasonable nexus if one assumes that responsibility for runoff pollution from streets is proportional to runoff pollution from properties.
			Parcel tax	This funding source is appropriate for this general benefit in that it makes all people pay for runoff from public places, either through tax bills or through rents.
			Flat surcharge on vehicle License and registration fees	Assumes that all vehicles use the streets equally. This provides a reasonable nexus between payment and use of the streets that contribute to runoff, but not as good a nexus as a gasoline tax.
			Gasoline tax	Good nexus between payment and use of the streets that contribute to pollution from vehicles.
		Pollution from private property (Car washing, pesticides, nutrients, fertilizer, etc.)	Parcel tax	Although the formula can be varied somewhat from a per-parcel tax, it probably cannot be structured to provide a good nexus between pollution contribution and payment.
			Utility fee or benefit assessment based on use of the property	Can provide a good nexus if studies provide a reasonable estimate of pollution based on property use.
			Utility fee or benefit assessment based on total area and impervious area	Easier to calculate, but not as good a nexus, because pollutant contribution is poorly related to property size and imperviousness, especially when comparing industrial, commercial and residential uses of property.
	Beneficial use of water infiltrated into the groundwater		Reimbursement for water that is available for future pumping.	Water agencies may be willing to pay some of the cost, because this should reduce the amount of water that they must import. However, the amount of dry-weather flow that can be infiltrated may be low because of groundwater contamination concerns.

Table 4.6
Funding Sources for Improvements Along Waterways and Lakes

Cost	Cost Allocation Parameter	Source of Parameter	Possible Funding Sources	Comments
Capital	Dry-weather and perhaps wet-weather flow	Runoff from streets and other public areas	Local sales tax	This funding source is appropriate for this general benefit in that it makes all people play to control runoff from public places.
			Bond and associated property tax	This funding source is appropriate for this general benefit in that it makes all people pay for runoff from public places, either through tax bills or through rents.
			Utility fee or benefit assessment based on use of the property	This provides a reasonable nexus if one assumes that responsibility for runoff volume from streets is proportional to runoff volume from properties.
			Flat surcharge on vehicle License and registration fees	Assumes that all vehicles use the streets equally. This provides a reasonable nexus between use of the streets that contribute to runoff, but not as good a nexus as a gasoline tax.
			Gasoline tax	Good nexus between payment and use of the streets that contribute to runoff.
		Runoff from private property (Car washing, irrigation overspray, etc.)	Utility fee or benefit assessment based on use of the property	Can provide a good nexus if studies provide a reasonable estimate of dry-weather runoff based on property use.
			Utility fee or benefit assessment based on total area and impervious area	Payment is based on an estimate of storm runoff generation. This provides a poor nexus between payment and the amount of dry-weather runoff.
			Bond and associated property tax	The nexus between runoff and assessed value is poor.
			Participation by the U.S. Corps of Engineers	The Corps may be willing to pay some of the cost of projects alongside channels owned by them.
			Construction grants	
	Recreation and Esthetic Improvement Benefit		Recreation bond funds	Park bond funds might be used to pay for portions of the projects. However, there will be considerable competition for park funds.
			Local Sales Tax	Use of this type of revenue is consistent with the general nature of this benefit.
			Bond and property tax	Use of this type of revenue is consistent with the general nature of this benefit.
O&M		Runoff from streets and other public areas	Local Sales Tax	Use of this type of revenue is consistent with the general nature of this benefit.
			Parcel tax	This funding source is appropriate for this general benefit in that it makes all people pay for runoff from public places, either through tax bills or through rents.
			Utility fee based on use of the property	This provides a reasonable nexus if one assumes that responsibility for runoff pollution from streets is proportional to runoff pollution from properties.
			Flat surcharge on vehicle License and registration fees	Assumes that all vehicles use the streets equally. This provides a reasonable nexus between use of the streets that contribute to runoff, but not as good a nexus as a gasoline tax.
			Gasoline tax	Good nexus between payment and use of the streets that contribute to pollution from vehicles.
		Runoff from private property (Car washing, irrigation	Parcel tax	Although the formula can be varied somewhat from a per-parcel tax, it probably cannot be structured to provide a good nexus between pollution contribution and payment.

Cost	Cost Allocation Parameter	Source of Parameter	Possible Funding Sources	Comments
		overspray, etc.)	Utility fee or benefit assessment based on use of the property	Can provide a good nexus if studies provide a reasonable estimate of the quality of dry-weather runoff based on property use.
			Utility fee or benefit assessment based on total area and impervious area	Payment is based on an estimate of storm runoff generation. This provides a poor nexus between payment and the amount of dry-weather runoff.
	Recreation and Esthetic Improvement Benefit		Local Sales Tax	Use of this type of revenue is consistent with the general nature of the benefit.
			Parcel tax	Use of this type of revenue is consistent with the general nature of the benefit.

SECTION 5. APPLICABLE FUNDING SOURCES FOR CURRENT WATERSHED MANAGEMENT ACTIVITIES

Description of the Project Categories

The Los Angeles Country Flood Control District and various cities in the County have ongoing activities aimed at mitigating runoff pollution that may need to be incorporated in any future funding structure. Below is a summary list of the activities.

Inspection/Enforcement. The main goal of this operation is to ensure that industrial and commercial businesses follow and implement best management practices to prevent pollutants such as grease from restaurants, oils from automotive repair, and bacterial laden food from food processing activities from being washed down the storm drain. Enforcement units ensure that violators are punished properly by applying penalties and any applicable statutes.

Catch Basin Cleaning and Road Sweeping. Catch basins serve as the primary point through which stormwater and urban runoff enter the storm drain network. Littering is the primary cause of catch basin blockage. Clogged catch basins, as well as being unsanitary and unsightly, have the potential to cause flooding, especially during rain events. The City of Los Angeles owns about 35,000 catch basins and cleans them at least once a year.

Public Education And Stormwater Hotline. This aims to increase public knowledge of the impact of runoff pollution, assist in information dissemination and encourage a change in behavior that contributes to stormwater pollution such as littering and illegal dumping of waste. Activities include printing brochures, conducting educational workshops, stenciling catch basins and many more. In addition, toll free hotlines are available for the public to report abandoned wastes and chemical spills that will drain into catch basins and the storm drain system.

The tables below summarize the main activities and identified possible sources of funding.

Table 5.1
Funding Sources for Enforcement/Inspection

Cost	Cost Allocation Parameter	Source of Parameter	Possible Funding Sources	**Comments**
Inspection and enforcement			Inspection fee for permit	Since this would vary with the type of business, there could be a very good nexus between the expected inspection costs and the amount of the fee.
			Violation Penalties	The penalties would ensure that the dischargers, rather than other people, would bear the costs of dealing with the unlawful discharges.
			Local sales tax	This funding source is appropriate if it is not practical to assess inspection fees.
			Parcel property tax	This funding source would be appropriate if it is not practical to assess inspection fees.

Table 5.2
Funding Sources for Catch Basin Cleaning and Street Sweeping

Cost	**Cost Allocation Parameter**	**Source of Parameter**	**Possible Funding Sources**	**Comments**
O&M	Trash	Littering from streets and other public areas by the public	Local sales tax	This funding source is appropriate for this general benefit as it makes all people pay to control littering which is the source of trash in the catch basins.
			Parcel tax	This funding source is appropriate for this general benefit in that it makes all people pay for trash in public places, either through tax bills or through rents.
			Tax on commodities	This would provide a good nexus between the payment and costs of trash removal, if it were possible to tax all the different sources of trash. However, it would not be feasible to do so.
			Flat surcharge on vehicle license and registration fees	Reasonable nexus between payment and use of the streets. However, this works only for the trash contributed by vehicle owners, forcing vehicle owners to pay for the trash contributed by pedestrians.
			Gasoline tax	Good nexus between payment and use of the streets. However, this works only for the trash contributed by vehicle owners, forcing vehicle owners to pay for the trash contributed by pedestrians.

Table 5.3
Funding Sources for Public Education Hotline

Cost	Cost Allocation Parameter	Source of Parameter	Possible Funding Sources	Comments
O&M	Trash, Bacteria	Illegal discharges and littering	Local sales tax	This funding source is appropriate for this general benefit in that it makes all people pay to control the problem before it reaches the storm drains.
			Parcel tax	This funding source would be appropriate for this benefit because it makes all people pay, either through tax bills or through rents.
			Gasoline Tax	Good nexus between payment and use of the streets that contribute to pollution from vehicles.

SECTION 6. ADVANTAGES AND DISADVANTAGES OF THE ALTERNATIVE FUNDING SOURCES

This section develops the advantages and disadvantages of the funding sources.

Local Option Sales Tax for Capital and O&M

Advantages of this funding source include the following:

- Sales taxes are frequently used to pay for general benefits, such as reducing pollution in runoff from streets and other public areas. It makes all people pay to control runoff from public places.
- There may be a nexus between purchases subject to sales tax and littering.
- This funding source could provide as much funds as needed for the entire program.

The disadvantages include the following:

- This alternative would not work well for the preferred Option 1 of keeping all residents' payments for watershed management the same by reducing the assessments of the residents of cities with their own funding sources. It would be impossible or impractical to vary the sales tax rate by city.
- There is no nexus between payment of sales taxes and polluted runoff generated from private property.
- Revenues from sales taxes can vary significantly depending on economic conditions.
- Over the last twenty years, sales taxes have declined in California as a percentage of personal income. This is partly due to a shift from the purchase of taxable goods toward nontaxable services and intangible goods. The tax erosion has also been caused by Internet sales, which are supposedly taxable, but difficult to collect. Further declines in sales taxes are expected because of increased Internet sales.
- Increasing the tax rate will make the County's retailers less competitive than in other neighboring counties. This could reduce sales tax revenues somewhat by shifting sales outside the County.

- Because the tax rate can only be increased by an additional half percent without becoming higher than in any other county, there will be substantial competition for increasing sales taxes from law enforcement and other public needs.
- Sales taxes are highly regressive, so that poorer people would pay a higher part of their income for watershed management than others.
- Two-thirds of the general electorate would need to approve the increased taxes.
- The County could not practically vary sales tax rates by watershed.

Bond and Associated Property Tax for Capital with a Special Purpose Parcel Tax for O&M

Property taxes can be used to pay debt service on bonds, in which case the voters would be asked to authorize bonds with a corresponding increase in property tax rates. Property taxes cannot be used to finance O&M activities, so a special purpose parcel tax would be used. Advantages of this funding source including the following:

- The combination of property and parcel taxes can be used to fund all elements of the runoff pollution program.
- Property and parcel taxes are frequently used to pay for general benefits. They would therefore make all people pay for trash in public places, either through their tax bills or through rents. They would also make businesses pay. They would also be appropriate for funding the general benefits of multipurpose projects, such as parks and wetlands.
- Administrative costs of collecting the taxes should be low.
- This funding source could provide as much funds as needed for the entire program.

Disadvantages include the following:

- Revenues could be reduced somewhat if falling property values force the County to lower assessed valuations. In times of stable values, revenues may increase slower than inflation, especially construction inflation, since the assessment increases at only two percent per year unless the properties are sold.
- The equity of using property taxes is diminished because owners will pay differing amounts of the property taxes depending on how long they have owned their properties.
- Utility fees or benefit assessments can be structured to provide a much better nexus between payments by property owners and the costs of reducing pollution in runoff from the properties.
- Two-thirds of the general electorate would need to approve the increased taxes.
- A parcel tax would not work well for the preferred Option 1 of keeping all residents' payments for watershed management the same by reducing the assessments of the residents of cities with their own funding sources. A parcel tax approved in a County-wide or District-wide vote cannot be varied by area.
- The County would not have the option of varying the parcel taxe by watershed.

Flat Surcharge on Vehicle License and Registration Fees

Advantages this funding source including the following:

- This provides a reasonable nexus between payment and use of the public streets that contribute runoff, as well as pollutants that are emitted by motor vehicles, but not as good a nexus as a gasoline tax surcharge.
- There is already a system in place to collect and distribute the revenue, so there should be minimal additional cost in administering the system.

Disadvantages include the following:

- This alternative would not work well for the preferred Option 1 of keeping all residents' payments for watershed management the same by reducing the assessments of the residents of cities with their own funding sources. It would be impossible or impractical to vary the surcharge by city.
- The legislature would probably need to approve the surcharge.
- There is no nexus between payment of the surcharge and generation of polluted runoff from private property, except for runoff generated from car washing.
- There is a poor nexus between payment and generation of trash, since pedestrians, not drivers, contribute most trash.
- The revenue would not be available if the Vehicle License and Registration Fees are abolished for political reasons.
- The County would not have the option of varying the surcharge by watershed.

Surcharge on Gasoline Tax

Advantages of this funding source including the following:

- This provides a good nexus between payment and use of the public streets that contribute runoff, as well as pollutants that are emitted by motor vehicles. Use of streets and generation of pollutants are directly correlated to the amount of gasoline used by the vehicles.
- There is already a system in place to collect and distribute the revenue, so there should be minimal additional cost in administering the system.
- This funding source could provide as much funds as needed for the entire program.

Disadvantages include the following:

- This alternative would not work well for the preferred Option 1 of keeping all residents' payments for watershed management the same by reducing the assessments of the residents of cities with their own funding sources. It would be impossible or impractical to vary the surcharge by city.
- Voters would need to approve the surcharge. This may be difficult with the current high gasoline prices.

- Legislative approval may be needed.
- There is no nexus between payment of the surcharge and generation of polluted runoff from private property; except for runoff generated from car washing.
- There is a poor nexus between payment and generation of trash, since pedestrians, not drivers, contribute most trash.
- The County would not have the option of varying the surcharge by watershed.

Benefit Assessment

Advantages of this funding source including the following:

- This alternative would work well for the preferred Option 1, keeping all residents' payments for watershed management the same by reducing the assessments of the residents of cities with their own funding sources. The assessment rate could be adjusted for properties in different cities.
- Benefit assessments provide a good nexus between payments by property owners and the costs of reducing pollution in runoff from the properties. Assessments based on total area and impervious area provide a good estimation of runoff generated by the properties. They would correlate well with the capital costs of projects that are usually designed based on the volume of wet weather runoff. Assessments that estimate the pollution and dry-weather runoff generated on properties based on the types of developments on the properties would correlate well with operation and maintenance costs and with the capital costs of dry-weather storage, improvements along waterways and lakes, low-flow diversions and runoff treatment projects.
- Assessments may provide a reasonable nexus between payments and the costs of reducing runoff pollution generated in streets, if one assumes that responsibility for runoff volume and pollution from streets is proportional to runoff from properties.
- The assessments could be used to reduce pollution from runoff generated on private property, since that would be considered to be a special benefit of each property.
- Revenues from the assessments would be very stable, not varying much with economic conditions.
- The administrative costs of including the assessment on the property tax bill are low, approximately $0.20 per parcel.
- This funding source could provide as much funds as needed for the entire program.
- The County would have the option of varying the surcharge by watershed.

Disadvantages include the following:

- According to Proposition 218, a detailed engineer's report must be prepared determining the cost of the proportional special benefit to each parcel. The assessments may only recover the costs of special benefits over and above general benefits conferred to the public. County Counsel should be asked if the reduction of pollution in runoff or trash generated on streets or other public areas is

a general benefit that cannot be included in the assessment. If it cannot be included in the assessment, then a benefit assessment would not be practical as a funding source.
- There would be no nexus between the assessment and the amounts of trash collected in trash capture projects.
- A majority of the property owners would need to approve the fees or assessments on a weighted basis. The owners of large properties could therefore stop the assessments, even if most property owners approve.

If the existing flood control benefit assessment is abolished and folded into an assessment covering more of the County, then the assessment should have two components, 1. a flood control component based on the current estimation of wet-weather runoff, and 2. a watershed management component based on an estimation of dry-weather runoff and pollution for each type of property use. Otherwise, the assessment will not accurately reflect the costs of both flood control and watershed management for the property.

Utility Fee

Advantages of this funding source including the following:

- This alternative would work well for the preferred Option 1, keeping all residents' payments for watershed management the same by reducing the assessments of the residents of cities with their own funding sources. The fee rate could be adjusted for properties in different cities.
- Utility fees provide a good nexus between payments by property owners and the costs of reducing pollution in runoff from the properties. Fees based on total area and impervious area provide a good estimation of runoff generated by the properties. They would correlate well with the capital costs of projects that are usually designed based on the volume of wet-weather runoff. Fees that estimate the pollution and dry-weather generated on properties based on the types of developments on the properties would correlate well with operation and maintenance costs and the capital cost of projects that designed based on dry-weather runoff.
- Utility fees may provide a reasonable nexus between payments and the costs of reducing runoff pollution generated in streets, if one assumes that responsibility for runoff volume and pollution from streets is proportional to runoff from properties.
- Revenues from the fees or assessment would be very stable, not varying much with economic conditions.
- Assuming that the fee will be charged on the County property tax bills, the administrative costs should be low, approximately $0.20 per parcel. This amounts to less than one percent of the revenue from the City of Los Angeles' Stormwater Watershed management Charge.
- This funding source could provide as much funds as needed for the entire program.
- The County would have the option of varying the surcharge by watershed.

Disadvantages include the following:

- Two-thirds of the general electorate or one-half of the property owners would need to approve the fees.
- County Counsel should be consulted to determine if the Los Angeles County Flood Control District could impose utility fees instead of or in addition to the current benefit assessment. State legislation was needed so that the Ventura County Watershed Protection District could impose such a fee.
- There would be no nexus between the fee and the amounts of trash collected in trash capture projects.
- Equity of utility fees will be greatly improved if dry-weather flow and runoff pollution from properties can be estimated based on use of the properties. This has not been widely done in the stormwater and watershed management industry, however.
- According to Proposition 218, the fee cannot be imposed to recover the costs of general governmental services. The fee might therefore not be able to recover the costs of multiple benefits such as habitat protection, conservation and recreation. For example, if a constructed wetland were considered to provide recreational benefits in addition to pollution reduction benefits, then the cost of the recreational component would need to be funded from general taxes rather than the utility fee. If this interpretation of Proposition 218 holds, then a utility fee would not be flexible enough to cover all of the costs of the potential projects described above. However, this would not be as restrictive as for a benefit assessment.

If the existing flood control benefit assessment is abolished and folded into a utility fee, then the fee should have two components, 1. a flood control component based on the current estimation of wet-weather runoff, and 2. a watershed management component based on an estimation of dry-weather runoff and pollution for each type of property use. Otherwise, the fee will not accurately reflect the costs of both flood control and watershed management for the property.

Construction Grants, MWD Operating Subsidies, Corps of Engineers Participation, Water Sales and Participation by Water Utilities

These funding sources are grouped together because they all have the following advantages:

- The funds do not need to be repaid.
- Receipt of the funds does not preclude the use of other funding sources for the remaining costs.

Disadvantages of these funding sources include the following:

- The application process for grants, MWD operating subsidies and Corps of Engineers participation is time-consuming.

- Corps of Engineers participation will require federal approval and appropriation of the funds.
- There may be much competition for these funding sources.
- There may be extensive grant compliance requirements, including grant audits.
- Water sales revenues will probably not cover the distribution capital costs, let alone the costs of a runoff treatment project. Sales revenues may cover much of the operating and maintenance costs, however.
- Participation by water utilities will require negotiation of the terms of the participation and ongoing administration of the contract.
- These sources could provide funds for only portions of the watershed management program.

Runoff Discharge Permit Fee

Advantages of this funding source include the following:

- Equity would be enhanced because inspection and enforcement fees could track closely the costs of performing these activities.

Disadvantages include the following:

- A new administrative system would need to be established, including a database of permittees and billing procedures. There would be considerable one-time costs to implement the permits and fees.
- Many cities already provide inspection of businesses in their jurisdiction. The fees would therefore not be applicable throughout the County.
- This would be appropriate as a funding source for only the costs of inspection and enforcement.

SECTION 7. CONCLUSION

Of the funding sources evaluated in the Section 6, three were judged to be the most promising for funding most of the costs of the watershed management program. They are special purpose property taxes, benefit assessments and utility fees. All three sources comply well with the following evaluation criteria described in Section 3:

- **Administrative Cost.** The sources have relatively low administrative costs.
- **Availability of Funds.** The sources all can provide sufficient funds for the entire watershed management program.

The following table compares the three best funding sources in relation to the remaining evaluation criteria.

Table 7.1
Comparison of the Three Best Funding Alternatives

Funding Source	Equity	Implementation Feasibility	Stability of Revenue	Acceptable	Flexibility
Bonds and Property Tax for Capital, Parcel Tax for O&M	They make all people pay for runoff from public places and would be appropriate for funding the general benefits of multipurpose projects. Poor nexus between payment and runoff from private properties.	Parcel taxes cannot be varied to fit well with the existing funding sources of the cities to guarantee that all residents pay their fair share. Parcel taxes could not vary between watersheds.	Property tax revenues could be reduced somewhat if falling property values force the County to lower assessed valuations. Parcel tax revenues are stable.	Requires 2/3 vote.	Can cover all types of costs.
Benefit Assessment	Good nexus between payment and contribution to runoff from private property. Must assume that responsibility for runoff from streets is proportion to runoff from private property.	Can vary to fit well with the existing funding sources of the cities to guarantee that all residents pay their fair share. Assessments could vary between watersheds.	Revenues are very stable.	Requires half of weighted vote of property owners. Large properties could defeat the vote.	May not cover the costs of general benefits, which could be much of the total.
Utility Fee	Good nexus between payment and contribution to runoff from private property. Must assume that responsibility for runoff from streets is proportion to runoff from private property.	Can be varied to fit well with the existing funding sources of the cities to guarantee that all residents pay their fair share. The fees could vary between watersheds.	Revenues are very stable.	Requires either half vote of property owners or 2/3 vote of the general electorate.	May not be used for general government services, but will likely cover more than assessments.

This paper does not recommend a single best funding source for watershed management. The advantages and disadvantage of the three alternative sources are presented in this paper so that policy-makers can decide among them. It is recommended that construction grants, MWD operating subsidies, Corps of Engineers participation, water sales revenues and participation by water utilities be pursued as they may be available. Some of these sources may be available to cover water sales and other multiple benefits of the projects. There are certain costs in applying and negotiating for these sources, but the fact that they do not need to be repaid makes the effort well worthwhile.