

Integrated Regional Water Management Plan (IRWMP)

Greater Los Angeles County Region

*Comprehensive planning that has and will continue to
encourage cooperation, not competition.*



**Prepared by:
Los Angeles County
Flood Control District**



INTRODUCTION

The Greater Los Angeles County Region has one of the most complex water quality, resource and supply issues. Projects addressing these issues were usually single-purpose, and organizations operated in silos with single-focused visions and solutions. The Los Angeles County Flood Control District led the charge in developing an Integrated Regional Water Management Plan (IRWMP) for the Region. This plan defines a clear vision and direction for the sustainable management of water resources in this Region. Some 2,000 projects were collected for inclusion in the plan, which brings together hundreds of local agencies, all working cooperatively to develop cost-effective solutions for the Region's water resource needs. This innovative partnership creates a new model of integrated regional planning to address competing water demands, water supply reliability and financing of projects.

Members of the Los Angeles County Board of Supervisors have expressed support for the planning process and encourage public participation.

"This plan is a tool that can help us bring more recreation opportunities to the County of Los Angeles while also addressing our water management issues. It is yet another way we are working to improve the quality of life in this area."

- Gloria Molina, First District Supervisor

"It's a huge challenge for an area as large as the L.A. basin to identify and implement the kinds of programs and projects that will really improve things in our urban watersheds.

But the payoff is really worth it, and I'm committed for the long haul to the effort to clean up our beaches, enhance our wetlands to clean stormwater runoff, encourage water reuse and reduce the need for imported water supplies."

- Zev Yaroslavsky, Third District Supervisor

"This collaborative effort will improve the competitiveness of the County of Los Angeles for future State and Federal grant funds to enhance regional water supplies, protect the environment, and provide for flood management."

- Michael D. Antonovich, Fifth District Supervisor



BACKGROUND

Covering over 2,200 square miles, the Region is located in coastal Southern California and contains portions of four counties; Los Angeles, Orange, Ventura, and San Bernardino. Encompassing 92 cities, it represents over 10 million people, approximately 28% of the State's entire population.



For effective planning and to manage local variation and input, the Region is divided into five subregions:

- Lower San Gabriel and Los Angeles River Watersheds;
- North Santa Monica Bay Watersheds;
- South Bay Watersheds
- Upper Los Angeles River Watersheds; and
- Upper San Gabriel River and Rio Hondo River Watersheds.

The Region has one of the broadest and most diverse water supply portfolios in California. Historically, the Region's rivers provided ample water supply. Water agencies have tapped a variety of sources and navigated changing political conditions to deliver ample supplies in most years. Exponential growth over the last century has required creative solutions to meet growing demands. The long-term sustainability of the Region's water supply faces increasing challenges; current conditions include substantial reliance on imported water and poor surface water quality.



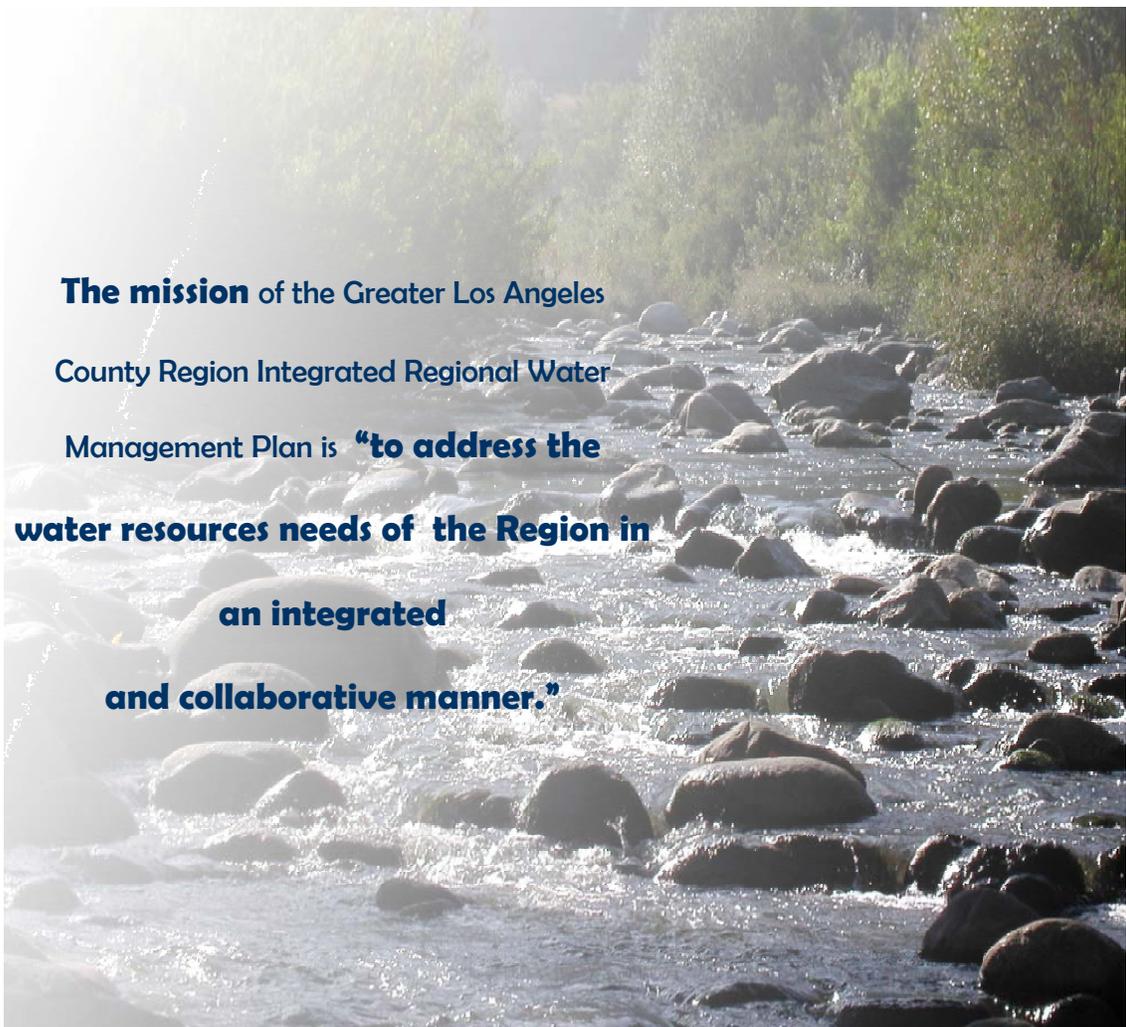
San Gabriel Mountains

The San Gabriel Mountains are a significant source of water supply for the Region.



CONTEXT

The IRWMP is an outgrowth of ongoing efforts to develop plans, projects, and programs at regional levels, and utilize an integrated approach to water and other resource management issues. It acknowledges that for the Region to meet its future needs, water supply planning must be integrated with other resource strategies. These consist of urban stormwater management, wastewater quality improvements, maintenance of flood protection, and other environmental needs including habitat and open space conservation and the provision of sufficient park space. In a region facing significant urban challenges such as population growth, densification, traffic congestion, poor air quality, and quality of life, water resource management also must be integrated with other urban planning issues. This IRWMP suggests a proactive approach to addressing the Region's water resource needs, based on a vision established through extensive stakeholder input.



PROCESS AND LEADERSHIP

IRWMP PROCESS. Bringing stakeholders together from over 80 cities and hundreds of organizations to identify opportunities and create effective use of limited public resources. The organizational structure is defined by a Leadership Committee and five subregional Steering Committees which meet on a monthly basis. This structure provides opportunities for coordination, integration of decision-making, and stakeholder input.

LEADERSHIP COMMITTEE. Chaired by the Los Angeles County Flood Control District, the sixteen-member Leadership Committee provides overall guidance to the IRWMP activities. Membership includes executive-level staff from a diverse number of local agencies: the Chairs and Vice-chairs of each of the subregional Steering Committees, as well as specific water management area representatives: Groundwater, Open Space, Sanitation, Stormwater, and Surface Water. An organizational chart is shown on the next page.

SUBREGIONAL STEERING COMMITTEE. Five subregional Steering Committees provide a forum for detailed discussion of the problems and solutions related to the IRWMP and for input on issues considered by the Leadership Committee, including prioritization and selection of projects.

STAKEHOLDER INVOLVEMENT. Regional and subregional workshops are the primary avenue for stakeholder input. Having these workshops encourages regional consistency, the formation of partnerships, and it provides a public platform to identify issues, opportunities and constraints, and ideas for project integration. Additionally, direct mail and online media is utilized to maintain communication with stakeholders.



GREATER LOS ANGELES COUNTY REGION IRWMP LEADERSHIP COMMITTEE

Gail Farber
Chair
Los Angeles County Flood Control District

SUBREGIONAL GROUP REPRESENTATION

Lower San Gabriel	North Santa Monica Bay	South Bay	Upper Los Angeles	Upper San Gabriel
<p>Art Aguilar, Chair Central Basin Municipal Water District (Alternate: David Hill)</p> <p>Tim Worley, Vice-Chair Rivers and Mountains Conservancy (Alternate: none)</p>	<p>Randal Orton, Chair Las Virgenes Municipal Water District (Alternate: Joe Bellomo)</p> <p>Barbara Cameron, Vice-Chair City of Malibu (Alternate: Melina Watts)</p>	<p>Rich Nagel, Chair West Basin Municipal Water District (Alternate: Leighanne Reeser)</p> <p>Robb Whitaker, Vice-Chair Water Replenishment District (Alternate: Rob Beste)</p>	<p>Tom Erb, Chair City of Los Angeles Department of Water & Power (Alternate: Andy Niknafs)</p> <p>Nancy Steele, Vice-Chair Los Angeles & San Gabriel Rivers (Alternate: Edward Belden)</p>	<p>Carol Williams, Chair Main San Gabriel Basin Watermaster (Alternate: Wendy La)</p> <p>Grace J. Kast, Vice-Chair San Gabriel Basin Water Quality Authority (Alternate: Randy Schoellerman)</p>

WATER MANAGEMENT AREA REPRESENTATION

Groundwater	Open Space	Sanitation	Stormwater	Surface Water
<p>Tony Zampello Raymond Basin Management Board</p> <p>Alternate: Mike Sovich Three Valley MWD</p>	<p>Shelley Luce Santa Monica Bay Restoration Commission</p> <p>Alternate: Norma Garcia Los Angeles County Department of Parks & Recreation</p>	<p>Steve Maguin County Sanitation Districts</p> <p>Alternate: Sharon Green County Sanitation Districts</p>	<p>Shahram Kharaghani City of Los Angeles Watershed Protection Division</p> <p>Alternate: Donna Chen City of Los Angeles Watershed Protection Division</p>	<p>Jeff Kightlinger Metropolitan Water District</p> <p>Alternate: Grace Chan Metropolitan Water District</p>



MILESTONE ACCOMPLISHMENTS

- Secured \$1.5 million Proposition 50 planning grant
- Collected \$950,000 in local funding
- Implemented an interim governance structure
- Developed conceptual capture and treatment planning tools
- Collected close to 2,000 projects in a database
- Held over 24 public stakeholder workshops
- Developed quantifiable targets for the next 20 years
- Adopted IRWMP on December 13, 2006
- Received a \$25 million Proposition 50, Chapter 8 Round 1 grant



\$25 MILLION IMPLEMENTATION FUNDS

The California Department of Water Resources and the State Water Resources Control Board awarded \$25 million to the Region for projects that have a multi-purpose and an integrated approach to regional water management. These projects were prioritized using criteria developed by the State and they demonstrate an ability to use water efficiently, protect water quality and support environmental stewardship. The Region was one of seven regions recommended for funding out of 16 regions throughout the State. Receiving this recommendation for funding is one of the Region's major accomplishments in developing and utilizing the IRWMP to attract funding resources to implement projects that improve water quality and reduce dependency on imported water.

"This is an exciting opportunity for us to be able to put into action the water management plan to which so many contributed. The 13 projects that will be funded will provide multi-purpose solutions to the issues that address the Region's use of water. The \$25 million is a tremendous investment in the Region providing a greater impetus for more collaboration and participation by stakeholders."

- Don Wolfe, Chief Engineer of the Los Angeles County Flood Control District
and Chair of the IRWMP Leadership Committee

"This is a golden opportunity for Los Angeles County. Water management is an issue that becomes more critical each year, and these state funds will go a long way toward bringing many of our conservation projects from the drawing board to fruition."

- Los Angeles Supervisor Gloria Molina (1st District)



NEXT STEPS

PUBLIC OUTREACH. Strategies will be developed to educate the public and increase levels of awareness of the IRWMP. The intent is to engage residents, especially from Disadvantaged Communities, in grass roots support of projects that would mitigate impacts of over-urbanization, stormwater pollution and lack of open space.

CAPITAL IMPROVEMENT PROGRAM. Development of a capital improvement program that would result in the integration and prioritization of key projects for the Region's stakeholders to support to meet its quantifiable targets.

The IRWMP is intended to be a living document and process that will evolve with the needs of the Region and input from stakeholders. The process will be a tool for developing partnerships, integrating projects and ideas, and for seeking opportunities to leverage local funds with State, Federal and private organizations. Stakeholders involved in this process are committed to aggressively pursuing funds in order to implement projects that can improve the quality of life for the residents of the Region.

For more information and to download a full copy of the IRWMP, please visit www.lawaterplan.org.



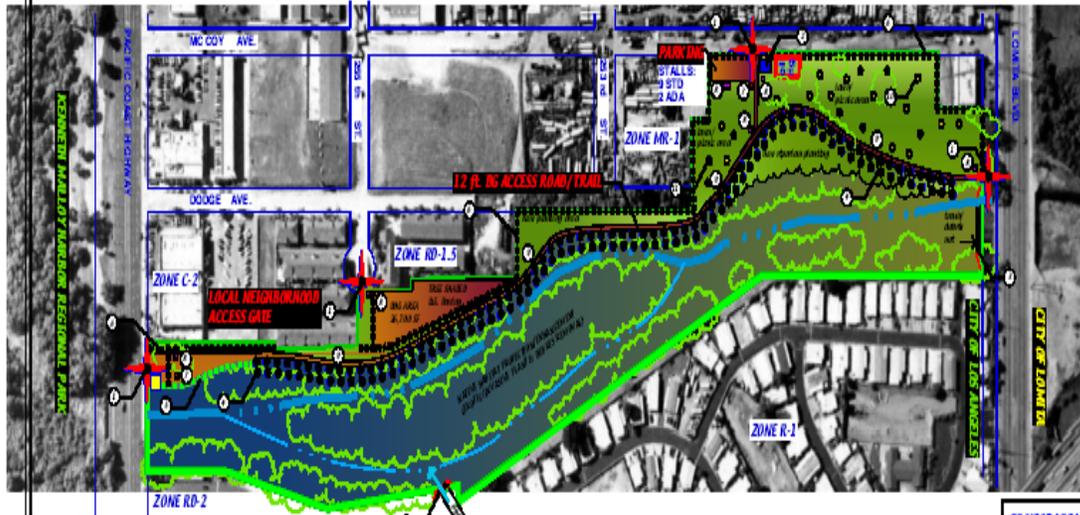
Partial List of Participating Stakeholders

Altadena Foothills Conservancy	City of Lakewood	Madrona Marsh, CSU Dominguez Hills
Amigo de Los Rios	City of Lomita	Malibu Creek Watershed Council
Arroyo Seco Foundation	City of Long Beach	Malibu Lake Mountain Club
Assembly District No 56	City of Long Beach Department of Public Works	Metropolitan Water District of Southern California
Baldwin Hills Conservancy	City of Los Angeles Bureau of Sanitation	Mono Lake Committee
California Department of Fish & Game	City of Los Angeles Department of Public Works	Mountains Recreation & Conservation Authority
California Bureau of Reclamation	City of Los Angeles Department of Recreation & Parks	Mountains Restoration Trust
California Coastal Conservancy	City of Los Angeles Department of Water & Power	National Park Services-Santa Monica Mountains
California Department of Health Services	City of Los Angeles, Beaches & Harbors	North East Trees
California Department of Parks and Recreation	City of Malibu	Orange County Fly Fishers Club
California Department of State Parks	City of Manhattan Beach	Palos Verdes Peninsula Land Conservancy
California Department of Transportation	City of Monrovia	Playa Capital Corporation
California Department of Water Resources	City of Monterey Park	Rancho Santa Ana Botanic Garden
California Resource Connections	City of Norwalk	Regional Water Quality Control Board, LA Region
California State Parks	City of Paramount	Resource Conservatory of Santa Monica
Central Basin Municipal Water District	City of Pasadena	Rivers and Mountains Conservancy
City of Glendale Department of Water & Power	City of Pico Rivera	Rubio Canon Land and Water Association
City of Agoura Hills	City of Pomona	San Gabriel Basin Water Quality Authority
City of Alhambra	City of Redondo Beach	San Gabriel Mountains Regional Conservancy
City of Arcadia	City of Rolling Hills Estates	San Gabriel Valley Council of Governments
City of Azusa	City of San Dimas	San Gabriel Valley Municipal Water District
City of Baldwin Park	City of San Gabriel	San Gabriel Valley Water Association
City of Bellflower	City of Santa Fe Springs	Santa Monica Bay Restoration Commission
City of Beverly Hills	City of Santa Monica	Santa Monica Baykeeper
City of Brea	City of Sierra Madre	Santa Monica Mountains Conservancy
City of Burbank	City of Signal Hill	Sierra Club
City of Calabasas	City of South El Monte	South Bay Cities Council of Government
City of Carson	City of South Gate	The River Project
City of Claremont	City of South Pasadena	The Verde Coalition
City of Compton	City of Torrance	Three Valleys Municipal Water District
City of Covina	City of Vernon	TreePeople
City of Cudahy	City of Walnut	Triunfo Sanitation District
City of Culver City	City of West Covina	Tujunga Watershed Council
City of Diamond Bar	City of Westlake Village	Upper San Gabriel Valley Municipal Water District
City of Downey	Claremont Wildlands Conservancy	US Army Corps of Engineers
City of Duarte	County of Los Angeles Department of Beaches & Harbors	US Dept of the Interior, National Park Service
City of El Monte	County of Los Angeles Department of Public Works	US Forest Service
City of El Segundo	County of Orange	Water Replenishment District
City of Gardena	County Sanitation Districts of Los Angeles County	Waterworks District # 29, Los Angeles County
City of Glendora	Friends of the San Gabriel River	West Basin Municipal Water District
City of Hermosa Beach	Gateway Cities Council of Governments	West Fork Working Group
City of Huntington Park	Heal the Bay	West Hollywood MTA
City of Industry	Las Virgenes Municipal Water District	Westside Cities Council of Governments
City of Inglewood	Los Angeles & San Gabriel Rivers Watershed Council	Wetlands Recovery Project
City of La Canada Flintridge	Los Angeles County Flood Control District	Whitehouse Properties
City of La Puente	Los Cerritos Wetlands Authority	Whittier Narrows Nature Center
City of La Verne		

**The following pages provide
more information
regarding the
projects funded with
the \$25 million State grant.**



Wilmington Drain Restoration Multiuse Project



The City of Los Angeles envisions restoring Wilmington Drain via a multi-step approach including native vegetation, stormwater containment, pretreatment, enhanced public access and educational signage. A detailed design will be developed, with the anticipated participation of interested groups such as local Audubon Society members. Non-native landscaping will be removed and replaced with appropriate native species. Stormwater flow control will be achieved using natural materials and well-planned landscaping features, avoiding the need for destructive clearing of the channel. A sediment and trash capture component will provide necessary pre-treatment of stormwater flows before they reach the restored habitat areas. Decomposed granite trails with educational signage will provide learning and passive recreational opportunities. Carefully sited and appropriate fencing materials will restrict access by the area's homeless population. The City's Watershed Protection Division will provide water quality monitoring immediately before and following implementation of this proposal.

Goals & Objectives

- Preserve and restore coastal wetlands ecosystems.
- Preserve and restore stream corridors and wetlands in coastal watersheds.
- Recover native habitat and species diversity.
- Prevent future degradation and/or loss of wetlands resources.
- Integrate wetlands recovery with other public objectives.
- Promote education and compatible access related to coastal wetlands and watersheds.
- Advance the science of wetlands restoration and management in Southern California.
- Provide an example for widespread replication of similar projects to meet urban watershed needs throughout the region.

Project Proponent:
City of Los Angeles
Bureau of Sanitation,
Watershed Protection Division

Grant Amount:
\$4.5 million

Total Project Cost:
\$13 million

Duration:
July 2008 — April 2010



**Greater Los Angeles County Region
Integrated Regional Water Management Plan**



Pacoima Wash Greenway / 8th Street Park

The 8th Street Park is located in the City of San Fernando, immediately adjacent to the Pacoima Wash in the Upper Los Angeles Watershed. This 2.79-acre park is a component in the larger plan to create a network of open-spaces linked together along the watercourse. These parks will be connected with a landscaped multi-use trail running the length of the City of San Fernando. The multi-purpose natural park will capture, clean, and infiltrate previously untreated stormwater from a 33-acre stream-adjacent neighborhood.



Goals & Objectives:

- Improve the quality of stormwater entering Pacoima Wash by removing debris, sediment, and other pollutants
- Provide improved flood management by detaining stormwater on-site thereby reducing flood risks downstream during peak flows
- Infiltrate improved stormwater on-site, replenishing existing groundwater body and improving water supply reliability
- Provide a new multiple-benefit community park, for use by residents in an underserved community
- Create natural parkland that provides important habitat and connectivity along this riparian corridor

Project Proponents:

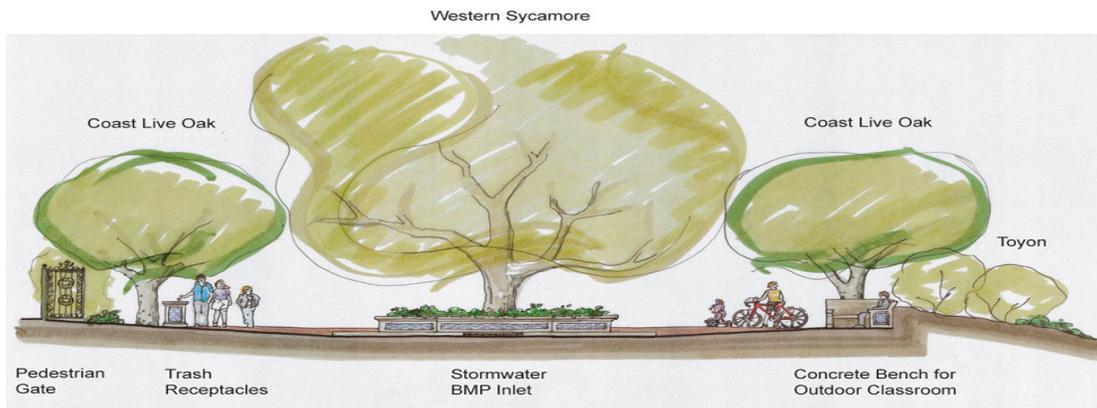
**Mountains Recreation and Conservation Authority
City of San Fernando**

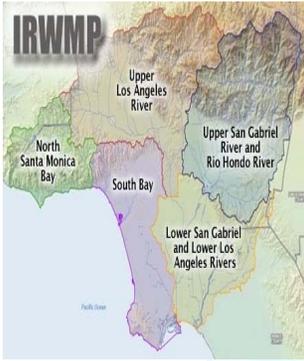
Grant Amount: \$ 587,000

Total Project Cost: \$ 1.3 Million

Target Start Date: Summer 2007

Target End Date: Summer 2008





Malibu Creek Watershed Water Conservation Project



The **Malibu Creek Watershed Water Conservation Project** is located in a watershed of an intimate mixture of nature and urbanization. Waterbodies within the watershed are primarily natural creek systems that convey urban runoff to the ocean. This project is an effort to reduce urban runoff with the added benefit of water conservation and enhanced with features proposed.

This project combines and integrates a project developed by the City of Westlake Village to reduce urban runoff and conserve water on City-owned public lands, with a project developed by the Las Virgenes Municipal Water District (LVMWD) to reduce urban runoff and conserve water on residential parcels in the Malibu Creek Watershed. The combined project addresses urban runoff from both residential and City-owned lands in the City of Westlake and residential properties in the Malibu Creek watershed, reducing administrative duplication and providing homeowners in the City of Westlake a potential opportunity to tie into the City of Westlake Village's centralized irrigation controller system. This approach could serve as a model for the other cities in the watershed, and reduce runoff caused by homeowner inattentiveness to irrigation scheduling.

Goals & Objectives

- **Water Supply** - reducing over-irrigation and water imports from the State Water Project/ Bay Delta
- **Water Quality** - reducing urban runoff into Malibu Creek and its tributary streams
- **Habitat** - reducing nutrient loads to streams listed for algae and eutrophication impairment
- **Recreation** - reducing the potential for beach closures due to aseasonal lagoon breaching adjacent to Surfrider Beach in Malibu

Project Proponent:

Las Virgenes Municipal Water District
City of Westlake Village

Grant Amount: \$ 426,000

Total Project Cost: \$ 967,360

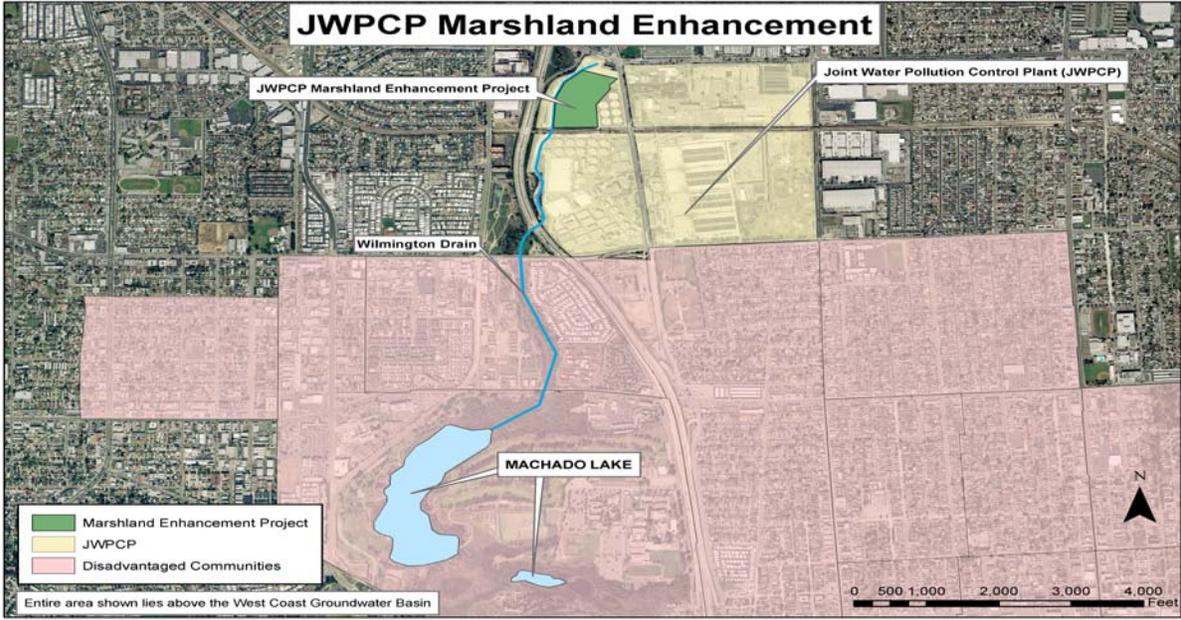
Target End Date: 2009



**Greater Los Angeles County Region
Integrated Regional Water Management Plan**



Joint Water Pollution Control Plan (JWPCP) Marshland Enhancement Project



Regional Benefit

The Joint Water Pollution Control Plan (JWPCP) Marshland Enhancement Project serves as an example of the restoration and enhancement of freshwater wetlands in an industrialized area of the Greater Los Angeles County Region. The project will provide educational and viewing opportunities of wetland habitat and associated wildlife for communities throughout the Region. The project will also realize positive water quality impacts through the treatment capability provided by the wetland.

Disadvantaged Community Benefit

The adjacent disadvantaged communities of Wilmington and Harbor City will benefit from improved water quality in Wilmington Drain and Machado Lake, which are downstream of the project. These communities will also benefit from public access to a wetlands habitat area and the creation of educational opportunities for students.

Goals & Objectives

- Restore 17 acres of marshland
- Remove 20% of TMDL constituents (ammonia, copper, lead, and coliform)
- Create educational and viewing opportunities for the community

Project Proponent:
County Sanitation Districts of Los Angeles County

Project Budget:

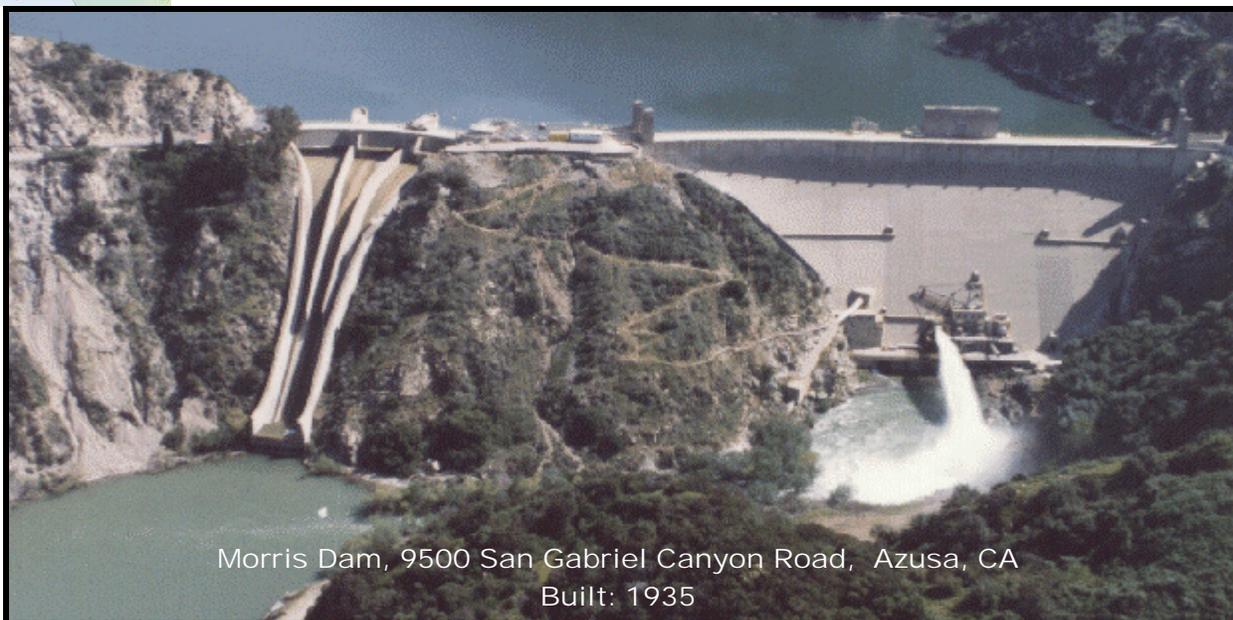
\$2,237,065	Local funds
400,000	Proposition 50, Chapter 8 grant
\$2,637,065	Total Budget

Project Schedule:

Design completion	December 2006
Construction Start Date	May 2007
Construction Completion Date	March 2008



Morris Dam Water Supply Enhancement Project



Morris Dam, 9500 San Gabriel Canyon Road, Azusa, CA
Built: 1935

PROPOSED PROJECT COMPONENTS

- Rehabilitation or replacement of critical components, including valves, control system, and electrical system.
- Modifications to intake structure will draw flows from the reservoir at a higher elevation to accommodate a lower reservoir pool less susceptible to sediment impacts.

PROJECT PROPONENT:

Los Angeles County
Flood Control District

TOTAL PROJECT COST:

\$13.2 million

GRANT AMOUNT:

\$5.1 million

TARGET START DATE:

February 2008

TARGET END DATE:

February 2010

PROJECT BENEFITS

- Modifications will accommodate integrated watershed management goals for conjunctive management of native water resources.
- Upgrading of valves and control systems will ensure their operational reliability and match operational/distribution needs to optimize water conservation.
- Increase reservoir storage capacity without increasing the reservoir footprint and enhance the reservoir's ability to capture storm water.
- Through the proposed Inlet/Outlet Works modifications, up to 5,720 additional acre-feet of water can be reliably captured and recharged to the Main San Gabriel Ground-water Basin.
- Potential for habitat enhancement downstream of dam.



North Atwater Creek Restoration Project



The North Atwater Creek Restoration and Water Quality Enhancement Project will construct water quality physical and structural improvements to an area along the Los Angeles (LA) River. The project will restore wetlands for storm-water runoff capture and treatment and provide habitat linkage to the LA River. This will begin a restoration and revitalization of the LA River and its vicinity where wetlands existed along the riverbanks. The project will reconstruct an area along the LA River in the North Atwater community and restore wetlands to treat runoff from the North Atwater Creek storm drain. In addition, runoff Best Management Practices will be implemented to minimize waste from horses using the LA riverbank from entering the LA River. This will directly benefit the East and Northeast LA communities, which are predominately low income and minority.

Goals & Objectives

- Wetlands creation and utilization of runoff
- Restoration of riparian and upland habitat
- Demonstration of sustainable use of local water resources
- Implementation of non-point source Best Management Practices
- Increased open space and passive recreation
- Safe and pleasurable access to the Los Angeles River and bikeway
- Ecosystem education
- Improved water quality
- Post-project monitoring to understand the effectiveness and maintenance of the systems installed

Project Proponent:

City of Los Angeles
Bureau of Sanitation,
Watershed Protection Division

Grant Amount:

\$2.2 million

Total Project Cost:

\$ 6 million

Duration:

September 2007 - April 2010



Invasive Weed Control Project at the Whittier Narrows

The **Invasive Weed Control Project** will restore natural riparian habitat and enhance surface water flow to percolation basins in San Gabriel Valley. The proposed project will remove approximately 24 net acres of *Arundo donax* (giant reed) at an average cost of \$8000/net acre at the following locations:

- San Gabriel River channel at Whittier Narrows
-- 10 acres
- North side of crossover channel by Whittier Narrows Dam, east of Rosemead Boulevard
-- 7 acres
- Rio Hondo riparian corridor at Whittier Narrows, north of San Gabriel Boulevard
-- 7 acres

This effort is a continuation of a larger campaign to eradicate all *Arundo donax* from urban riparian areas within the San Gabriel Valley. *Arundo* displaces native riparian habitat, increases its flammability, constricts flood control channels, and consumes more water than native riparian vegetation.

Work is scheduled to be completed after May 1, 2007. Mowing and mulching of 10-15 net acres/year during 2007-2008 will be followed by herbicide treatment of *Arundo* resprouts for three years until eradicated.



Goals & Objectives

- Reduce the threat of destructive wildfire where *Arundo* infestations are present.
- Halt the eventual expansion of existing *Arundo* populations into approximately 120 acres of riparian woodland.
- Reduce costs of removing flood debris from the Los Angeles-Long Beach harbors, which includes significant amounts of *Arundo* stalks that float down the Los Angeles and San Gabriel Rivers.
- Increase percolation by about 90 acre-feet per year to the local groundwater basin, presuming that clearing *Arundo* results in water saving of 3.7 acre-feet per year/per acre of cleared *Arundo*.

Project Proponent:

Los Angeles and San Gabriel Rivers
Watershed Council

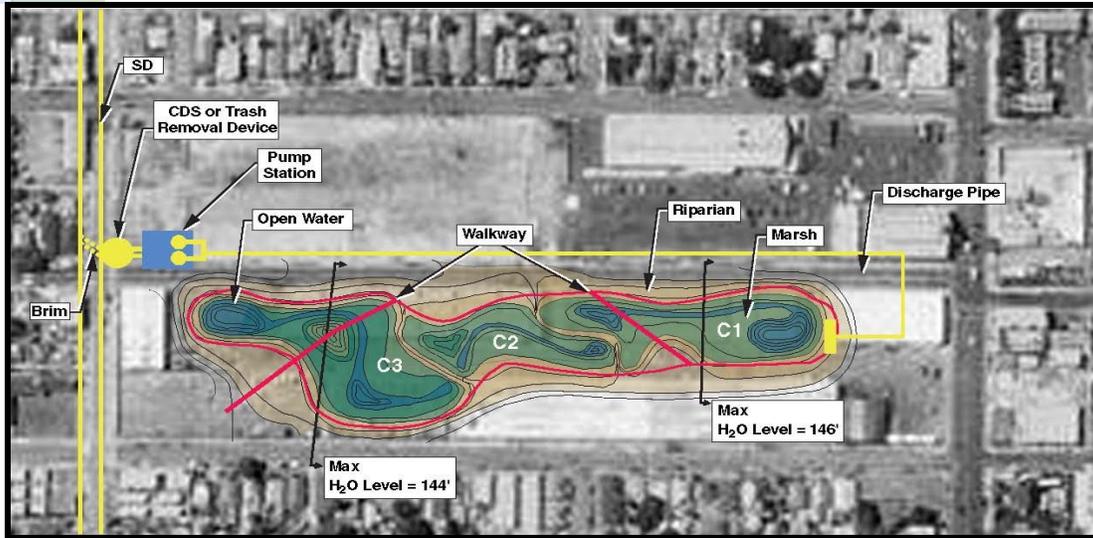
Grant Amount: \$ 178,000

Total Project Cost: \$ 198,000

Target End Date: 2011



South Los Angeles Wetlands Project



The proposed Wetlands Park site is located within an urban area that has limited open space and community facilities. Implementation of the Wetlands Park Project will provide valuable green space and an opportunity for public recreation and education, while creating a high-quality wetlands habitat in urban Los Angeles. The Wetlands Park will improve stormwater quality and provide unique water re-use opportunities. A portion of flows from a local storm drain will be routed to the project site and treated prior to discharge to the wetlands. The wetlands will provide supplemental polishing treatment of the stormwater flows so that the water can be used for irrigation and other suitable water re-uses within the project area, or discharged back into the storm drain.

Project Proponent:
City of Los Angeles
Bureau of Sanitation,
Watershed Protection Division

Grant Amount:
\$3.3 million

Total Project Cost:
\$7 million

Duration:
May 2007 - April 2010

Goals & Objectives

Wildlife Habitat – Deep and shallow marshes, open pools of water, riparian woodlands, and native upland grassland habitats may be created at this site and populated with native Californian vegetation and colonized by wildlife.

Open Green Space/Visual Improvement – The replacement of the existing industrial landscape with an open natural landscape of plants and water will create an urban oasis. A well-designed and maintained Wetlands Park will replace the existing blighted aspect of the site with greenery from a combination of native trees, shrubs, and marsh plants.

Passive Recreation/Active Recreation – The Wetlands Park will be used for passive recreational activities, such as walking and cycling, nature study, photography and bird-watching. The soccer fields may be viewed with a landscaped margin that provides an overlook onto the field.

Environmental Education/Science Center – The Wetlands Park can be designed to support science educational curricula for grades K through 12. Area school programs can incorporate valuable field trips to view the wetlands, riparian areas, water treatment facility and the rail museum. Creating a modern science education facility next to the Wetlands Park is certain to inspire future students in the study of the environment.



Solstice Creek Restoration Project

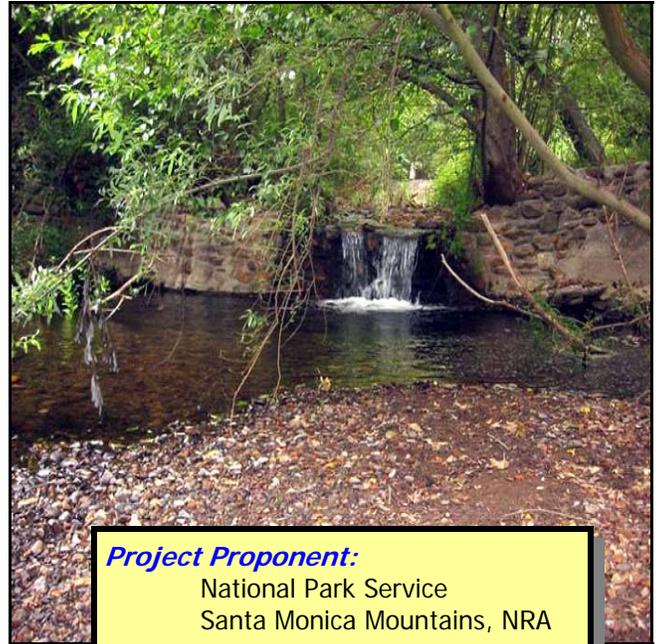
The National Park Service plans to eradicate False caper (*Euphorbia terracina*) and other invasive perennial weeds, and restore native plants along five kilometers of Solstice Creek. The focus of the project is riparian understory restoration and enhancement, however non-native ornamental trees will also be removed.

This project is linked to a multiagency program to restore Solstice Creek as viable southern steelhead trout habitat.



The Proposition 50 grant request for this project is one component of a larger project. The goals of the larger project are eight-fold:

1. Remove instream barriers to movement of federally endangered steelhead trout.
2. Remove sediment and debris from the stream channel.
3. Replace two low water crossings with bridges to facilitate fish passage.
4. Remove non-native invasive plant species from within the stream and streambanks to enhance fish habitat.
5. Restore work areas damaged during barrier removal to improve ecological health.
6. Remove non-native invasive plant species from side channels to protect stream quality and fish habitat.
7. Remove non-native invasive species from areas influencing the riparian area (adjacent slopes) and re-vegetate with native plant species to protect fish habitat.
8. Remove debris from adjacent slopes that could enter the stream course to protect fish habitat.



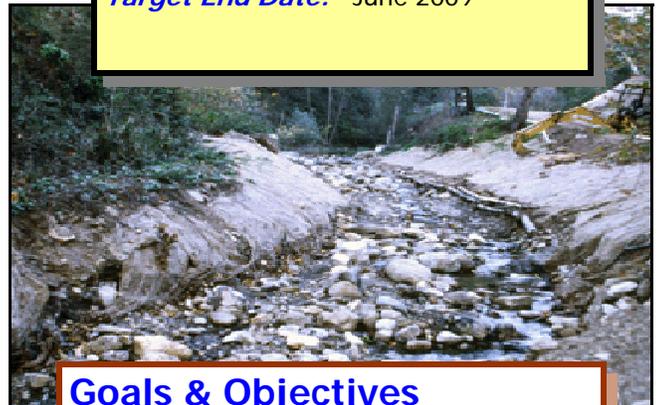
Project Proponent:

National Park Service
Santa Monica Mountains, NRA

Grant Amount: \$ 78,366

Total Project Cost: \$ 235,733

Target End Date: June 2009



Goals & Objectives

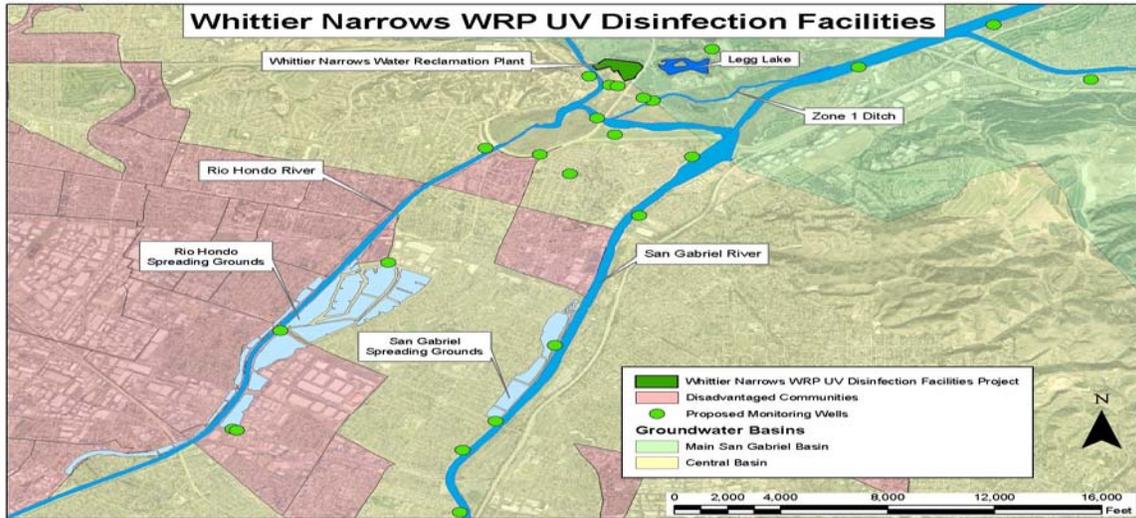
- Restoration of 1.5 miles of spawning habitat for the federally endangered southern steelhead trout
- Restoration of 16 acres of riparian habitat along Solstice Creek
- Protection of fish habitat and downstream resources



**Greater Los Angeles County Region
Integrated Regional Water Management Plan**



Whittier Narrows Water Reclamation Plant Ultraviolet (UV) Disinfection Facilities Project



Regional Benefit: The Whittier Narrows Water Reclamation Plant UV Disinfection Facilities will preserve and expand the use of recycled water for groundwater recharge in the Greater Los Angeles County Region, which is an important component of the local water supply. The project will demonstrate the sequential use of free chlorine/UV disinfection as an alternative method to address NDMA concentrations in tertiary effluent experienced with the current disinfection method utilizing chloramination.

Disadvantaged Community Benefit: 15 cities and 3 unincorporated communities in the Region, with a total population of 1,600,000 will benefit from the protection of water quality and increased reliability of local groundwater supplies.

- Goals & Objectives**
- Convert from chloramination to free chlorination and UV disinfection
 - Lower NDMA concentrations in effluent discharge to receiving water and recharge
 - Maintain an average of 7,000 acre feet per year groundwater recharge
 - Improve wetland habitat by reducing nutrient ammonia levels

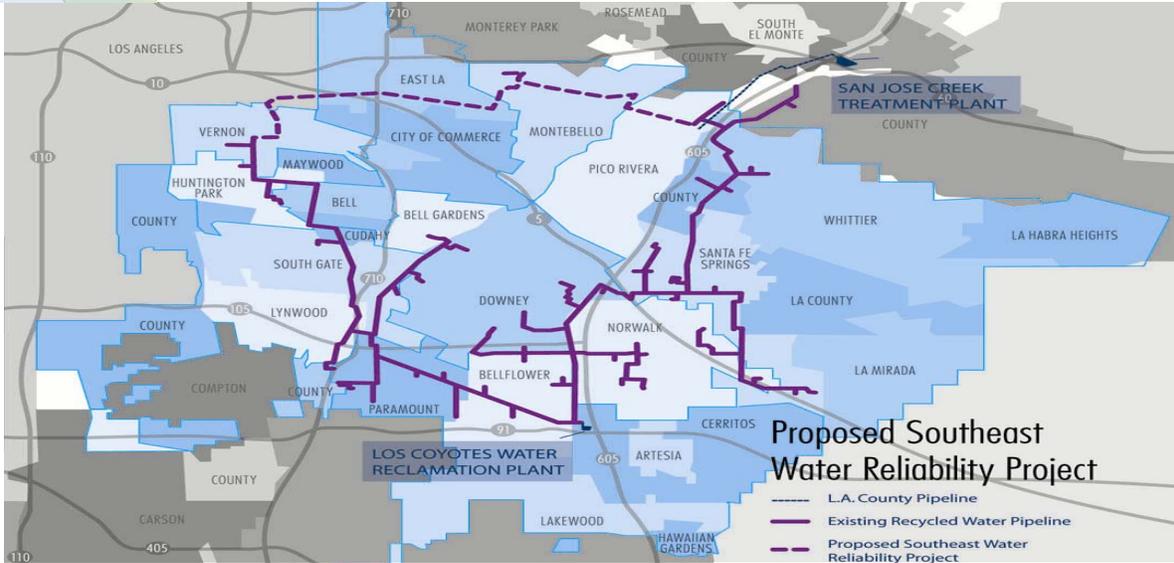
Project Proponent:
County Sanitation Districts of Los Angeles County

Budget:
\$5,741,960 Local funds
2,000,000 Proposition 50, Chapter 8 grant
\$7,741,960 Total Budget

Project Schedule:
Design completion: End of June 2007
Construction Start Date: October, 2007
Construction Completion Date: January, 2009



Southeast Water Reliability Project



In an effort to conserve the area's groundwater and reduce reliance on imported water, Central Basin Municipal Water District is moving forward with the **Southeast Water Reliability Project (SWRP)**. Using recycled water for commercial, industrial and landscape-irrigation uses instead of drinking water is an important component in Central Basin's conservation plan.

With industrial sites as the largest single users of potable water, SWRP would deliver recycled water to many large industrial and irrigation facilities, providing regional water-saving benefits. The 11-plus mile pipeline will extend from Pico Rivera through Montebello and southeast Los Angeles County, connecting to the existing system in Vernon. Additionally, the project will enhance the operation reliability of the current system by completing an actual "loop" of existing pipelines. Once completed, SWRP will conserve more than 6.5 billion gallons of water annually.

Goals & Objectives

- Provide effective means of conserving drinking water
- Reduces dependence on imported water
- Provide an economic incentive for businesses in the area to use recycled water due to its lower cost compared to potable water
- Helps the environment by reducing amount of treated wastewater discharged into the ocean and using recycled water for restoring wetlands and in seawater barriers to protect the groundwater

Project Proponent:

Central Basin Municipal Water District

Grant Amount:

\$3.5 million

Total Project Cost:

\$85 million

Target End Date: 2011



Greater Los Angeles County Region Integrated Regional Water Management Plan



Central Basin Municipal Water District's Large Landscape Water Conservation, Runoff Reduction and Educational Program

This project will evaluate and implement a large landscape water management program utilizing centralized weather-based irrigation controllers and systems that link back to the local water and regional agencies regarding end-use water management. The program is designed to allow the local users (parks, schools, cities, etc.) to work with a water management company that utilizes the HydroEarth management system. HydroEarth is an environmentally minded company that provides multi-faceted solutions to conserve water and protect the environment. It also includes ET controller installations, indoor plumbing retrofits and irrigation system retrofits targeted to high runoff residential and commercial properties.



Project components:

- Provide centralized WBICs to large landscapes (1 acre or greater)
- Issue "Smart" controller rebates for residents
- Conduct residential landscape workshops

Objectives:

- Increase water supply reliability
- Improve water quality
- Conduct public educational workshops
- Increase water awareness through water efficient demonstration gardens



Benefits:

- Water Conservation (20-50%)
- Runoff Reduction (by up to 70%)
- Public Education
- Use of Efficient Technology

Project Proponent:

**Central Basin
Municipal Water District**

Grant Amount: \$900,000

Total Project Cost: \$2.4 million

Duration: 2008-2011



West Basin Municipal Water District's Large Landscape Water Conservation, Runoff Reduction and Educational Program

This project will be designed to address runoff problems and reduce outdoor water usage by 20 to 50 percent by providing weather-based irrigation controllers (WBICs) and management solutions. The water savings alone will have a significant financial impact on high-end water users, delaying the need for new water supplies at a cost far below that of obtaining those new water supplies. The targeted landscape sites will include large landscapes, schools, parks, home owner associations, business parks, facility landscapes, street medians, and residential sites over 1,500 square feet that are the top water users in the area. This project will be implemented throughout West Basin's service area with a heavy emphasis in the City of Malibu where there are a significant number of large landscapes and an Area of Biological Significance.

Project components:

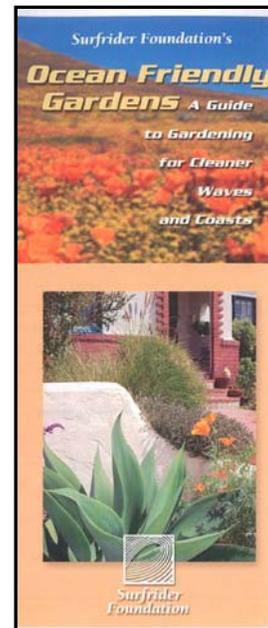
- Provide centralized WBICs to large landscapes (1 acre or greater)
- Issue "Smart" controller rebates for residents
- Conduct residential landscape workshops
- Create "Ocean Friendly" demonstration gardens

Objectives:

- Increase water supply reliability
- Improve water quality
- Conduct public educational workshops
- Increase water awareness through water efficient demonstration gardens

Benefits:

- Water Conservation (20-50%)
- Runoff Reduction (by up to 70%)
- Public Education
- Use of Efficient Technology
- Area of Biological Significance (Malibu)



West Basin has partnered with the Surfrider Foundation to help implement this project. The Surfrider Foundation introduced the "Ocean Friendly" idea, which is the concept of using plants that are native to the Santa Monica Bay coastal region for residential and other landscaped areas. "Ocean Friendly" revolves around conservation, permeability and retention, all with the aim of conserving water while still creating aesthetic gardens.

Project Proponent:
West Basin
Municipal Water District

Grant Amount: \$1.2 million
Total Project Cost: \$2.8 million

Duration: 2008-2011