

**S.F. BAY AREA INTEGRATED REGIONAL WATER MANAGEMENT PLAN
DRAFT List of Regional Projects for PROP 50 Supplemental PSP**

#	IRWMP Proj No.	Project Summary	Location	Lead Entity	Total	Grant	Match	DAC Ben?	Notes
1	11 (Updated)	Landscape Irrigation Calculator. Create a computer based tool to calculate the amount of water needed to irrigate landscapes in the Bay Area and provide other benefits. Primary goals are to conserve potable water, reduce urban irrigation runoff, maintain a healthy urban forest and preserve property values.	Regional	Marin MWD	\$500,000	\$375,000	\$125,000	No	- New Phase of PROP 50 Project. - Advisory Committee to be incorporated.
2		Drought Relief and Water Conservation Innovation Project. Expansion or addition of new rebate programs to enhance current programs covered by Prop 50 grant, including: 1. Landscape Efficient Irrigation, and 2. Residential and Commercial Device Rebate Programs.	Regional	BACWA?	\$1,250,000	\$1,000,000	\$250,000	?	- New Phase of PROP 50 Project. - Device rebate allocation and admin TBD.
3	New	Regional Green Infrastructure Project. A program to implement innovative green infrastructure projects in one or more Bay Area counties. Water management techniques may involve green streets, rainwater harvesting, bio-infiltration systems, water conserving landscapes, small and large scale low impact development (LID) techniques, and flood control projects that restore habitat and riparian areas.	Regional	S.F. Estuary Partnership (ABAG)	\$1,250,000	\$1,000,000	\$250,000	Yes	- Program is scalable; \$1M is a placeholder.
4	New (helps 20+ projects)	Regional Recycling Outreach Project. Multi-agency project to develop appropriate messages to relevant communities to reinforce the the value of recycled water, including involvement of key stakeholders such as those concerned about recycled use in parks/schools and for streamflow augmentation.	Regional	SCVWD	\$300,000	\$225,000	\$75,000	No	SCVWD to lead w/San Jose support.
5	26 (Updated)	Mercury and PCB Risk Reduction Project. This project will identify and implement strategies to reduce exposure to mercury and PCB from consumption of fish from S.F. Bay.	Regional	BACWA	\$400,000	\$300,000	\$100,000	Yes	
DISADVANTAGED COMMUNITIES WATERSHED PROGRAM					\$1,745,800	\$1,195,000	\$550,800	Total Costs for a,b and c.	
6	New	a. Bay Area Watershed Network Technical Assistance. Enhance capacity for restoring wetlands, river and stream corridors, and watersheds in four Bay Area communities (Richmond Shoreline, Pescadero Watershed, San Francisquito Creek, and Marin City) by partnering with grassroots watershed groups, including DACs.	Regional	S.F. Estuary Partnership (ABAG)	\$835,800	\$530,000	\$305,800	Yes	- Agreement details will be important. - Cash flow issues may be resolvable.
		b. Stream Channel Shapes and Floodplain Restoration Guidance. Collect data to develop a stream restoration design tool, including San Francisquito Creek, Wildcat & San Pablo Creeks, and Pescadero Creek. The primary benefit of regional stream design curves are restoration of natural creek functions and watersheds.			\$150,000	\$120,000	\$30,000		same comment as 4a.
		c. Stream Restoration -- Historical Ecology Restoration Objectives Data. Synthesize information about how Bay Area watersheds naturally capture, recharge, and distribute water to reveal sustainable strategies for improving ecosystem functions through natural flood protection and well-designed water management protocols.			\$760,000	\$545,000	\$215,000		same comment as 4a.
7	New	Evaluate Regional Ecosystem Restoration Using Steelhead Trout. Measure the production of steelhead smolt in key Bay Area watersheds as a measure of the success of IRWMP implementation. Monitoring locations may include two or three North Bay watersheds, Alameda Creek and one or more watersheds in Santa Clara County.	Regional	Center for Ecosystem Mgt & Restoration, Inc.	\$750,000	\$562,500	\$187,500	No	Budget under review
8	New	Floodplain Infrastructure and Needs Assessment. Mapping of flood protection structures and flood prone areas to fill gaps or update existing mapping to better plan for future flood protection actions.	Regional	SFEI	\$1,000,000	\$750,000	\$250,000	?	
9	84	Regional Desalination Project - Brine Discharge Feasibility Study. Technical study to document that brine discharge through a new or existing outfall near Mallard Slough can be feasibly implemented.	Regional (3 of 4 Quads)	EBMUD	\$300,000	\$250,000	\$50,000	No	Preliminary - template to be updated.
TOTAL					\$7,195,800	\$5,407,500	\$1,788,300		
A	79	NMWD Recycled Water Project - Phase 2, North Service Area. Extend recycled water distribution over 13,000 ft.	North	NMWD	\$7,675,000	?	?	No	New Phase of PROP 50 Project
B	104	South Bay Advanced Recycled Water Treatment Plant. 8 mgd reverse osmosis/micro-filtration facility.	South	SCVWD	\$57,000,000	?	?	No	PROP 50 Proj. phase dropped at Agr stage
C	11	MMWD High Efficiency Toilets, direct install. New phase to double number of toilets covered by Prop 50 grant.	North	MMWD	\$421,800	\$366,800	\$55,000	?	New Phase of PROP 50 Project. (Placeholder - See No. 2)

Bay Area IRWMP Project Information Sheet

Project Name:

**Regional Project:
Landscape Irrigation Calculator**

Responsible Agency:

Please identify one agency that is involved in the project and is responsible for providing information for inclusion in the Bay Area IRWMP.

Marin Municipal Water District
Contact: Dan Carney, Water Conservation Manager
415/945-1522
dcarney@marinwater.org



Other Participating Agencies:

Please identify other agencies that are involved in the project, if applicable.

The Landscape Irrigation Calculator (LIC) project will be a cooperative effort of public agencies in each County, the California Department of Water Resources, and the U.S. Bureau of Reclamation. DWR has provided unprocessed digital imagery at no cost. Public agencies in each of the nine counties surrounding the Bay Area will also participate in this project, including utility districts, county and city government, and regional planning agencies.

Summary Description:

Please provide a one paragraph description of the project. If you would like to include additional information, please do so under "Detailed Description" at the end of this form.

The primary goal of the LIC is to create an easy-to-use computer-based tool that will calculate the amount of water needed to irrigate ornamental landscapes throughout the nine-county San Francisco Bay area. The LIC will be used by water managers to create irrigation budgets for properties in their jurisdictions. One component of the project involves measuring landscape areas using high-resolution digital color photography in order to determine the size of various landscape and non-landscape areas: for example, the square foot area of lawn vs. driveway on a given property. This measurement capability expands the usefulness of the LIC project for use by urban planners, to analyze development patterns and inform planning decisions regarding green infrastructure, storm water management, and air quality; for biologists creating mitigation plans to improve water quality in creeks and bays adjacent to urban development; for homeowners, to quickly measure landscape areas on their properties to determine watering and landscape maintenance requirements; and, to assist with defensible space planning in wildland-urban interface zones where vegetation assessment and mitigation are required.

Water Management Strategies Addressed:

Please select the water management strategies addressed by this project. Check all that apply.

- | | |
|--|--|
| <input type="checkbox"/> Ecosystem Restoration | <input type="checkbox"/> Wetlands enhancement and creation |
| <input checked="" type="checkbox"/> Environmental and habitat protection and improvement | <input type="checkbox"/> Conjunctive use |
| <input type="checkbox"/> Water Supply Reliability | <input type="checkbox"/> Desalination |
| <input checked="" type="checkbox"/> Flood management | <input type="checkbox"/> Imported water |
| <input type="checkbox"/> Groundwater management | <input checked="" type="checkbox"/> Land use planning |
| <input type="checkbox"/> Recreation and public access | <input checked="" type="checkbox"/> NPS pollution control |
| <input checked="" type="checkbox"/> Storm water capture and management | <input type="checkbox"/> Surface storage |
| <input checked="" type="checkbox"/> Water conservation | <input checked="" type="checkbox"/> Watershed planning |
| <input checked="" type="checkbox"/> Water quality protection and improvement | <input type="checkbox"/> Water and wastewater treatment |
| <input type="checkbox"/> Water recycling | <input type="checkbox"/> Water transfers |

Primary Water Strategy:

Please list the primary water management strategy to facilitate project classification. Please select only ONE of the water management strategies listed above.

Water Conservation

Purpose and Need:

Please provide a detailed description of the purpose and need for the project. Include discussion of the project's goals and objectives and of the critical impacts that will occur if the project is not implemented.

This project will provide a consistent, scientifically valid method to determine the correct amount of water needed to maintain landscapes throughout the project area. In addition to significant reductions in potable water use, this project will also reduce environmental damage associated with dry-weather urban runoff. Urban landscape irrigation accounts for 33-50% of all potable water consumed in the project area; as much as half of this water is routinely wasted due to inefficient management practices. The primary project goals include:

1. Conserve potable water
2. Reduce irrigation runoff in urban areas
3. Maintain a healthy urban forest
4. Preserve property values

In order to achieve these goals, the primary project objectives include:

1. Produce a web-based landscape calculator available for public use throughout the project area
2. Measure pervious and impervious surface areas using existing multi-spectral imagery
3. Calculate irrigation requirements based on geographic site location and plant types
4. Produce a new database information layer compatible with other Geographic Information Systems used in the project area.

Project Status and Schedule:

Please provide the actual or projected start and finish dates for each of the following project stages. If any stage does not apply to the project please enter N/A.

Stage	Duration	Start Date	Finish Date
Planning		2/1/10	4/1/10
Demonstration Project		NA	NA
Design		4/15/10	7/15/10
Construction		8/1/10	10/31/10

Additional Notes:

Planning and Design activities will overlap to the extent that project team will develop the design parameters and produce a Request for Proposals for consultant services in the first project phase. In the Design and Construction phase, the selected consultant will continue to work with the project team to refine the design and complete construction of the web interface and Geographic Information System deliverables.

Integration with Other Activities:

Please identify any linkages between the schedule of this project and the schedules of other projects, if applicable. Please discuss the integration of the project with other Bay Area IRWMP projects.

The LIC project will produce a GIS datalayer that will compliment and work in conjunction with other natural resource and development mapping projects in the Bay Area.

Cost and Financing:

Please identify the capital cost and operation and maintenance cost of the proposed project. Please indicate the base year (e.g. CCI) for all costs. Please identify the beneficiaries, potential funding/financing options for project implementation, and ongoing support and financing for operation and maintenance of the project once implemented.

The total project cost is estimated to be \$500,000 (2009 dollars), with a 25% match provided. Grant request is \$375,000. Local cost share includes in-kind contributions from participating entities within the region as well as cash contributions; total local cost share of \$125,000 has been secured as of April, 2009. Ongoing project support will be provided by participating entities as in-kind contributions, and will include website and database maintenance activities with an estimated value of \$7,500 per year.

Benefits and Impacts:

Please provide a detailed discussion of the projected benefits and impacts of the project, both locally and for the region. Please include an evaluation of impacts/benefits to other resources, such as air quality or energy.

Currently, a variety of methods are used by water agencies and individuals to estimate the correct amount of water needed to maintain ornamental landscapes in any given season and location. The benefit of the LIC project will be to provide a consistent and readily available tool for use by all parties in the project area. In addition, the multi-spectral imagery used by the LIC will provide a consistent database layer that can be used to compliment other GIS applications and datalayers such as urban stormwater and flood mapping, stream flow studies, development patterns, and air quality overlays that study the effects of urban green spaces on public health and welfare. As water use is reduced as a result of more accurate and accessible information from the LIC, energy usage will also be reduced proportionately. Current estimates indicate that 20% or more of the electrical energy used in California is consumed by water and waste water utilities to pump and treat municipal water supplies.

Disadvantaged Communities / Environmental Justice:

Please include a specific discussion of how the project will benefit or impact disadvantaged communities or environmental justice goals.

The LIC will be freely available on the internet for public use. The widespread availability of the internet in public libraries will ensure equal access in the project area. Additionally, the LIC will be designed to be easily used by people with minimal computer skills.

Environmental Compliance Strategy:

Please provide a detailed description of how the project will comply with all applicable environmental review requirement, including CEQA and/or (if applicable) NEPA. For ongoing CEQA/NEPA work, indicate when required documentation would be completed. Also, include discussion of how compliance with local, county, State and federal permitting requirements will be achieved.

This project is categorically exempt from CEQA and/or NEPA.

Statewide Priorities:

Please select the statewide priorities that are addressed by this project. Check all that apply.

- Reduce conflicts between water rights users
- Implement TMDLs
- Implement RWQCB's Watershed Management Initiatives
- Implement SWRCB's NPS Pollution Plan
- Assist in meeting Delta Water Quality Objectives
- Implement recommendations of the floodplain, desalination, and recycling task forces, or of the state species recovery plan
- Address environmental justice concerns
- Assist in meeting the CALFED Bay-Delta Program goals

Additional Notes:

Stakeholder Involvement and Coordination:

Please describe any coordination with stakeholders, land use agencies, or other state and local agencies. Please include a list of proposed stakeholders, how they have/will participate in the planning and implementation of the project, and how their involvement will influence the implementation of the project. Discuss efforts to address environmental justice concerns.

Preliminary meeting and discussions regarding the proposed project have occurred over the past year with stakeholders at local, regional, state, and federal agencies that are in agreement about the need and benefits of this project. The LIC project will involve ongoing coordination and participation with the following agencies:

U.S. Bureau of Reclamation, Mid Pacific Region, Jeff Millikan - GIS technical support
U.S. Department of Agriculture, Pacific Southwest Research Station - Statistical Support
U.S. Geological Survey - Technical Support
California Department of Water Resources - Project Technical Support
California Department of Forestry and Fire Protection - GIS Technical Support

California Landscape Contractors Association - Project User
Sonoma County Water Agency and Member Agencies - Co-Sponsor
East Bay Municipal Utility District - Co-Sponsor
San Francisco Public Utilities Commission - Co-Sponsor
Bay Area Water Supply & Conservation Agency - Co-Sponsor
Santa Clara Valley Water Agency - Co-sponsor
County of Sonoma GIS - Technical support and project participant
County of Marin GIS - Technical support and project participant
Association of Bay Area Governments - Co-Sponsor
Contra Costa Water District - Co-Sponsor
City of Napa - Co-Sponsor
Zone 7 Water Agency - Co-Sponsor

Documentation of Feasibility:

Please identify any studies that document the technical and economic feasibility of the proposed project. If study is still in progress please indicate this next to its citation. If no studies exist, please type "N/A".

1. "Irrigated Vegetation Assessment in Urban Environments", completed 2001. A one-year analysis of multi-spectral image analysis techniques for landscape assessment co-sponsored by the NASA Affiliated Research Center, San Diego State University, AgriCast Inc., and the City of San Diego Water Department <http://www.waterplan.water.ca.gov/docs/cwpu2005/vol4/vol4-landscapewateruse-vegetativeassessmentinurbanenvironment.pdf>.
2. "Tree health mapping with multispectral remote sensing data at UC Davis, California", USDA Forest Service http://www.fs.fed.us/psw/programs/cufr/products/psw_cufr697_TreeHealthMapping.pdf
3. "Multispectral Imagery Interpretability Rating Scale", Image Resolution Assessment and Reporting Standards (IRARS) Committee http://www.fas.org/irp/imint/niirs_ms/msiirs.htm
4. "Integrating High Resolution Imagery with ArcGIS for Urban Water Conservation", City of Santa Rosa <http://proceedings.esri.com/library/userconf/proc03/p0589.pdf>
5. "Using Satellite Imagery to Map Irrigated Land", U.S. Geological Survey <http://co.water.usgs.gov/nawqa/hpgw/meetings/p0507.htm>

Detailed Project Description:

If desired, please provide a detailed description with additional information about the project.

The goal of the LIC project is to create an easy-to-use computer-based tool to measure landscapes throughout the nine-county San Francisco and San Pablo Bay areas. The LIC will be available to the general public on a customized website and to public agencies to integrate into database and billing applications for their organizations.

The LIC will be a cooperative effort of public agencies in each County, the California Department of Water Resources, and the U.S. Bureau of Reclamation. DWR is providing the unprocessed digital imagery at no cost. In-kind services and co-funding for image processing and website development will be shared by the participating public agencies in the Bay Area.

The LIC can be used by water managers to create irrigation schedules for individual properties; by urban planners to analyze communities and inform planning decisions regarding green infrastructure, storm water management, and air quality; by biologists monitoring water quality in creeks and bays to measure

the impacts of adjacent urban development and create mitigation plans; and, by homeowners to quickly measure individual parcels to assist with landscape maintenance and planning projects, such as preparing defensible space at a wildland-urban interface.

The LIC will be created from a one-meter pixel, high-resolution color digital image which was acquired by an airborne sensor in the summer of 2005 and includes red, green, and infrared color bands. Using specialized software, similar pixels will be joined into classified groups called objects. These objects are then colorized to represent trees, shrubs, lawns, swimming pools, and impervious surfaces such as rooftops and pavement. The landscape area can then be measured on the public website or by using Geographic Information Systems (GIS) software customized by each agency. The user can print color maps or combine the LIC images with other GIS data on a computer.

Bay Area IRWMP Project Information Sheet

Project Name:

Green Infrastructure Sub-Regional Capacity Building Project

Responsible Agency:

Please identify one agency that is involved in the project and is responsible for providing information for inclusion in the Bay Area IRWMP.

San Francisco Estuary Partnership



Other Participating Agencies:

Please identify other agencies that are involved in the project, if applicable.

San Francisco Estuary Institute; BAFPAA; BAASMA agencies; Stopwaste.org

Summary Description:

Please provide a one paragraph description of the project. If you would like to include additional information, please do so under “Detailed Description” at the end of this form.

Green Infrastructure is an evolving set of water management techniques that includes green streets, rainwater harvesting, bio-infiltration systems, water conserving landscaping, small and large scale low-impact development (LID) techniques, and the new generation of flood control projects that restore stream channel habitat, riparian areas, and provide flood risk reduction. What green infrastructure techniques share is a preference for using or enhancing natural water features to conserve the resource, rather than routing the water quickly through an impermeable feature to an outfall. Expanding the region's Green Infrastructure capacity is a critical step towards building drought preparedness and climate change resiliency in the region's watersheds. Low Impact Development Projects are required of cities and counties under the Regional Board's recent Municipal Regional Permit. The costs and benefits of the Green Infrastructure Sub-Regional Capacity-Building Project and the environmental benefits would be compiled by SFEP and SFEI, who are tracking the success of such projects. SFEP will coordinate with county, city, special district staff and watershed groups to develop and implement one sub-regional green infrastructure project (likely in East Palo Alto/Palo Alto along San Francisquito Creek at its mouth).

Water Management Strategies Addressed:

Please select the water management strategies addressed by this project. Check all that apply.

- | | |
|--|--|
| <input checked="" type="checkbox"/> Ecosystem Restoration | <input checked="" type="checkbox"/> Recreation and public access |
| <input checked="" type="checkbox"/> Environmental and habitat protection and improvement | <input checked="" type="checkbox"/> Storm water capture and management |
| <input checked="" type="checkbox"/> Water Supply Reliability | <input checked="" type="checkbox"/> Water conservation |
| <input checked="" type="checkbox"/> Flood management | <input checked="" type="checkbox"/> Water quality protection and improvement |
| <input checked="" type="checkbox"/> Groundwater management | <input type="checkbox"/> Water recycling |
| | <input checked="" type="checkbox"/> Wetlands enhancement and creation |

- | | |
|---|--|
| <input checked="" type="checkbox"/> Conjunctive use | <input checked="" type="checkbox"/> Surface storage |
| <input type="checkbox"/> Desalination | <input checked="" type="checkbox"/> Watershed planning |
| <input type="checkbox"/> Imported water | <input checked="" type="checkbox"/> Water and wastewater treatment |
| <input checked="" type="checkbox"/> Land use planning | <input type="checkbox"/> Water transfers |
| <input checked="" type="checkbox"/> NPS pollution control | |

Primary Water Strategy:

Please list the primary water management strategy to facilitate project classification. Please select only ONE of the water management strategies listed above.

Stormwater capture and management

Purpose and Need:

Please provide a detailed description of the purpose and need for the project. Include discussion of the project's goals and objectives and of the critical impacts that will occur if the project is not implemented.

The IRWMP RAP defines Green Infrastructure as the “use of natural channels, drainages, and depressions for runoff conveyance and detention, and reductions in impervious surfaces and innovative stormwater management techniques.” Replacing pavement with permeable pavers, reducing impermeable surfaces, harvesting rainwater in cisterns of various capacities, establishing water-smart landscaping, restoring stormwater culverts to creeks and/or more naturalistic flood control channels are all projects implemented somewhere within the nine county region by a local government, water/wastewater agency, private developer, or homeowner somewhere within the region. The IRWMP describes such strategies as multi-benefit, integrated programs to meet regional priorities. Today, however, such programs are scattered. We have yet to build a database of success stories, share cost information, maintenance requirements, and, in the case of rainwater harvesting, analyze the amount of water conserved (or potentially conserved). We have yet to conduct the robust analysis and make a case to policy makers as to the amount of funds needed to implement green infrastructure, and what the long term benefits of such an investment would be under our changing climate patterns.

There are a number of drivers to increase the number of regional Green Infrastructure projects and increase awareness/capacity to make these practices central to a forward thinking water portfolio. The Municipal Regional Permit of the San Francisco Regional Water Quality Control Board which will ask counties to increase the number of low impact development projects, including “green streets” as a way to improve stormwater quality. Water conservation is critical as the Bay Area evaluates responses to altered precipitation patterns due to climate change. Creek and wetland habitat restoration/preservation efforts rely on a source of clean water to support flora and fauna. Using a combination of rainwater harvesting to mimic pre-development watershed functions, slow peak storm flows and then releasing clean flows to natural habitats will augment spring and summer base flows to meet sediment TMDL requirements and fisheries enhancement goals. Lastly, green infrastructure techniques may be integrated into local and plans developed pursuant to AB 32 and SB375, which call for local climate change and sustainable communities strategies.

Project Status and Schedule:

Please provide the actual or projected start and finish dates for each of the following project stages. If any stage does not apply to the project please enter N/A.

Stage	Duration	Start Date	Finish Date
Planning		project award	six months after award
Demonstration Project		6 months after project starts	month 36
Design		month 6-12	month 13
Construction		month 7-14	month 33

Additional Notes:

Integration with Other Activities:

Please identify any linkages between the schedule of this project and the schedules of other projects, if applicable. Please discuss the integration of the project with other Bay Area IRWMP projects.

Many counties and cities throughout the Bay Area already have green infrastructure installations within their jurisdictions. US EPA has funded on-the-ground green infrastructure projects in San Francisco, an analysis of San Mateo County's Green Streets Program, and a Green Solution analysis in one Bay Area County of storm water treatment needs to improve water quality. (These are through three grants to SFEP & could be used as matching funds to this proposal.) Moreover, related planning and assessment projects designed to inform alternative agricultural and urban management measures to reduce pollutants in streams and restore aquatic life uses, especially salmonid fisheries, are suggesting a variety of uses and locations of water harvesting projects for multiple purposes (e.g., spring-flow augmentation and fine sediment removal, crop and landscape irrigation, recovery of overdrafted groundwater basins). EPA is funding (through SFEP) the development of irrigation BMPs for vinyards in the North Bay.

Cost and Financing:

Please identify the capital cost and operation and maintenance cost of the proposed project. Please indicate the base year (e.g. CCI) for all costs. Please identify the beneficiaries, potential funding/financing options for project implementation, and ongoing support and financing for operation and maintenance of the project once implemented.

Capital costs for various green infrastructure installations vary, as will the in-kind and matching funds. This project is scaled based upon available funds. Recipients of the funds would be required to provide a capitol or in-kind match commesurate with DWR guidelines. SFEP would provide a project coordinator to help develop the project, report to the state and IRWMP CC, and conduct outreach throughout the region; SFEI staff would evaluate various environmental and economic analyses to predict the outcomes of large-scale implementation of green infrastructure throughout the region.

Benefits and Impacts:

Please provide a detailed discussion of the projected benefits and impacts of the project, both locally and for the region. Please include an evaluation of impacts/benefits to other resources, such as air quality or energy.

EPA's "Managing Wet Weather with Green Infrastructure Action Strategy 2008" suggests the following environmental and economic benefits to Green Infrastructure in addition to reducing the volume of sewer overflows and runoff.

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- **Cleaner Water** – Vegetation, green space and water reuse reduce the volumes of stormwater runoff and, in combined systems, the volume of combined sewer overflows, as well as reduce concentrations of pollutants in those discharges.
 - **Enhanced Water Supplies** – Most green infiltration approaches involve allowing stormwater to percolate through the soil where it recharges the groundwater and the base flow for streams, thus ensuring adequate water supplies for humans and more stable aquatic ecosystems. In addition, capturing and using stormwater conserves water supplies.
 - **Cleaner Air** – Trees and vegetation improve air quality by filtering many airborne pollutants and can help reduce the amount of respiratory illness. Transportation and community planning and design efforts that facilitate shorter commute distances and the ability to walk to destinations will also reduce vehicle emissions.
 - **Reduced Urban Temperatures** – Summer city temperatures can average 10°F higher than nearby suburban temperatures. High temperatures are also linked to higher ground level ozone concentrations. Vegetation creates shade, reduces the amount of heat absorbing materials and emits water vapor – all of which cool hot air. Limiting impervious surface and using light colored impervious surfaces (e.g., porous concrete) also mitigate urban temperatures.
 - **Moderate the Impacts of Climate Change** – Climate change impacts and effects vary regionally, but green infrastructure techniques provide adaptation benefits for a wide array of circumstances, by conserving and reusing water, promoting groundwater recharge, reducing surface water discharges that could contribute to flooding. In addition, there are mitigation benefits such as reduced energy demands and carbon sequestration by vegetation.
 - **Increased Energy Efficiency** – Green space helps lower ambient temperatures and, when incorporated on and around buildings, helps shade and insulate buildings from wide temperature swings, decreasing the energy needed for heating and cooling. Further, diverting stormwater from wastewater collection, conveyance and treatment systems reduces the amount of energy needed to pump and treat the water. Energy efficiency not only reduces costs, but also reduces generation of greenhouse gases.
 - **Source Water Protection** – Green infrastructure practices provide pollutant removal benefits, thereby providing some protection for both ground water and surface water sources of drinking water. In addition, green infrastructure provides groundwater recharge benefits.
 - **Community Benefits** – Trees and plants improve urban aesthetics and community livability by providing recreational and wildlife areas. Studies show that property values are higher when trees and other vegetation are present.
 - **Cost Savings** – Green infrastructure may save capital costs associated with paving, creating curbs and gutters, building large collection and conveyance systems, and digging big tunnels and centralized stormwater ponds; operations and maintenance expenses for treatment plants, pumping stations, pipes, and other hard infrastructure; energy costs for pumping water around; cost of treatment during wet weather; and costs of repairing the damage caused by stormwater, such as streambank restoration. (document from 1/08, pages 5 & 6 http://www.epa.gov/npdes/pubs/gi_action_strategy.pdf)

Disadvantaged Communities / Environmental Justice:

Please include a specific discussion of how the project will benefit or impact disadvantaged communities or environmental justice goals.

The Green Infrastructure Sub-Regional Capacity-Building Project will take place in an area with disadvantaged community.

Environmental Compliance Strategy:

Please provide a detailed description of how the project will comply with all applicable environmental review requirement, including CEQA and/or (if applicable) NEPA. For ongoing CEQA/NEPA work, indicate when

required documentation would be completed. Also, include discussion of how compliance with local, county, State and federal permitting requirements will be achieved.

This project lends itself to assisting new and redevelopments to comply with the installation of Municipal Stormwater Program requirements for Post-Construction BMPs for stormwater pollution minimization. Certain harvesting installations for existing sites do not require CEQA/NEQA reviews, e.g., anyone can place a rain barrel next to their house, or obtain a building permit for cistern installation underneath their driveway.

Statewide Priorities:

Please select the statewide priorities that are addressed by this project. Check all that apply.

- Reduce conflicts between water rights users
- Implement TMDLs
- Implement RWQCB's Watershed Management Initiatives
- Implement SWRCB's NPS Pollution Plan
- Assist in meeting Delta Water Quality Objectives
- Implement recommendations of the floodplain, desalination, and recycling task forces, or of the state species recovery plan
- Address environmental justice concerns
- Assist in meeting the CALFED Bay-Delta Program goals

Additional Notes:

Stakeholder Involvement and Coordination:

Please describe any coordination with stakeholders, land use agencies, or other state and local agencies. Please include a list of proposed stakeholders, how they have/will participate in the planning and implementation of the project, and how their involvement will influence the implementation of the project. Discuss efforts to address environmental justice concerns.

The project stakeholders include local, state, regional and federal agencies, developers, private landowners, as well as watershed stewardship groups, Resource Conservation Districts, and members of the scientific community. The proposed project coordinator would work to ensure stakeholder participation throughout the project.

Documentation of Feasibility:

Please identify any studies that document the technical and economic feasibility of the proposed project. If study is still in progress please indicate this next to its citation. If no studies exist, please type "N/A".

EPA has a website devoted to Green Infrastructure that includes documents on the technical feasibility of Green Infrastructure (<http://cfpub.epa.gov/npdes/greeninfrastructure/technology.cfm>). Low Impact Development is a requirement under the Regional Board's recently approved Municipal Regional (Stormwater Permit). Local governments need assistance with developing such projects.

Detailed Project Description:

If desired, please provide a detailed description with additional information about the project.

San Francisco Estuary Project and San Francisco Estuary Institute are collaborating on several projects funded by USEPA to assist local governments in building green infrastructure projects. Among the goals of these projects are to improve the region's stormwater quality, increase the health and resiliency of creeks and wetlands, and to move green infrastructure projects from the local to the regional scale. SFEP and SFEI would collaborate further as project leads to implement The Green Infrastructure Sub-Regional Capacity-Building Project. The project has the following components:

- 1) Develop green infrastructure demonstration project among city, county, and watershed stakeholders near East Palo Alto.
- 2) Project Evaluation: Evaluate the success of the demonstration project regarding: a) Performance of selected technology(ies) in relation to site characteristics and large-scale implementation benefits throughout Bay Area climate zones. b) Assessment of Economic Benefits of the Project (flood protection, potential carbon reduction credits, deferred water supply infrastructure investments, water conservation savings) c) Assessment of the environmental benefits of the project (pollution reduction, habitat restoration, water self-reliance enhancements, greenhouse gas emission reductions) on the watershed scale and across traditional program boundaries, based on empirical data collected as part of implementation. d) Evaluation of options for large-scale regional implementation of project by type (i.e. costs and benefits of hundreds of rainwater harvesting systems in a particular watershed) e) Assessment of operations and maintenance issues based on post-implementation lessons learned & comparison to non-green infrastructure techniques.
- 3) Project Management: SFEP would receive the grant from DWR, contract with local agencies, perform reporting to DWR, and coordinate with the IRWMP CC and local agencies.

Possible project for Green Infrastructure Sub-Regional Capacity-Building Project from San Mateo and Santa Clara Counties Stormwater Programs:

Plan/Implement LID at a Watershed Scale in the San Francisquito Creek Watershed

Purpose:

Investigate and demonstrate potential benefits of a comprehensive LID strategy in the San Francisquito Creek watershed to address urban runoff impacts on known water quality and hydromodification concerns in San Francisquito Creek. The project would implement high priority LID measures within the watershed to reduce stormwater runoff volume and duration and improve water quality, provide financial incentives for LID implementation on private properties, monitor receiving waters for priority pollutants, and provide public outreach and education.

Context:

The project would place the LID strategy in the context of an ongoing, regional effort to protect the San Francisquito Creek watershed and manage flooding. This has been a priority watershed for the Regional Water Board, which previously committed resources to the San Francisquito Watershed Council's project to make recommendations to improve policies, codes, ordinances, and practices of its partner municipalities and retrofit two existing properties with LID improvements. San Francisquito Creek sustains a run of steelhead trout, and it has been designated by state and federal agencies as "impaired" by sediment under Section 303(d) of the Clean Water Act. The watershed includes portions of San Mateo and Santa Clara counties, five cities and towns, and Stanford University.

The San Francisquito Watershed Council has undertaken numerous projects to restore habitat, monitor water quality and observe creek trends, raise awareness about the watershed, and provide policy support for local governments to keep the creek healthy and safe, while local jurisdictions have also implemented

projects that serve to benefit the creek. In 2008, the City of Palo Alto established a Stormwater Measures Rebate Program, offering rebates to property owners who purchase and install rain barrels, cisterns, permeable paving or green roofs. In 2005 and 2008, the City/County Association of Governments of San Mateo County was successful in getting legislation approved to institute a countywide vehicle license fee that helps fund stormwater pollution prevention projects related to vehicle infrastructure. In January 2009, the San Mateo Countywide Water Pollution Prevention Program published its Sustainable Green Streets and Parking Lots Guidebook, to help municipalities identify opportunities for retrofitting streets and parking lots with landscape-based stormwater treatment measures and to improve their skills in designing low impact vehicle infrastructure projects.

Project Components:

- Prior to submitting the application we will evaluate potential project sites in the San Francisquito Creek watershed and identify key opportunities and locations to construct specific, prioritized LID projects to maximize water quantity and quality benefits. This investigation will be planned to meet the geomorphic project requirements of Provision C.8.e.iii, Option (2), to inventory locations for potential retrofit projects. The project concept plan will be designed to satisfy the MRP Provision C.3 requirements for Green Streets Pilot Projects.
- The identified high priority LID projects will be constructed within funding limitations of grant, with a focus on maximum water quality and quantity benefits.
- Within the limits of the grant, funding will also be provided for incentivized programs for private LID implementation, such as rain barrels, green roofs, pervious paving, cisterns, etc., as is currently done in Palo Alto.
- A public education and outreach campaign will be initiated to link constructed LID projects to expected water quality and quantity benefits to San Francisquito Creek. The education campaign will include information on recommended LID actions for residential property owners and opportunities for funding assistance.
- Water quality monitoring of pollutants of concern will be initiated, per the requirements of the Proposition 84 guidelines. The monitoring program will also be designed to satisfy the BMP effectiveness investigation required in Provision 8.e.ii of the MRP.

Potential Partners:

- SMCWPPP and SCVURPPP
- Cities of Palo Alto, Menlo Park, East Palo Alto, Towns of Woodside and Portola Valley, and unincorporated San Mateo County, Santa Clara Valley Water District
- San Francisquito Creek Watershed Council (<http://sanfrancisquito.org/index.htm>)
- San Francisquito Creek Joint Powers Authority
- Stanford University
- Other groups in the selected watersheds
- BayKeeper or Save the Bay
- San Francisco Estuary Partnership
- Transportation agencies (Caltrans, Samtrans, VTA)
- San Francisco Bay Trail

Bay Area IRWMP Project Information Sheet

Project Name:

**Regional Marketing for Recycled Water Use
in the Bay Area**

Preliminary

Responsible Agency:

**Subject to BACWA
Board approval**

Please identify one agency that is involved in the project and is responsible for providing information for inclusion in the Bay Area IRWMP.

City of San Jose and/or Santa Clara Valley Water District. San Jose staff contact is Eric Rosenblum, 408.363.4721

Other Participating Agencies:

Please identify other agencies that are involved in the project, if applicable.

Multiple agencies in the Bay Area will participate in this project. The current membership of BACWA's Water Recycling Committee is the tentative list of participants, which includes Central Contra Costa Sanitary District, Delta Diablo Sanitation District, EBMUD, Sonoma County Water Agency, Novato Sanitary District, City of Palo Alto, City & County of San Francisco, City of San Jose, and City of Redwood City.

Summary Description:

Please provide a one paragraph description of the project. If you would like to include additional information, please do so under "Detailed Description" at the end of this form.

1. Identification of relevant stakeholder and customer communities and assessment of initial attitudes towards water recycling.
2. Development of appropriate messages to the relevant communities to establish the value of recycled water
3. Development of a regional marketing plan for introduction of essential messages and information
4. Implementation of the regional plan through the use of media and the production and distribution of materials
5. Assessment of impact of executed marketing plan on community attitudes towards water recycling

Water Management Strategies Addressed:

Please select the water management strategies addressed by this project. Check all that apply.

- | | |
|--|---|
| <input type="checkbox"/> Ecosystem Restoration | <input checked="" type="checkbox"/> Recreation and public access |
| <input checked="" type="checkbox"/> Environmental and habitat protection and improvement | <input type="checkbox"/> Storm water capture and management |
| <input checked="" type="checkbox"/> Water Supply Reliability | <input type="checkbox"/> Water conservation |
| <input type="checkbox"/> Flood management | <input type="checkbox"/> Water quality protection and improvement |
| <input type="checkbox"/> Groundwater management | <input checked="" type="checkbox"/> Water recycling |
| | <input checked="" type="checkbox"/> Wetlands enhancement and creation |

- Conjunctive use
- Desalination
- Imported water
- Land use planning
- NPS pollution control
- Surface storage
- Watershed planning
- Water and wastewater treatment
- Water transfers

Primary Water Strategy:

Please list the primary water management strategy to facilitate project classification. Please select only ONE of the water management strategies listed above.

Water Recycling

Purpose and Need:

Please provide a detailed description of the purpose and need for the project. Include discussion of the project’s goals and objectives and of the critical impacts that will occur if the project is not implemented.

This project will identify ways agencies can cost effectively promote the use of recycled water in the media. The ad campaign can explain the benefits of water recycling, making the community more familiar and therefore more comfortable with water recycling, and explain how recycled water fits into the overall water supply picture (i.e. drought, climate change, more recycling reduces discharge to Bay).

Project Status and Schedule:

Please provide the actual or projected start and finish dates for each of the following project stages. If any stage does not apply to the project please enter N/A.

Stage	Duration	Start Date	Finish Date
Planning		Month 1	Month 3
Demonstration Project			
Design		Month 3	Month 6
Construction		Month 6	Month 18?

Additional Notes:

The start date will be dependent on the availability of grant funding. Planning includes procurement of contractor assistance. The length of design is a preliminary estimate. The length of outreach efforts will depend on the specific media choices to be made during design; one year is a preliminary estimate.

Integration with Other Activities:

Please identify any linkages between the schedule of this project and the schedules of other projects, if applicable. Please discuss the integration of the project with other Bay Area IRWMP projects.

This project is not technically integrated with other IRWMP projects but outreach and greater public acceptance is integral to implementing more recycling projects and this project could benefit multiple recycling projects listed in the IRWMP.

Cost and Financing:

Please identify the capital cost and operation and maintenance cost of the proposed project. Please indicate the base year (e.g. CCI) for all costs. Please identify the beneficiaries, potential funding/financing options for project implementation, and ongoing support and financing for operation and maintenance of the project once implemented.

\$300,000 is the preliminary estimate plus in-kind agency staff resources. The cost estimate consists of \$50,000 for development of materials and \$250,000 for outreach activities. In-kind resources will be at least 10% of the total project costs.

Benefits and Impacts:

Please provide a detailed discussion of the projected benefits and impacts of the project, both locally and for the region. Please include an evaluation of impacts/benefits to other resources, such as air quality or energy.

The primary benefit of this project is addressing public acceptance issues toward recycling that at times can be based more on fear than fact. Public acceptability for water recycling projects is a local, regional and statewide challenge for some non-potable uses of recycled water.

Cost benefits include delivering regional water recycling messages which is more cost effective than multiple single agency efforts.

25 projects out of the 127 projects in the Bay Area IRWMP are related to water recycling (20%) and developing a broad outreach strategy will aid the implementation efforts of all of them. The specific project numbers in the Bay Area IRWMP are Nos. 8,14,28,52,53,55,63,64, 65,67,70,74,78,79,81 88,94,95,97,98,104, 121,122,123, and 127. See IRWMP Figure D-3 for the most of the project names and locations. IRWMP Section G describes the projects.

Disadvantaged Communities / Environmental Justice:

Please include a specific discussion of how the project will benefit or impact disadvantaged communities or environmental justice goals.

Environmental Compliance Strategy:

Please provide a detailed description of how the project will comply with all applicable environmental review requirement, including CEQA and/or (if applicable) NEPA. For ongoing CEQA/NEPA work, indicate when required documentation would be completed. Also, include discussion of how compliance with local, county, State and federal permitting requirements will be achieved.

This project consists of outreach and will be CEQA exempt.

Statewide Priorities:

Please select the statewide priorities that are addressed by this project. Check all that apply.

- Reduce conflicts between water rights users
- Implement TMDLs
- Implement RWQCB's Watershed Management Initiatives
- Implement SWRCB's NPS Pollution Plan

-
- Assist in meeting Delta Water Quality Objectives
 - Implement recommendations of the floodplain, desalination, and recycling task forces, or of the state species recovery plan
 - Address environmental justice concerns
 - Assist in meeting the CALFED Bay-Delta Program goals

Additional Notes:

Stakeholder Involvement and Coordination:

Please describe any coordination with stakeholders, land use agencies, or other state and local agencies. Please include a list of proposed stakeholders, how they have/will participate in the planning and implementation of the project, and how their involvement will influence the implementation of the project. Discuss efforts to address environmental justice concerns.

Two key stakeholder groups include those concerned about recycled water use in schools and parks and those concerned about recycled water use for streamflow augmentation.

Documentation of Feasibility:

Please identify any studies that document the technical and economic feasibility of the proposed project. If study is still in progress please indicate this next to its citation. If no studies exist, please type "N/A".

This project is based on prior successful outreach efforts where initial views of a target audience are identified followed by development of appropriate messages and outreach. An assessment of the impact of the marketing plan is planned to assess its effectiveness.

Detailed Project Description:

If desired, please provide a detailed description with additional information about the project.

Additional detail can be provided upon request.

Bay Area IRWMP Project Information Sheet

Project Name:

Mercury and PCB Risk Reduction Project

Insert Photo, if desired

Responsible Agency:

Please identify one agency that is involved in the project and is responsible for providing information for inclusion in the Bay Area IRWMP.

Bay Area Clean Water Agencies

Other Participating Agencies:

Please identify other agencies that are involved in the project, if applicable.

San Francisco Bay Regional Water Quality Control Board
California Department of Public Health
Bay Area Stormwater Management Agencies Association
Western States Petroleum Association

Summary Description:

Please provide a one paragraph description of the project. If you would like to include additional information, please do so under "Detailed Description" at the end of this form.

This project will identify and implement strategies to reduce exposure to mercury and polychlorinated biphenyls (PCBs) from consumption of fish in San Francisco Bay. BACWA will work with the California Department of Public Health (CDPH) to conduct risk communication activities to increase public awareness of fish contamination issues, and to encourage and facilitate fish-consuming populations in reducing their exposure to chemicals in contaminated fish. This project will involve various stakeholders, including community representatives, in the development of risk reduction messages. It will also provide guidance and funding to local agencies and groups to communicate risk reduction messages and implement activities to reduce exposure.

Water Management Strategies Addressed:

Please select the water management strategies addressed by this project. Check all that apply.

- | | |
|---|--|
| <input type="checkbox"/> Ecosystem Restoration | <input type="checkbox"/> Water recycling |
| <input type="checkbox"/> Environmental and habitat protection and improvement | <input type="checkbox"/> Wetlands enhancement and creation |
| <input type="checkbox"/> Water Supply Reliability | <input type="checkbox"/> Conjunctive use |
| <input type="checkbox"/> Flood management | <input type="checkbox"/> Desalination |
| <input type="checkbox"/> Groundwater management | <input type="checkbox"/> Imported water |
| <input checked="" type="checkbox"/> Recreation and public access | <input type="checkbox"/> Land use planning |
| <input type="checkbox"/> Storm water capture and management | <input checked="" type="checkbox"/> NPS pollution control |
| <input type="checkbox"/> Water conservation | <input type="checkbox"/> Surface storage |
| <input checked="" type="checkbox"/> Water quality protection and improvement | <input type="checkbox"/> Watershed planning |
| | <input checked="" type="checkbox"/> Water and wastewater treatment |

Water transfers

Primary Water Strategy:

Please list the primary water management strategy to facilitate project classification. Please select only ONE of the water management strategies listed above.

Public Health Protection

Purpose and Need:

Please provide a detailed description of the purpose and need for the project. Include discussion of the project's goals and objectives and of the critical impacts that will occur if the project is not implemented.

The elevated levels of mercury and polychlorinated PCBs in fish caught in San Francisco Bay led to the listing of the Bay as impaired on the State's Clean Water Act section 303(d) list, which resulted in the development of Total Maximum Daily Loads (TMDLs) for each of these pollutants. The California Office of Environmental Health Hazard Assessment (OEHHA) has issued a health advisory for Bay fish that recommends limiting consumption of most Bay fish to no more than two meals per month. For high risk groups (women of childbearing age, including pregnant and breastfeeding women, and children) OEHHA advises limiting consumption to no more than one meal per month, and avoiding any consumption of striped bass over twenty-seven inches in length or shark. The health advisory information is available at <http://oehha.ca.gov/fish/general/sfbaydelta.html>. A San Francisco Bay seafood consumption study prepared by the CDPH and the San Francisco Estuary Institute (SFEI) in 2001 showed that approximately two-thirds of people fishing in the Bay had limited understanding or no awareness of the current health advisory. This study also showed that the consumption patterns among certain ethnic groups results in higher exposure to contaminants in Bay fish. The seafood consumption study is available at http://www.sfei.org/rmp/reports/Seafood_consumption/SCstudy_final.pdf.

In order to reduce the health risks posed by consuming Bay fish, the San Francisco Bay Basin Plan Amendments implementing TMDLs for mercury and PCBs require municipal and industrial wastewater dischargers to reduce discharges of these pollutants, and to support actions to reduce health risks to consumers of Bay fish. BACWA proposes to work with stormwater and industrial wastewater dischargers, community groups, the San Francisco Bay Regional Water Quality Control Board (Regional Water Board), and the CDPH to implement the TMDLs by conducting activities to encourage and enable fish-consuming populations to reduce their exposure to chemicals in contaminated fish. This project is modeled on work done as part of the Fish Mercury Project. The Fish Mercury Project was a successful multi-year, multi-stakeholder effort that used stakeholder input to develop, communicate and conduct risk communications based on environmental justice principals.

Under the FMP, CDPH convened a stakeholder advisory group (SAG) that had broad representation from community-based groups representing fishing populations in the Delta as well as representative from state and local agencies. Some of the activities of the SAG included:

- Developing a Delta warning sign and helping to post the sign at fishing locations;
- Disseminating multilingual educational materials, including information about new advisories;
- Planning of two public forums;
- Organizing focus groups with fishing populations to help CDPH learn more about local fishing practices (which guided fish monitoring activities) and to test comprehension of educational materials.

The FMP also funded targeted risk reduction projects during 2006 and 2007. The funded groups developed outreach and education project targeted to their communities that included:

- Training high school students to post the Delta warning sign and conducting education with fishermen at fishing locations and bait shops;
- Developing a Spanish-language program on fish contamination that was shown on a Latino cable TV station;
- Presenting information about fish contamination during in-home visits with Hmong and Lao families as part of a school readiness program;
- Developing an advisory map for Native Americans;
- Conducting a boat tour of fishing areas with community leaders;
- Developing a Vietnamese calendar with information about fish contamination.

In addition, among the seven community-based groups that were funded during 2007, these groups held 32 workshops in their communities that reached about 800 people. Many of the attendees at these workshops were monolingual in Spanish, Hmong, Vietnamese, Lao, or Khmer (Cambodian). These groups also conducted education at 14 community/cultural events or health fairs. .

Project Status and Schedule:

Please provide the actual or projected start and finish dates for each of the following project stages. If any stage does not apply to the project please enter N/A.

Stage	Duration	Start Date	Finish Date
Planning		March 2010	Sept. 2010
Demonstration Project		NA	NA
Design		NA	NA
Construction		Sept. 2010	March 2013

Additional Notes:

This project will begin in March 2010 and be completed within three years.

Integration with Other Activities:

Please identify any linkages between the schedule of this project and the schedules of other projects, if applicable. Please discuss the integration of the project with other Bay Area IRWMP projects.

Not applicable.

Cost and Financing:

Please identify the capital cost and operation and maintenance cost of the proposed project. Please indicate the base year (e.g. CCI) for all costs. Please identify the beneficiaries, potential funding/financing options for project implementation, and ongoing support and financing for operation and maintenance of the project once implemented.

Task Description	Request	Match	Total
1. Develop Risk Communication Strategy	\$ 90,000	-	\$90,000
2. Facilitate Targeted Risk Reduction Projects	\$170,000	\$100,000	\$270,000
3. Evaluate and Report Project Success	\$40,000	-	\$40,000
TOTAL	\$300,000	\$100,000	\$400,000

Benefits and Impacts:

Please provide a detailed discussion of the projected benefits and impacts of the project, both locally and for the region. Please include an evaluation of impacts/benefits to other resources, such as air quality or energy.

This project seeks to reduce exposure to harmful chemicals among consumers of San Francisco Bay fish by raising public awareness about fish contamination issues and encouraging impacted populations to change their fish consumption practices. The project will identify at-risk communities and groups to target for risk communication activities, generate educational material and strategies, implement risk communication activities, and evaluate and document project results. In addition, the educational materials and strategies developed under this project can also be used by watershed, public health, and other groups throughout the region. The San Francisco Bay region is one of the few regions that has risk reduction requirements incorporated into TMDLs, but other regions are considering similar provisions. This project, then, will produce materials and information that will be useful in developing similar programs in other parts of the State.

Disadvantaged Communities / Environmental Justice:

Please include a specific discussion of how the project will benefit or impact disadvantaged communities or environmental justice goals.

Some communities and individuals are disproportionately impacted by the contamination of San Francisco Bay fish with mercury, PCBs, and other chemicals. These people may include members of communities who live near the San Francisco Bay shoreline, people who engage in fishing for cultural reasons, people who rely on local fish as a food source, and people who do not have access to information about eating fish safely due to language barriers or education.

The seafood consumption study (SFEI 2001) confirmed that the consumption practices of certain groups results in increased exposure to harmful chemicals. For example, Asians and African Americans consumed more fish than other ethnic groups. In addition, non-Whites and people with low income and educational levels were more likely to eat the highly contaminated white croaker and eat fish with skin (rather than skinless fillet) which results in greater exposure to PCBs. In general, these groups also had poor awareness or understanding of advisories.

Like the Fish Mercury Project, this project seeks to identify communities who may be exposed to chemicals from consumption of Bay fish, to improve their access to current information about fish contamination and consumption advisories, and to provide them with options to reduce their exposure. The risk communication activities of this project will be implemented by CDPH in collaboration with public health and community-based organizations with expertise in implementing projects in diverse communities.

Environmental Compliance Strategy:

Please provide a detailed description of how the project will comply with all applicable environmental review requirement, including CEQA and/or (if applicable) NEPA. For ongoing CEQA/NEPA work, indicate when required documentation would be completed. Also, include discussion of how compliance with local, county, State and federal permitting requirements will be achieved.

Environmental review will not be required.

Statewide Priorities:

Please select the statewide priorities that are addressed by this project. Check all that apply.

- Reduce conflicts between water rights users
- Implement TMDLs
- Implement RWQCB's Watershed Management Initiatives
- Implement SWRCB's NPS Pollution Plan
- Assist in meeting Delta Water Quality Objectives
- Implement recommendations of the floodplain, desalination, and recycling task forces, or of the state species recovery plan
- Address environmental justice concerns
- Assist in meeting the CALFED Bay-Delta Program goals

Additional Notes:

Stakeholder Involvement and Coordination:

Please describe any coordination with stakeholders, land use agencies, or other state and local agencies. Please include a list of proposed stakeholders, how they have/will participate in the planning and implementation of the project, and how their involvement will influence the implementation of the project. Discuss efforts to address environmental justice concerns.

The project will involve a stakeholder process to bring together local groups and organizations that are interested in seeking ways to reduce exposures to chemicals in contaminated fish. This stakeholder advisory group (SAG) will include, but not be limited to, community-based, social services, watershed, fishing, environmental justice, and parks organizations, as well as state and local agencies. The SAG will create, inform, and guide the development of a risk communication strategy, and will provide important input regarding the objectives and implementation of the mini-grants program. To facilitate SAG participation, small stipends will be made available to non-governmental organizations and individuals to offset the costs of traveling to and attending SAG meetings.

Documentation of Feasibility:

Please identify any studies that document the technical and economic feasibility of the proposed project. If study is still in progress please indicate this next to its citation. If no studies exist, please type "N/A".

This project is modeled after the successful Delta Fish Mercury Project, a CALFED project that was also coordinated by the California Department of Public Health, Environmental Health Investigations Branch.

Detailed Project Description:

If desired, please provide a detailed description with additional information about the project.

This project includes three tasks to be implemented over a three year period

1. Develop a Risk Communication Strategy
2. Facilitate Targeted Risk Reduction Projects
3. Evaluate and Report Project Success

TASK 1. Develop a Risk Communication Strategy

As a first step, the CDPH will initiate a stakeholder process to bring together local groups and organizations interested in seeking ways to reduce exposures to chemicals in contaminated fish. CDPH will convene and facilitate 6-8 half or full day meetings with the stakeholder advisory group (SAG) over the three year project. CDPH will reach out to a broad range of stakeholders for participation on the SAG, including, but not limited to, community-based, social services, watershed, fishing, environmental justice, and parks organizations, as well as state and local agencies.

The objective of the SAG is to create, inform, and guide the development of a risk communication strategy and to provide general input on the objectives and selection of the targeted risk reduction projects (Task 2). To encourage SAG participation among non-governmental organizations, we propose providing small stipends (up to \$100/day) to offset the costs (i.e., staff time, travel expenses) to these organizations of attending SAG meetings.

CDPH will work closely with the SAG to develop a broad risk communication strategy that will serve as the basis for planning future outreach, education, and risk reduction activities. The strategy will address how to communicate information about fish contamination issues, including the current advisory, to fish consuming populations, with an emphasis on those populations at greatest risk. The risk communication strategy that was used in the Fish Mercury Project will be used as a model, but modified, tailored, and expanded by the SAG comments and feedback. The strategy will describe the target populations, the key messages that will be communicated, the types of future activities that would be most effective to reach these target populations, and methods for evaluating the effectiveness of these activities. The strategy will be updated as relevant and critical information becomes available, including a new fish consumption advisory for San Francisco Bay that the Office of Environmental Health Hazard Assessment plans to issue this year.

The draft objectives to be considered for the risk communication strategy and to be refined and further developed with the feedback from the SAG include:

1. **Collaboration:** To involve and collaborate with affected communities, local agencies, and others to plan and implement outreach, education, and awareness building activities on fish contamination issues.
2. **Educational and Outreach Activities:** To develop and evaluate educational and outreach activities for target populations.
3. **Training:** To develop and implement trainings and related capacity building activities for targeted risk reduction projects, SAG members, and others.

One important component of the strategy will be the targeted risk reduction projects (Task 2) to engage some of the SAG members in implementing outreach, education, or risk reduction projects in the short term.

There is broad diversity among the many stakeholders with different ideas about the types of activities that could be implemented to address fish contamination issues in San Francisco Bay. CDPH will make an effort to investigate and explore the feasibility of these activities with the SAG, and seek general support on an overall strategy.

TASK 2. Facilitate Targeted Risk Reduction Projects

Concurrent with developing the risk communication strategy (Task 1), CDPH believes it is important to engage local organizations in implementing outreach, education, and risk reduction activities. Local organizations may already have close relationships with communities who consume Bay fish, and are able to address language and cultural barriers. We propose to develop a competitive RFP process to fund targeted risk reduction projects to be conducted by local organizations. We will seek input from the SAG to guide the general goals of these projects, as well as to seek SAG participation on the panel to select which projects to fund. Based on the needs of the funded groups, CDPH will conduct capacity building trainings on topics related to fish contamination (e.g., mercury health impacts, advisories, etc.) and help the groups to develop the skills they need to implement their projects. CDPH will also monitor their progress and assist them with evaluation and reporting requirements.

TASK 3. Evaluate and Report Project Success

Evaluation activities will include three parts: evaluation of the SAG; evaluation of the targeted projects by the funded groups; and CDPH evaluation of the targeted projects. CDPH will conduct evaluation of the SAG process, focusing on process indicators (e.g., who attends SAG meetings, what input they provide, how they guide strategy development). Broader feedback will also be solicited on whether the SAG is meeting its goals, the SAG activities that were most helpful to members, and ways the SAG could be improved.

Groups receiving support for targeted projects will implement an evaluation of their activities. CDPH will provide training, support, and technical assistance on how to conduct these evaluations. Evaluation will most likely focus on process indicators, such as the number of people who were reached by their mini-grant project activities or the number of materials distributed.

CDPH will also provide an evaluation summary that describes evaluation activities across funded groups. The evaluation summary will also include input from funded groups on their overall experience in the program.

Bay Area IRWMP Project Information Sheet

Project Name:

Disadvantaged Communities Watershed Program

Insert Project Photo

**Select box then go to:
Insert → Picture**

Responsible Agency:

Please identify one agency that is involved in the project and is responsible for providing information for inclusion in the Bay Area IRWMP.

San Francisco Estuary Partnership (formerly S.F. Estuary Program)

Other Participating Agencies:

Please identify other agencies that are involved in the project, if applicable.

Bay Area Flood Protection Agencies Association, Bay Area Watershed Network, Contra Costa County, San Mateo County, San Francisquito Creek Joint Powers Authority, City of East Palo Alto, Committee for Green Foothills, Wildcat-San Pablo Creeks Watershed Council, North Richmond, Parchester Village, North Richmond Shoreline Open Space Alliance, City of San Pablo, City of Richmond, Town of Pescadero, San Francisco State University, University of California at Berkeley, Marin County Stormwater Pollution Prevention Program, Conservation Corps of the North Bay, Students and Teachers Restoring a Watershed (STRAW), Willow Creek Academy (Marin City), U.S. E.P.A., Stillwater Sciences, San Francisco Estuary Institute, FarWest Engineering, Watershed Sciences

Summary Description:

Please provide a one paragraph description of the project. If you would like to include additional information, please do so under “Detailed Description” at the end of this form.

This is a disadvantaged communities (DACs) and underserved watershed community program that serves four different communities as well as a broad-based Bay Area network of watershed organizations. The four DACs are located in low lying floodplains and tidal areas: Parchester Village and North Richmond and parts of the City of San Pablo in Contra Costa County; the City of East Palo Alto in bayside San Mateo County; Marin City in Marin County; and the community of Pescadero in coastal San Mateo County. Restoration design tools (regional curves and historical ecology) will be developed to help the watershed partnerships located in these communities to start the design of multi-objective stream restoration projects to manage stormwater, reduce flood damages and enhance and protect wetland habitat and anadromous fish populations. One of the projects will focus on a creative collaboration between a county stormwater program, a community organization, the Conservation Corps and a local school to develop a stormwater inventory and identify green stormwater project proposals. All four projects are being developed to also serve a wider Bay Area watershed community, because the restoration tools developed for these areas can be applied and used both in the subregions where they are located and as part of a wider Bay Area effort to develop this information for broad use.

The program also includes technical assistance and organizational assistance to the Bay Area Watershed Network (BAWN) to: 1) help its working groups coordinate Bay Area wide priorities for watershed assessments, monitoring and development of restoration design tools; 2) coordinate and cross-pollinate watershed education, outreach and training programs; 3) participate in the Integrated Regional Water Management Plan (IRWMP) process; and 4) help specific multi-objective projects for stormwater, flood damage reduction, water quality and habitat restoration reach the design stage so they can be eligible for funding. The program will contain an outreach component to increase the involvement of watershed groups, fishing groups, community organizations, Resource Conservation Districts, recreational organizations, environmental organizations, universities and colleges, and scientific organizations.

Water Management Strategies Addressed:

Please select the water management strategies addressed by this project. Check all that apply.

- | | |
|--|---|
| <input type="checkbox"/> Ecosystem Restoration | <input checked="" type="checkbox"/> Wetlands enhancement and creation |
| <input checked="" type="checkbox"/> Environmental and habitat protection and improvement | <input type="checkbox"/> Conjunctive use |
| <input checked="" type="checkbox"/> Water Supply Reliability | <input type="checkbox"/> Desalination |
| <input checked="" type="checkbox"/> Flood management | <input type="checkbox"/> Imported water |
| <input type="checkbox"/> Groundwater management | <input checked="" type="checkbox"/> Land use planning |
| <input checked="" type="checkbox"/> Recreation and public access | <input type="checkbox"/> NPS pollution control |
| <input checked="" type="checkbox"/> Storm water capture and management | <input type="checkbox"/> Surface storage |
| <input type="checkbox"/> Water conservation | <input checked="" type="checkbox"/> Watershed planning |
| <input checked="" type="checkbox"/> Water quality protection and improvement | <input type="checkbox"/> Water and wastewater treatment |
| <input type="checkbox"/> Water recycling | <input type="checkbox"/> Water transfers |

Primary Water Strategy:

Please list the primary water management strategy to facilitate project classification. Please select only ONE of the water management strategies listed above.

The primary strategy is to develop some basic restoration tools to enable the design of stream and habitat restoration projects, develop a working model of a community-based stormwater infrastructure inventory and potential future stormwater projects assessments, and develop information to guide priority habitat restoration projects.

Purpose and Need:

Please provide a detailed description of the purpose and need for the project. Include discussion of the project's goals and objectives and of the critical impacts that will occur if the project is not implemented.

Disadvantaged communities located in baylands and coastal wetlands areas are organizing for flood damage reduction, stormwater management, protection of open space and recreational opportunities, environmental education and environmental jobs training, water pollution control, toxics management and clean up, and restoration of fish habitat. This program is intended to provide technical and organizational capacity building to facilitate the implementation of multi-objective watershed management projects. Three of the four communities served by this program are urban and are mostly composed of people of color; these communities originated because "minorities" and lower income populations were segregated into floodplain and wetland areas. These communities are the last served by federal flood control projects (or not assisted at all) because of the low value of the real estate and the difficulty of achieving cost sharing requirements. The fourth community is a rural disadvantaged community plagued with sub-standard septic systems and flood damages, and has the need to manage for endangered salmonid habitat.

All the communities are engaged in a watershed partnership approach to protect and enhance wetlands, streams, and anadromous fish habitat.

This program also serves a broad network of under-served and under-represented watershed organizations and partnerships, including community organizations, non-profits, Resource Conservation Districts, etc., who need to engage in the IRWM program and to qualify for federal stimulus funds and other resource grant and low interest loan programs.

Project Status and Schedule:

Please provide the actual or projected start and finish dates for each of the following project stages. If any stage does not apply to the project please enter N/A.

Stage	Duration	Start Date	Finish Date
Planning		as soon as approved	
Demonstration Project		" "	18 months
Design		" "	18 months
Construction			

Additional Notes:

Integration with Other Activities:

Please identify any linkages between the schedule of this project and the schedules of other projects, if applicable. Please discuss the integration of the project with other Bay Area IRWMP projects.

Cost and Financing:

Please identify the capital cost and operation and maintenance cost of the proposed project. Please indicate the base year (e.g. CCI) for all costs. Please identify the beneficiaries, potential funding/financing options for project implementation, and ongoing support and financing for operation and maintenance of the project once implemented.

1. Bay Area Watershed Network Technical Assistance Project
 - a. Technical assistance to working groups for assessments, restoration tools, IRWMP project planning and implementation: \$ 150,000
 - b. Stipends to watershed and community organizations to advance projects that assist drought response, water conservation, habitat restoration, and response to climate change disruption: \$250,000
 Total Request :\$400,000

2. Stream Channel Shapes and Floodplain Restoration Guidance : \$120,000.
 Match from EPA: \$ 30,000
 Total request: \$120,000

3.Stream Restoration Ecological Restoration Objectives Data: \$950,000
Match SFEI : \$316,000
Total request: \$950,000

4.Community Based Stormwater Mapping and Management Alternatives Identification
Conservation Corps North Bay: \$75,000
STRAW: \$25,000
Marin County Stormwater Pollution Prevention Program: \$20,000
Willow Creek Academy: \$10,000
Marin County match: \$50,000
Total Request: \$130,000

Total IRWMP request: \$ 1,600,000

Benefits and Impacts:

Please provide a detailed discussion of the projected benefits and impacts of the project, both locally and for the region. Please include an evaluation of impacts/benefits to other resources, such as air quality or energy.

Stormwater management and water conservation: The program will enable projects that support drought and climate change disruption resilience and that encourage conservation, i.e., green stormwater retrofits, rain harvesting, neighborhood stormwater and rain gardens, and stream and wetland enhancement projects. Funds will be made available to local watershed organizations to strengthen their capacity to develop and complete projects.

Ecosystem and Habitat Restoration: The program will produce three comprehensive reports (one for each of the watershed communities of the Richmond shoreline, East Palo Alto, and Pescadero) with design concepts for restoring streams and wetlands based on the historic ecology, hydrology, and floodplain and landscape features of the subregion. The reports will be presented through public presentations to community organizations and local agencies, and outreach materials will be provided. The program will advance the return of functioning ecosystems.

Multi-objective projects and reduction of conflicts: The program will produce regional stream restoration "curves", which will guide the development of multi-objective stream restoration projects. This tool is particularly useful for designing multi-objective floodplain and channel restoration projects that restore the environmental values of streams while reducing flood damages. This avoids the problem of flood control becoming a trade-off with environmental values. This design tool, which guides the proper dimensions of channel shapes, is a valuable tool to assist water quality because it helps avoid excessive erosion and sedimentation caused by incorrect channel shapes. This contributes to TMDL sediment control implementation projects.

Climate change resiliency: The coastal fish habitat data collection achieved by the restoration curves project will help scientists prepare for climate disruption to anadromous fish habitat. Because inland habitat will probably be disproportionately affected by warmer, drier summers, the importance of fog belt coastal areas will increase as critical refugia for salmonid species. The focus of the Pescadero project is to assist in the development of more critical coastal habitat.

Disadvantaged Communities / Environmental Justice:

Please include a specific discussion of how the project will benefit or impact disadvantaged communities or environmental justice goals.

It is typical for DACs to be located in low lying, badly drained floodplains and tidal areas and wetlands. It is also typical for these communities to have the least resources from all levels of government to address the conflicts between their community development and flood and stormwater management. The conflicts between their developed areas and wetlands often reflects a legacy of low income and minority communities being segregated into flood hazard areas during the 1930-1950s. In some cases the occupation of these hazard areas occurred because of the low land values and their proximity to blue collar jobs. Federal cost-sharing policies and cost benefit analyses of projects have made these areas ineligible for help from some of the federal programs. These DACs are now leading the way to achieve a new generation of multi-objective projects that combine flood damage reduction, stormwater management with environmental restoration and habitat restoration, and "green" strategies.

The areas selected to benefit from this program meet the State's definition of DACs: the flatlands of the Cities of San Pablo and Richmond, North Richmond and Parchester Village; East Palo Alto; Marin City; and rural Pescadero. These areas are already engaged in improving their watersheds through the use of watershed partnerships. The funding strategy for implementing projects must necessarily use a varied combination of federal, state and local programs. The proposed projects -- stormwater mapping, stream restoration curves, and historic landscape inventory -- will help these communities reach the next stage of project development to achieve on-the-ground results.

The Bay Area Watershed Network (BAWN), which will also be a beneficiary of the work under this project, hopes to use the model developed by the Cosumnes, American, Bear and Yuba Rivers (CABY) and the North Coast IRWMPs to use IRWMP funds to supplement outreach and organizing of watershed partnerships, community organizations and NGOs in IRWMP project planning and development. The Bay Area IRWMP wants to remove the "play to pay" stigma associated by some with the IRWMP by assisting the partners that have the least resources to participate. The other IRWMP functional areas are represented by well-organized and funded associations including the Bay Area Clean water Agencies, Bay Area Regional Water Recycling Program, Bay Area Stormwater Management Agencies Association, Bay Area Water Agencies Coalition, Bay Area Flood Control Agencies Association, and others. The watershed community has started to organize to correct for this imbalance but of course is at a huge disadvantage because it does not have a built-in funding mechanism via public revenues. The BAWN is at a critical stage, in which viable working groups exist but the long term stability of the network is contingent upon permanently locating this effort in an organization committed to helping it thrive.

Environmental Compliance Strategy:

Please provide a detailed description of how the project will comply with all applicable environmental review requirement, including CEQA and/or (if applicable) NEPA. For ongoing CEQA/NEPA work, indicate when required documentation would be completed. Also, include discussion of how compliance with local, county, State and federal permitting requirements will be achieved.

All project planning will comply with NEPA and CEQA, and federal and state regulatory programs as appropriate.

Statewide Priorities:

Please select the statewide priorities that are addressed by this project. Check all that apply.

- Reduce conflicts between water rights users
- Implement TMDLs
- Implement RWQCB's Watershed Management Initiatives
- Implement SWRCB's NPS Pollution Plan
- Assist in meeting Delta Water Quality Objectives
- Implement recommendations of the floodplain, desalination, and recycling task forces, or of the state species recovery plan
- Address environmental justice concerns
- Assist in meeting the CALFED Bay-Delta Program goals

Additional Notes:

Stakeholder Involvement and Coordination:

Please describe any coordination with stakeholders, land use agencies, or other state and local agencies. Please include a list of proposed stakeholders, how they have/will participate in the planning and implementation of the project, and how their involvement will influence the implementation of the project. Discuss efforts to address environmental justice concerns.

All the technical assistance projects will be coordinated through existing watershed partnerships: the Wildcat-San Pablo Creeks Watershed Council; the San Francisquito Creek Joint Powers Authority; and Pescadero Creek partners (San Francisco Bay Water Board, California Department of Fish and Game, State Parks, NOAA Fisheries, San Francisco State University, U.C. Berkeley, fishing organizations.) BAWN will be involved through its working groups: watershed outreach and education; policy; watershed assessments, monitoring, and restoration tools; and IRWMP watershed committee. Stakeholders include: federal and state agencies, Resource Conservation Districts, local governments, community organizations, recreationists, schools, universities and colleges, property owners, fishing groups, neighborhood organizations, environmental groups, water agencies, park districts, and environmental justice organizations.

Documentation of Feasibility:

Please identify any studies that document the technical and economic feasibility of the proposed project. If study is still in progress please indicate this next to its citation. If no studies exist, please type "N/A".

The San Francisco Estuary Partnership (SFEP) has the experience, knowledge and skills necessary to successfully manage and implement this project. The SFEP has managed similar large-scale multi-agency projects funded by government grants and contracts designed to improve the quality of regional streams, rivers and the Estuary. The SFEP has strong relationships with the stakeholders listed in this program. BAWN has sustained itself since 2006 through the efforts of two state agencies and a number of NGOs and consulting firms.

All the technical assistance tools being advanced by this project have already proven their important utility in other parts of the Bay Area. The Marin City stormwater project is a pilot project but is using partners with proven experience and results.

Detailed Project Description:

If desired, please provide a detailed description with additional information about the project.

There are four technical assistance projects composing this Bay Area Disadvantaged Communities Watershed Program:

1. BAWN Technical Assistance Project

The San Francisco Estuary Partnership will provide some organizational assistance to the Bay Area Watershed Network working groups. These groups are: providing a watershed community involvement component to the Bay Area IRWMP; facilitating the process for identifying Bay Area priorities for the support and development of watershed assessments, monitoring programs and restoration design tools; coordinating watershed education organizations and projects with the environmental education, and service and conservation corps communities; and assisting watershed organizations impacted by the state bond freeze to establish new funding and programmatic strategies. This project will provide direct financial assistance as seed money to non-profits and DACs to develop and design projects and programs to help them realize actions that will benefit their local watersheds. The objective is to enable these watershed partnerships to advance to the project design stages necessary to be eligible for federal and state grants and loans.

2. Stream Channel Shapes and Floodplain Restoration Design Guidance

Assist with the design stage of multi-objective flood damage education and stream restoration projects by developing stream restoration design "curves" that help guide the design of channel shapes and floodplains so that they can be in equilibrium, avoid erosion and sedimentation problems, and support fish and wildlife habitat while accommodating flood flows. These design curves will be used to advance the design of projects on Rheem Creek, San Pablo and Wildcat Creeks, San Francisquito Creek and Pescadero Creek. All these creeks have anadromous fish populations that are in strong need of protection and population enhancement. The creek restoration design curves can also be applied to other watersheds in similar regions of the Bay Area. This work will be done by scientists at FarWest Engineering and Watershed Sciences who are involved in developing this restoration tool for Bay Area wide use. They currently have some funding from the Environmental Protection Agency to develop stream restoration design curves for the North Bay.

3. Stream Restoration -- Historical Ecology Restoration Objectives Data

The other stream restoration design tool which is applied at the beginning of a multi-objective stream restoration design process is the identification of the historic regional ecological landscape. The historic landscape guides the restoration design even if it is not possible to reproduce a landscape that existed before current land use changes. The project works with stakeholders in local watershed councils to identify their needs for re-establishing watershed functions such as flood damage reduction, public access, recreation, wildlife habitat, etc. This project will produce technical reports that describe how these areas have functioned ecologically before they were degraded. The project develops information for public education that is well illustrated via GIS files, maps and a website. The San Francisco Estuary Institute has been developing these historic landscape inventories for a wide variety of stakeholders around the Bay Area and has the recognized expertise to assist these underserved areas.

4. Community Based Stormwater Management Mapping and Project Alternatives Identification

The Marin City storm drain and watershed mapping project is needed to provide the basic information to help this area advance stormwater management project plans and designs. The project will use an innovative approach that we expect can be replicated in other DACs. The Marin County Stormwater Pollution Prevention Program (MCSTOPPP) will work with the Conservation Corps of the North Bay (AmeriCorps) program to train the corps members in the use of GIS/GPS technology to produce watershed maps and stormdrain maps. The training will support conservation corps training and education objectives and give its participants access to tools and software to increase their marketable skills. They will also be trained in stormwater management strategies including green infrastructure improvements. Potential stormwater projects will be identified. The project will involve a community outreach and education component in which STRAW, a non-profit group already involved in the community, will work with the local Willow Creek Academy, and also reach out to the larger community.

Bay Area IRWMP Project Information Sheet

Project Name:

Evaluating regional ecosystem restoration using steelhead trout

Responsible Agency:

Please identify one agency that is involved in the project and is responsible for providing information for inclusion in the Bay Area IRWMP.

Center for Ecosystem Management and Restoration, Inc.



Other Participating Agencies:

Please identify other agencies that are involved in the project, if applicable.

North Bay Watersheds Association, Napa County Resource Conservation District, Santa Clara Valley Water District, San Francisco Public Utilities Commission, Marin Municipal Water District, Marin County Public Works, Southern Sonoma County Resource Conservation District, Department of Fish and Game, National Marine Fisheries Service

Summary Description:

Please provide a one paragraph description of the project. If you would like to include additional information, please do so under "Detailed Description" at the end of this form.

This project will measure the production of steelhead smolt in key Bay Area watersheds for use in measuring the success of IRWMP implementation. A diverse array of agencies are pursuing multiple objectives under IRWMP through modifications to water supply infrastructure and operations, reduction of pollution, restoration of stream geomorphology and biological productivity, and control of erosion. Measuring the production of steelhead smolts allows for an integrated, quantitative comparison of baseline and future watershed conditions (including IRWMP project implementation) that can be easily interpreted by stakeholders. By focusing on a threatened and charismatic species this program will maximize public impact and involvement, as well as development of regional partnerships and capacity.

Water Management Strategies Addressed:

Please select the water management strategies addressed by this project. Check all that apply.

- | | |
|--|--|
| <input checked="" type="checkbox"/> Ecosystem Restoration | <input type="checkbox"/> Water conservation |
| <input checked="" type="checkbox"/> Environmental and habitat protection and improvement | <input checked="" type="checkbox"/> Water quality protection and improvement |
| <input type="checkbox"/> Water Supply Reliability | <input type="checkbox"/> Water recycling |
| <input type="checkbox"/> Flood management | <input type="checkbox"/> Wetlands enhancement and creation |
| <input type="checkbox"/> Groundwater management | <input type="checkbox"/> Conjunctive use |
| <input type="checkbox"/> Recreation and public access | <input type="checkbox"/> Desalination |
| <input type="checkbox"/> Storm water capture and management | <input type="checkbox"/> Imported water |
| | <input checked="" type="checkbox"/> Land use planning |

- NPS pollution control
 Surface storage
 Watershed planning

- Water and wastewater treatment
 Water transfers

Primary Water Strategy:

Please list the primary water management strategy to facilitate project classification. Please select only ONE of the water management strategies listed above.

Ecosystem Restoration

Purpose and Need:

Please provide a detailed description of the purpose and need for the project. Include discussion of the project's goals and objectives and of the critical impacts that will occur if the project is not implemented.

A diverse array of agencies are pursuing multiple objectives in Bay Area watersheds through modifications to water supply infrastructure and operations, reduction of nonpoint pollution, restoration of stream geomorphology and biological productivity, and control of erosion. These activities are taking place under the auspices of IRWMP, as part of TMDL implementation, and pursuant to a variety of watershed management plans, local initiatives, and permit conditions. There is not at present an easily understood and accepted regional measure that can be used to track the effectiveness of these activities in an integrated fashion. Yet such a measure is essential for demonstrating progress toward the goals of Prop 50 (§79501), Prop 84 (§75026, 75055) and the objectives of the Bay Area IRWMP (§C.4.6), and to verify that existing water supply and other operations can be conducted in a manner that is consistent with restoration of valued species and ecosystems.

We propose to monitor production of steelhead smolt in key Bay Area locations to provide an integrated, quantitative measure of our regional success. By focusing upon a threatened and charismatic species this program will maximize public impact and involvement, as well as build regional partnerships and capacity. Support for monitoring in two or three north Bay watersheds can be integrated with monitoring activities in Alameda Creek and Santa Clara County streams to develop a regional assessment. Without this project the IRWMP and other agencies will not have a quantitative assessment of the overall success of restoration and pollution reduction activities, and will lack vital baseline data that will be required to sensibly implement the Central Coast Steelhead Recovery Plan that will soon be produced by the National Marine Fisheries Service.

Project Status and Schedule:

Please provide the actual or projected start and finish dates for each of the following project stages. If any stage does not apply to the project please enter N/A.

Stage	Duration	Start Date	Finish Date
Planning		9/1/10	11/1/10
Demonstration Project		N/A	N/A
Design		11/1/10	1/15/10
Construction		2/1/10	6/1/10

Additional Notes:

The vast majority of the planning and design of the monitoring program has been funded by the North Bay Watersheds Association, and a demonstration project has been conducted by the Napa County Resource Conservation District during 2009 and 2010 (documenting the production of hundreds of steelhead smolts in the Napa River). After a 60 day planning period where remaining sites are determined and responsibilities assigned, the project will get underway ("design" and "construction") and collect data.

Integration with Other Activities:

Please identify any linkages between the schedule of this project and the schedules of other projects, if applicable. Please discuss the integration of the project with other Bay Area IRWMP projects.

This project will be performed concurrently with or in advance of important with stream restoration projects in the subject watersheds. The program will provide vital, easily interpreted evidence that restoration efforts are working to the extent smolts production is being enhanced. The monitoring may be repeated and/or expanded in the future to provide IRWMP, along with related efforts in the Bay Area, an assessment of whether "ecosystem health is increasing or decreasing."

Cost and Financing:

Please identify the capital cost and operation and maintenance cost of the proposed project. Please indicate the base year (e.g. CCI) for all costs. Please identify the beneficiaries, potential funding/financing options for project implementation, and ongoing support and financing for operation and maintenance of the project once implemented.

The project is estimated to cost \$371,000 to implement for five watersheds. As work in each watershed will be implemented with a local partner, this project will develop the capacity to be self sustaining with moderate funding due to the existence of a set of trained volunteers to continue the project. As it is expected that steelhead monitoring will inevitably be required by the National Marine Fisheries Service, this project will develop local capacity that can then be used very cost-effectively to meet future permit conditions.

Benefits and Impacts:

Please provide a detailed discussion of the projected benefits and impacts of the project, both locally and for the region. Please include an evaluation of impacts/benefits to other resources, such as air quality or energy.

For the first time, we will have an estimate of steelhead production in Bay Area watersheds. This easily understood indicator of watershed health can be tracked quantitatively over time to provide an integrated assessment of the effectiveness of regional efforts to improve watershed health, and will serve as an organizing concept for regional restoration efforts. We will strengthen watershed-scale partnerships throughout the region, enhance public interest in watershed restoration, provide opportunities for public

involvement, build local technical capacity, and contribute to the protection and restoration of a valued threatened species.

An integrative ecological indicator like steelhead smolt production is also vital for use by water supply agencies and other organizations seeking to demonstrate that their existing activities in a watershed are consistent with restoration of a key threatened species. Understanding the baseline of smolt production will also be valuable when working with the National Marine Fisheries Service in the future regarding implementation of the Central Coast Steelhead Recovery Plan. This information will also be essential for tracking and evaluating the success of sediment TMDL implementation for the Napa River and Sonoma Creek.

Disadvantaged Communities / Environmental Justice:

Please include a specific discussion of how the project will benefit or impact disadvantaged communities or environmental justice goals.

N/A

Environmental Compliance Strategy:

Please provide a detailed description of how the project will comply with all applicable environmental review requirement, including CEQA and/or (if applicable) NEPA. For ongoing CEQA/NEPA work, indicate when required documentation would be completed. Also, include discussion of how compliance with local, county, State and federal permitting requirements will be achieved.

This project does not involve activities subject to environmental review through CEQA or NEPA. The completion of the demonstration project allows for very specific and easily approved applications for permits required to place and operate the traps in accordance with provisions of the federal Endangered Species Act.

Statewide Priorities:

Please select the statewide priorities that are addressed by this project. Check all that apply.

- Reduce conflicts between water rights users
- Implement TMDLs
- Implement RWQCB's Watershed Management Initiatives
- Implement SWRCB's NPS Pollution Plan
- Assist in meeting Delta Water Quality Objectives
- Implement recommendations of the floodplain, desalination, and recycling task forces, or of the state species recovery plan
- Address environmental justice concerns
- Assist in meeting the CALFED Bay-Delta Program goals

Additional Notes:

Stakeholder Involvement and Coordination:

Please describe any coordination with stakeholders, land use agencies, or other state and local agencies. Please include a list of proposed stakeholders, how they have/will participate in the planning and implementation of the

project, and how their involvement will influence the implementation of the project. Discuss efforts to address environmental justice concerns.

There are many local agencies with the skills, resources, and interest to serve as partners for this project. They include the Santa Clara Valley Water District, San Francisco Public Utilities Commission, Alameda County Water District, Marin Municipal Water District, East Bay Regional Park District, Napa County Resource Conservation District, Southern Sonoma Resource Conservation District, Sonoma Ecology Center, National Resource Conservation Service, East Bay Regional Park District, and the North Bay Watersheds Association. There are many local watershed organizations that will serve as productive sources of volunteers for this effort including the Alameda Creek Alliance, Santa Clara Creeks, Friends of Corte Madera Creek, and Trout Unlimited.

For each watershed covered by the program, the lead biologists and the program coordinators have or will select methods, locations, and responsibilities for monitoring. Constructing the traps and monitoring and maintenance will be conducted by the lead biologists with support from volunteers. All participants will receive training in smolt trapping techniques and data collection to ensure consistency and validity of data produced by the project.

The program will provide important, new information to the resource conservation agencies useful in managing and recovering steelhead. Letters of support for this project likely can be obtained from the National Marine Fisheries Services, the Department of Fish and Game, and the San Francisco Bay Regional Water Quality Control Board.

Documentation of Feasibility:

Please identify any studies that document the technical and economic feasibility of the proposed project. If study is still in progress please indicate this next to its citation. If no studies exist, please type "N/A".

The project design has been developed and peer reviewed by the North Bay Watersheds Association. A pilot project has successfully operated, demonstrating the feasibility of the methods, in the Napa River during 2009.

Detailed Project Description:

If desired, please provide a detailed description with additional information about the project.

Approach (how we will do this): Steelhead smolts will be trapped at strategic locations in several anchor watersheds in the Bay Area. The program will follow the peer-reviewed design developed by CEMAR for the North Bay Watersheds Association, as informed by the pilot project being conducted by the Napa County Resource Conservation District.

In each watershed, a local stakeholder will be identified as the lead partner, and will help coordinate site access and staffing at each trapping site. Each watershed will require at least two well-trained individuals who will be permitted by the National Marine Fisheries Service and the California Department of Fish and Game to handle steelhead. Local volunteers, who over the course of the project will develop the skills necessary to lead the trapping in later years, will support these trained individuals (previous monitoring conducted by the San Francisco Public Utilities Commission has served as a model for integrating volunteers, as has the Napa RCD project). CEMAR and the local lead stakeholder will provide overall

management and coordination for the project, establish and implement quality assurance procedures, and conduct data analysis, project reporting, and public outreach.

Outputs (what we will do): Prepare and implement watershed specific plans with local partners; develop and train volunteers in each watershed; install, operate, and maintain smolt traps; synthesize and report results; prepare and disseminate public outreach materials; and develop earned media opportunities.

**IRWM Regional Project:
Flood Control Infrastructure Mapping and Needs Assessment**

The goal of the project is to produce web-accessible GIS-based maps of existing and planned Bay Area flood protection infrastructure. Web-accessible, color-coded and interactive maps would provide specific information on a creek-by-creek basis, region-wide.

The maps would click-and-provide: the level of protection currently provided, the level of protection the community desires, the date of original construction, whether the facility is accredited by FEMA, whether the Corps or other federal agency constructed or inspects the facility, the agency responsible for maintaining the facility and areas subject to potential flooding from the facility.

The database would build on the existing Statewide Levee Database, but would document a broader range of facilities. It will provide a locally-specific and interactive format to allow agency staff as well as the general public to quickly and easily access information about local areas of flood risk and need. The information would be used for planning purposes including floodplain management, emergency response planning, and capital infrastructure improvement planning. The San Francisco IRWMP would use the information to understand and prioritize critical infrastructure needs on a regional scale.

Bay Area IRWMP Project Information Sheet

Project Name:

Bay Area Regional Desalination Project

Insert Photo, if desired

Responsible Agency:

Please identify one agency that is involved in the project and is responsible for providing information for inclusion in the Bay Area IRWMP.

East Bay Municipal Utility District

Other Participating Agencies:

Please identify other agencies that are involved in the project, if applicable.

Contra Costa Water District (CCWD)
San Francisco Public Utilities Commission (SFPUC)
Santa Clara Valley Water District (SCVWD)

Summary Description:

Please provide a one paragraph description of the project. If you would like to include additional information, please do so under "Detailed Description" at the end of this form.

The Bay Area's four largest water agencies (CCWD, EBMUD, SFPUC, SCVWD) are jointly exploring the development of a regional desalination facility to improve water supply reliability during droughts and emergencies. A Feasibility Study (2007) identified three feasible Bay Area locations. A pilot test conducted at an eastern Contra Costa County site proved that desalination is technically feasible, pending further development of institutional and technical issues. One of the key technical issues is confirming that brine discharge at the pilot test location is achievable.

Key issues to be addressed for Brine Discharge include: What are the brine discharge options available for the Eastern Contra Costa site, what is the cost and potential environmental impacts of each discharge option, what tests and modeling are required for evaluating each brine discharge options, could tidal variations of salinity be used for potentially minimizing the environmental effects of brine discharge, what is the recommended brine discharge option, would it be blended with local wastewater discharges, would it be discharged through an independent new or existing outfall, how will a permit be acquired (modification of existing NPDES permits or new permit, separate permits for the project or discharge under modified existing permit held by the discharger, etc.), and what is the cost and timeline for new or modified discharge permits.

Water Management Strategies Addressed:

Please select the water management strategies addressed by this project. Check all that apply.

- | | |
|---|--|
| <input type="checkbox"/> Ecosystem Restoration | <input checked="" type="checkbox"/> Water Supply Reliability |
| <input type="checkbox"/> Environmental and habitat protection and improvement | <input type="checkbox"/> Flood management |
| | <input type="checkbox"/> Groundwater management |

- | | |
|--|--|
| <input type="checkbox"/> Recreation and public access | <input type="checkbox"/> Imported water |
| <input type="checkbox"/> Storm water capture and management | <input type="checkbox"/> Land use planning |
| <input checked="" type="checkbox"/> Water conservation | <input type="checkbox"/> NPS pollution control |
| <input checked="" type="checkbox"/> Water quality protection and improvement | <input type="checkbox"/> Surface storage |
| <input type="checkbox"/> Water recycling | <input type="checkbox"/> Watershed planning |
| <input type="checkbox"/> Wetlands enhancement and creation | <input checked="" type="checkbox"/> Water and wastewater treatment |
| <input type="checkbox"/> Conjunctive use | <input checked="" type="checkbox"/> Water transfers |
| <input checked="" type="checkbox"/> Desalination | |

Primary Water Strategy:

Please list the primary water management strategy to facilitate project classification. Please select only ONE of the water management strategies listed above.

Water Supply Reliability

Purpose and Need:

Please provide a detailed description of the purpose and need for the project. Include discussion of the project’s goals and objectives and of the critical impacts that will occur if the project is not implemented.

Water supply needs and planning options are covered in the long term water supply planning documents of each participating agencies and their Urban Water Management Plans (UWMPs).

Project Status and Schedule:

Please provide the actual or projected start and finish dates for each of the following project stages. If any stage does not apply to the project please enter N/A.

Stage	Duration	Start Date	Finish Date
Planning		Month	Month
Demonstration Project			
Design		Month	Month
Construction		Month	Month

Additional Notes:

Schedule is under review

Integration with Other Activities:

Please identify any linkages between the schedule of this project and the schedules of other projects, if applicable. Please discuss the integration of the project with other Bay Area IRWMP projects.

Cost and Financing:

Please identify the capital cost and operation and maintenance cost of the proposed project. Please indicate the base year (e.g. CCI) for all costs. Please identify the beneficiaries, potential funding/financing options for project

implementation, and ongoing support and financing for operation and maintenance of the project once implemented.

\$300,000 with \$250,000 in grant funding plus \$50,000 of in-kind and/or local agency cost matching.

Benefits and Impacts:

Please provide a detailed discussion of the projected benefits and impacts of the project, both locally and for the region. Please include an evaluation of impacts/benefits to other resources, such as air quality or energy.

Disadvantaged Communities / Environmental Justice:

Please include a specific discussion of how the project will benefit or impact disadvantaged communities or environmental justice goals.

Environmental Compliance Strategy:

Please provide a detailed description of how the project will comply with all applicable environmental review requirement, including CEQA and/or (if applicable) NEPA. For ongoing CEQA/NEPA work, indicate when required documentation would be completed. Also, include discussion of how compliance with local, county, State and federal permitting requirements will be achieved.

CEQA/NEPA compliance will be required for the project after preliminary planning is complete.

This project will develop additional technical information for a key permitting requirement, the NPDES discharge permit from the RWQCB.

Statewide Priorities:

Please select the statewide priorities that are addressed by this project. Check all that apply.

- Reduce conflicts between water rights users
- Implement TMDLs
- Implement RWQCB's Watershed Management Initiatives
- Implement SWRCB's NPS Pollution Plan
- Assist in meeting Delta Water Quality Objectives
- Implement recommendations of the floodplain, desalination, and recycling task forces, or of the state species recovery plan
- Address environmental justice concerns
- Assist in meeting the CALFED Bay-Delta Program goals

Additional Notes:

Stakeholder Involvement and Coordination:

Please describe any coordination with stakeholders, land use agencies, or other state and local agencies. Please include a list of proposed stakeholders, how they have/will participate in the planning and implementation of the

project, and how their involvement will influence the implementation of the project. Discuss efforts to address environmental justice concerns.

Documentation of Feasibility:

Please identify any studies that document the technical and economic feasibility of the proposed project. If study is still in progress please indicate this next to its citation. If no studies exist, please type "N/A".

Excerpt from pilot study documentation

Detailed Project Description:

If desired, please provide a detailed description with additional information about the project.

Excerpt from pilot study documentation.

Bay Area IRWMP Project Information Sheet

Project Name:

**NMWD Recycled Water Project - Phase 2 -
North Service Area**

Stone Tree Golf Course-Novato

Responsible Agency:

Please identify one agency that is involved in the project and is responsible for providing information for inclusion in the Bay Area IRWMP.

North Marin Water District (NMWD)

Other Participating Agencies:

Please identify other agencies that are involved in the project, if applicable.

Novato Sanitary District (NSD)

Summary Description:

Please provide a one paragraph description of the project. If you would like to include additional information, please do so under "Detailed Description" at the end of this form.

The North Service Area project consists of two phases: Phase 2A and 2B. Phase 2A of the project will be constructed first and once Phase 2A is complete, Phase 2B will follow. The Phase 2A of the project extends recycled water distribution to Valley Memorial Park Cemetery (VMP) in Novato. NMWD currently supplies recycled water to the Stone Tree Golf Course (STGC) by a Title 22 – compliant tertiary filtration and disinfection system (Recycled Water Facility, RWF) installed off Highway 37 at Deer Island in Novato with an average capacity of 0.5 mgd and a 8-inch transmission pipeline installed along Atherton Avenue. The 8-inch main was also extended up to Novato Fire Protection District, Station No. 2 (FS #2) on Atherton Avenue for provision of recycled water for FS #2 landscape irrigation. The aforementioned project was partially funded by the Proposition 50 IRWM Grant (Phase 1). Phase 2 Project is a completely distinct phase of the NMWD Recycled Water project. Phase 2A proposes a 5,400 ft extension of the 8-inch transmission main from the FS #2 on Atherton Ave to the Valley Memorial Park Cemetery. As part of the Phase 2A project, the RWF will be expanded at its present location or re-located adjacent to Novato Sanitary District's (NSD) Davidson Waste Water Treatment Plant. Phase 2A includes retrofitting an out-of-service potable storage tank near Plum Street (Plum Street Tank) for storage of recycled water. The Phase 2A project also includes pipeline installation from the RWF at Davidson Plant to Plum Street Tank (2,500 ft), and/or from Plum Street Tank to Atherton Avenue (8,500 ft). The Recycled Water Treatment Facility will also include a pump station upgrade or addition. The Phase 2A project will provide 46 AF/Year of recycled water annually for lawn and other landscape irrigation at the Cemetery. In Phase 2B, the distribution main will be extended from Plum Street Tank to 777 San Marin Drive (Fireman's Fund site) along Olive Avenue and Redwood Blvd (7,865 ft). A total of 186 AF/year of recycled water will be provided in the Phase 2 project.

Water Management Strategies Addressed:

Please select the water management strategies addressed by this project. Check all that apply.

- | | |
|---|--|
| <input type="checkbox"/> Ecosystem Restoration | <input type="checkbox"/> Wetlands enhancement and creation |
| <input type="checkbox"/> Environmental and habitat protection and improvement | <input type="checkbox"/> Conjunctive use |
| <input checked="" type="checkbox"/> Water Supply Reliability | <input type="checkbox"/> Desalination |
| <input type="checkbox"/> Flood management | <input checked="" type="checkbox"/> Imported water |
| <input type="checkbox"/> Groundwater management | <input type="checkbox"/> Land use planning |
| <input type="checkbox"/> Recreation and public access | <input type="checkbox"/> NPS pollution control |
| <input type="checkbox"/> Storm water capture and management | <input type="checkbox"/> Surface storage |
| <input checked="" type="checkbox"/> Water conservation | <input type="checkbox"/> Watershed planning |
| <input type="checkbox"/> Water quality protection and improvement | <input checked="" type="checkbox"/> Water and wastewater treatment |
| <input checked="" type="checkbox"/> Water recycling | <input type="checkbox"/> Water transfers |

Primary Water Strategy:

Please list the primary water management strategy to facilitate project classification. Please select only ONE of the water management strategies listed above.

Water Recycling

Purpose and Need:

Please provide a detailed description of the purpose and need for the project. Include discussion of the project's goals and objectives and of the critical impacts that will occur if the project is not implemented.

The purpose of the Project is to expand use of recycled water to offset potable water demands for landscape irrigation uses, reduce dependence on imported water supplies from the Russian River and help reduce wastewater discharges to the San Francisco Bay.

The proposed North Service Area project is part of NMWD's Urban Water Management Plan. The goal of the project is to offset 186 AF/year of potable water use in the North Service area with Recycled Water.

Project Status and Schedule:

Please provide the actual or projected start and finish dates for each of the following project stages. If any stage does not apply to the project please enter N/A.

Stage	Duration	Start Date	Finish Date
Planning		3/1/2010	5/31/2010
Demonstration Project			
Design		6/1/2010	5/31/2011
Construction		12/1/2011	5/30/2013

Additional Notes:

The above Schedule is for Phase 2A of the North Service Area Project. Phase 2B Schedule is as follows:

Planning 3/1/2013 to 5/31/2013
Design 6/1/2013 to 2/28/2014
Construction 8/1/2014 to 6/30/2015

Integration with Other Activities:

Please identify any linkages between the schedule of this project and the schedules of other projects, if applicable. Please discuss the integration of the project with other Bay Area IRWMP projects.

The RWF at Deer Island (Phase 1) was constructed with options for future expansion; the Phase 1 project is complete and there is adequate space for facilities expansion.

The North Service Area project (Phase 2) will ultimately be part of the North Bay Water Reuse project. This regional project is sponsored by five member agencies (Sonoma County Water Agency, Napa Sanitation District, Sonoma Valley Sanitation District, Las Gallinas Valley Sanitary District (LGVSD) and Novato Sanitary District). North Marin Water District provides financial and technical support for the project through an MOU with NSD and LGVSD. The final EIR / EIS for the regional project was certified in December, 2009. The above EIR / EIS will serve as the environmental document for the recycled water facility expansion and upgrades for this project.

Cost and Financing:

Please identify the capital cost and operation and maintenance cost of the proposed project. Please indicate the base year (e.g. CCI) for all costs. Please identify the beneficiaries, potential funding/financing options for project implementation, and ongoing support and financing for operation and maintenance of the project once implemented.

Capital cost of the North Service Area project is \$7,674,338 (Phase 2A: \$6,165,562, Phase 2B: \$1,508,776). Capital cost indicated above is current cost adjusted to 2012 by a 5% inflation rate. Operation and Maintenance Cost is \$153,000 (base year 2013).

Beneficiaries of the project are Valley Memorial Park Cemetary (46 AF), Fireman's Fund (99AF) and Olive School, City of Novato Park at Olive Avenue, and other non anchor customers (41 AF). The regional project is expected to receive a Federal grant through Bureau of Land Reclamation that covers 25% of the project cost. NMWD will be applying for a \$4 million SRF loan. The rest will be grants and local matching funds.

Benefits and Impacts:

Please provide a detailed discussion of the projected benefits and impacts of the project, both locally and for the region. Please include an evaluation of impacts/benefits to other resources, such as air quality or energy.

1. Reduce Peak Potable Water Demands. This project would help reduce peak summer potable water demands thereby allowing more high quality potable water to be used for domestic purposes.
2. Reduce Dependence on Imported Water Supplies. This project will utilize recycled water from local wastewater thereby reducing demand for imported potable water supply from the Russian River.

3. Reduce Wastewater Discharges to San Francisco Bay. The Project reuses wastewater that may otherwise be discharged to the San Francisco Bay. Novato Sanitary District (NSD) collects wastewater in its collection system in the City of Novato and adjacent unincorporated areas and treats it to secondary effluent standards in accordance with its NPDES Permit No. CA 0037958. NSD owns and operates the Novato Treatment Plant (NTP) and discharges final effluent from NTP into the intertidal mud flats of San Pablo Bay through the NSD outfall. During the summer months discharge to San Pablo Bay is not allowed and the effluent is collected in the effluent storage ponds and used for irrigation of the pasture land owned by NSD. The project will have positive water quality benefits.

Disadvantaged Communities / Environmental Justice:

Please include a specific discussion of how the project will benefit or impact disadvantaged communities or environmental justice goals.

Not Applicable.

Environmental Compliance Strategy:

Please provide a detailed description of how the project will comply with all applicable environmental review requirement, including CEQA and/or (if applicable) NEPA. For ongoing CEQA/NEPA work, indicate when required documentation would be completed. Also, include discussion of how compliance with local, county, State and federal permitting requirements will be achieved.

Environmental Review is complete for both Phase 2A and 2B projects. This North Service Area project will ultimately be part of a regional project. North Bay Water Reuse Authority is the lead agency for the environmental study of the regional project. The final EIR / EIS was certified in December, 2009. The above EIR / EIS will serve as the environmental document for the recycled water facility expansion and upgrades for this project.

Statewide Priorities:

Please select the statewide priorities that are addressed by this project. Check all that apply.

- Reduce conflicts between water rights users
- Implement TMDLs
- Implement RWQCB's Watershed Management Initiatives
- Implement SWRCB's NPS Pollution Plan
- Assist in meeting Delta Water Quality Objectives
- Implement recommendations of the floodplain, desalination, and recycling task forces, or of the state species recovery plan
- Address environmental justice concerns
- Assist in meeting the CALFED Bay-Delta Program goals

Additional Notes:

Stakeholder Involvement and Coordination:

Please describe any coordination with stakeholders, land use agencies, or other state and local agencies. Please include a list of proposed stakeholders, how they have/will participate in the planning and implementation of the

project, and how their involvement will influence the implementation of the project. Discuss efforts to address environmental justice concerns.

Novato Sanitary District (NSD) - NMWD proposes construction of the North Service Area project in partnership with NSD per a joint agency agreement. NSD is responsible for Treatment and Pumping costs while NMWD is responsible for distribution and storage costs.

The North Service Area project is part of the North Bay Water Reuse regional project. North Bay Water Reuse Authority was the lead agency for environmental review which is now complete.

Documentation of Feasibility:

Please identify any studies that document the technical and economic feasibility of the proposed project. If study is still in progress please indicate this next to its citation. If no studies exist, please type "N/A".

The recycled water facilities (treatment facility and pipeline) have been under evaluation since 2000 and were constructed in 2006 / 2007 to serve the Stone Tree Golf Course. The current project will expand the facility to provide recycled water to the Valley Memorial Park and North Service Area projects. The work done to date is compiled as a series of technical memorandums and reports.

- A. Technical memorandum No. 5 dated August 28, 2000 – Conceptual Alternatives
- B. Technical memorandum No. 7 dated September 28, 2000 – Development of Detailed Alternatives.
- C. Recycled Water Master Plan dated February, 2004 –
- D. North Marin Water District and Novato Sanitary District - Recycled Water Implementation Plan dated May 2006 (Nute, 2006).
- E. Sonoma County Water Agency and Bureau of Reclamation prepared in cooperation with North Bay Water Reuse Authority. Phase 1 – Feasibility Report – North San Pablo Bay Restoration and Reuse Project – March 2005.
- F. Sonoma County Water Agency and Bureau of Reclamation prepared in cooperation with North Bay Water Reuse Authority. Phase 2 – Engineering Feasibility Study Report – North San Pablo Bay Restoration and Reuse Project – June 2006.
- G. Sonoma County Water Agency and Bureau of Reclamation prepared in cooperation with North Bay Water Reuse Authority. Phase 3 – Engineering and Economic / Financial Analysis Report – North San Pablo Bay Restoration and Reuse Project – June 2008.
- H. North San Pablo Bay Restoration and Reuse Project (North Bay Water Recycling Program) – Draft- Volumes 1 and 2 – Environmental Impact Report / Environmental Impact Statement, May 2009.
- I. Resolution 09-40 of the Board of Directors of North Marin Water District – Approval of Novato North and Central Service Area Recycled Water Projects.

Detailed Project Description:

If desired, please provide a detailed description with additional information about the project.

SOUTH BAY ADVANCED RECYCLED WATER TREATMENT FACILITY PROJECT

Project Qualification

The Santa Clara Valley Water District, in collaboration with the City of San Jose, is proposing to expand the South Bay Advanced Recycled Water Treatment Facility (AWT) project to construct an 8-mgd advanced treatment facility.

The AWT project meets all the criteria stated in the Supplemental Proposition 50 Proposal Solicitation Plan:

- The project successfully secured an agreement with DWR to receive partial funding from the Proposition 50 IRWM Implementation Grant Round 1. The entire AWT project work plan and proposal were submitted to DWR and SWRCB during the Round 1 solicitation and received high scores.
- The proposed AWT project is a separate phase of the existing project that was awarded funds as part of the Proposition 50 IRWM Implementation Grant Round 1 but was not included in the grant agreement due to partial funding. The grant agreement for the existing project consists of constructing a 2-mgd advanced treated water product storage tank for about \$4.05 million. During the Prop. 50 Round 1 solicitation, the District submitted a grant application proposing a 5.5-mgd recycled water advanced treatment facility. The initial funding request was \$12 million. Due to the grant allocation reduction, the project received \$2.94 million. Also because the grant reduction, only one phase of the total project – the production storage tank, was committed in the agreement to receive the \$2.94 million grant.
- The project fully met all existing DWR and SWRCB prepared Proposition 50 Chapter 8 Integrated Regional Water Management Grant Program Guidelines (June 2007)
- The project description, scope, purpose, benefits, work plan, and other grant proposal related document were all prepared during the Round 1 application and are available for the Supplemental IRWMP Grant.

Project Description and Background

The Santa Clara Valley Water District (SCVWD), in partnership with South Bay Water Recycling (SBWR), a cooperative program representing the interest of the City of San Jose, the City of Milpitas, and the City of Santa Clara, is in the process of addressing the impact of recycled water salinity. Advanced treatment of the recycled water is currently under consideration for salinity mitigation. To this end, SCVWD, in collaboration with SBWR, is proposing to design and construct an advanced recycled water treatment facility (AWT) at the San Jose – Santa Clara Water Pollution Control Plant (WPCP).

The project is a multi-purpose project designed to solve SBWR's salinity management issues and provide a testing platform to assess treatment strategies to support potential future SBWR and SCVWD water recycling initiatives. These initiatives include future expanded uses such as application of recycled water over regions in the County that have shallow, unconfined drinking water aquifers, new environmental enhancement uses via streamflow augmentation, and groundwater recharge. The core of the project will be an 8 mgd microfiltration/reverse osmosis (MF/RO) recycled water treatment facility. This project will immediately provide salinity management benefits to the region, including the more than 500 existing customers and numerous new customers served by the approximately 100 miles of SBWR pipeline throughout northern Santa Clara County.

This 8-mgd facility would enable SBWR and SCVWD to achieve important water recycling objectives:

- Increase the marketability of recycled water by improving the delivered quality, which assists in meeting:
- Water supply reliability goals of SCVWD and
- Effluent management goals of SBWR partner agencies

The project will provide a platform to test complementary and alternative treatment technologies (such as advanced oxidation processes) that could be used to achieve additional water quality targets required to implement and expand future recycled water uses such as environmental enhancement via streamflow augmentation and groundwater recharge.

Currently, recycled water is produced at the WPCP, owned and operated by the City of San Jose, the SBWR Program Manager. The WPCP has a current production capacity of 167 mgd of filtered and partially disinfected water with a diversion facility that allows a portion of the effluent flow to comply with Title 22 requirements for unrestricted use. On a daily basis, current recycled water use can be up to 35 million gallons depending on the time of day and time of year. The current SBWR system serves over 500 customers with over 100 miles of distribution pipelines.

The 8 mgd capacity advanced treatment facility would be built on land currently owned by the City of San Jose, at the WPCP and adjacent to the existing SBWR Transmission Pump Station. The main process units would be housed in a building that would include a process area, cleaning solution storage and feed area, electrical and control room, and external area for the de-carbonation towers. In addition to the process building, a maintenance facility, electrical facility, waste brine holding tank, process feed pump station, and chemical storage and feed facility would also be constructed on the site.

The facility would divert recycled water from the junction box upstream of the transmission pump station and treat the water using microfiltration, reverse osmosis and de-carbonation. Provisions for chlorine injection to provide a residual concentration to protect against regrowth in the distribution and storage system would be included if deemed necessary. Provisions will also be included for additional advanced treatment technologies to address endocrine disrupting compounds (EDC), personal care products (PCP), pharmaceutically active compounds (PhAC) and other constituents of concern. The initial phase of the project will also allow pilot testing of technologies to determine the effectiveness at

removing these compounds. Finally the water would be returned to the splitter box just upstream of the transmission pumps.

Project Cost

Estimated project cost for the 8-mgd Advanced Treatment Facility:

Engineering: \$4.67 million

Construction Management: \$5.4 million

Construction: \$47 million

Statewide Priority

Projects		Statewide Priorities						
		Reduce Water User Conflicts	TMDL Implementation	RWQCB WMI Implementation	NPS Pollution Reduction	Delta WQ Objectives	Desal/WR Task Force Recommendations	CALFED Goals
7	South Bay Advanced Recycled Water Treatment Facility Project	✓		✓		✓	✓	✓

Bay Area Water Agencies One Stop Shop Water Efficiency Program

Concept Outline

Proposed Budget: \$1M grant plus local match

Purpose:

To offer customized, ala carte water efficiency incentive programs to BAWAC members to select from in targeting individual agency-by-agency water conservation targets as part of an integrated regional water management effort.

Sample Incentive Programs:

- High-efficiency toilet rebates for residential and commercial customers
- High-efficiency urinals for commercial customers
- High-efficiency clotheswasher rebates for residential and commercial customers
- Landscape upgrade and irrigation system retrofit programs for residential, commercial and irrigation accounts.
- Lawn conversion incentive program
- Weather-based irrigation controller incentive program.
- Cooling tower retrofit/conductivity probe incentive program.
- Air-cooled ice machine rebates
- Connectionless steamer rebates
- ETC...

Design Features

1. Flexibility to customize, prioritize rebates on agency-by-agency basis.
2. Efficiencies and economies of scale from shared resources, marketing, etc.
3. Efficiencies from incorporating incentives with existing agency-by-agency framework.
4. Ability to add new products or shift products based on consumer demand.
5. Pre-approved allotment of rebates with first come first served for any excess funds.
6. Grant tracking, invoicing and reporting administered by single entity.
7. Assistance with individual reporting requirements by individual agencies.