PROJECT OVERVIEW

General Project Information

Project Title:	Pacheco Reservoir Reoperation
Project Location:	Pacheco Creek Watershed
Estimated Cost:	$324,523

Brief Project Description (1 to 2 sentences):

Develop operational guidelines for Pacheco Reservoir to improve water supply reliability through conjunctive management of surface water and groundwater supplies and to provide in stream flows to protect all life stages of steelhead downstream of Pacheco Reservoir in the Pacheco Creek sub watershed of the Pajaro river basin.

Project Proponent Information

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Other participating agencies/organizations (if applicable):

San Benito County Water District, Pacheco Pass Water District, National Marine Fisheries Service, California Department of fish & Game, Trout Unlimited, CEMAR, San Jose State University, Micko Consulting

DETAILED PROJECT INFORMATION

Description

Please provide a description of your project (including the location) and its purpose, what will be constructed and/or implemented, how the project will function, the area(s) and/or entities that will be affected by or will benefit from the project, and any potential obstacles to implementation.

The project will develop operational guidelines for Pacheco Reservoir by constructing a watershed system simulation model which will enable evaluation of environmental and water supply outcomes associated with alternate operation strategies. Characterization of watershed hydrology, reservoir function, stream and aquifer function, alternate water supply availability, and water demand are necessary to construct the model. The project team will work with stakeholders to develop a consensus strategy.
The project tasks constitute a complete and detailed process of watershed evaluation and assessment that will result in an integrated and comprehensive plan for operation of Pacheco Reservoir. The plan will include specific and prioritized recommendations that will address key limiting factors in the watershed.
When implemented, the reservoir operations plan will enable optimized operation of Pacheco Reservoir for water supply reliability in conjunction with imported and groundwater supplies. and provide for steelhead habitat restoration in Pacheco Creek downstream of the reservoir.

Creek downstream of the reservoir.
A key project product is a document entitled "Comprehensive Strategy and Instructions for Operation of Pacheco Pass Reservoir, in Consideration of the Multiple Objectives of Reliable Water Supply, In stream Habitat Management, and Reduced Flood Potential." This project will work with the Pacheco Pass Water District to implement the reoperation of the dam according to the findings of this document.

Technical Feasibility

Discuss the technical feasibility of the project. If possible, cite references that contain information about the proposed project and detail the technical feasibility of the project.

Pacheco Creek has been shown to support steelhead trout. A significant limiting factor is erratic flow or lack of in stream flow associated with operation of the Pacheco Reservoir. The Pacheco Pass Water District, which owns the reservoir, is receptive to reoperation but does have the means to develop a comprehensive operating strategy. Potential benefits of re-operating Pacheco Reservoir have been identified in several recent studies, plans and reports. The primary objectives cited in the various plans include improved water supply management and support of aquatic and riparian habitat .

Pajaro River Watershed IRWM Regional Goals & Objectives

Put an X next to any goal that the proposed project will achieve.

	Water Supply
X	1. Meet 100% of M&I and agriculture demands (both current and future conditions) in wet to dry years including the first year of a drought.
	2. Meet 85% M&I and 75% agriculture demands (both current and future conditions) in second and subsequent years of a drought.
θ	3. Identify and address water supply needs of disadvantaged communities in the Pajaro River Watershed.
	4. Implement water conservation programs to reduce M&I and agricultural water use consistent with SBx7-7 and CVPIA.
	5. Maximize the use of recycled water during the irrigation season and expand other uses of recycled water.
X	6. Optimize the use of groundwater and aquifer storage.
x	7. Maximize conjunctive use opportunities including interagency conjunctive use.
	8. Optimize and sustain the use of existing import surface water entitlements from the San Felipe Unit.
x	9. Maximize the beneficial use of existing local water supplies while protecting existing surface water rights.
	Water Quality
x	1. Meet or exceed all applicable groundwater, surface water, wastewater, and recycled water quality regulatory standards.

	2. Identify and address the drinking water quality of disadvantaged communities in the Pajaro River Watershed.
x	3. Protect groundwater resources from contamination including salts and nutrients.
	4. Address impacts from surface water runoff through implementation of Best Management Practices or other surface water management strategies.
	5. Meet or exceed delivered water quality targets established by recycled water users.

Flood Protection

x	1. Implement flood management strategies throughout the watershed that provide multiple benefits.
	2. Reach consensus on the Pajaro River Risk Reduction Project necessary to protect existing urban areas and infrastructure from flooding and erosion from the 100-
x	3. Work with stakeholders to preserve existing flood attenuation by implementing land management and conservation strategies throughout the watershed.
x	4. Develop approaches for adaptive management to minimize maintenance requirements and protect quality and availability of water while preserving ecologic
	5. Provide community benefits beyond flood protection such as public access, open space, recreation, agriculture preservation and economic development.

Environmental Protection and Enhancement

x	1. Address opportunities to enhance the local environment and protect and/or restore natural resources, in cooperation with landowners, when developing water
x	2. Improve biological and cultural resources, including riparian habitats, habitats supporting sensitive plant or animal species and archaeological/historic sites when
x	3. Address opportunities to protect, enhance, or restore habitat to support Monterey Bay National Marine Sanctuary marine life in conjunction with water supply
	4. Address opportunities for open spaces, trails, parks along creeks and other recreational projects in the watershed that can be incorporated with water

Integration and Coordination

Put an X next to any Resource Management Strategies (RMS) that the proposed project will address.

Reduce Water Demand	Agricultural Water Use Efficiency	
	Urban Water Use Efficiency	
Improve Operational Efficiency and Transfers	Conveyance - Delta	
	Conveyance - Regional/local	x
	System Reoperation	x
	Water Transfers	
Increase Water Supply	Conjunctive Management & Groundwater Storage	x
	Desalination	
	Precipitation Enhancement	
	Recycled Municipal Water	
	Surface Storage - CALFED	
	Surface Storage - Regional/local	x
Improve Water Quality	Drinking Water Treatment & Distribution	
	Groundwater Remediation /Aquifer Remediation	
	Matching Quality to Use	

	Pollution Prevention	
	Salt & Salinity Management	X
	Urban Runoff Management	
Improve Flood Management	Flood Risk Management	x
Practice Resources Stewardship	Agricultural Lands Stewardship	
	Economic Incentives (Loans, Grants, & Water Pricing)	
	Ecosystem Restoration	x
	Forest Management	
	Recharge Area Protection	
	Water-Dependent Recreation	
	Watershed Management	x
Other Strategies	Crop Idling for Water Transfers	
	Dewvaporation or Atmospheric Pressure Desalination	
	Fog Collection	
	Irrigated Land Retirement	
	Rainfed Agriculture	
	Waterbag Transport/Storage Technology	

Please describe:	This project will identify and implement an operational strategy to manage reservoir storage and releases to compliment imported water deliveries and groundwater conditions and improve water supply reliability. The operations strategy is expected to reduce excess recharge to aquifers which currently results in waste and nuisance conditions, improve habitat conditions down stream of the Pacheco Reservoir and continue to provide flood peak attenuation benefits down stream of the reservoir.

List the projects that were integrated to develop a single proposed project, if applicable.

List the agencies and organization that are working together to implement the project.

San Benito County Water District, Pacheco Pass Water District, National Marine Fisheries Service, California Department of fish & Game, Trout Unlimited, CEMAR, San Jose State University, Micko Consulting

Climate Change Mitigation and Adaptation

Put an X next to any climate change adaptation or mitigation strategy the proposed project will contribute to.

Adaption Strategies

x	Improve water supply reliability
x	Expand conjunctive use of multiple water supply sources
0	Increase water use and/or reuse efficiency
	Provide additional water supply
x	Promote water quality protection
	Reduce water demand
	Advance / expand recycled water use
	Promote urban runoff reuse
	Address sea level rise
x	Address other anticipated climate change impacts
x	Improve flood control
x	Promote habitat protection
x	Establish migration corridors
x	Re-establish river-floodplain hydrologic continuity
0	Re-introduce anadromous fish populations to watershed
	Enhance and protect watershed forest and meadow systems

Please describe: This project will identify strategies for reoperation of the Pacheco Creek Reservoir in order to provide water supply benefits, flood reduction benefits and fish habitat benefits. Currently there is not a detailed management strategy for the reservoir.

Mitigation Strategies

0	Increase water use efficiency or promote energy-efficient water demand reduction
	Improve water system energy efficiency
	Advance / expand recycled water use
	Promote urban runoff reuse
	Promote use of renewable energy sources
	Contribute to carbon sequestration

Please describe: This project will look at the efficiency of the management of the water in the Pacheco Creek reservoir and implement reoperation strategies to better use the water currently collected by the dam.

Does the proposed project reduce regional greenhouse gas emissions and/or improve energy efficiency? If so, explain how.

The project is expected to result in higher groundwater levels during dry periods. This will result in a decrease in energy required to pump groundwater for irrigation.

Social Benefits and Impacts

Does the project provide specific benefits to disadvantaged communities and/or Native American tribal communities? If so, explain.

The Pacheco Pass Water District is a small district that has limited funding. This project would provide a detailed report of operations to benefit the Pacheco Pass Water District to better manage for multiple benefits.

Does the project address any known environmental justice issues?

Current operation of the reservoir may be inconsistent with California Fish & Game Code 5937. Upon completion the project would be considered in compliance.

Project Cost

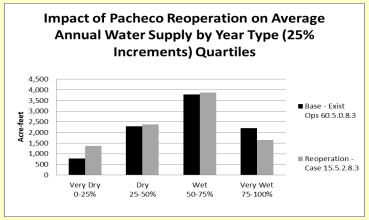
Total Estimated Capital Cost	$324,523
Annual Operation & Maintenance (O&M) Cost	$10,000
Cost Basis (Year)	2012
Source(s) of Funding for Capital	Grants potentially through DFG, NOAA, DWR and others.
Source(s) of Funding for O&M Cost	Santa Clara & San Benito County Ad Valorem Tax
Project Life (years)	40
Provide link to project cost estimate, if available	Sheet4!A1

Economic Feasibility

Has a benefit:cost or cost effectiveness analysis been completed for your project? If so, please cite reference and briefly summarize. If no economic analysis has been completed for the project, the project may receive zero points out of a possible 100 points for the financial considerations criteria unless the project is a DAC project. If the project is not a DAC project but the B:C ratio is expected to be greater than 1, please provide a justification. The lack of an economic analysis may also affect the project's readiness score.

A preliminary benefit: cost analysis has been completed. Reoperation of Pacheco Reservoir could result in storing more water in wet years for augmenting limited supplies in dry years. The water has almost no value in wet years and can

have very high value in very dry years. The Preliminary B/C Ratio is 2.2. The final benefit cost ratio will depend upon the final operation strategy adopted. Benefits to associated with steelhead restoration have not been included to date.



If known, please provide the Benefit:Cost Ratio. 2.2

Provide a detailed discussion of the benefits the project will provide. To the extent possible, quantify changes and benefits (e.g. water quality and water supply benefits) that will result from project implementation; otherwise, describe benefits qualitatively.

This project will provided benefit of increased water supply yield and water supply reliability through better management of the Pacheco Reservoir. In addition, the reoperation of the dam will create the appropriate conditions for maintaining in stream flows to protect all life stages of steelhead downstream of Pacheco Reservoir. The project will evaluate multiple reoperation strategies and work with stakeholders to select a strategy to implement. The ultimate benefits will depend on the selected strategy. The potential impacts of climate change will also be considered. Benefits to associated with steelhead restoration have not been included to date.

Project Readiness

Proposed Project Start Date:	7/1/13
Anticipated Project Completion Date:	9/1/15

Please Indicate the status (pending, in process, complete) of the following.

Project Element	**Status**	**% Complete**	**Estimated Completion Date**
Feasibility Study	pending	10%	6/1/14
Preliminary design	pending	0%	9/1/14
CEQA/NEPA	pending	0%	1/1/15
Permit Acquisition	pending	0%	7/1/15
Construction Docs	pending	N/A	N/A