

**Pajaro River Watershed Integrated Regional Water Management Plan Update
Project Solicitation Form**

PROJECT OVERVIEW

General Project Information

Project Title:	Conservation Planning and On-farm Irrigation Efficiency support
Project Location:	Pajaro Basin
Estimated Cost:	\$896,452

Brief Project Description (1 to 2 sentences):

On-farm Irrigation Efficiency (IE) support for landowners and land managers, via IE workshops, on-farm evaluations and special consultations. Project will involve development of a multi-stakeholder technical advisory committee, reporting and outreach results, planning for a Tiered Rate Study and Cost Benefit analysis of this model of IE support.

Project Proponent Information

Contact Name:	Erin McCarthy
Affiliation:	Central Coast Agricultural Water Quality Coalition
Address:	P.O. Box 175, Gilroy, CA 95021-0175
Phone Number:	831-475-5159
Email:	erin.agwater@gmail.com

Other participating agencies/organizations (if applicable):

Pajaro Valley Water Management Agency, UC Cooperative Extension, Santa Cruz County Farm Bureau, Santa Clara Farm Bureau, San Benito Farm Bureau, Santa Clara Water District, San Benito Water District, RCD Santa Cruz County, Loma Prieta RCD, San Benito RCD

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.

This project will partner with the agencies listed above to identify growers for whom improvements in irrigation efficiency could provide the greatest reduction in water use for the Basin. There is a target of 25 evaluation projects per year for the five year term of the project. Project partners will develop and implement an extensive outreach program to build grower and community understanding and support for irrigation efficiency, based on the ideas that irrigation efficiency is good for the grower's bottom line, good for the basin's water supplies and good for the long term health of the watershed. Project partners will work with Basin growers to evaluate irrigation practices and systems and support them in making system improvements that take soil type, crop type and time of year into consideration in designing irrigation systems for their fields. "We will also track and quantify total basin-wide reduced water usage, capturing the success of all of the conservation efforts in the basin (keeping individual farm and grower data anonymous). Over the course of the project, we will work with either CSUMB or UCSC to undertake a cost/ benefit analysis of the program and it's success in

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conserving water, both for evaluation of this water conservation tool to achieve BMP goals, and to refine and improve the program.

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.

This project was developed by the proponent and UCCE, and vetted by the PVWMA working group for the 2013 Basin Management Plan revision. A smaller pilot version has been in place for three years, and all participants have improved irrigation efficiency on their lands. The proponents and their partners have successful experience in doing the proposed work and strong relationships with the target community.

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.
X	2. Meet 85% M&I and 75% agriculture demands (both current and future conditions) in second and subsequent years of a drought.
x	3. Identify and address water supply needs of disadvantaged communities in the Pajaro River Watershed.
x	4. Implement water conservation programs to reduce M&I and agricultural water use consistent with SBx7-7 and CVPIA.
0	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.
	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.
0	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.
0	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.

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|---|--|
| x | 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. |

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Flood Protection

- | | |
|--|--|
| | 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- |
| | 3. Work with stakeholders to preserve existing flood attenuation by implementing land management and conservation strategies throughout the watershed. |
| | 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

- | | |
|---|---|
| | 1. Address opportunities to enhance the local environment and protect and/or restore natural resources, in cooperation with landowners, when developing water management strategies. |
| x | 2. Improve biological and cultural resources, including riparian habitats, habitats supporting sensitive plant or animal species and archaeological/historic sites when implementing strategies and projects. |
| x | 3. Address opportunities to protect, enhance, or restore habitat to support Monterey Bay National Marine Sanctuary marine life in conjunction with water supply management strategies. |
| | 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	x
	Urban Water Use Efficiency	
Improve Operational Efficiency and Transfers	Conveyance - Delta	
	Conveyance - Regional/local	
	System Reoperation	
	Water Transfers	
Increase Water Supply	Conjunctive Management & Groundwater Storage	
	Desalination	
	Precipitation Enhancement	
	Recycled Municipal Water	
	Surface Storage - CALFED	

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	Surface Storage - Regional/local	
Improve Water Quality	Drinking Water Treatment & Distribution	
	Groundwater Remediation /Aquifer Remediation	
	Matching Quality to Use	
	Pollution Prevention	0
	Salt & Salinity Management	x
	Urban Runoff Management	
Improve Flood Management	Flood Risk Management	
Practice Resources Stewardship	Agricultural Lands Stewardship	x
	Economic Incentives (Loans, Grants, & Water Pricing)	
	Ecosystem Restoration	
	Forest Management	
	Recharge Area Protection	0
	Water-Dependent Recreation	
	Watershed Management	0
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: Project will improve agricultural irrigation efficiency, reducing water demand, nutrient flushing to groundwater aquifers and surface runoff, reduce need for groundwater pumping in coastal areas, and contribute to overall watershed management goals.

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

This project builds on previous work by the proponent, UC Cooperative Extension and RCD Monterey County. Development and pilot implementation of the program was funded by the Santa Clara Water District and a USDA Conservation Technical Assistance Grant.

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

Pajaro Valley Water Management Agency, UC Cooperative Extension, Santa Cruz County Farm Bureau, Santa Clara Farm Bureau, San Benito Farm Bureau, Santa Clara Water District, San Benito Water District, RCD Santa Cruz County, Loma Prieta RCD, San Benito RCD

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

Please describe: Project will improve water supply reliability and water quality by facilitating on-farm irrigation efficiency practices

Mitigation Strategies

x	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: Project will provide growers and field managers with knowledge of the science, tools and economics of irrigation efficiency, improving growers' bottom lines and reducing water demand.

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

Reduced GHGE will be a side benefit of Irrigation Efficiency. Greater water use efficiency = less pumping of water. Less pumping reduces the needs for power to fuel the pumps. Reduced need for power = reduced use of all fuels, including

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carbon fuels. Greater IE may also result in fewer vehicle trips for farmers and managers, resulting in less carbon fuel burned.

Social Benefits and Impacts

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

This project serves the entire Pajaro Basin, including the disadvantaged community of Watsonville and the low-income town of Pajaro. These communities, as well as disadvantaged peoples living in the agricultural areas around them, will benefit from an increased water supply reliability (as a benefit of conservation), the program's assistance to the agricultural community, and improved water quality as the result of better irrigation practices that reduce or eliminate nutrient leaching or runoff, and lower rates of seawater intrusion in coastal areas due to decreased groundwater pumping.

Does the project address any known environmental justice issues?

By achieving the benefits described above, this project addresses EJ issues of access to safe, potable water and protection/ enhancement of a safe environment for living and working.

Project Cost

Total Estimated Capital Cost	\$0
Annual Operation & Maintenance (O&M) Cost	\$0
Cost Basis (Year)	100%
Source(s) of Funding for Capital	N/A
Source(s) of Funding for O&M Cost	N/A
Project Life (years)	5
Provide link to project cost estimate, if available	

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.

This project will benefit all users of Basin water. This is a DAC project; work will directly serve the grower population, a significant portion of which is economically disadvantaged, and the nearby urban populations (by contributing to a reliable

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water supply and better water quality, as described above). We believe there is a cost benefit ratio greater than 1, and will work towards a study to test that belief over the life of the project.

If known, please provide the Benefit:Cost Ratio.

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 provide increased water supply reliability by educating and supporting farmers in achieving greater irrigation efficiency. Part of the Conservation Strategy of the 2013 Pajaro Basin Management Plan revision, this project is integral to the BMP's goal of 5000 af/y reduction in agricultural water use, which is necessary to prevent construction of expensive infrastructure projects (raising taxes on all users to do so). As a result of greater IE, this project will also improve water quality by reducing nutrient flushing to the water table and runoff from fields by reducing or eliminating over-irrigation, and will help to reduce the rate of seawater intrusion in coastal areas due to less groundwater pumping.

Project Readiness

Proposed Project Start Date:	date of award
Anticipated Project Completion Date:	5 years hence

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

Project Element	Status	% Complete	Estimated Completion Date
<i>Feasibility Study</i>	N/A		
<i>Preliminary design</i>	N/A		
<i>CEQA/NEPA</i>	N/A		
<i>Permit Acquisition</i>	N/A		
<i>Construction Docs</i>	N/A		