

Project Summary - Proposition 1, Round 2 **Shallow Groundwater and Ecosystem Function**

<p>Project Title: Shallow Groundwater and Ecosystem Function Watersheds: Santa Clara River</p>	<p>Contact Info: Tom Dudley 805-893-2911 tdudley@msi.ucsb.edu</p>
<p>Project Sponsor: University of California, Santa Barbara</p>	<p>Project Location: Multiple locations within the middle SCR (WRP 2020 Workplan: Santa Paula-to-Sespe Conservation Area) where shallow groundwaters support, or could support, Groundwater Dependent Ecosystems (GDE's).</p>
<p>Project Partners: UC Santa Barbara (Marine Science Institute, Geography, EEMB & Bren School) United Water Conservation District Stillwater Sciences, The Nature Conservancy</p>	<p>Project Type(s): Groundwater and ecosystem Enhancement, water conservation, and Data and Monitoring. May qualify as a decision support tool.</p>
<p>IRWM Funding Request: \$ 550,000 Total Project Cost: \$ 1,100,000</p>	<p>DAC Project? – Yes, indirectly. Benefits DAC areas but may not qualify for DAC funding in IRWM Grant</p>

Brief Project Description:

Groundwater Dependent Ecosystems are riparian wetlands and woodlands sustained by continuous access to groundwater, and support the most productive biotic vegetation and richest biodiversity within a watershed, including habitat provision for federal and state listed wildlife species. Several GDEs are present in the SP-to-Sespe reach of the Santa Clara River owing to sub-surface features that drive groundwater toward the surface creating areas of flowing and ponded water and wetland vegetation dependent on a predominantly saturated vadose zone. These include the East Grove (inclusive of Hedrick Ranch Nature Area near Santa Paula), the Sespe Cienega near Fillmore, and a 2.5 mile reach near Saticoy partly sustained by UWCD's Freeman Diversion. Increasing demand for water and warming and drying from Climate Change impose serious threats to GDEs, made worse by invasion of non-native *Arundo donax* (giant reed) with its high evapotranspiration demands, along with its promotion of wildfire and unsuitability for wildlife species. Sustaining GDEs requires quantitative assessment of water demands by riparian vegetation, including non-native and native species, and understanding seasonal variation in shallow groundwater availability. This project will document shallow groundwater dynamics of GDEs, evaluate biota that depend on these waters,

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and construct a hydrologic model to assist in balancing ecosystem needs and human demands for water that is resilient to future conditions.

Description of Project Need:

The combination of increasing demand for water resources for agriculture, industry and residential uses, and their decreasing availability owing to warming and drying from a changing climate impose severe stresses on GDE's, productive ecosystems that are required to be maintained by resource managers. Sustainability requires rigorous information on the dynamics of shallow groundwaters during wet/dry seasons, above- and below-average precipitation years, and anticipated under climate change projections. Such information must be informed by both field-collected data on hydrologic dynamics and vegetation demands, and by modelling to encompass the weather and climate dynamics that drive these interactions.

Project Benefits:

Ecosystem modeling informed by empirical data will provide the planning capacity for resource managers to optimize the timing and magnitude of water manipulation necessary for sustaining GDEs while providing adequate water resources for agricultural and community usage.

Primary:	Secondary:
Optimize equitable distribution of water resources for human needs and ecosystem requirements.	Evaluation of water requirements of vegetation types will allow better understanding of how to sustain these ecosystems, and at the same time provide objective basis for impacts of invasive species to water resource quantities and quality. In particular, quantitative justification can be provided for the water resource (and other) benefits of removal of invasive <i>Arundo donax</i> .

DAC Community Benefits:

Wildfire risk reduction by promoting removal of flammable non-native vegetation (*Arundo*) and restoration with fire-resistant native riparian vegetation.

IRWM Plan Goals and Objects Met:

Goal 1: Protect, conserve and augment local water supply portfolio to increase local water resilience

Goal 2: Protect and improve water quality

Goal 4: Protect and restore habitat and ecosystems in watershed

Goal 5: Provide water-related recreational public access and educational opportunities

Goal 6: Prepare for and adapt to climate change.

Project Summary - Proposition 1, Round 2 **Ferro-Rose Recharge**

Project Title: Ferro- Rose Recharge Watersheds Benefitting: Santa Clara River, Calleguas Creek	Contact Info: Dr. Maryam Bral (805) 525-4431 maryamb@unitedwater.org
Project Sponsor: United Water Conservation District	Project Location: Located adjacent to and paralleling the Santa Clara River in an unincorporated area of Ventura County near the City of Oxnard. The project is situated in the northwest section of the Oxnard Subbasin. The conveyance system feeds a series of rehabilitated mining pits that are now used for groundwater recharge.
Project Partners: None	Project Type(s): Groundwater enhancement, Water Quality
IRWM Funding Request: \$ 1,000,000 Total Project Cost: \$ 2,000,000	DAC Project? – Benefits DAC areas but may not qualify for full DAC match waiver.

Brief Project Description:

The project consists of increasing United's existing diversion capacity and groundwater recharge system that benefits all of the hydrologically connected basins in the District. This will be done through construction of an inverted siphon, a three-barrel culvert and an undercrossing at Vineyard Avenue. This requires expanding and extending water conveyance and retention features to the reclaimed Rosa and Ferro aggregate mining pits. These enhancements can improve UWCD's existing conveyance system by reducing bottlenecks that inhibit the conveyance system from conveying 375 cfs throughout.

Description of Project Need:

Groundwater Sustainability Plans (GSPs) prepared by the Fox Canyon Groundwater Management Agency explain that historical groundwater use in excess of supply has caused declining groundwater levels, seawater intrusion, and/ or deteriorating groundwater quality in Oxnard, Pleasant Valley, and the west part of Las Posas Valley basins. This project consists of infrastructure improvements and new projects to improve water supply and water quality in all three basins over time by artificially recharging additional low-TDS surface water from Santa Clara River.

Project Benefits:

This project will on average allow for an additional 2,000-3,000 AF/year (rainfall dependent) of recharge of low-TDS water in the Forebay area of the Oxnard Basin, some of which will reach the other basins via groundwater underflow.

Primary: Can counteract the negative effects of pumping, by raising groundwater levels, increasing groundwater in storage, and improving groundwater quality.	Secondary: Over the long term, rising groundwater levels will reduce the potential for subsidence and for seawater intrusion along the coast.
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DAC Community Benefits:

Benefits will include higher groundwater levels, more groundwater in storage, improved groundwater quality (because of superior quality of surface water), and reduced potential for seawater intrusion or land subsidence in both Oxnard and Pleasant Valley Basins. The El Rio and north Oxnard areas, with their severely disadvantaged and underrepresented communities, as well as their small mutual water companies, will be the most direct and immediate communities to benefit, particularly with increased groundwater levels and groundwater in storage, and with improved groundwater quality. Oxnard and Port Hueneme, which also have severely disadvantaged communities, will benefit from the extended influence of increased recharge and decreased pumping from the aquifers that underlie those cities and receive most of their recharge from Freeman Diversion and the Forebay. The benefits will include reduced potential for seawater intrusion or land subsidence in those areas.

IRWM Plan Goals and Objects Met:

Goal 1: Protect, conserve and augment local water supply portfolio to increase local water resilience

Goal 2: Protect and improve water quality

Goal 6: Prepare for and adapt to climate change.

Project Summary - Proposition 1, Round 2 **Calleguas-Ventura Interconnection**

<p>Project Title: Calleguas-Ventura Interconnection</p> <p>Watersheds Benefitting: Santa Clara River and Calleguas Creek</p>	<p>Contact Info: Robert Beamer rbeamer@calleguas.com</p>
<p>Project Sponsor: Calleguas Municipal Water District (CMWD)</p>	<p>Project Location: Calleguas' portion of the Calleguas-Ventura Interconnection consists of a 18,000ft pipeline extending from Springville Reservoir to Santa Clara Ave, where it connects to Ventura's pipeline. It will be in farmland rights-of-ways, except for reaches in/across Camino Tierra Santa, Via Zamora, Daily Dr, and Santa Clara Ave. The connection upstream of Springville Hydro will deliver water to the City and downstream Springville Hydro will receive water from the City. Although in the Santa Clara Watershed, this project benefits Calleguas' entire service area and the Calleguas Creek Watershed.</p>
<p>Project Partners: City of San Buenaventura (Ventura) United Water Conservation District (UWCD) Casitas Municipal Water District (Casitas)</p>	<p>Project Type(s): Water supply resiliency</p>
<p>IRWM Funding Request: \$ 2,500,000 TOTAL COST: 16,000,000</p>	<p>DAC Project? – No</p>

Brief Project Description:

Ventura, UWCD, and Casitas have established rights to imported water from the State Water Project (SWP) but cannot currently take direct delivery due to a lack of infrastructure to deliver that water. The interconnection would be a pipeline to transport water between Calleguas' and the City of Ventura's distribution systems. It would enable delivery of SWP water by wheeling water through the MWD and Calleguas water systems to the City of Ventura. The connection would also facilitate direct delivery of SWP water to UWCD and direct or in-lieu delivery of SWP water to Casitas. In addition, the interconnection would allow the City to deliver water to Calleguas during an outage of its imported water supplies.

Description of Project Need:

Calleguas is entirely dependent on imported water and vulnerable to an extended imported supplies outage. The project will deliver water from Ventura into Calleguas' western area, providing a critical water supply in the event of a imported supply disruption. Ventura must provide reliable water service to City customers. Including making up for losses in annual yield from existing supply sources (Lake Casitas, Ventura River, and groundwater) and improving water quality. UWCD needs to protect local supplies to ensure a long-term supply for service area. Including making up for losses in annual yield from existing supply sources (Santa Clara River diversions and groundwater), enhancing groundwater recharge while reducing groundwater overdraft, improving basin groundwater quality, and providing emergency connection for O-H Pipeline. Casitas will increase ability of Lake Casitas to provide water during a long-term drought and replace water that's diverted for storage at Lake Casitas but is released downstream (required by Biological Opinion for the Robles Diversion Facility).

Project Benefits:

For Calleguas, the project provides an opportunity to receive water from the City under imported water supply outage conditions. For Ventura, the project provides a way to make up for losses in annual yield from existing supply sources (Lake Casitas, Ventura River and groundwater), and improve water quality. For UWCD, the project will allow them to make up for losses in annual yield from existing supply sources (Santa Clara River diversions and groundwater), enhance groundwater recharge options, improve basin groundwater quality, reduce groundwater overdraft, and provide an emergency connection for their O-H Pipeline. For Casitas, the project will give them an additional water management tool that may extend the ability of Lake Casitas to provide water during a long-term drought.

Primary:	Secondary:
<p>The primary benefit of the project to Calleguas is that it will provide a means to receive water from Ventura during an imported water outage. The project benefits Ventura, Casitas, and UWCD by providing a means to receive their allocation of SWP water. Ventura and Casitas cannot currently receive the water due to a lack of infrastructure, while UWCD can receive theirs but conveyance is a challenge due to environmental restrictions</p>	<p>The Project provides additional potential opportunities for storage, such as aquifer storage and recovery.</p>

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DAC Community Benefits:

The project would deliver water to PHWA and Oxnard during outages, which does include some DAC areas.

IRWM Plan Goals and Objects Met:

Goal 1: Protect, conserve and augment local water supply portfolio to increase local water resilience

Goal 2: Protect and improve water quality

Goal 6: Prepare for and adapt to climate change

Project Summary - Proposition 1, Round 2 **Ventura-Calleguas State Water Interconnection**

<p>Project Title: Ventura-Calleguas State Water Interconnection Watersheds Benefitting: Ventura River and Santa Clara River</p>	<p>Contact Info: Betsy Cooper bcooper@cityofventura.ca.gov</p>
<p>Project Sponsor: City of Ventura</p>	<p>Project Location: The City of Ventura’s portion of the Project consists of an approximately 4- mile pipeline that extends from the east end of the City of Ventura to Santa Clara Avenue. In the City of Ventura, the pipeline will be located in Henderson Road and Saticoy Avenue. In the unincorporated area of Ventura County, the pipeline will be located in dirt roads through property owned by United Water Conservation District and privately owned farm fields. A separate project application is being submitted for Calleguas Municipal Water District’s portion of the project.</p>
<p>Project Partners: Calleguas Municipal Water District, United Water Conservation District (United) Casitas Municipal Water District (Casitas)</p>	<p>Project Type(s): Water supply resiliency</p>
<p>IRWM Funding Request: \$ 2,500,000 Total Project Cost: \$ 40,000,000</p>	<p>DAC Project? – Benefits DAC areas but may not qualify for full DAC match waiver</p>

Brief Project Description:

The City, United, and Casitas have established rights to imported water from the State Water Project (SWP) but cannot currently take direct delivery due to a lack of infrastructure to deliver that water. The interconnection would be a pipeline to transport water between Calleguas’ and the City of Ventura’s distribution systems. It would enable delivery of SWP water by wheeling water through the Metropolitan Water District (MWD) and Calleguas water systems to the City of Ventura. The connection would also facilitate direct delivery of SWP water to United and direct or in-lieu delivery of SWP water to Casitas. In addition, the interconnection would allow the City to deliver water to Calleguas during an outage of its imported water supplies. This application is for the portion of the Project that Ventura will be taking the lead in constructing:

from the connection to the City of Ventura’s distribution system on Henderson Road to Santa Clara Avenue.

Description of Project Need:

The City needs to provide a continued reliable water service to City water customers. This involves making up for losses in annual yield from existing supply sources (Lake Casitas, Ventura River, and groundwater) and improving water quality. Calleguas needs to improve its water supply reliability in the event of an outage of imported supplies. United needs to protect local supplies to ensure a long-term supply for its service area. This involves making up for losses in annual yield from existing supply sources (Santa Clara River diversions and groundwater), enhancing groundwater recharge options while reducing groundwater overdraft, improving basin groundwater quality, and providing an emergency connection for United’s Oxnard-Hueneme Pipeline. Casitas needs to extend the ability of Lake Casitas to provide water during a long-term drought and to replace water that otherwise would have been diverted for storage at Lake Casitas but is now released downstream as required by the Biological Opinion for the Robles Diversion Facility.

Project Benefits:

City: Making up for losses in annual yield from existing supply sources (Lake Casitas, Ventura River and groundwater), and improving water quality. United: Making up for losses in annual yield from existing supply sources (Santa Clara River diversions and groundwater), enhancing groundwater recharge options, improving basin groundwater quality, reducing groundwater overdraft, and providing an emergency connection for United’s Oxnard-Hueneme Pipeline.

Casitas: Providing Casitas an additional water management tool that may extend the ability of Lake Casitas to provide water during a long-term drought. Calleguas: Providing an opportunity to receive water from the City under imported water supply outage conditions.

Primary:	Secondary:
Allow City of Ventura, Casitas Municipal Water District, and United Water Conservation District to receive their State Water Project Table A Entitlement. The City and Casitas currently have no means of accessing their entitlement of 10,000 AFY and 5,000 AFY respectively. And, although United has access to its 3,150 AFY entitlement via Upper Piru Creek, they would like the potential to buy excess SWP supplies, when available, but are limited by delivery	Provide the infrastructure to move water into the Calleguas service area from the City of Ventura in the event of an imported water supply outage. Under normal operating conditions, Calleguas meets its potable water demands exclusively through imported water; under outage conditions, limited local supplies (Lake Bard and Las Posas Aquifer Storage & Recovery Project) are available, but are insufficient to meet demands over a reasonably-foreseeable 6-month outage.

constraints on Piru Creek and the Santa Clara River.	
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DAC Community Benefits:

Water quality in the Santa Paula Basin is highly mineralized and does not currently meet secondary water quality standards for total dissolved solids. The City will be blending State Water with water from the Santa Paula Basin prior to delivery to customers in order to improve water quality. This water is delivered to customers in the east side of the City. The City's eastern service area includes the unincorporated area of Saticoy which is a disadvantaged community.

IRWM Plan Goals and Objects Met:

Goal 1: Protect, conserve and augment local water supply portfolio to increase local water resilience

Goal 2: Protect and improve water quality

Goal 6: Prepare for and adapt to climate change

Project Summary - Proposition 1, Round 2 **Sustainable Water Assurance for Next Generation**

Project Title: Sustainable Water Assurance for Next Generation Watershed Benefitting: Santa Clara River	Contact Info: Mike Barber 805-415-2787 GardenAcresMgr@gmail.com
Project Sponsor: Garden Acres Mutual Water Company	Project Location: Unincorporated Community of Nyeland Acres.
Project Partners: None	Project Type(s): Water Conservation, Water Quality
IRWM Funding Request: \$ 1,966,000	DAC Project? - YES

Brief Project Description: Garden Acres is applying for funding to complete the engineering and construct a back-up well site with all appropriate equipment in place. This includes construction of a new 12" back-up well to a maximum of 800 feet with all necessary equipment, including a water storage tank, pumps, electricity, variable frequency drive, generator, SCADA system, and cameras. Additionally, Garden Acres is interested in installing solar in order to provide alternative energy types. According to Dr. Andrew Altevogt of SWRCB, on a Calafco webinar on December 7, 2021, "Having one water intake is not resilient and not sustainable." Therefore, Garden Acres believes it is imperative for the resiliency and sustainability of the community to install a back-up well system.

This will assist in the sustainability and resiliency for the community and would not be able to be constructed without funding. Our mutual has been identified as "Potentially At-Risk" and does not have a back-up well. We receive water through a groundwater distribution system managed by Fox Canyon and United Water Conservation District. Our watershed has been identified as overdrafted.

Description of Project Need:

According to Dr. Andrew Altevogt of SWRCB, on a Calafco webinar on December 7, 2021, "Having one water intake is not resilient and not sustainable." Therefore, Garden Acres believes it is imperative for the resiliency and sustainability of the community to install a back-up well system. Additionally, the State recognized that Garden Acres should have a back-up well in the event of failure of the current well and the concern about the other mutual water company

that is attached through an intertie connection. That water company has been identified under SAFER as "At-Risk".

Project Benefits:

We will measure this by ensuring critical water supply needs of a Disadvantaged Community is met, increasing water supply by adding an additional storage tank without increasing pumping during the year, enhancing water use efficiency, reducing energy consumption with new systems at site, and satisfying State DDW guidelines of having a second well for resiliency and sustainability.

Primary:	Secondary:
Ensuring critical water supply is reliable and sustainable. Adding a back-up well system and ensuring the quality of water.	Addition of water storage tank

DAC Community Benefits: Nyeland Acres is a severely disadvantaged community in the unincorporated area of Ventura County. Garden Acres Mutual Water Company (Garden Acres) is one of two mutual water companies that serve the residents of Nyeland Acres and was established in 1929. Garden Acres serves a Disadvantaged Unincorporated Community as identified under Senate Bill No. 244 (2012) and has been confirmed as a Disadvantaged Community by the Santa Barbara District office of the Division of Drinking Water of the State Water Resources Control Board. Our Census Tract is identified as 80% of the State Median Household Income according to the ACS survey 2019. According to the Safe and Affordable Funding for Equity and Resilience (SAFER Drinking Water) program, Garden Acres has been identified as "Potentially At-Risk" and the other water company in our community has been identified as "At-Risk". The source well has been identified as a high priority, critically over drafted basin (Basin Number 4-004.02). A backup well is necessary to provide a reliable and sustainable system to our residents, according to the State. Our organizational goals are to build a strong, resilient and sustainable water system to deliver safe and reliable drinking water to our residents, improve water system storage, reduce climate change impacts, bolster drought resilience, and prepare for impacts on our community.

IRWM Plan Goals and Objects Met:

Goal 1: Protect, conserve and augment local water supply portfolio to increase local water resilience

Goal 2: Protect and improve water quality

Goal 5: Provide water-related recreational public access and educational opportunities

Goal 6: Prepare for and adapt to climate change.