

# Upper Feather River Integrated Regional Water Management Plan Proposition 50 Grant Agreement No. 4600007650

## Project Performance & Monitoring Report

**Project No./Name:** Sierra Valley IRWM Project

**Project Proponent:** Feather River Land Trust, County of Plumas

**Progress Report No.:** 2

**Reporting Period:** 2019

**Date of Post-Performance Report:** 4/30/2020

Project Specific Output Signatures			
	Yes	No	Comments
Was a stream restoration plan implemented for the project area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Was a grazing plan implemented?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See narrative
Was the native plant restoration plan implemented?	<input type="checkbox"/>	<input type="checkbox"/>	FRLT continues to work with NRCS or restoration efforts on the 2,500 preserve
Were off-stream water sources for cattle developed and maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Additional off-site locations have since been added.
Project Specific Outcome Indicators			
	Yes	No	Comments
How many acres of wetlands were enhanced and managed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	100+ acres have improved post project completion. FRLT has been working closely with Point Blue Conversation, NRCS and Ducks Unlimited in expanding wetland enhancement work.
How many acres of non-native plants were eradicated and native plants restored?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	20+ acres improved. FRLT continues to exclude cattle out of the riparian habitat and has been using targeted grazing and weeds treatment to control the spread of invasive plants like tall whitetop and medusa head.
Were stream and grazing conditions improved as a result of the project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Yes. See narrative for detail.
How many feet/miles of wildlife friendly fencing was installed/repared along riparian areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Over 12,000 feet and counting has been replaced or improved to provide safe access for wildlife. Most of the recent fence replacement work is using smooth wire electric fence, thereby eliminating any potential for wildlife mortality.
Did you meet the goal of your project? If yes, please provide a brief description stating how you achieved this goal. If no, please comment as to why the goal was not achieved.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Yes, we continue to leverage additional funds through NRCs and raised more that \$200,000 to continue conservation efforts on the 2,500 acre preserve.

	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Other Standard Reporting Requirements: Please indicate other monitoring/reporting requirements you may already be required to do independent from DWR contractual obligations. For example: CDPH Title 22 Ch. 15 "Domestic Water Quality AND Monitoring Regulations," NPDES, GAMA, CASGEM, or other internal reporting requirements that may yield valuable data.</b>			
	<b>Yes</b>	<b>No</b>	<b>Comments</b>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>What Upper Feather River IRWM Plan Objectives did your project address to support implementation of the Plan?</b>			
	<b>Yes</b>	<b>No</b>	<b>Comments</b>
Restore natural hydrologic functions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See narrative below
Reduce potential for catastrophic wildland fires in the Region	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Balance the needs of forest health, habitat preservation, fuels reduction, forest fire prevention, and economic activity in the Upper Feather River Region	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Build communications and collaboration among water resources stakeholders in the Region	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See narrative below
Work with Department of Water Resources to develop strategies and actions for the management, operation, and control of the State Water Project facilities in the Upper Feather River Watershed in order to increase water supply, recreational and environmental benefits to the Region	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Encourage municipal service providers to participate in regional water management actions that improve water supply and water quality	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Continue to actively engage in FERC relicensing of hydroelectric facilities in the Region	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Address economic challenges of municipal service providers to serve customers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Protect, restore, and enhance the quality of surface and groundwater resources for all beneficial uses, consistent with the Central Valley Regional Water Control Board Basin Plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See narrative below
Address water resources and wastewater needs of Disadvantaged Communities (DACs) and Native Americans	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Coordinate management of recharge areas and protect groundwater resources	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See narrative below
Improve coordination of land use and water resources planning	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See narrative below
Maximize agricultural, environmental and municipal water use efficiency	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Effectively address climate change adaptation and/or mitigation in water resource management	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See narrative below
Improve efficiency and reliability of water supply and other water-related infrastructure	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Enhance public awareness and understanding of water management issues and needs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See narrative below
Address economic challenges of agricultural producers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See narrative below
Work with counties, communities, and groups to make sure staff capacity exists for actual administration and implementation of grant funding	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**1. Summary of the operations of the project.**

As reported last year: The Sierra Valley Integrated Regional Water Management (IRWM) Project (Project) implemented several aspects of the Natural Resources Conservation Society (NRCS) Ranch Management Plan on the 575-acre Maddalena Ranch property, located along the Middle Fork of the Feather River (MFFR), in 2015 by improving wet meadow/irrigated pasture management to enhance existing wetlands and waterfowl habitat, to increase groundwater infiltration, and to eliminate surface irrigation water discharge into the MFFR. Specifically, the project installed approximately 8,500 feet of permanent riparian fencing around a 60-acre wetland to exclude the area from cattle grazing and to provide a riparian buffer strip between irrigated pasture and the MFFR; installed about 6,000 feet of cross-fencing; replaced three weir/water control structures to control erosion and improve irrigation efficiency; and installed a well, water storage tank, two solar-powered pumps, and associated plumbing and troughs to provide off-river water for cattle. Goat grazing was also utilized to remove nonnative plant species. Additionally, 50 acres of meadow/wetlands were reseeded with native grasses in areas protected by cattle exclusion fencing.

**2. Discuss project benefits to water quality, water supply, and the environment.**

The Feather River Land Trust (FRLT) was able to achieve the following results:

- Installation of over 10,000 of wildlife friendly fencing (mainly two strand electric fencing) that
- protected riparian habitat. This prevented cattle from entering water ways and thereby
- protecting nesting bird habitat, native plants, streambanks, water quality, ground water
- recharge and sediment erosion.

- Installation of shallow livestock wells- kept cattle out of streams and surface water flowing downstream without the risk of sediment or other potential impacts that come with cattle entering the stream channel.
- Leveraging additional support from Natural Resources Conservation Service (NRCS) that assisted with augmenting Proposition 50 funded revegetation efforts and that funded the installation of three water control structures that allowed FRLT to slow surface flows and re-water the wet meadow habitat and thereby improving ground water recharge, meadow grasses recovery, and habitat for nesting birds.
- Invasive weed control has helped control the proliferation and expansion of tall whitetop, Canada thistle, bull thistle and medusa head into the wet meadow and wetland habitat. It is well documented that invasive weeds effect the shallow ground water table due to their deep tap roots. FRLT has used a diverse approach with the use of targeted grazing (goats, cattle), mowing, flooding (using newly installed water control structures) and herbicide treatment.
- The increase of native vegetation in the wetland channel has substantially improved and our recent wildlife monitoring efforts with Plumas Audubon and Point Blue have documented improved nesting habitat for birds.
- Improved wildlife habitat, native plant recovery, and improved groundwater recharge described above has been fully integrated with sustainable cattle grazing on the FRLT property through improved rotational grazing opportunities that were enabled by Proposition funding for additional fencing, off stream water development, and invasive species removal.

**3. Comparison and explanation of any differences between expected versus actual project success in meeting IRWM priorities as stated in the original IRWM Implementation Grant application.**

The Project goals were originally focused on 575 acres and now are building from IRMP priorities and Proposition 50 and NRCS funded successes on these initial acres to the now 2,500-acre Sierra Valley preserve. The FRLT continues to work with the Sierra Valley Ground Water Management District (SVGMD), the DWR Water Master, and nonprofits and public agencies in the watershed to build a shared vision for sustainable land and water management in the Sierra Valley.

**4. Summary of any additional costs and/or benefits deriving from the project.**

The FRLT was able to continue work with NRCS and has been able to expand upon the work originally started with this project. This has allowed FRLT to bring in Point Blue, Plumas Audubon and other consultants to assist with improving restoration and management goals on the property. Some of our recent accomplishments include:

- Purchase of three adjacent parcels to the Maddalena property, expanding the total ownership to 2,500 acres, now named Sierra Valley Preserve.
- The FRLT acquired the Decker Dam when it acquired the neighboring parcels. This dam has allowed FRLT to improve more than 200 acres of wetland habitat for nesting birds by creating and extending the duration of wet meadow habitat through the summer.
- An additional 8,000 feet of new wildlife friendly riparian fences installed
- New solar livestock wells

- Begun a second phase of revegetation along the wetland area
- Begun soil, vegetation and bird studies on the 2,500-acre Preserve
- Expanded recreational opportunities to local schools and visitors with improved trails, seating areas, signage and guided outings.

**2020 Expanded Work:**

**New NRCS WRE Easement:** The FRLT is excited to report it has currently entered an NRCS Wetland Reserve Easement that will protect an additional 100+ acres of wetland on the Sierra Valley Preserve and improve off-site water and invasive plant treatment work. FRLT will be working closely with Ducks Unlimited to improve wetland and riparian habitat as part of the NRCS contract. This will be FRLT first partnership with Ducks Unlimited and looks forward to building partnerships throughout the Upper Feather River Watershed.

**5. Additional information relevant to or generated by the continued operation of the project.**

The project allowed FRLT the ability to leverage additional support that continues today. All of the existing project work is currently operating well and our Proposition 50 funded project successes have been expanded through subsequent funding to the larger Sierra Valley Preserve. The property is in the planning phases to build a visitor center that will allow the community and visitors to explore and learn about the importance of wetland habitat in the Upper Feather River Watershed. The FRLT is an active partner in the development of a Groundwater Sustainability Planning (GSP) grant for the Sierra Valley including procuring seed funds to help the SVGMD develop the GSP grant application.

**2020 Expanded Work:**

- **Recreation Planning & Interpretive Center:** The FRLT is actively engaged in a number of restoration projects and most recently has partnered with Northern Sierra Partnerships on Recreation Planning for the preserve and has already initiated the permitting process with Plumas county to construct the first ever Sierra Valley visitor center in the region. This facility will showcase the rich culture, flora, fauna and conservation efforts both on the preserve and the Sierra Valley basin.
- **Ground Water Sustainability Plan:** RLT developed successful grant proposal, securing \$2 million from DWR for the development of a SGMA-compliant Groundwater Sustainability Plan (GSP) for Sierra Valley subbasin, along with several adaptive management programs and strategies to support GSP implementation. Projects will include significant stakeholder outreach. Applicant was Sierra Valley Groundwater Management District, which did not have the resources to apply in the previous round of planning grants DWR offered.

Developed two recent publicly available reports for Sierra Valley, sustainable groundwater and SGMA.

- Bachand, P.A.M., Burt, K.S., Carlton, S. and Bachand, S.M., 2020. Sierra Valley, CA—A white paper on the opportunities and challenges for management of groundwater under SGMA.

<http://aquaticcommons.org/27006/1/SV%20White%20Paper%202020-02-14%20BA%20SECURE.pdf>

- Bachand, P.A.M. and Burt, K.S. and Carlton, S. and Bachand, S.M. (2020) *Groundwater relationships to pumping, precipitation and geology in high-elevation basin, Sierra Valley, CA*. Davis, CA, Bachand & Associates, 58pp. <http://aquaticcommons.org/27004/1/Sierra%20Valley%20Recharge%20FINAL%202020-03-10%20SECURE.pdf>

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- Conducted one year of irrigation-efficiency study comparing Mid-Elevation Spray Application and Low-Energy Spray Application systems on paired fields of alfalfa in Sierra Valley to compare water use, yield, etc.