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## UPPER FEATHER RIVER IRWM PROJECT INFORMATION FORM

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Please submit by 5:00 p.m. on August 3, 2015, to [UFR.contact@gmail.com](mailto:UFR.contact@gmail.com)

Please provide information in the tables below:

#### I. PROJECT PROPONENT INFORMATION

<b>Agency / Organization</b>	W.M. Beaty & Associates
<b>Name of Primary Contact</b>	Ryan Hilburn
<b>Name of Secondary Contact</b>	
<b>Mailing Address</b>	P.O. Box 1714
<b>E-mail</b>	<a href="mailto:ryanh@wmbeaty.com">ryanh@wmbeaty.com</a>
<b>Phone</b>	(530) 257-7191
<b>Other Cooperating Agencies / Organizations / Stakeholders</b>	Feather River Resource Conservation District, Sierra Pacific Industries
<b>Is your agency/organization committed to the project through completion? If not, please explain</b>	Yes

#### II. GENERAL PROJECT INFORMATION

<b>Project Title</b>	FMW-18: Mountain Meadows Livestock Fencing
<b>Project Category</b>	<input type="checkbox"/> <b>Agricultural Land Stewardship</b> <input checked="" type="checkbox"/> <b>Floodplains/Meadows/Waterbodies</b> <input type="checkbox"/> <b>Municipal Services</b> <input type="checkbox"/> <b>Tribal Advisory Committee</b> <input type="checkbox"/> <b>Uplands/Forest</b>
<b>Project Description</b> (Briefly describe the project, in 300 words or less)	Private landowners have met many times to discuss challenges associated with the fencing of miles of riparian habitat. The proposed project includes the installation of approximately 10 miles of fence in order to exclude livestock from active stream channels. The riparian fencing would be one component of a larger effort by participating landowners to restore the historic creek channels, improve pasture management, increase irrigation efficiency and improve forage conditions on lands within the project area. Restoring the function of the meadow systems in the project area will help to improve the ability of those meadows to sequester carbon and reduce greenhouse gasses. The participating landowners have two projects that will be implemented in 2016 to restore meadow function in the Mountain Meadows Basin. Both are pond and plug projects, one located in the

	upper portions of the Goodrich Creek watershed and one located in the Greenville Creek watershed.
<b>Project Location Description</b> (e.g., along the south bank of stream/river between river miles or miles from Towns/intersection and/or address):	Along Goodrich Creek in Mountain Meadows. Approximately 3 miles east of Westwood, CA
<b>Latitude:</b>	40° 18' 22" North
<b>Longitude:</b>	120° 56' 29" West

**III. APPLICABLE IRWM PLAN OBJECTIVES ADDRESSED**

For each of the objectives addressed by the project, provide a one to two sentence description of how the project contributes to attaining the objective and how the project outcomes will be quantified. If the project does not address *any* of the IRWM plan objectives, provide a one to two sentence description of how the project relates to a challenge or opportunity of the Region.

<b>Upper Feather River IRWM Objectives:</b>	<b>Will the project address the objective?</b>	<b>Brief explanation of project linkage to selected Objective</b>	<b>Quantification</b> (e.g. acres of streams/wetlands restored or enhanced)
Restore natural hydrologic functions.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A	Installing fencing along a significant stretch of Goodrich Creek will exclude grazing by livestock allowing for the riparian habitats to recover over time.	3 miles of stream protected.
Reduce potential for catastrophic wildland fires in the Region.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A		
Build communication and collaboration among water resources stakeholders in the Region.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A		
Work with DWR to develop strategies and actions for the management, operation, and control of SWP facilities in the Upper Feather River Watershed in order to increase water supply, recreational, and environmental benefits to the Region.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A		

<b>Upper Feather River IRWM Objectives:</b>	<b>Will the project address the objective?</b>	<b>Brief explanation of project linkage to selected Objective</b>	<b>Quantification (e.g. acres of streams/wetlands restored or enhanced)</b>
Encourage municipal service providers to participate in regional water management actions that improve water supply and water quality.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A		
Continue to actively engage in FERC relicensing of hydroelectric facilities in the Region.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A		
Address economic challenges of municipal service providers to serve customers.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A		
Protect, restore, and enhance the quality of surface and groundwater resources for all beneficial uses, consistent with the RWQC Basin Plan.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A	By excluding livestock grazing from the riparian corridor the quality of water may be improved in the area.	3 miles of stream protected.
Address water resources and wastewater needs of DACs and Native Americans.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A		
Coordinate management of recharge areas and protect groundwater resources.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A		
Improve coordination of land use and water resources planning.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A		
Maximize agricultural, environmental and municipal water use efficiency.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A		
Effectively address climate change adaptation and/or mitigation in water resources management.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A		
Improve efficiency and reliability of water supply and other water-related infrastructure.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A		
Enhance public awareness and understanding of water management issues and needs.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A		
Address economic challenges of agricultural producers.	<input type="checkbox"/> Yes		

Upper Feather River IRWM Objectives:	Will the project address the objective?	Brief explanation of project linkage to selected Objective	Quantification (e.g. acres of streams/wetlands restored or enhanced)
	<input checked="" type="checkbox"/> N/A		
Work with counties/communities/groups to make sure staff capacity exists for actual administration and implementation of grant funding.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A		

If no objectives are addressed, describe how the project relates to a challenge or opportunity for the Region:

**IV. PROJECT IMPACTS AND BENEFITS**

Please provide a summary of the expected project benefits and impacts in the table below or check N/A if not applicable; **do not leave a blank cell**. Note that DWR encourages multi-benefit projects.

If applicable, describe benefits or impacts of the project with respect to:		
<b>a. Native American Tribal Communities</b>	<input type="checkbox"/> N/A	Protects a stream that was an important part of past tribal use of Mountain Meadows.
<b>b. Disadvantaged Communities<sup>1</sup></b>	<input type="checkbox"/> N/A	May provide a limited number of jobs to people in the community of Westwood.
<b>c. Environmental Justice<sup>2</sup></b>	<input checked="" type="checkbox"/> N/A	
<b>d. Drought Preparedness</b>	<input checked="" type="checkbox"/> N/A	
<b>e. Assist the region in adapting to effects of climate change<sup>3</sup></b>	<input checked="" type="checkbox"/> N/A	
<b>f. Generation or reduction of greenhouse gas emissions (e.g. green technology)</b>	<input type="checkbox"/> N/A	Restoring the natural riparian function will help the meadows to sequester more carbon reducing greenhouse gasses.
<b>g. Other expected impacts or benefits that are not already mentioned elsewhere</b>	<input checked="" type="checkbox"/> N/A	

<sup>1</sup> A Disadvantaged Community is defined as a community with an annual median household (MHI) income that is less than 80 percent of the Statewide annual MHI. DWR’s DAC mapping is available on the UFR website (<http://featherriver.org/maps/>) .

<sup>2</sup> Environmental Justice is defined as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation and enforcement of environmental laws, regulations and policies. An example of environmental justice benefit would be to improve conditions (e.g. water supply, flooding, sanitation) in an area of racial minorities.

<sup>3</sup> Climate change effects are likely to include increased flooding, extended drought, and associated secondary effects such as increased wildfire risk, erosion, and sedimentation.

DWR encourages multiple benefit projects which address one or more of the following elements (PRC §75026(a)). Indicate which elements are addressed by your project.

a. Water supply reliability, water conservation, water use efficiency	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A	g. Drinking water treatment and distribution	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A
b. Stormwater capture, storage, clean-up, treatment, management	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A	h. Watershed protection and management	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A
c. Removal of invasive non-native species, creation/enhancement of wetlands, acquisition/protection/restoration of open space and watershed lands	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A	i. Contaminant and salt removal through reclamation/desalting, other treatment technologies and conveyance of recycled water for distribution to users	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A
d. Non-point source pollution reduction, management and monitoring	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A	j. Planning and implementation of multipurpose flood management programs	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A
e. Groundwater recharge and management projects	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A	k. Ecosystem and fisheries restoration and protection	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A
f. Water banking, exchange, reclamation, and improvement of water quality	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A		

**V. RESOURCE MANAGEMENT STRATEGIES**

For each resource management strategy (RMS) employed by the project, provide a one to two sentence description in the table below of how the project incorporates the strategy. A description of the RMS can be found in Volume 2 of the 2013 California Water Plan (<http://featherriver.org/2013-california-water-plan-update/>).

Resource Management Strategy	Will the Project incorporate RMS?	Description of how RMS to be employed, if applicable
<b>Reduce Water Demand</b>		
Agricultural Water Use Efficiency	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Urban water use efficiency	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<b>Improve Flood Management</b>		
Flood management	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<b>Improve Operational Efficiency and Transfers</b>		
Conveyance – regional/local	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
System reoperation	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Resource Management Strategy	Will the Project incorporate RMS?	Description of how RMS to be employed, if applicable
Water transfers	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<b>Increase Water Supply</b>		
Conjunctive management	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Precipitation Enhancement	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Municipal recycled water	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Surface storage – regional/local	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<b>Improve Water Quality</b>		
Drinking water treatment and distribution	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Groundwater remediation/aquifer remediation	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Matching water quality to water use	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Pollution prevention	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Removing livestock from the riparian corridor will help to prevent pollution that may result from grazing.
Salt and salinity management	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Urban storm water runoff management	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<b>Practice Resource Stewardship</b>		
Agricultural land stewardship	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Livestock will be excluded from grazing in the riparian corridor providing for the re-establishment of the riparian plant community.
Ecosystem restoration	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The riparian corridor will be restored as a result of excluding livestock.
Forest management	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Land use planning and management	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Recharge area protection	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Sediment management	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Livestock exclusion will limit sediment that results from grazing in the riparian corridor through improved streambank stabilization while also providing a buffer strip to filter potential sediment run-off from the meadow.
Watershed management	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	This project would exclude livestock from a large portion of the riparian corridor in the Goodrich Creek watershed and would also link to other fence projects found in the upper portion of the same watershed.
<b>People and Water</b>		
Economic incentives	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Outreach and engagement	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Water and culture	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Resource Management Strategy	Will the Project incorporate RMS?	Description of how RMS to be employed, if applicable
Water-dependent recreation	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wastewater/NPDES	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Other RMS addressed and explanation:

### VI. PROJECT COST AND FINANCING

Please provide any estimates of project cost, sources of funding, and operation and maintenance costs, as well as the source of the project cost in the table below.

PROJECT BUDGET					
Project serves a need of a DAC?: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Funding Match Waiver request?: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Category		Requested Grant Amount	Cost Share: Non-State Fund Source* (Funding Match)	Cost Share: Other State Fund Source*	Total Cost
a.	Direct Project Administration		\$5,000		
b.	Land Purchase/Easement				
c.	Planning/Design/Engineering / Environmental		\$5,000		
d.	Construction/Implementation				
e.	Environmental Compliance/Mitigation/Enhancement				
f.	Construction Administration		\$2,000		
g.	Other Costs				
h.	Construction/Implementation Contingency	\$174,600			
i.	Grand Total (Sum rows (a) through (h) for each column)	\$174,600	\$12,000		
j.	Can the Project be phased? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, provide cost breakdown by phases				
		Project Cost	O&M Cost	Description of Phase	
	Phase 1				
	Phase 2				
	Phase 3				
	Phase 4				
k.	Explain how operation and maintenance costs will be financed for the 20-year planning period for project implementation (not grant funded).		The project will be maintained by the landowner and lessees who utilize the pasture.		

I.	<b>Has a Cost/Benefit analysis been completed?</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
m.	<b>Describe what impact there may be if the project is not funded (300 words or less)</b>	Livestock will continue to graze in the riparian corridor of Goodrich Creek, disturbing the streambanks, grazing riparian vegetation, and potentially further reducing water quality.

\*List all sources of funding.

Note: See Project Development Manual, Exhibit B, for assistance in completing this table

(<http://featherriver.org/documents/>).

### VIII. PROJECT STATUS AND SCHEDULE

Please provide a status of the project, level of completion as well as a description of the activities planned for each project stage. If unknown, enter **TBD**.

Project Stage	Check the Current Project Stage	Completed?	Description of Activities in Each Project Stage	Planned/ Actual Start Date (mm/yr)	Planned/ Actual Completion Date (mm/yr)
a. Assessment and Evaluation	<input type="checkbox"/>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A			
b. Final Design	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Determine final location for fencing to adequately protect the riparian corridor.	Ongoing	6/16
c. Environmental Documentation (CEQA / NEPA)	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A			
d. Permitting	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A			
e. Construction Contracting	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Request bids for project implementation and develop contract.	TBD	
f. Construction Implementation	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Construct fence.	TBD	
<b>Provide explanation if more than one project stage is checked as current status</b>					



**IX. PROJECT TECHNICAL FEASIBILITY**

Please provide any related documents (date, title, author, and page numbers) that describe and confirm the technical feasibility of the project. See [www.featherriver.org/catalog/index.php](http://www.featherriver.org/catalog/index.php) for documents gathered on the UFR Region.

<p><b>a. List the adopted planning documents the proposed project is consistent with or supported by</b> (e.g. General Plans, UWMPs, GWMPs, Water Master Plan, Habitat Conservation Plans, TMDLs, Basin Plans, etc.).</p>	
<p><b>b. List technical reports and studies supporting the feasibility of this project.</b></p>	<p>Mountain Meadows Watershed Restoration Action Plan</p> <p>Upper Feather River Watershed Group Monitoring Reports</p>
<p><b>c. Concisely describe the scientific basis</b> (e.g. how much research has been conducted) <b>of the proposed project in 300 words or less.</b></p>	<p>See below an excerpt from <i>UCCE Fact Sheet No. 14 Grazing Effects on Riparian Areas</i> “The direct effects of livestock grazing have been summarized as follows:</p> <ul style="list-style-type: none"> <li>• Higher stream temperatures from lack of sufficient woody streamside cover.</li> <li>• Excessive sediment in the channel from bank and upland erosion.</li> <li>• High coliform bacteria counts from upper watershed.</li> <li>• Channel widening from hoof-caused bank sloughing and later erosion by water.</li> <li>• Change in the form of the water column and the channel it flows in.</li> <li>• Change, reduction, or elimination of vegetation.</li> <li>• Elimination of riparian areas by channel degradation and lowering of the water table.</li> <li>• Gradual stream channel trenching or braiding depending on soils and substrate composition with concurrent replacement of riparian vegetation with more xeric plant</li> </ul>

	<p>species.</p> <p>In an extensive review of livestock impacts on riparian ecosystems, Oregon State University researchers documented many factors interrelated with grazing effects, primarily dealing with instream ecology, terrestrial wildlife, and riparian vegetation. However, as with many others, the authors were not able to find much information other than that abusive grazing practices are damaging to many features of riparian ecosystems. Little information is available on how well-managed grazing affects riparian-stream systems. Criticisms of conventional grazing systems such as rest-rotation typically contain no information on actual grazing intensity or degree of plant utilization.</p> <p>Permanent removal of grazing will not guarantee maximum herbaceous plant production. Researchers found that a protected Kentucky bluegrass meadow reached peak production in six years and then declined until production was similar to the adjacent area grazed season-long. Similar results were reported in northeastern Oregon. The accumulation of litter over a period of years seems to retard herbage production in wet meadow areas. Thus, some grazing of riparian areas could have beneficial effects.”</p>
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<p><b>d. Does the project implement green technology</b> (e.g. alternate forms of energy, recycled materials, LID techniques, etc.).</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A If yes, please describe.</p>
<p><b>e. Are you an Urban Water Supplier<sup>1</sup>?</b></p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A</p>
<p><b>f. Are you are an Agricultural Water Supplier<sup>2</sup>?</b></p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A</p>
<p><b>g. Is the project related to groundwater?</b></p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A If yes, please indicate which groundwater basin.</p>
<p><sup>1</sup> Urban Water Supplier is defined as a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. <sup>2</sup> Agricultural Water Supplier is defined as a water supplier, either publicly or privately owned, providing water to 10,000 or more irrigated acres, excluding the acreage that receives recycled water.</p>	