Upper Feather River Watershed
Integrated Regional Water Management Plan
Agricultural Land Stewardship Workgroup

Meeting Agenda
10:00 a.m.
Monday, November 16, 2015
555 Main Street
Quincy, CA 95971

1. Introductions

2. ALS Resource Management Strategy <<approach>> Recommendations
    a. Review of draft RMS recommendations from coordination team
    b. Adjustments, any additions, finalize

3. Greenhouse Gas Forms for each Project
    a. Checklist (MS Word)
    b. Analysis (Excel)

4. Project Development
    a. Refinement – completeness, adjustments, etc.
    b. Integration Keywords

5. Up Next:
    a. More chapters
    b. Possible capacity-building session

We will have light refreshments available. *(Will I be baking? You will have to attend to find out.)*

Please RSVP by noon, November 13, so we have an idea of how many copies to make:

Kristi Jamason, Workgroup Coordinator, UFR.agriculture@gmail.com or market.ready.k.jamason@gmail.com
Holly George, Assistant to Coordinator, hageorge@ucanr.edu
Willo Vieira, Workgroup Chair, willovieira@countyofplumas.com

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NOTE: All Workgroup meetings are open to the public. Meetings will be live broadcast as well as video-recorded and posted on the website http://featherriver.org.

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Plumas County Planning Department at (530) 283-7011.

UFR IRWMP ALS Workgroup Meeting

NOVEMBER 16, 2015

10 A.M., PLUMAS COUNTY PLANNING CONFERENCE ROOM

Meeting Agenda

Introductions

ALS Resource Management Strategy <<approach>> Recommendations
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Resource Management Strategies (RMS) Assigned to Ag Land Stewardship Workgroup

RMS 1 – Agricultural Water Use Efficiency

RMS 5 - Conveyance – regional/local

RMS 8 – Conjunctive Management

RMS 17 – Pollution Prevention

RMS 20 – Agricultural Land Stewardship

RMS 23 – Land Use Planning and Management

RMS 25 – Sediment Management

RMS 28 – Outreach and Engagement

RMS 31 – Other Strategies

RMS 1 – Agricultural Water Use Efficiency

RMS 1 Definition: The efficient management of water resources for beneficial uses, preventing waste, or accomplishing additional benefits with the same amount of water.

Education, Data and other Technical Assistance

Explore and identify techniques to improve overall agricultural water use efficiency. (*ALS 2, 3, 7, 9, 12, 13)*

Expand water efficiency information, evaluation programs and on-site technical assistance reaching water suppliers, farmers and ranchers, through academic institutions, including agricultural extension services, resource conservation districts, independent crop advisors, and other agricultural outreach efforts. *(See ALS 2, 3, 12)*

Agricultural, water and environmental stakeholders develop community educational and motivational strategies for conservation activities to foster water use efficiency. (*ALS 2, 7, 9, 10, 12*)

RMS 1 – Agricultural Water Use Efficiency

RMS 1 Definition: The efficient management of water resources for beneficial uses, preventing waste, or accomplishing additional benefits with the same amount of water.

Education, Data and other Technical Assistance, cont'd

RCDs and Groundwater Districts in Ag areas collect and Plumas Ag document promising practices and plans for droughts and other water shortages. *(ALS 2, 3, 7, 10)*

Develop sources of real-time data to provide irrigators and water managers with better information with which to make water management/irrigation decisions, such as:

- Local meteorological/weather data *(ALS 8)*
- Soil moisture data (meters) (ALS 3?)
- Water application/use monitoring *(ALS 10?)*
- Surface water depth and flow data
- Surface to groundwater depth *(ALS 10?)*
- Groundwater modeling *(ALS 10?)*

RMS 1 – Agricultural Water Use Efficiency

RMS 1 Definition: The efficient management of water resources for beneficial uses, preventing waste, or accomplishing additional benefits with the same amount of water.

Education, Data and other Technical Assistance, cont'd

Develop methods to quantify and communicate water savings and costs associated with hardware upgrades, water management, and evapotranspiration reduction projects. (*ALS 2, 3, 7, 12*)

Develop consistent, watershed-wide methodology for collecting and reporting water use information by users and suppliers (groundwater and surface) – consistent with state requirements. *(ALS 3, 7?, 10)*

Comprehensive educational, informational, and awareness effort regarding sustainability of consumption of local products in the water-use efficiency programs for growers, water suppliers, post-harvesting processors, consumers, and others. Encourage reducing long-distance commodities transporting and importing commodities and thus, reduce energy use and greenhouse gas emissions.

RMS 1 – Agricultural Water Use Efficiency

RMS 1 Definition: The efficient management of water resources for beneficial uses, preventing waste, or accomplishing additional benefits with the same amount of water.

Use of Promising Practices

Steward soil and wetland areas for increased groundwater holding and recharge, as well as sediment management. *(ALS 2, 3, 7, 9, 13)* (also applies to RMS 25-Sediment Management)

Employ flood management capacities of agricultural land to support groundwater recharge, reduce infrastructure damage, control erosion and sedimentation of waterways and improve downstream water quality.

- Explore diversion of flood/high season water to above-ground storage areas? (*ALS 11, 13*)
- Employ flood easements to compensate farmers/ranchers who allow fields to be flooded during extreme events.

Utilize conservation easements and proven (or promising) practices to protect water supplies and water quality (*ALS 2, 3, 7*)

RMS 1 – Agricultural Water Use Efficiency

RMS 1 Definition: The efficient management of water resources for beneficial uses, preventing waste, or accomplishing additional benefits with the same amount of water.

Use of Promising Practices, cont'd

Adjust irrigation schedules to decrease the amount of water applied. *(ALS 13?)*

Provide help to convert to more drought-resistant or less-water-consumptive cropping. *(ALS 12)*

Identify appropriate water efficiency methods, encourage pilot/demo projects, track water efficiency measures and resulting savings – publicly available, consolidated at regional level – e.g., by Valley (IV, AV, SV, MM) – to preserve privacy. *(ALS 7?)*

Facilitate use of available recycled water that otherwise would not be used beneficially, e.g., use of treated wastewater from mills, treatment plants, etc. for irrigated pasture; widespread use of graywater.

Implement source water protection measures *(ALS 2)*

RMS 5 – Conveyance – Regional/Local

RMS 5 Definition: The conveyance or distribution of water from locally developed sources to the end users located within the same watershed or river system.

Improve aging infrastructure, increase existing capacities, and/or add new conveyance facilities *(ALS 1, 5?, 6)*

Add fish ladders and state-of-the-art fish screens to conveyance structures. *(ALS 1?)*

Establish a baseline hydrology and enhanced description of present water management system components. *(ALS 3)*

Replace or improve canal structures to improve an irrigation district's ability to manage and control water in the district and reduce spillage. *(ALS 1, 6)*

Invasive weed controls to improve flow, reduce spread of weeds and reduce sedimentation and bank erosion/degradation. *(ALS 4)*

Evaluate conveyance infrastructure for risk from earthquake and flood and role they could play in flood control. Plan for needed improvements. (*ALS 1? 6?)*

RMS 8 – Conjunctive Management

RMS 8 Definition: The coordinated and planned use and management of both surface water and groundwater resources to maximize the availability and reliability of water supplies.

Assess the connection between groundwater, spring and surface water sources and recharge areas to better understand their interactions. *(ALS 10)*

Identify tools and data sharing needed to improve surface, groundwater and conjunctive water management: *(ALS 3, 7?, 10)*

Develop and make available to public a consolidated map of groundwater basins, recharge areas, CASGEM monitoring wells and data for all groundwater basins in UFR watershed

Regular monitoring of surface and groundwater levels and quality throughout watershed with publicly accessible data:

- Hydrogeologic characterization of the aquifers
- Changes in groundwater levels *(ALS 10)*
- Groundwater flow (interbasin + to/from streams)
- Groundwater quality *(ALS 10)*
- Land subsidence, if any
- Surface water flow
- Surface water quality
- Interaction of surface and groundwater *(ALS 10)*

RMS 8 – Conjunctive Management

RMS 8 Definition: The coordinated and planned use and management of both surface water and groundwater resources to maximize the availability and reliability of water supplies.

Implement a program to promote public education about groundwater and its relation to surface water, including: *(ALS 3, 10)*

- Interconnection of surface water and groundwater.
- Benefits of recharging groundwater with surface water and recycled water.
- Importance of protecting groundwater quality and recharge areas.
- Seasonal versus long-term changes in groundwater levels.
- Potential impacts of climate change on groundwater resources
- Organizations with management responsibility – contact info, responsibilities, etc.
- Data sources

Coordinate surface and groundwater management where local agencies overlap geography. *(ALS 3, 7, 10)*

Preparation and execution of sustainable groundwater management plans for all groundwater basins (not just Sierra Valley), that protect groundwater elevation and quality, surface water-groundwater interaction and groundwater ecosystem services. *(ALS 10)*

RMS 8 – Conjunctive Management

RMS 8 Definition: The coordinated and planned use and management of both surface water and groundwater resources to maximize the availability and reliability of water supplies.

Increase local and regional groundwater recharge and storage to reduce groundwater depletion. *(ALS 2?, 3, 10)*

Monitor and possibly execute on developments if/when SWRCB creates "measures whereby agencies proposing to use peak surface water flow for groundwater recharge are not subject to potential protest of their existing water right, in order to stipulate groundwater recharge as a reasonable beneficial use of their surface water right."

Improve and repair infrastructure supporting conjunctive use of surface and groundwater. *(ALS 1)*

Explore, map and conduct overall evaluation of potential for groundwater banking

RMS 8 – Conjunctive Management

DRAFT UFR MEADOWS GROUP RECOMMENDATIONS FOR RMS 8:

Implementation of monitoring, assessment and maintenance of baseline groundwater levels. *(ALS 10)*

Encouraging local water management agencies to coordinate with tribes and other agencies involved in activities that might affect long-term sustainability of water supply and quality. *(ALS 3, 7, 10)*

Local groundwater monitoring and management activities and feasibility studies to increase the coordinated use of groundwater and surface water. *(ALS 3, 7, 10)*

Restore wet meadows to full biological function to enhance storage and more continuous release of shallow groundwater. *(ALS 9, 13)*

Implement a program to promote public education about groundwater and surface water connectivity.

RMS 17 – Pollution Prevention

RMS 17 Definition: Reducing or eliminating waste at the source by modifying production processes, promoting the use of non-toxic or less toxic substances, the implementation of practices or conservation techniques including activities that reduce the generation and/or discharge of the pollutants, and the application of innovative and alternative technologies which prevent pollutants from entering the environment prior to treatment.

Regional, tribal, and local governments and agencies should establish drinking water source and wellhead protection programs to shield drinking water sources and groundwater recharge areas from contamination.

Riparian area livestock fencing to reduce or prevent water-borne pathogens. *(ALS 2, 3, 7, 10)*

Sediment controls from dirt roads, fires/burned areas and agricultural operations. *(ALS 2, 3, 7)*

Community composting – made available to increase carbon sequestration in soil.

Reduction in invasive species. *(ALS 4)*

RCDs providing technical support for agricultural practices and crop systems that result in lower GHG emissions.

RMS 17 – Pollution Prevention

RMS 17 Definition: Reducing or eliminating waste at the source by modifying production processes, promoting the use of non-toxic or less toxic substances, the implementation of practices or conservation techniques including activities that reduce the generation and/or discharge of the pollutants, and the application of innovative and alternative technologies which prevent pollutants from entering the environment prior to treatment.

Addressing improperly destroyed, sealed and abandoned wells that can serve as potential pathways for groundwater contamination.

Manage/monitor and control 303(d) listing constituents (sediment, temperature, DO, pH, nutrients) through:

- Improved systems for irrigation return water
- Irrigated Lands Regulatory Program (ILRP) implementation Cattle exclusions *(ALS 7)*
- Point source exclusions *(ALS 2, 3, 7)*
- Best management practices for timber harvest and catastrophic wildland fire rehabilitation
- Restoring wet meadows *(ALS 2, 7, 9, 10, 13)*
- Roads decommissioning and restoration
- Reduce sedimentation into watersheds *(ALS 2, 3, 7)*
- Control pesticide and herbicide contamination *(ALS 4)*

RMS 17 – Pollution Prevention

DRAFT UFR MEADOWS GROUP RECOMMENDATIONS FOR RMS 17:

Developing proper land management practices that prevent sediment and pollutants from entering source waters and waterbodies. *(ALS 2, 3, 7)*

Restore degraded riparian habitats where elevated sediment or turbidity cause nuisance or adversely impact beneficial uses per the Basin Plan.

Assess the costs and impacts of current water quality management activities, and use this assessment to guide future implementation programs. *(ALS 10)*

Identify abandoned mines throughout the region and assess the level to which these sites contaminate regional waters.

Construct and maintain livestock exclusions around sensitive meadow and riparian habitats, particularly in areas that are important for groundwater recharge or source water protection. *(ALS 2, 3)*

Assess and Identify source(s) of pollutants to waterbodies. *(ALS 10)*

Establish monitoring protocol for marinas and recreational boating facilities.

Establish criteria for preventing/monitoring invasive aquatic species introduction to waterbodies.

Identify where recreational development has harmed water quality in the region and take action to remediate it.

RMS 20 – Ag Land Stewardship

RMS 20 Definition: Farm and ranch landowners producing public environmental benefits (conservation of natural resources and protection of the environment) in conjunction with the food and fiber they have historically provided while keeping land in private ownership.

Develop and implement payments for ecosystem services programs that compensate landowners for their stewardship while reducing the cost of regulatory compliance and delivering measurable conservation benefits. *(ALS 7?)*

Maintain working lands employing conservation easement programs for wildlife, agricultural land, grasslands, forestlands, floodplains, and scenic and recreational open space, with preference for those that protect the highest priority resource lands and that the protected lands are conserving multiple values simultaneously. *(ALS 7, 10, 13)*

- Educate landowners about the tax relief, estate planning, and other benefits of agricultural conservation easement *(ALS 7)*

Develop on-farm irrigation ponds that provide off-stream capture of winter stormwater for summer use. Evaluate benefits for economic viability, local water supply, watershed management, flood control, groundwater recharge, mitigation of climate change, wildlife habitat, etc. *(ALS 5?, 11, 13)*

Implement promising agricultural practices and strategies that reduce net GHG emissions and increase carbon sequestration *(ALS 3, 5, 7, 9, 13)*

RMS 20 – Ag Land Stewardship

RMS 20 Definition: Farm and ranch landowners producing public environmental benefits (conservation of natural resources and protection of the environment) in conjunction with the food and fiber they have historically provided while keeping land in private ownership.

Inventory of soil organic carbon content. *(ALS 7?, 9)*

Support for agricultural practices and crop systems that result in lower GHG emissions as determined by a life-cycle analysis of the carbon budget of a practice.

Explore opportunities for farmer-to-farmer education, demonstration, and outreach on successful conservation programs. *(ALS 2, 3, 7, 10?)*

For grant-funded projects, document project success and share lessons learned and successes with other growers.

Protect patches of wildlife habitat on working lands to benefit pollinators and migration routes. *(ALS 13)*

Stabilize stream banks and improve riparian forestation to slow bank erosion and filter drainage water from the fields. *(ALS 3, 13?)*

Utilize proven or promising grazing, forest and brush management practices to reduce catastrophic wildfire risk, where appropriate. *(ALS 7)*

RMS 20 – Ag Land Stewardship

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Employ recreational opportunities that benefit preservation and sustainability of working/ag lands. *(ALS 7, 13)*

RCDs to educate and support agricultural producers around grants and other incentives available to support ag strategies outlined in this plan. *(ALS 7)*

Support development or continuance of agriculture-supportive and preservation language in county general plans, such as:

- Preservation of ag lands
- Encouraging new producers
- Right-to-farm ordinances
- Healthy locally produced food supply
- Support for farmers markets
- Public awareness of the value of agriculture, including educational curriculum
- Efficient ag permit procedures
- Supports for economic viability of ag producers
- Market supports for local ag products

RMS 20 – Ag Land Stewardship

RMS 20 Definition: Farm and ranch landowners producing public environmental benefits (conservation of natural resources and protection of the environment) in conjunction with the food and fiber they have historically provided while keeping land in private ownership.

Leverage local, state and federal agricultural conservation entity support for agricultural infrastructure investments, marketing assistance and land stewardship practices and strategies. *(ALS 2, 3, 7, 9, 13?)*

Develop alternative and/or flexible cropping systems/patterns for repeat dry-year scenarios and predicted decrease in overall snowpack and changes in precipitation patterns. *(ALS 3, 7, 12)*

Develop channels for gathering and sharing ag-related climate change mitigation practices. *(ALS 3, 7, 9, 10)*

Manage working agricultural land to build or maintain carbon sequestration capacity, while maintaining productivity for food/fiber production. *(ALS 3, 7, 9)*

RMS 23 – Land Use Planning & Management

RMS 23 Definition: The orderly and planned use of land, resources, facilities and services with a view to securing the physical, economic and social efficiency, health and well-being of urban and rural communities.

Develop or continue agriculture-supportive and preservation goals and strategies in county general plans, such as:

- Preservation of ag lands
- Encouraging new producers
- Right-to-farm ordinances
- Healthy locally produced food supply
- Support for farmers markets
- Public awareness of the value of agriculture, including educational curriculum
- Efficient ag permit procedures
- Supports for economic viability of ag producers
- Market supports for local ag products

When conducting general plan updates, address relevant water management issues including water supply, water quality, water affordability, flood risk reduction, sedimentation and adequacy of services for residents.

Identify and assess groundwater recharge areas for ground water supplies and limit development in those locations. *(ALS 7, 10, 13)*

RMS 23 – Land Use Planning & Management

RMS 23 Definition: The orderly and planned use of land, resources, facilities and services with a view to securing the physical, economic and social efficiency, health and well-being of urban and rural communities.

Plan for urban green zones, community gardens, school gardens, rainwater catchment, graywater and similar water conservation and management strategies.

Encourage compact and sustainable development patterns; discourage urban sprawl. *(ALS 7, 10)*

Collaboration between agencies and local governments to identify opportunities to maximize water conservation, groundwater recharge, storm water capture, and other water management strategies that rely on local land use planning for effective implementation. *(ALS 7, 10)*

Coordination in plan development between water management districts, flood control districts, Resource Conservation Districts, county and city governmental bodies, regional water masters, watershed managers and others around water and related resource management strategies. *(ALS 7, 10, 13)*

Continued use of the CEQA process to mitigate the significant impacts of new development on resources including, but not only, prime agricultural land, wildlife habitat, open space, floodplains, recharge areas, wetlands, and water supply.

RMS 23 – Land Use Planning & Management

DRAFT UFR MEADOWS & MUNI GROUP RECOMMENDATIONS FOR RMS 23:

Increase communication between land use planners and water managers. *(ALS 7, 10)*

Plan for growth in a way that considers water resource features such as streams, wetlands, and groundwater recharge areas, water quality and flooding. *(ALS 7, 10)*

Direct development away from undeveloped mountain meadows.

Planning for more compact and sustainable communities which will assist in reducing reliance on the state's water supply.

Planning for growth in a way that considers availability of water supplies, water resource features, wetlands, groundwater recharge areas, and policies and regulations about water quality, drainage, flooding, and storage. *(ALS 7, 10)*

Increased and enhanced communication between land use planners and water managers. *(ALS 7, 10)*

RMS 25 – Sediment Management

RMS 25 Definition: The management of fine solid fragmented material such as silt, sand, and clay, which is suspended in or settled on the bottom of a water body; sediment is used for beach restoration, renewal of wetlands and coastal habitats, maintenance of spawning beds and riparian habitat, and is useful in agricultural applications–but excessive sediment can lead clouded water, degraded wildlife habitat, barriers to navigation, and decreased storage capacity on reservoirs, among other things.

Outreach and education on erosion and sediment management, new state requirements for irrigated land sediment management and promising practices. *(ALS 2, 3, 5?, 7, 9)*

Evaluation of strategies for management of fine solid fragmented material such as silt, sand, and clay, which is suspended in or settled on the bottom of water bodies for use in agricultural applications, wetland establishment and other beneficial re-uses. *(ALS 13)*

Evaluation and coordinated management of agricultural water delivery systems for sediment build-up and mitigation needs. *(ALS 5, 6, 7, 9, 11, 13)*

Evaluation and management of areas such as dirt roads, burned areas, insufficient-capacity culverts and bare channels in UFR susceptible to creating excessive sedimentation. *(ALS 2, 3, 5, 6, 7, 11, 13)*

Sedimentation of Feather River dams??? What's the recommendation?

RMS 28 – Outreach & Engagement

RMS 28 Definition: The use of public communication tools and practices by water agencies that provide the opportunity for public groups and individuals to contribute to positive water management outcomes.

Utilize both electronic and conventional media for outreach and engagement. *(ALS 2, 3, 4, 7, 8, 9, 10, 12, 13)*

Engage public in creation of water and resource management plans *(ALS 1?, 2, 3, 4, 5, 7, 8, 9, 10, 11, 13)*

Conduct outreach and education around available water management data sources; local agencies, their functions and contact information; and priorities from the UFR IRWMP. *(ALS 7, 9, 10)*

Explore and coordinate common project goals and areas of need across organizations and agencies for more robust and integrated funding proposals. *(All)*

Conduct outreach and engagement with stakeholders to advocate for policy change supportive of UFR IRWMP *(All)*

Field trips, tours and education around projects, promising management practices for youth and adults *(All)*

Encourage use of the Ranch Water Quality Planning Short Course, which promotes the California Rangeland Water Quality Management Plan, to generate common understanding, discourse and action. *(ALS 2, 3, 7, 10)*

Board, leadership and management training for agencies and organizations in the UFR. *(All)*

RMS 31 – Other Strategies

RMS 31 Definition: Management strategies that can potentially generate benefits that meet one or more water management objectives, but have limited capacity to strategically address long-term regional water planning needs.

Reestablish historic wetlands *(ALS 13)*

- Supportive of these Meadows RMS recs:

RMS 21 Ecosystem Restoration *(ALS 13)*

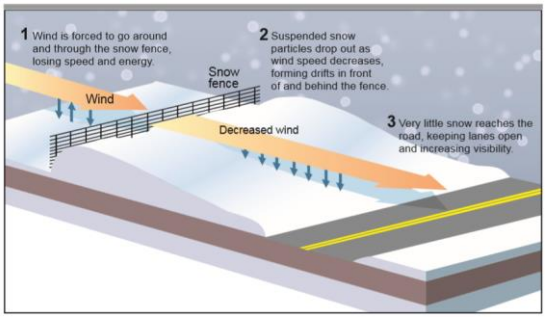
- Establishing biological reserve areas that connect or reconnect habitat patches
- Expanding riparian habitat
- Reproducing natural flows in streams and rivers

RMS 31 – Other Strategies

RMS 31 Definition: Management strategies that can potentially generate benefits that meet one or more water management objectives, but have limited capacity to strategically address long-term regional water planning needs.

Snow fences/ Windbreaks along roadways

- "Local-scale strategic placement of properly designed snow fencing could be used as an effective tool for water management to strengthen forest and watershed management, protect sensitive environments, and facilitate slower snowmelt to extend runoff into the summer." - CWP



Need a break?

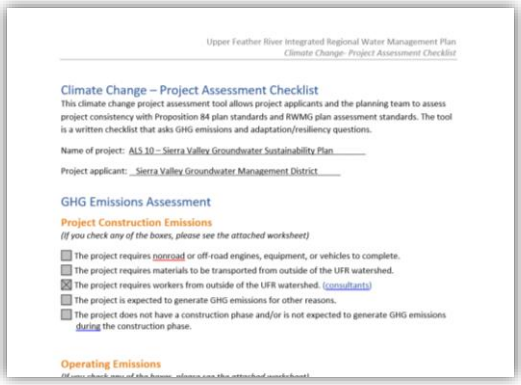
Take 10 and rest your weary eyes…

Greenhouse Gas Forms

PROJECT CHECKLIST & PROJECT ANALYSIS

Every project must have both forms completed

Checklist



Upper Feather River Integrated Regional Water Management Plan
Climate Change- Project Assessment Checklist

Climate Change – Project Assessment Checklist

This climate change project assessment tool allows project applicants and the planning team to assess project consistency with Proposition 84 plan standards and RWMG plan assessment standards. The tool is a written checklist that asks GHG emissions and adaptation/resiliency questions.

Name of project: ALS 10 – Sierra Valley Groundwater Sustainability Plan

Project applicant: Sierra Valley Groundwater Management District

GHG Emissions Assessment

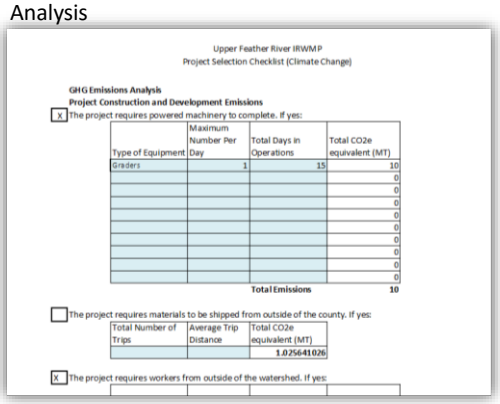
Project Construction Emissions

(If you check any of the boxes, please see the attached worksheet)

- ☐ The project requires nonroad or off-road engines, equipment, or vehicles to complete.
- ☐ The project requires materials to be transported from outside of the UFR watershed.
- ☒ The project requires workers from outside of the UFR watershed. (consultants)
- ☐ The project is expected to generate GHG emissions for other reasons.
- ☐ The project does not have a construction phase and/or is not expected to generate GHG emissions during the construction phase.

Operating Emissions

Analysis



Upper Feather River IRWMP
Project Selection Checklist (Climate Change)

GHG Emissions Analysis

Project Construction and Development Emissions

[X] The project requires powered machinery to complete. If yes:

Type of Equipment	Maximum Number Per Day	Total Days in Operations	Total CO2e equivalent (MT)
Graders	1	15	10
			0
			0
			0
			0
			0
			0
			0
			0
			0
		Total Emissions	**10**

[ ] The project requires materials to be shipped from outside of the county. If yes:

Total Number of Trips	Average Trip Distance	Total CO2e equivalent (MT)
		1.025641026

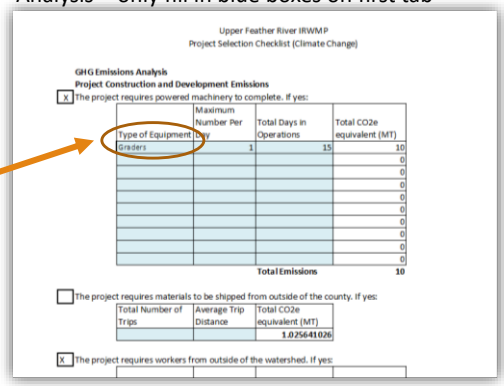
[X] The project requires workers from outside of the watershed. If yes:

Every project must have both forms completed

Equipment	Consumption/Hour
Pavers	5.11
Plate Compactors	0.20
Rollers	3.81
Scrapers	12.11
Paving Equipment	2.88
Surfacing Equipment	6.57
Signal Boards	4.85
Trenchers	8.01
Bore/Drill Rigs	11.66
Excavators	6.54
Concrete/Industrial Saws	3.21
Cement and Mortar Mixers	0.55
Cranes	11.18
Graders	8.44
Off-Highway Trucks	14.80
Crushing/Proc. Equipment	18.24
Rough Terrain Forklifts	5.90
Rubber Tired Loaders	9.54
Rubber Tired Dozers	14.34
Tractors/Loaders/Backhoes	8.00
Crawler Tractors	11.46
Skid Steer Loaders	1.26
Off-Highway Tractors	15.88
Dumpers/Tenders	0.35
Other Construction Equipment	3.74

This field has a drop-down menu of equipment choices

Analysis – only fill in blue boxes on first tab



Upper Feather River IRWMP
Project Selection Checklist (Climate Change)

GHG Emissions Analysis
Project Construction and Development Emissions

[X] The project requires powered machinery to complete. If yes:

Type of Equipment	Maximum Number Per Day	Total Days in Operations	Total CO2e equivalent (MT)
Graders	1	15	10
			0
			0
			0
			0
			0
			0
			0
			0
			0
		Total Emissions	**10**

[ ] The project requires materials to be shipped from outside of the county. If yes:

Total Number of Trips	Average Trip Distance	Total CO2e equivalent (MT)
		1.025641026

[X] The project requires workers from outside of the watershed. If yes:

Shall we walk through the forms?

Up Next

PROJECT DEVELOPMENT, MORE CHAPTERS

Project Categorization (draft)

Feedback?

		Integration Keywords:																	
		Regional	Integration Potential	H_20 Quality	Convey-ance	Ground-water	Fire	Infra-structure	Riparian, wildlife	Irrigation	Education, Recreation	Data	Capacity-building	Sediment	Planning	Soil	Supply	Drought/ Conserv-ation	H_20 Recycling
Agriculture Land Stewardship:																			
ALS 1	**Taylorsville Mill Race Dam Resurfacing**				X		X?	X		X								X	
ALS 2	**Water Quality & Infrastructure Upgrades on Working Lands** (FRRCD)	X	X	X	X			X	X									X	
ALS 3	**Enhanced Management of Livestock Grazing** (FRRCD/SVRCD)	X						X					X					X	
ALS 4	**Invasive Weed Management** (Ag Commissioner)	X	X						X?							X?			
ALS 5	**Sierra County Ag Stock Well, Fire Storage, Drought Reduction Project** (Sierra County Roads)		X				X	X									X	X	
ALS 6	**Sierra Valley Ag Water Diversion Efficiency/Imp.** (SVRCD)				X			X		X								X	
ALS 7	**Sierra Valley RCD Resource Management Plan** (SVRCD)			X	X	X			X	X	X		X	X	X	X	X	X	
ALS 8	**UFR Weather Monitoring Infrastructure** (FRRCD)	X	X			X		X		X	X	X	X			X		X	
ALS 9	**Soil Health Assessment** (UCCE)	X	X	X		X						X	X			X		X	
ALS 10	**SV Groundwater Sustainability Plan** (SVGMD)			X		X				X			X		X		X	X	X
ALS 11	**Cold Stream Ag & Fire Storage Impoundment** (SVRCD)		X		X		X	X		X							X	X	
ALS 12	**Alfalfa Alternative** (SVRCD/UCCE)					X				X								X	
ALS 13	**Little Last Chance Lake** (SVRCD/SWHCF)		X			X			X	X	X							X	

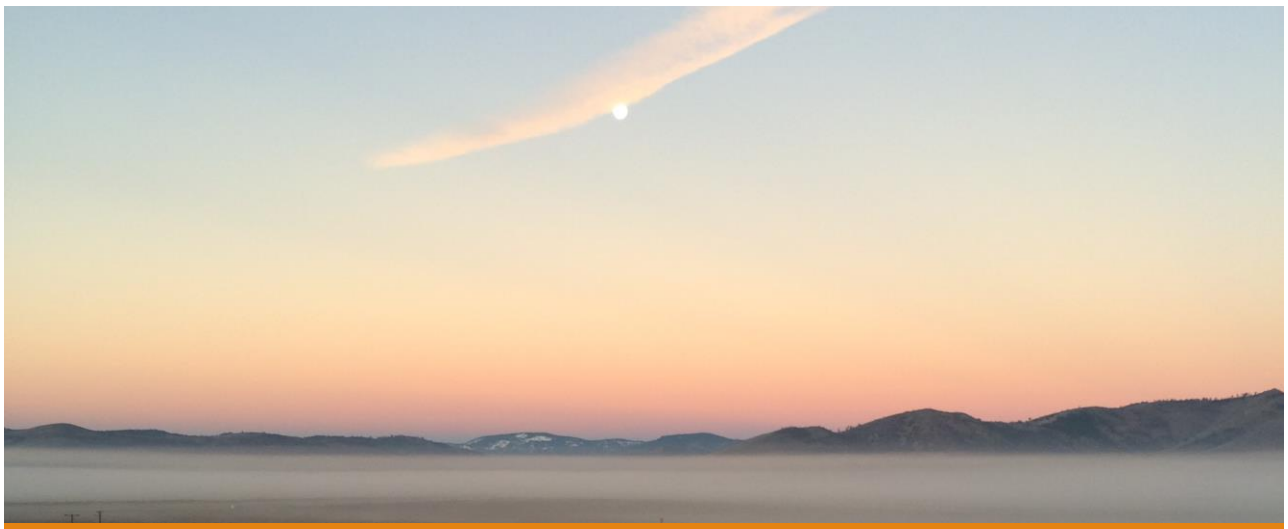
Project Review & Adjustments

Upper Feather IRWMP Project Review Criteria

(Letters refer to Review Factors listed on pages 46-49 in 2012 IRWM Grant Program Guidelines – Propositions 84 and 1E (http://featherriverorg.alias.strangecode.com/wp-content/uploads/2014/10/2012-IRWM-Guidelines.pdf)		GHG Worksheet Complete (K,L)	All Questions Answered	RMS Validated/ # supported (B)	Budget checked (G,H)	Objectives Validated/ # supported (A)	Technically Feasible (C)	DAC Impact (D)	Tribal ('E)	Environ-mental Justice (F)	Project Status (I)
ALS											
ALS 1	**Taylorsville Mill Race Dam Resurfacing**										a
ALS 2	**Water Quality & Infrastructure Upgrades on Working Lands** (FRRCD)										a
ALS 3	**Enhanced Management of Livestock Grazing** (FRRCD/SVRCD)										a
ALS 4	**Invasive Weed Management** (Ag Commissioner)										f
ALS 5	**Sierra County Ag Stock Well, Fire Storage, Drought Reduction Project** (Sierra County Roads)										a
ALS 6	**Sierra Valley Ag Water Diversion Efficiency/Imp.** (SVRCD)										a
ALS 7	**Sierra Valley RCD Resource Management Plan** (SVRCD)							Yes			a
ALS 8	**UFR Weather Monitoring Infrastructure** (FRRCD)										a
ALS 9	**Soil Health Assessment** (UCCE)										a
ALS 10	**SV Groundwater Sustainability Plan** (SVGMD)		X	Yes/8	X	Yes/12	X	Yes	No	No	a
ALS 11	**Cold Stream Ag & Fire Storage Impoundment** (SVRCD)										a
ALS 12	**Alfalfa Alternative** (SVRCD/UCCE)		X	Yes/3	X	Yes/7	X	Yes	No	No	a
ALS 13	**Little Last Chance Lake** (SVRCD/SWHCF)							Yes	No	No	a
FMW											

Chapter Review Schedule

Chapter	Pages	Anticipated Release Date	Workgroup Comments Due 5 p.m. on:
Executive Summary		March 2016	
Plan Development Process		February 2016	
Governance, Stakeholder Participation, Coordination*	9	October 2015	11-11-15
Regional Description		November 2015	
Regional Water Issues, Integration, Capacity		November 2015	
Water and Land Use Planning		TBA	
Climate Change	37	October 2015	11-14-15
Goals and Objectives		December 2015	
Resource Management Strategies		December 2015	
Project Development and Review Process		January 2016	
Plan Implementation, Performance and Monitoring		January 2016	
Finance		November 2015	
Impacts and Benefits		February 2016	
Technical Analysis		October 2015	
Data Management		February 2016	
Admin Draft Plan		March 2016	
Public Draft Plan (2 public hearings)		April 2016	
Final Plan (1 public hearing)		June 2016	



Thank you for your time today.

Agriculture Land Stewardship (ALS) PROJECTS - UPPER FEATHER RIVER IRWM			
Project Number	**Project Name**	**Sponsor/ Agency**	**Summary of Project Description**
ALS-1	Taylorsville Mill Race Farmers Dam resurfacing	Taylorsville Mill Race Group / FRRCD	Resurface the Mill Race Dam in Taylorsville, within the next 10 years, to repair damage and ensure its continued viability for irrigation, wildland fire suppression, flood control, etc.
ALS-2	Improving water quality with upgrades to infrastructure on working lands	Feather River Resource Conservation District (FRRCD)	Identify opportunities to improve water quality, reduce erosion and sedimentation and increase water-use efficiency in the region. With the SVRCD and other organizations will connect with landowners to install infrastructure to protect and enhance riparian areas, to monitor and improve water quality and to better utilize water supplies. Reduce livestock impact on sensitive riparian areas; solar-powered off-stream stock watering systems; riparian fencing, new pipe for irrigation efficiency. 3000 acres of wetlands restored/enhanced.
ALS-3	Technical assistance for livestock grazing	FRRCD and Sierra Valley Resource Conservation District (SVRCD)	Technical assistance to working landscape managers and owners to ensure their operations stay viable, and to improve water quality and quantity. Cost-sharing for: *TA/training to develop soil and water quality/conservation plans. *Baseline documentation of existing conditions on working landscapes in the region to identify most critical practices. *Soil health management practices. *Fencing to support specific grazing management plans. *Irrigation efficiency/water conservation infrastructure.
ALS-4	Eradicate invasive weed species	Plumas-Sierra Ag Department	Continuation of successful weed management program in the UFR. Multi-year strategy of the Plumas-Sierra Ag Dept and the SVRCD to protect waterways, croplands, timber lands, riparian/wetlands, and recreation areas from the spread of destructive and invasive noxious weeds.
ALS-5	Sierra Co. agriculture stock well, fire storage, drought reduction project	Sierra County Road Department	Water source development and improvements - Retrofit existing water tanks, construct new tanks, develop sites for drought stock wells, fire water storage, continued ag/recreational uses for storage, development, distribution within Sierra Valley. *USFS, RCD and Sierra County to develop strategic plan for improvements. *Cooperative water resource development. *Mitigates additional groundwater development. *Alternate water supplies for limited community systems in wildland-urban interface.
ALS-6	Sierra Valley agricultural water diversion efficiency & improvement project	SVRCD	The Sierra Valley Water Co operates and maintains a diversion dam and conveyance channel allowing water from the Little Truckee River to be diverted under specific conditions and timing into the Feather River watershed (Sierra Valley). Conduit to be installed from the diversion dam ~2.5 miles to increase agricultural water use efficiency, restore the watercourse ecosystem from Little Truckee Summit to Onion Valley and increase efficiencies in delivery of agricultural water to Sierra Valley under the 1870 water rights.

ALS-7	Sierra Valley RCD – Resource management plan	SVRCD	Update to SVRCD "Resource Management Plan," including operational aspects, role, and interests of the RCD around regulatory issues (GRAP, Irrigated Lands, etc.) agriculture incentives and improving productivity, drought, water conservation and water supply, forest health and fire issues, land assessment, invasive species, soil conservation, fish and wildlife habitat, conservation easements, recreation, wetland conservation, agricultural work plans, preservation of working landscapes, coordination with agencies, and other like subjects.
ALS-8	Upper Feather River weather monitoring infrastructure	FRRCD	Establish a weather station in each of the main valley areas in the upper Feather River to provide real-time, internet-accessible data on temperature, precipitation, humidity, soil moisture, wind speed, and solar radiation. This information will be available to residents of the region including ranchers, water managers and municipalities.
ALS-9	Soil health assessment	University of California Cooperative Extension	Further the understanding of the impacts of land, agriculture and livestock management practices on soil health and resultant soil-based ecosystem services, such as water regulation, sequestration of greenhouse gasses, vegetation productivity and other biogeochemical processes. *Establish baseline for soil health of ag lands / link with Soil Health Network. *Identify ecosystem processes to target for improvement. *Research effects of differing land management practices on targeted soil biogeochemical processes. *Region-wide outreach and education.
ALS-10	Sierra Valley groundwater basin sustainability plan	Sierra Valley Groundwater Management District	Preparation of a 20-year horizon Groundwater Sustainability Plan for Sierra Valley: *Basin characteristics, historical data (quality, quantity, levels, demands) & maps. *Groundwater-surface water interactions. *Projected water demands. *Recharge areas identified. *Measurable objectives to achieve sustainability within 20 years. *Monitoring protocols.
ALS-11	Coldstream agricultural and fire storage impound-ment	SVRCD	The concept is consideration of an earthen dam located in a feasible location within the Coldstream drainage south of Sierraville to store agricultural water enabling better utilization and more efficient use of available supplies, provide flood control and water storage for fire suppression that is accessible, functional and reliable. Also included within the concept is a small hydroelectric plant. First phase: technical feasibility study to identify engineering and geotechnical findings, mapping and soil/water conditions, biological conditions, and issues of concern to the consideration of future project phasing.
ALS-12	Feasibility study, pilot: Alternatives for alfalfa production to reduce water usage	SVRCD/UC Cooperative Extension	Investigate alternative less water-intensive production possibilities to existing alfalfa hay production and methods that maintain the agricultural heritage of the watershed without increasing risks to producer viability, community values and natural resources. Research of alternative appropriate crops and more efficient alfalfa irrigation methods. *Feasibility study. *Pilot testing, monitoring/measurement, reporting.
ALS-13	Restoration of Little Last Chance Lake and surrounding meadows	Sierra Wildlife Habitat & Community Foundation (SWHCF) and SVRCD	Restore and enhance 450 acres of wetland and sub-irrigated meadows back to how this land was before the creek was altered. *Assessment and evaluation of project concept with NRCS assistance. *Meet with DWR to apply for a supplemental right to divert water from Middle Fork Feather River. *Obtain signed agreements between all landowners involved in project. *Finalize design and budget. *Set project schedule and timeline. *Develop bid documents. *Select contractors.