Upper Feather River Integrated Regional Water Management Plan

Uplands & Forests Workgroup

November 05, 2015

1. Welcome and Introductions
2. Brief Summary of Sept 23rd & the October 23rd Regional Water Management Group Meetings.
3. Resource Management Strategies Recommendations
   a. Present Chairs' draft RMS Recommendations
   b. Discuss and finalize UF Workgroup RMS recommendations
   c. Schedule presentation at a future RWMG meeting
4. Presentation by FireSafe Councils in the region -with Q&A
5. Presentation by Deer Creek Resources on prioritizing fuels treatments in the Klamath region
6. Step 2 Project Submittals
   a. Discuss further development of project submittals- filling in blanks, etc.
   b. Discuss project integration opportunities w/ other Workgroups' Step 2 Projects
7. Introduce Greenhouse Gas Emissions worksheets for Projects
8. IRWM Plan Chapter Review timetable and November deadlines
   Nov. 11 - feedback on Governance chapter
   Nov. 14 - feedback on Climate Change chapter
9. Update on SNC's Funding Opportunities Newsletter & WIP & Water Bonds

Summary of RWMG Meetings

- Project Status
  - 34 signatories to MOU ; Butte County meeting
- Chapter Review Process
- Step 2 Project Submittals
- Capacity Building
- Project Selection Criteria
- Meeting packets and video available on website (http://featherriver.org)
- Next RWMG meeting
  - December 4, 1pm

Resource Management Strategies

RMS

- Develop workgroup recommendations
- Tribal presentation on RMS and Project integration with Uplands/Forest Workgroup
  - December 4th presentation to RWMG

RMS 21. Ecosystem Restoration.

Provide Economic Incentives to

- maintain and restore a diversity of historic habitats.
- connect and expand important habitat areas and to protect habitats and habitat connectivity from catastrophic wildfire.
- conserve and restore riparian habitats and to protect habitats and habitat connectivity from catastrophic wildfire.
- implement climate resiliency plans that benefit ecosystems, water, and flood management and to protect habitats and habitat connectivity from catastrophic wildfire.
- restore the forest hydrograph by reducing unnatural, fire suppression-caused conifer densities and species imbalance and thereby restore natural base flows and pulse flows in streams and rivers.
- control non-native invasive plant and animal species.
- protect habitats and habitat connectivity from catastrophic wildfire and in order to maintain natural filtering of pollutants and for the recharging of aquifers
- conserve springs as water supply sources as well as valuable ecological and spiritual resources in the region and to protect spring and wetland habitats from catastrophic wildfire.
- minimize areas of excessive erosion and sedimentation through Best Management Practices implementation, watershed management and through reduction of catastrophic wildfire.
- reduce road culvert barriers to fish and amphibian migration in rivers and streams by assessing culverts for adequate passage of aquatic organisms and by prioritizing passage improvement work as appropriate.

RMS 22. Forest Management.

Provide economic incentives for monitoring and research:

Long-term monitoring is needed to understand hydrologic changes resulting from climate change and management actions, and more data collection stations are needed to accurately determine how changes in hydrology and water quality are related to climate change and forest management activities:

1. Additional stream gauges are needed throughout the forested regions of California to adequately represent the existing range of hydroclimatic and geologic conditions. In particular, gauges would be helpful in both managed and pristine watersheds.
2. Additional precipitation stations and snow courses are needed to increase the accuracy of determinations of climatic trends and evaluations of effects of management activities.
3. Additional water quality and sediment monitoring stations are needed to quantify the effects of climate change and forest management activities on surface water quality.
4. Additional long-term monitoring wells and aquifer infiltration, isotope, and recharge studies would be useful for understanding groundwater resources in forested watersheds.
5. Additional projects and studies to characterize regional surface water, groundwater and aquifer interactions on public, private, and tribal lands.

Provide economic incentives for research on connections between forest management and restoring the surface and groundwater hydrograph in forested landscapes and additional research on:

1. Effects of landscape scale fuels reduction for enhancing beneficial uses of water.
2. Effects of vegetation and fuels management on soil moisture, groundwater recharge, and streamflows.
3. Quantification of both the short- and long-term effects of prescribed fire on soil and water nutrients, and determination of the impacts of burn frequency on soil and vegetative properties that influence infiltration, percolation, surface runoff, and groundwater discharge.
4. Effects of different severity wildfires on water quantity, water quality, and aquatic organisms.
5. Role and magnitude of groundwater storage in mountain meadows and surrounding forests and effects on base streamflows and on the attenuation of flood peaks.
6. Sediment sources and erosion processes in unmanaged, managed, and "high-severity" burned and historically forested watersheds.

7. Effects of riparian forests in maintaining stream and groundwater hydrology and water quality and nutrient cycling, and the development and evaluation of regionally-specific conservation strategies.

8. Effects of urban trees in reducing non-point source pollution and the effects of managed forestland fuels in reducing GHG emissions from catastrophic wildfire

9 Effects of high severity fire conversion of mature forests to brushfields (and the brushfield reburning cycle) on carbon sequestration, groundwater storage, and streamflows.

10. Effects of high severity fire on the conversion of mature forests to brushfields and regionally specific, and pre-fire suppression extent of brushfield and mature forest habitat needed by various forest species.

11. Effects of increasing conifer densities on the surface and groundwater forest hydrograph,

Coordination. Invest in actions that would provide for better coordination of forest management across forested landscapes.

1. Invest in involvement of forest managers in integrated resource water management and land management plan development and implementation.

2. Invest in science for informing the determination of objectives and strategies for forested meadows

3. Pilot expanded interagency agreements to allow federal, state, tribal, and non-governmental agencies and entities to share expertise, staff time, and funding across jurisdictional boundaries for the purposes of landscape-scale watershed and water quality protection and improvement.

4. Pilot expanded interagency agreements to allow federal, state, and non-governmental agencies and entities to share expertise, staff time, and funding across jurisdictional boundaries for the purposes of reducing barriers to the reintroduction of controlled fire, such as liability concerns, and for the incorporation of tribal traditional ecological knowledge (TEK).

5. Invest in a science-based public education campaign directed at water users and communities in the Central Valley, Bay Area, and Southern California to increase support for forest management funding for improvement of water surface and groundwater resources, particularly related to forest vegetation management.

6. Invest in state and federal watershed resource enhancement and conservation measures for the forested headwaters areas of the state and for urban forestry in metropolitan areas.

7. Increase eligibility of federal agencies as partners with tribal, state, and local entities for grant programs, and allow federal funds and in-kind services to be used as grant matches.

8. Deregulate low-risk noncommercial vegetation and fuels management projects that reduce the risks of catastrophic wildfires and therefore have net beneficial effects on groundwater storage, surface water flows, and on water quality.

RMS 23 Land Use Planning/ Management

- Increase communication between land use planners and water managers
- Plan for growth in a way that conserves water resources such as streams, wetlands, springs, groundwater recharge areas, natural floodways, and water quality
- Direct development away from undeveloped mountain meadows, floodplains, and alluvial fans
- Develop watershed information and strategies to update local land use decision makers on opportunities for maintaining and improving watershed functions

RMS 25 Sediment management

- The Natural Resources Agency and California Environmental Protection Agency should support an integrated approach to achieve the maintenance of stable watersheds where sediment yield mimics the natural sediment production that would occur in the absence of anthropogenic conditions. Federal and State governments should support development of guidelines to identify when geomorphic assessments of streams for watershed stability are appropriate to prevent undue delays in processing permits and ensure that studies are scaled to project size.
- Where required, all responsible agencies should utilize a common GIS mapping framework and support sediment and flow monitoring programs to determine the sediment yields from a watershed and sediment budgets for downstream areas that include consistent monitoring protocols for scientifically defensible data of comparable quality throughout the state.

RMS 26 Watershed Management

Provide economic incentives:

- to create and maintain a scientifically valid tracking and reporting methods to document hydrograph and precipitation changes in the watershed
- to establish a scientifically valid means of tracking and reporting baselines and trends in watershed condition, such as lidar, that are capable of displaying and differentiating the net effects of management against the background of a more variable precipitation regime.
- to restore and preserve stream channel morphology to provide floodwaters access to the floodplain and to encourage stable banks and channel form and the regeneration of riparian vegetation.
- to assess the performance of projects and programs.
- to develop landscape scale approaches that coordinate multiple RMS strategies .
- to maintain and enhance ecosystem functions, such as peak flood attenuation and protecting habitats and connectivity corridors from catastrophic wildfire.
- to assist property owners in implementing watershed management activities.

RMS 27 Economic incentives

Note: Economic incentives are also incorporated into RMS 21, 22, 26, and 28

1. Develop programs for supporting biomass utilization, enhancing groundwater recharge, reducing catastrophic wildfire, and reducing GHG emissions as integrated and essential elements of restoring forest ecosystem health across California's forestlands.
2. Develop scientific evaluations for implementing such programs at the landscape scale in key watersheds of statewide importance.
3. Assist with developing the capacity of landowners and local organizations and programs to carry out RMS implementation.

RMS 28 Outreach and Engagement

1. Provide scoring and other economic incentives for IRWM Projects that incorporate outreach and education into project implementation.
2. Support and expand existing education programs such as the Forest Institute Training for teachers "FIT" program, the "Learning Landscapes" program, and the exemplary outdoor education programs by pre-school through junior college education entities and other entities in the UFR Region.
3. Support work with adjacent and downstream landowners to improve understanding of benefits that result from large scale and coordinated watershed projects.

RMS 31 Other Strategies

he Uplands and Forest Workgroup's "Other (Fire & Fuels Management) Strategies" are:

1. Fire buffers for ridgeline lightning, roadway, and railroad ignitions.
2. Fire buffers for the protection of critical habitats.
3. Snow zone fuels and fire management.
4. Wildfire liability buffers.
5. Wildland-Urban interface (WUI) management.
6. Community Recharge Area management for protection of domestic and agricultural wells from catastrophic wildfire and reduced groundwater infiltration.
7. Landscape scale forest and fuels management that includes multiple (#1-#6) fire and fuels management strategies.

Presentation by the 3 Firesafe Councils in the UFR region

Welcome and take it away Nils, Chuck and Tom!!!!

Prioritizing treatment and burning areas in the Klamath Basin

Presentation by Deer Creek Resources, LLC.

Thanks Zeke. We have no RMS Recommendations on introducing low intensity fire except as a potential O&M tool to maintaining forest fuels thinning projects in the Regional thinning project.

The tribal representatives will address this topic too.

Project Development

Project Submittals

Category	Number of Projects
Agricultural Land Stewardship	13
Floodplains/Meadows/Waterbodies	15
Municipal Services	39
Tribal Advisory Committee	5
Uplands/Forest	9
Total	**81**

Projects - next steps

- Workgroup Coordinators to help with Project Development
- Complete GHG emissions worksheet
- Strengthen Step 2 Proposals
- Identify Integration opportunities
- Review All Workgroup RMS Recommendations

Project Development

- Focus on strategic considerations and multiple benefit projects
- Front load the project development effort by focusing on developing projects to facilitate and coordinate solid applications that meet the A-L review criteria – in anticipation of future solicitations

Prop 84 Guidelines

A. How the project contributes to the IRWM Plan objectives
B. How the project is related to RMS selected for use in IRWM Plan
C. Technical feasibility of the project
D. Specific benefits for DAC water issues
E. Environmental Justice considerations
F. Project costs & financing
G. Economic feasibility including water quality & water supply benefits
H. Project status

Continued…

I. Strategic considerations for IRWM Plan implementation
J. Contribution of the project in adapting to the effects of climate change in the region
K. Contribution of the project in reducing GHG emissions as compared to project alternatives
L. Whether the project proponent has adopted or will adopt the IRWM Plan

Tribal Integration

- **Summary**: The Upper Feather River Tribal Review Project provides a mechanism for relevant Upper Feather River (UFR) Tribe(s), the Maidu Summit Consortium and/or Tribal Review Committee to evaluate and provide recommendations to each project submitted to the UFR RWMG to incorporate Traditional Ecological Knowledge (TEK). Project reviewers will be comprised of Tribal Environmental Directors, Tribal Elders, and other persons with knowledge of Traditional Practices and sustainability.
- **Organization**: Maidu Summit Consortium
- **Contact**: Trina Cunningham

Regional thinning project

Summary: The purpose of the project is to:

1. Reduce catastrophic wildfire in overstocked forests through forest thinning
2. Restore the forest hydrograph by reducing the rate of conifer evapotranspiration, and
3. Reduce conifer interception of rain and snow and enhance the infiltration of soil moisture by increasing spacing of dominant and codominant overstory trees.

The phased, cooperative project will be designed and implemented at a broad, multi-ownership, landscape level.

Organization: Soper Company
Contact: Ryan J. McKillop

Forest/meadow restoration

- **Organization**: Collins Pine Company
- **Contact**: Jay Francis
- **Summary**: This study will use a before/after control intervention (BACI) study design to study the hydrologic change conifer removal from a historic meadow (Rock Creek Meadow). We will be measuring soil moisture, groundwater levels, and soil hydric characteristics for two years prior to meadow restoration and two years following meadow restoration.

Forest/meadow restoration

- **Organization**: Cal Poly – San Luis Obispo
- **Contact**: Christopher Surfleet
- **Summary**: Quantifying the response of meadow restoration assists forest, range, and agricultural land managers determine the effect of their investment in meadow restoration. This study is using a before after control intervention (BACI) study design to study the hydrologic change conifer removal from a historic meadow (Marian Meadow). We have been measuring soil moisture, groundwater levels, and soil hydric characteristics for two years prior to meadow restoration and currently have funding for study one year following meadow restoration.
- This application is requesting funding to increase the length of study by two years.

Greenhouse Gas Emissions Analysis

Project Level

Demonstration of GHG Emissions Worksheet

Goodrich Creek biomass

Organization: W.M. Beaty & Associates

Contact: Ryan Hilburn

Summary: The project would provide for biomass harvesting to be conducted on approximately 2,800 acres of private forestland that is adjacent to a recently funded pond and plug project on tributaries that flow into Goodrich Creek.

The pond and plug project is designed to restore approximately 125 acres of upland meadow to its original hydrologic condition allowing for increased natural water storage.

IRWM Plan Chapter Review

Process for Chapter Review

- Suggested streamlined process
  1. Develop chapters
  2. Internal staff review
  3. Release for 30 day comment period
  4. Comments addressed and revisions made as appropriate
  5. Complex questions brought to RWMG during chapter presentation
- Schedule target
  - Public Draft Plan – April/May

Review Process

- Individual MOU entities send comment letters to the RWMG Chair and Co-Chair w/cc's to Randy Wilson & Uma Hinman?
- The workgroup as a group develops comments?
- Other approaches?

Chapter	2015				2016					
	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Executive Summary							X			
Plan Development Process						X				
Governance, Stakeholder Participation, Coordination	X									
Regional Description		X*								
Regional Water Issues, Integration, Capacity			X*							
Water and Land Use Planning	X									
Climate Change			X							
Goals and Objectives				X						
Resource Management Strategies				X						
Project Development and Review Process					X					
Plan Implementation, Performance and Monitoring					X					
Finance			X							
Impacts and Benefits						X				
Technical Analysis		X*								
Data Management						X				
Admin Draft Plan							X			
Public Draft Plan (2 public hearings)								X		
Final Plan (1 public hearing)										X

Sierra Nevada Conservancy

Funding Opportunities Newsletter, WIP, and water bond

Next Steps

Workgroups

- Workgroup activities for the rest of year 2 (No 2015-May 2016):
  - All Workgroups Capacity Building/Implementation Workshop?
  - Future workgroup meetings?
  - Chapter review

Next Meetings

- Next RWMG meeting – December 4, 1pm
- Workgroup Chair Update
  - Present RMS Recommendations & Discuss Projects Integration: e.g.:
    - Projects from other workgroups that specifically mentioned "forest management" or forests were considered potentially linked, e.g. . (MS-2 (Turner Springs), MS-32 (Quincy CSD), ALS-4 (Invasive Weeds), ALS (fire water storage), TAC-2 (Humbug vegetation).
    - Uplands-Forest workgroup projects that mentioned municipal water supplies, meadows, waterbodies, etc. (e.g. UF-6 (municipal) & UF-1 and UF-2 for meadows, and UF-12 (regional scale) for municipal, meadows and waterbodies.)
    - Another potential linkage was project level studies or monitoring/data collection in workgroup proposals that could be incorporated into to regional monitoring and data proposals, (e.g. Lidar (UF-13), Watershed monitoring (FWM-6), Groundwater monitoring (MS-13), TEK (TAC-6), and weather stations (ALS-8), etc..
    - Workgroup based public education proposals such as FMW-9 and TAC-5 also depending on their educational content. and focus

Contacts:

Website: http://featherriver.org

Mike DeLasaux, Workgroup Chair: mjdelasaux@ucdavis.edu
John Sheehan, Workgropu Alternate: johnjo@psln.com

Leah Wills, Workgroup Coordinator: UFR.uplands@gmail.com

Thank you for participating!!