

UPPER FEATHER RIVER
INTEGRATED REGIONAL WATER MANAGEMENT PROGRAM
Regional Water Management Group

Sharon Thrall, Plumas County Flood Control and Water Conservation District
Paul Roen, Sierra County
Terry Swofford, Plumas County
Russell Reid, Feather River Resource Conservation District
Bill Nunes, Sierra Valley Resource Conservation District
Jim Roberti, Sierra Groundwater Management District
Roger Diefendorf, Plumas County Community Development Commission
Trina Cunningham, Maidu Summit Consortium
Jeffrey Greening, Public Member
Joe Hoffman, Plumas National Forest (Advisory)
Carol Thornton, Lassen National Forest (Advisory)
Quentin Youngblood, Tahoe National Forest (Advisory)

**AGENDA FOR REGIONAL WATER MANAGEMENT GROUP MEETING OF
MAY 20, 2016 TO BE HELD AT 1:00 P.M. IN THE
PLUMAS COUNTY PLANNING CONFERENCE ROOM, 555 MAIN STREET, QUINCY, CALIFORNIA**

www.featherriver.org

AGENDA

The Regional Water Management Group of the Upper Feather River Integrated Regional Water Management Program welcomes you to its meetings, which are regularly held on the fourth Wednesday of every other month, and your interest is encouraged and appreciated.

Any item without a specified time on the agenda may be taken up at any time and in any order.

Any person desiring to address the Board shall first secure permission of the Regional Water Management Group Chair. Any public comments made during a regular Regional Water Management Group meeting will be recorded. Members of the public may submit their comments in writing to be included in the public record.

CONSENT AGENDA: These matters include routine administrative actions. All items on the consent calendar will be voted on at some time during the meeting under "Consent Agenda." If you wish to have an item removed from the Consent Agenda, you may do so by addressing the Chairperson.



REASONABLE ACCOMMODATIONS: In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting please contact Randy Wilson at 530-283-6214. Notification 72 hours prior to the meeting will enable the County to make reasonable arrangements to ensure accessibility. Auxiliary aids and services are available for people with disabilities.

STANDING ORDERS

1:00 P.M. **CALL TO ORDER/ROLL CALL**

ADDITIONS TO OR DELETIONS FROM THE AGENDA

PUBLIC COMMENT OPPORTUNITY

Matters under the jurisdiction of the RWMG, and not on the posted agenda, may be addressed by the general public at the beginning of the regular agenda and any off-agenda matters before the RWMG for consideration. However, California law prohibits the RWMG from taking action on any matter which is not on the posted agenda unless it is determined to be an urgency item by the RWMG. Any member of the public wishing to address the RWMG during the "Public Comment" period will be limited to a maximum of 3 minutes.

ANNOUNCEMENTS/REPORTS

Brief announcements.

CONSENT AGENDA

These items are expected to be routine and non-controversial. The RWMG will act upon them at one time without discussion. Any RWMG members, staff member or interested party may request that an item be removed from the consent agenda for discussion.

A) RWMG

Approve RWMG Meeting Summary for the regular meeting held on April 1, 2016.

ACTION AGENDA

1. PROJECT STATUS UPDATE

Update on project schedule, task and budget. Informational.

2. STAKEHOLDER OUTREACH UPDATES

Updates on stakeholder outreach efforts to date including workgroups, Tribal outreach, and stakeholders. Informational.

3. PROPOSITION 1 DISADVANTAGED COMMUNITY INVOLVEMENT COORDINATION

Update and discussion of current coordination efforts in response to the Proposition 1 Draft Disadvantaged Community Involvement Request for Proposal. Discussion and/or direction to staff.

4. UPDATE ON COMMUNITY VULNERABILITY STUDY

Presentation and update on the content and progress of the Community Vulnerability Study. Information and discussion.

5. UPDATE ON PROJECT DEVELOPMENT PROCESS

Presentation and discussion of the IRWM Plan implementation project review process and next steps. Information and discussion.

6. DRAFT REGIONAL WATER ISSUES CHAPTER

Presentation and discussion of the Draft Impacts and Benefits chapter. Request for discussion and direction to staff.

7. **DRAFT LAND USE AND WATER PLANNING CHAPTER**

Presentation and discussion of the Draft Land Use and Water Planning chapter. Request for discussion and direction to staff.

8. **SIERRA WATER WORKGROUP MEMORANDUM OF UNDERSTANDING**

The Sierra Water Workgroup is a non-profit organization that focuses on water issues of concern in the region through coordination between local and regional water planning efforts and promoting the exchange of information and tools amongst stakeholders in the region. Request for discussion and consideration of signing the memorandum of understanding with the Sierra Water Workgroup.

9. **NEXT MEETING**

Approve tentative topics for next RWMG meeting or provide direction to staff.

ADJOURNMENT

Upper Feather River IRWM Regional Water Management Group

DRAFT SUMMARY MINUTES

April 1, 2016

Meeting materials and video recording link are available on the website at:

http://featherriver.org/rwmg_meetings/

Call to Order and Roll Call

Sherrie Thrall called the meeting to order on April 1, 2016 at 1 pm at the Plumas County Planning Conference Room, 555 Main Street, Quincy, California.

Members Present:

Sherrie Thrall, Plumas County Flood Control and Water Conservation District
Paul Roen, Sierra County
Terry Swofford, Plumas County
Jeffrey Greening, Public Member
Roger Diefendorf, Plumas County Community Development Commission
Trina Cunningham, Maidu Summit Consortium
Joe Hoffman, Plumas National Forest (Advisory)

Members Absent:

Jim Roberti, Sierra Groundwater Management District
Bill Nunes, Sierra Valley Resource Conservation District
Russell Reid, Feather River Resource Conservation District
Quentin Youngblood, Tahoe National Forest (Advisory)
Carol Thornton, Lassen National Forest (Advisory)

Staff Present:

Uma Hinman, Uma Hinman Consulting
Kristi Jamason, Agricultural Lands Stewardship
Leah Wills, Uplands and Forest Management Workgroup Coordinator
Terri Rust, Floodplains, Meadows, and Waterbodies Management Workgroup Coordinator
Paul Lakovic, Deer Creek Resources, Inc.

Additions or Deletions from the Agenda

None noted

Public Comment Opportunity

None noted

Announcements / Reports

Trina Cunningham announced that the California Water Policy Conference is coming up on April 20th and 21st at UC Davis. Trina has been asked to be one of the panelists on the topic of workforce and water needs. She noted that she will be receiving some questions in advance and wondered if she could share them with this group to gain perspectives from people outside the tribal community.

CONSENT AGENDA**(Video 1, 00:3:01)****a. RWMG Approval of Meeting Minutes for February 26, 2016**

Upon motion by Paul Roen and seconded by Terry Swofford, the RWMG Meeting Minutes for February 26, 2016 were unanimously approved.

REGULAR AGENDA**1. Project Status Updates****(Video 1, 00:3:18)**

Uma Hinman presented an overview of the project schedule, tasks and budget. Uma Hinman noted that Randy Wilson and Debbie Spangler at DWR are working on an extension of time through October 2016 for project completion and a contract amendment to shift funding for Burkhard Bohm (Plumas Geo-hydrology) to complete the Community Vulnerability Study.

2. Stakeholder Outreach Updates**(Video 1, 00:6:42)**

Uma Hinman presented an update on stakeholder outreach efforts to date including workgroups, Tribal outreach, and stakeholders.

3. Draft Tribal Engagement Plan**(Video 1, 00:7:44)**

Trina Cunningham of the California Indian Environmental Alliance presented the final Tribal Engagement Plan and provided an update on the Tribal engagement efforts to date. Jeffrey Greening asked about the population size for the various Tribes. Trina estimated that Greenville Rancheria is about 150 people, Susanville Rancheria is much larger but is comprised of Paiute, Washoe, Pit River, and Maidu Tribes, and Mooretown Rancheria, Enterprise Rancheria, Berry Creek Rancheria, and Mechoopda all have between 200 to 1,000 people. Lorena Gorbet confirmed that Mooretown is between 700 and 800 people and Mechoopda has about 500 people. Trina noted that she is convening an Elders Gathering on April 9th in Susanville and this will be the first regional Elders Gathering.

4. Draft Upper Feather River Watershed Socioeconomic Assessment**(Video 1, 00:15:56)**

Jonathan Kusel of the Sierra Institute for Community and Environment introduced Brooke Huffman who presented the Draft Upper Feather River Watershed Socioeconomic Assessment, including identification of disadvantaged communities within the region. Carl Felts asked about the data source for the average household income of \$149,000 for East Shore. Brooke Huffman responded that this is a good example of how the census data is very skewed by a small population size. Jonathan Kusel added that without getting into more detail on that particular number, a couple of things could have come up. This data could be the result of a small number of people responding or this data could be an estimate based on information collected for a census block group with a small sample size; the smaller the census block group the more problematic those estimates are. Carl Felts asked about the State reviewing their process and the way they get their data. Jonathan Kusel responded that there has been a change from 2000 and 2010, the Census has changed from including everyone in a basic census to doing estimates. This data is from 2009 to 2014; they are still sampling and using the American Survey Study. The methodology has changed quite dramatically and we have lost accuracy in that process. Carl Felts asked if the data is based on what we report as income on our tax statements. Jonathan Kusel confirmed. Carl clarified that the data is not based on what our value is worth, because I have poor income but a lot of property. Jonathan Kusel responded that it is another interesting aspect, income versus transfer income kinds of things and

different numbers capture those differently. So wage income is different than other forms of income in terms of when you add transfer income into it you have a different thing but ideally it's all based on what they know. However, given the lack of money for Census data collection, they have been increasing the use of sampling and making projections based on that sampling.

5. Proposition 1 Disadvantaged Community Involvement Draft Request for Proposals (Video 1, 00:30:11)

Tiana Bradley asked in reference to the Prop 1 changes for the Guidelines, for instance if you have arsenic they are asking for reports on how you are trying to resolve the issue with arsenic, and will we be required to provide more information in our proposals since the Guidelines have changed? Uma Hinman responded that for the new Prop 1 Requirements for Water Quality, it is more of a discussion in the plan chapters than an impact on the project applications at this point. We will be characterizing the issues in the region as best we can. Uma confirmed that she is not aware of any further work that needs to be done for the proposals at this time.

Uma Hinman started the discussion on the Prop 1 Disadvantaged Community Involvement Request for Proposals and the Prop 1 IRWM Guidelines which are both in draft form and the comment period will end on April 8th. The Mountain Counties Water Resources Association has prepared comments for DWR and the Sierra Water Workgroup is preparing comments for IRWM regions to review. Uma asked Trina Cunningham and Jonathan Kusel to share about the comments their offices are preparing.

Trina Cunningham shared that she was contacted by John Kingsbury who is the Executive Director of the Mountain Counties Water Resources Association (MCWRA) regarding the California Indian Environmental Alliance's (CIEA) interest in working with MCWRA as the lead applicant for the Prop 1 Mountain Counties Funding Area. Trina responded that Tribes already feel under-represented in the Northern Sierras and to have an entity lead whose interests are further south might continue to leave the Tribes unrepresented, so they prefer to work with an organization that is closer geographically and with whom they already have a working relationship. Trina explained that CIEA is looking into how to best coordinate the effort to prepare a single Funding Area-wide grant proposal with the 10 IRWM regions in the Mountain Counties Funding Area, which has only been allocated \$1.3 million for this first round of Prop 1 to do outreach to DACs. Trina noted the efforts of the Sierra Water Workgroup and the Sierra Fund and the idea of approaching it from a standpoint of identifying the strengths of each IRWM.

Sherrie Thrall asked Uma to go back and show the map of the Mountain Counties Funding Area because it is a very large region especially from the perspective of representation for limited grant funding in the northern, central, and southern parts of the region. Jonathan Kusel added that another reason this is really important is because of the CalEnviroScreen which is a Cal EPA effort to assess or identify disadvantaged communities. Due to the methodology used, the CalEnviroScreen project excluded every rural forested area in the State, which basically means that there are no disadvantaged communities in rural California, and we know that is not true. We need another methodology of identifying disadvantaged communities beyond CalEnviroScreen and we need to ask the question how do we set up a program that is appropriate in identifying the needs of disadvantaged communities and then responding to those needs.

Upon motion by Paul Roen and seconded by Terry Swofford, the RWMG authorized the Chair to sign the comment letter prepared by Sierra Institute for Community and Environment related to the DWR Proposition 1 Disadvantaged Community Involvement Request for Proposals and the Prop 1 IRWM Guidelines was unanimously approved.

Carl Felts asked for assistance in reading the map. Is the heavy black line the Mountain Counties Funding Area? Sherrie Thrall confirmed and explained that the Mountain Counties Funding Area encompasses a huge area with very different needs. Sherrie pointed out that there is a heavy concentration of DACs in the northern area as compared to the rest of the area which underlies the concern of being left out of the funding intended to serve DACs. Joe Hoffman asked for clarification regarding the difference between the map on the right and the map on the left. Brooke Huffman responded that the map on the left is by census designated places and the map on the right is by census block groups. Jonathan Kusel explained the importance of using the appropriate unit of analysis through the example of mapping the census block groups on the spine of the Sierras.

Uma Hinman presented on the current coordination efforts in response to the Proposition 1 Draft Disadvantaged Community Involvement Request for Proposal. Uma explained that DWR is expecting one application for the entire Mountain Counties Funding Area. Sherrie Thrall commented that like most things when there's money people get very political, and she anticipated that we need to be very firm at the table of these discussions.

Trina Cunningham asked for clarification regarding whether Mountain Counties Water Resources Association is intending to represent their membership only or whether they want to work with and represent the entire Mountain Counties Funding Area. Uma noted that it is not clear yet whether MCWRA intends to represent organizations outside their membership in this process. Sherrie Thrall commented that this is obviously becoming political and the ideal solution would be for Sierra Water Workgroup to partner with MCWRA and ensure an inclusive coordination process with all 10 IRWM regions in the Funding Area. Jonathan Kusel commented that from what he's heard, DWR does not want competing proposals in a Funding Area, and they do want an entity that is reflective of the different interests and does capture, engage, and involve different folks.

6. Update on Project Development Process

(Video 1, 00:51:04)

Uma Hinman presented the IRWM Plan implementation project review process and next steps. Kristi Jamason presented the Upper Feather IRWMP Project Review Criteria spreadsheet. Jeffrey Greening asked if the spreadsheet was published so we could review it online. Uma offered to email the spreadsheet directly. Carl Felts asked which two projects were pulled. Uma responded that the Creek Restoration at Lake Almanor and the Humbug Valley Outdoor Research/Learning Center projects were pulled by the project sponsors. Discussion ensued regarding appreciation for all the hard work that went into the Upper Feather IRWMP Project Review Criteria spreadsheet.

7. Draft Impacts and Benefits Chapter

(Video 1, 1:00:57)

Uma Hinman presented the Draft Impacts and Benefits chapter. RWMG directed staff to move forward with adding the Impacts and Benefits Chapter to the Administration Draft Plan.

8. Next Meeting

(Video 1, 1:04:02)

The next meeting is scheduled for Friday, May 20th at 1pm.

Adjournment

(Video 1, 1:05:34)

The meeting was adjourned at 2:10 pm.

**Upper Feather River
Integrated Regional Water Management**

**RWMG Meeting No. 11
May 20, 2016**

To: Upper Feather River Regional Water Management Group
From: Uma Hinman, Uma Hinman Consulting
Subject: UFR IRWM Plan Update Project Schedule, Task and Budget Update
Date: May 11, 2016

SCHEDULE

Based on the contract date between DWR and the Plumas County Flood Control and Water Conservation District, we are currently in the 20th month of the 2-year project. All Workgroups have held at least five meetings; consistent with the grant work plan. The next few months will be focused on the projects and chapter development. A four month extension of time has been requested by the Plumas County Flood Control and Water Conservation District to provide time to incorporate additional IRWM standards being required for compliance with Proposition 1 IRWM Guidelines. The new standards will be required in order to be eligible for upcoming Proposition 1 IRWM funding opportunities.

MEMORANDUM OF UNDERSTANDING (MOU)

The MOU is posted on the website and has been presented at each of the Workgroup meetings. Additionally, copies have been provided to requesting agencies and organizations through the Workgroups. To date, 35 signed MOUs have been returned.

On September 16, 2015, Randy Wilson, Uma Hinman, and Trina Cunningham met with Butte County representatives to discuss an MOU to address planning and management in the overlap area, determine areas of responsibility, and provide for appropriate consultation as needed. The MOU has been drafted, approved in form by Plumas County counsel, and sent to Butte County for consideration.

BUDGET AND TASK UPDATE

The overall expenditures on the grant project to date are consistent with the project accomplishments, and demonstrate very efficient use of funds.

In October 2014, Plumas County and its partners provided documentation of \$237,489 in match funds, which fulfills the match requirement for the grant contract in its entirety. To date, Uma Hinman Consulting has submitted 20 invoices to DWR totaling \$550,381.13 in reimbursable services, equipment purchases, and operating expenses. Approximately 75 percent of project work has been completed and the \$495,557.81 invoiced to date for professional and consultant services represents 82 percent of the \$605,708 budget for those services. Additionally, the total grant amount invoiced to date includes county equipment and operating costs, for an overall billing of 81 percent of the total grant budget. See attachment 2 for budget summary.

The following are summaries of work completed or initiated by task.

Task 1: Stakeholder Outreach/RWMG/Workgroups/Tribal Engagement/IRWM Coordination

The Stakeholder Outreach efforts have included coordinating, publicizing, and preparing outreach materials and presentations for—and conducting—the first five regular RWMG meetings; conducting a special meeting to review, discuss and approve the Draft Monitoring Policy and the Draft Project Selection and Scoring Criteria; and reviewing and vetting the first and second phases of Conceptual Project Summary submittals. Tasks and efforts that have been in progress through the grant process and are now completed included developing the Stakeholder Outreach Plan (SIP); drafting the stakeholder contact lists and an MOU; updating the tribal contact list and drafting the Tribal Engagement Plan; developing and discussing the draft Project Eligibility Worksheet to vet Conceptual Projects; and coordinating and scheduling individual workgroup meetings. Ongoing project efforts include reviewing and discussing project selection and ranking criteria; collaborating with the Mountain Counties Funding AREA IRWM Regions to address the Draft Proposition 1 DAC Involvement RFP; and coordinating completion of three Special Studies: Forest-Water Balance Study, Community / Well Vulnerability Study, and the Disadvantaged Community Assessment. The workgroups have held five to six meetings, focused recently on developing projects proposed for implementation in the IRWM region and recommending resource management strategies. In addition a fifth working group was recognized in May: the Tribal Advisory Committee has held six meetings to date.

A half-day Upper Feather River Watershed Water Workshop was hosted by the University Agricultural Extension for stakeholders on April 4, 2016 to provide information about how regulations and state-wide concepts apply to the local community; to provide updates on the IRWM-funded Community Vulnerability Study, which is looking at disadvantaged community well nitrate vulnerabilities; the Irrigated Lands Regulatory Program; the California Department of Water Resources Water Master Fees; and planned activities in the Feather River Watershed and Sierra Valley. Additionally, the Workshop presentations covered the California Sustainable Groundwater Management Act and what it means to the local communities and local groundwater basins, as well as a discussion of groundwater banking – how it works, examples from other communities, and local possibilities.

On September 16, 2015 there was an Upper Feather River IRWMP – Intra-Regional Coordination meeting with attendees from Plumas County Flood Control and Water Conservation District (UFR IRWMP Project Manager), Butte County Department of Water and Resource Conservation (Northern

Sacramento Valley IRWMP), Maidu Summit Consortium, and Uma Hinman Consulting (UFR IRWMP Update Coordinator). The purpose of the meeting was to discuss coordination process and needs for the regional overlap area that occurs between the UFR IRWMP and NSV IRWMP. Coordination is needed for project development and implementation, and for Tribal outreach within the overlap area. The MOU has been reviewed by Plumas County and is currently being reviewed by Butte County.

The first Joint Workgroup Integration Workshop/Climate Change Workshop was held August 21, 2015 from 9am to 4:30pm in the Mineral Building at the Plumas County Fairgrounds. The workshop had excellent attendance and very productive discussion/participation in both the morning and afternoon sessions.

Plumas Geo-Hydrology also prepared a draft DRASTIC analysis for select DAC's including mapping the selected communities in Sierra Valley. The consultants reviewed an American Valley Ground Water Protection Study and Sierra Valley groundwater nitrate data collected by DWR to attempt a trend analysis and prepare a cumulative frequency plot and maps for nitrate and boron. They also generated a DRASTIC map for Chilcoot Basin and developed a spreadsheet to calculate DRASTIC ratings. Plumas Geo-Hydrology presented a summary of the DRASTIC method of assessing well vulnerability at the April 4, 2016, UFR Water Workshop. The Study is currently being reviewed internally.

Staff continues to post articles of interest under the NEWS section on the website, and maintains the calendar and meeting pages with meeting schedules and materials. Please remember to check the website periodically for new posts and information. On the website, DRAFT IRWM PLAN, a subcategory under the section, DOCUMENTS, contains the staff Draft Plan chapters for review and includes deadlines for comments.

Task 2: Baseline Technical Study

Plumas Geo-Hydrology is nearing completion of the draft Forest-Water Balance Study on infiltration potential from forest fuels thinning projects. An executive summary and literature memorandum from Plumas Geo-Hydrology Land and Water Resources dated January 1, 2016 summarizes groundwater management in the Feather River Basin (FRB) (submitted with Progress Report No. 19). The memorandum indicates that from a watershed management standpoint it is desirable to reduce evapotranspiration and minimize interflow. This implies reduction of canopy interception and eliminating land surface disturbances to minimize groundwater discharge via interflow.

The RWMG and Workgroups have reviewed and provided input on the Draft Baseline Technical Study Report. The Administrative Draft Baseline Technical Study report was been posted on the website and includes a database of background materials collected and catalogued to date. It is anticipated that additional studies and information will be added to the draft document as the project progresses. The consultant team also developed a data management site on the website, which catalogs studies and projects in the region. The database is linked via GIS to a map that provides a visual catalog of studies and projects in the region (similar to the SWIM site). Time was spent compiling, categorizing, summarizing, and uploading baseline studies.

Task 3: Data Management Strategy, System Development and Implementation

The Consultant team recently provided recommendations for data collection for future IRWM Plan updates. Additional tasks include working to prepare mapping for the Community Vulnerability Study and Plan chapters.

The website/web portal of the UFR IRWM Project (<http://featherriver.org/>) is up-to-date and kept current. The RWMG meeting agendas, packets, and archived videos of the meetings are and will be available on the site, as will project information and updates.

During May and June 2015, consultants attended the emergency planning committee meeting regarding the Feather River geographic response plan and communicated with California Department of Fish and Wildlife (CDFW) about parallel data collection efforts; added a Tribal Advisory Committee Workgroup page to the website; and wrote a manual on how to record and video stream meetings. Staff tasks included incorporating new layers into maps (such as land managers, precipitation, fire hazard and severity zone, and fire threat layers).

The consultant team has developed an online, map-based catalog of studies and projects in the region. The database is linked via GIS to a map that provides a visual catalog of studies and projects in the region (similar to the SWIM site). Time was spent compiling, categorizing, summarizing, and uploading baseline studies. The catalog is available on the website at: <http://featherriver.org/catalog/index.php>.

The Step 2 project submittal data have been incorporated into an online map, <http://featherriver.org/proposed-projects/>. The database includes a summary of the information submitted for each project.

Task 4: Climate Change

The August 21, 2015 Climate Change Workshop consisted of a working session to present and discuss climate change scenarios, regional vulnerabilities, and recommended adaptation strategies. The workshop had excellent attendance and very productive discussion/participation in both the morning and afternoon sessions. Workgroup comments, and those received during the August 21, 2015 workshop, were incorporated into the vulnerability assessment. The Consultant team has completed the vulnerability to climate change assessment, a project worksheet for calculating GHG emissions, and the draft climate change chapter. Strategies to address climate change vulnerabilities have been incorporated into the staff Draft Resource Management Strategy Chapter, which will soon be released for public review.

The Consultant Team has reviewed the new climate change requirements in the Draft Proposition 1 IRWM Guidelines and believe the Plan chapters have been updated to meet the new requirements.

Task 5: Project Development Process

Workgroups and Project Proponents completed development and refinement of IRWM Projects to ensure forms address required review factors and include completed GHG emission worksheets.

Workgroups also worked on project integration across Workgroups. The final draft Project forms and a spreadsheet summarizing the status and integration of the Projects was presented to the RWMG for review and comment during the April 1, 2016 RWMG meeting.

The deadline for the first stage of the project submittal process was June 1, 2015 at 5:00 p.m. Approximately 80 conceptual projects submittals were received. The eligible conceptual project proposals were reviewed by the RWMG during a special meeting on June 15, 2015.

The deadline for Step 2 IRWM Project Information Forms was Monday, August 3, 2015 at 5:00 p.m. Eight-one (81) projects were received. The Step 2 project submittals were discussed during the August 21, 2015 Workgroup Integration and Climate Change Workshop with a focus on recommendations for project integration.

Task 6: IRWM Plan Update

Based on collected information and what is generated through the workgroup meetings, chapters are drafted by staff and reviewed by workgroups, stakeholders and the RWMG. The following table indicates the status and progress of chapter development.

Chapter Review

Five draft Plan chapters have been released for public review and comment, as indicated in the table below. Three additional chapters are under internal review and will be released in the next two weeks for public review and comment. Comments are due by 5:00pm on the date indicated in the table below. All comments should be submitted to UFR.contact@gmail.com. Chapters and timelines are posted on the website: <http://featherriver.org/draft-irwm-plan/>.

Staff Draft Chapter	Release Date/Status	Deadline for Comments
Technical Analysis	March 27, 2015	n/a
Governance, Stakeholder Involvement, Coordination	October 8, 2015	November 11, 2015
Climate Change	October 14, 2015	November 13, 2015
Region Description	December 7, 2015	January 11, 2016
Impacts and Benefits	January 17, 2016	March 18, 2016
Regional Water Issues, Integration and Capacity	March 10, 2016	April 11, 2016
Water and Land Use Planning	April 11, 2016	May 10, 2016
Resource Management Strategies	April 21, 2016	May 23, 2016
Plan Implementation, Performance and Monitoring	April 28, 2016	May 30, 2016
Goals and Objectives	In process	
Project Development and Review Process	In Process	
Plan Development Process	In Process	
Finance	Drafted/on hold	

Task 7: Grant Administration

Work under Task 7 has included the documenting of matching funds and polishing invoicing and reporting procedures. We have submitted 20 project progress reports and invoices to date. See attached budget summary for details.

SPECIAL STUDIES

Forest-Water Balance Study: Work on the Forest-Water Balances Study is expected to be completed in the next couple of months. A memorandum from Plumas Geo-Hydrology, dated February 16, 2015, draws attention to the significance of groundwater recharge related to forest canopy thinning. The memorandum indicates that forest management practices to reduce forest canopy closure will increase groundwater recharge, and thereby increase base flow in streams. It is anticipated that an update will be presented at the next RWMG meeting.

Community/Well Vulnerability Study: The Community Vulnerability Study is intended to better identify drinking water pollution risks for the approximately 40 percent of groundwater-dependent households in the region. In preparing the study, Plumas Geo-Hydrology will assess nitrate pollution risks to municipal and domestic drinking water in high groundwater table areas with septic systems and agricultural livestock production. There are also significant outreach efforts to Disadvantaged Communities (DAC) and Tribal communities associated with this study. The timeframe for this study is January through May 2016. It is anticipated that the draft study will be presented to the RWMG at the next meeting.

Disadvantaged Community Assessment: Sierra Institute has completed a Socioeconomic Assessment of the Upper Feather River Watershed, which was presented at the April 1, 2016 RWMG meeting. The Assessment includes identification of the DACs within the region, which will focus and support the continued DAC outreach efforts including the Community Vulnerability Study discussed above. The accurate identification of DACs within the region also becomes particularly important for funding opportunities under Proposition 1, which includes two rounds of targeted DAC funding opportunities.

REQUEST

Informational.

Attachment: Budget Summary

Agreement No.: 4600010066

Grantee: Plumas County Flood Control and Water Conservation District





Awarding Body: California Department of Water Resources

Program: Prop 84

Encumbrance FY: 2012

Award Budget	Match
\$679,657.00	\$237,489.00

		Personnel Services	Operating Expenses	Equipment	Professional/ Consultant Services	Total	10% Withholding	Overhead	Match Total
Line Item Prop 84 Allotments		\$ 64,220.00	\$ 4,731.00	\$ 4,998.00	\$ 605,708.00	\$ 679,657.00			
Invoice No.	Billing Period								
1	10/1/08-9/30/14	\$ -	\$ -	\$ 4,853.84	\$ 30,510.98	\$ 35,364.82	\$ 3,536.48	\$ 1,224.98	\$ 237,489.00
2	9/1/14-10/31/14	\$ -	\$ -	\$ -	\$ 22,925.60	\$ 22,925.60	\$ 2,292.56	\$ 1,675.85	\$ -
3	9/1/14-11/30/14	\$ -	\$ -	\$ -	\$ 13,009.60	\$ 13,009.60	\$ 1,300.96	\$ 513.61	\$ -
4	12/1/14-12/31/14	\$ -	\$ -	\$ -	\$ 4,867.88	\$ 4,867.88	\$ 486.79	\$ 255.38	\$ -
5	10/1/14-1/31/15	\$ 3,892.97	\$ -	\$ -	\$ 25,774.11	\$ 29,667.08	\$ 2,966.71	\$ 1,383.10	\$ -
6	7/1/14-2/28/14	\$ 2,971.73	\$ 1,427.55	\$ -	\$ 7,285.95	\$ 11,685.23	\$ 1,168.52	\$ 225.20	\$ -
7	11/1/14-3/31/15	\$ -	\$ -	\$ -	\$ 40,142.35	\$ 40,142.35	\$ 4,014.24	\$ 2,656.35	\$ -
8	3/1/15-4/30/15	\$ -	\$ -	\$ -	\$ 12,887.40	\$ 12,887.40	\$ 1,288.74	\$ 585.90	\$ -
9	3/1/15-5/31/15	\$ 4,963.08	\$ 874.41	\$ -	\$ 15,654.75	\$ 21,492.24	\$ 2,149.22	\$ 538.00	\$ -
10	9/1/14-6/30/15	\$ -	\$ -	\$ -	\$ 42,778.71	\$ 42,778.71	\$ 4,277.87	\$ 2,806.45	\$ -
11	6/1/15-7/31/15	\$ 3,926.40	\$ 313.37	\$ -	\$ 18,565.35	\$ 22,805.12	\$ 2,280.51	\$ 1,014.35	\$ -
12	3/1/15-8/31/15	\$ 3,886.74	\$ 110.54	\$ -	\$ 21,676.15	\$ 25,673.43	\$ 2,567.34	\$ 1,458.33	\$ -
13	1/1/15-10/31/15	\$ 2,004.15	\$ 564.52	\$ -	\$ 65,808.38	\$ 68,304.15	\$ 6,830.42	\$ 4,372.28	\$ -
14	9/1/15-10/31/15	\$ 13,247.83	\$ -	\$ -	\$ 13,285.17	\$ 26,533.00	\$ 2,653.30	\$ 1,180.38	\$ -
15	8/1/15-11/30/15	\$ 2,125.99	\$ 68.09	\$ -	\$ 22,007.91	\$ 24,201.99	\$ 2,420.20	\$ 1,276.93	\$ -
16	12/1/15-12/31/15	\$ -	\$ -	\$ -	\$ 9,932.38	\$ 9,932.38	\$ 993.24	\$ 680.75	
17	12/1/15-1/31/16	\$ 4,815.07	\$ 56.66	\$ -	\$ 18,153.85	\$ 23,025.58	\$ 2,302.56	\$ 824.16	
18	3/1/15-2/29/16	\$ 953.85	\$ 87.73	\$ -	\$ 33,183.53	\$ 34,225.11	\$ 3,422.51	\$ 2,100.80	
19	7/1/15-3/31/16	\$ 2,511.11	\$ 28.38	\$ -	\$ 30,321.27	\$ 32,860.76	\$ 3,286.08	\$ 1,925.53	
20	11/1/15-4/30/16	\$ 1,074.35	\$ 137.86	\$ -	\$ 46,786.49	\$ 47,998.70	\$ 4,799.87	\$ 3,233.25	

Total Amount Spent  \$ 46,373.27  \$ 3,669.11  \$ 4,853.84  \$ 495,557.81 \$ 550,381.13 \$ 55,038.11 \$ 29,931.57

Allotment Remaining \$ 17,846.73 \$ 1,061.89 \$ 144.16 \$ 110,150.19 \$ 129,275.87

% Budget Invoiced 72.21% 77.55% 97.12% 81.81% 80.98%

**Upper Feather River
Integrated Regional Water Management**

RWMG Meeting No. 11

May 20, 2016

To: Upper Feather River Regional Water Management Group

From: Uma Hinman, Uma Hinman Consulting

Subject: Stakeholder Outreach Update

Date: May 14, 2016

INTRODUCTION

The following is a summary of stakeholder updates for the Upper Feather River IRWM Plan Update.

TRIBAL ENGAGEMENT

An update will be provided during the meeting.

WORKGROUPS

The workgroups have held a total of 28 meetings and are work is now focused on reviewing draft chapters.

Project Development

The Workgroup Coordinators have completed the project application reviews to insure they address the required review factors and include completed GHG emission worksheets. We anticipate having a summary of the project review process and results for the next RWMG meeting.

Resource Management Strategies

All workgroups have presented their resource management strategy (RMS) recommendations. The Draft RMS chapter has been released for public review with a deadline of May 23, 2016. Workgroups and individuals have the opportunity to provide comments on all recommendations through the review process.

Assignment/Task Strategy

A total of 32 workgroup meetings are identified in the Plan Update work program over the course of the two-year project; two are intended to be workgroup integration workshops. The first integration workshop was held on August 21, 2015. It is anticipated that the remaining integration workshop will be focused on project integration and lists and Plan content.

The following table summarizes workgroup meeting schedules.

Workgroup	Chair	Alternate	Meeting Schedule
Agricultural Land Stewardship	Willo Vieira		January 22, 2015 March 11, 2015 May 26, 2015 July 20, 2015 November 16, 2015
Floodplains, Meadows and Waterbodies	Carl Felts	Cindy Noble	December 5, 2014 February 13, 2015 April 24, 2015 June 26, 2015 October 16, 2015
Municipal Services	Frank Motzkus	Robert Meacher	November 20, 2014 February 19, 2015 April 17, 2015 June 17, 2015 July 15, 2015 November 19, 2015
Uplands and Forest	Mike DeLasaux	John Sheehan	January 29, 2015 March 13, 2015 April 24, 2015 June 30, 2015 November 5, 2015
Tribal Engagement Committee	Trina Cunningham		January 13, 2015 March 20, 2015 May 18, 2015 July 13, 2015 November 2015 January 8, 2016 March 25, 2016

REQUEST

Informational.

**Upper Feather River
Integrated Regional Water Management**

**RWMG Meeting No. 11
May 20, 2016**

To: Upper Feather River Regional Water Management Group

From: Uma Hinman, Uma Hinman Consulting

Subject: Proposition 1 Disadvantaged Community Involvement Draft Request for Proposals

Date: May 14, 2016

INTRODUCTION

The focus of this agenda item is to update the RWMG on outreach and coordination efforts with other IRWM regions in the Mountain Counties Funding Area. A presentation on the current Draft Proposition 1 Disadvantaged Community Involvement (DACI) request for proposals (RFP) was provided during the February 26th RWMG meeting, with updates on the process presented to the RWMG at its April 1, 2016 meeting. The RFP requires a single coordinated proposal for the Mountain Counties Funding Area. Direction from the RWMG was to initiate outreach to the other regions.

BACKGROUND

The first two rounds of Proposition 1 IRWM funding will be targeted to disadvantaged community (DAC) involvement and implementation (projects); each has been allocated 10 percent of the funding regions' total. Round 1 will be focused on DAC involvement and a draft solicitation package was released for public comment on January 22, 2016 with comments due on April 8th. The intent of this first round is to help ensure involvement of DACs, economically disadvantaged areas (EDAs), or underrepresented communities within the regions.

Milestone/Activity	Schedule
Release of Draft DAC Involvement RFP and public comment period opens	January 22, 2016
Public workshops (Sacramento)	February 22, 2016
Public comment period closes	April 8, 2016
Release of Final DAC Involvement RFP	<i>June 2016?</i>
Funding Area coordination meetings	<i>July 2016?</i>
Approval of funding awards	<i>September 2016?</i>

Source: http://www.water.ca.gov/irwm/grants/docs/p1DACinvolvement/2016Prop1IRWM_DACI_RFP_PublicReviewDraft.pdf

The Department of Water Resources (DWR) is seeking a single Funding Area-wide proposal from each of the 12 Proposition 1 Funding Areas. The Upper Feather River Region is located within the Mountain Counties Funding Area, which has an allotment of \$1.3 million for this round. There are 10 IRWM

regions wholly or partially within the Mountain Counties Funding Area [Upper Feather River, Northern Sacramento Valley (partial), Yuba County (partial), Cosumnes-American-Bear-Yuba, American River Basin (partial), Mokelumne-Amador-Calaveras, Tuolumne-Stanislaus, Yosemite-Mariposa, Madera (partial), Southern Sierra (partial)].

Entities eligible for receiving funding include the following:

- Public agencies
- Non-profit organizations
- Public utilities
- Federally recognized Indian Tribes
- State Indian Tribes listed on the Native American Heritage Commission’s Tribal Consultation list
- Mutual Water Companies

OPPORTUNITY TO COMMENT ON THE DRAFT RFP

The deadline to submit comments on the Draft DAC Involvement RFP was April 8, 2016. A number of organizations and individuals in the region participated in efforts to draft comments in response to the RFP, including Jonathan Kusel (Sierra Institute), Sherri Norris, Trina Cunningham, Izzy Martin (Sierra Fund/CABY) and Liz Mansfield (Sierra Water Workgroup). Additionally, the Mountain Counties Water Resources Association submitted comments to DWR.

FUNDING AREA COORDINATION

To initiate coordination efforts with other IRWM regions within our Funding Area, staff reached out to the Sierra Water Workgroup (SWWG). In response, the SWWG coordinated and hosted a conference call of the regions on March 24th.

Mountain Counties Water Resources Association¹ (MCWRA) – MCWRA has submitted a letter to DWR announcing their intention to enter into a memorandum of understanding with the Sierra Business Council² to be the applicant for the Funding Area. The MCWRA hosted an initial meeting to discuss the RFP and their intentions on March 21st in Auburn. The results were tasks to initiate outreach to representatives of each of the IRWM regions in the Funding Area and to schedule a second meeting in the first half of April. Representatives from five IRWM regions were in attendance, including Uma Hinman for the UFR Region.

¹ Mountain Counties Water Resources Association (MCWRA) is a 501(c)(6) non-profit organization whose goal to provide education and legislative advocacy to and on behalf of water agencies in the Sierra Nevada foothills upstream of the Sacramento and Joaquin Valleys to protect and enhance the water resources of the Mountain Counties of the State of California now and in the future. The MCWRA was a strong advocate in establishing the Mountain Counties Overlay for the 2009 California Water Plan and Mountain Counties Funding Area.

<http://mountaincountieswater.com/>

² The Sierra Business Council (SBC) is a 501(c)(3) non-profit organization whose mission is to pioneer and demonstrate innovative approaches and solutions to increase community vitality, economic prosperity, environmental quality, and social fairness in the Sierra Nevada. <http://sierrabusiness.org/>

A second meeting was held on April 18th at El Dorado Irrigation District in Placerville. Trina Cunningham and Uma Hinman attended for the UFR Region. The meeting was attended by representatives from all but the Northern Sacramento Valley and Southern Sierra IRWM regions. The MCWRA presented a proposed structure for coordinating and decision making in regards to the DACI application and implementation. The Sierra Business Council was identified as the 501(c)(3) fiscal partner with which the MCWRA intended to partner with to manage the DACI project(s) for the Mountain Counties Funding Area. The IRWM region representatives voiced concerns about the proposed “top down” approach and suggested that there was substantial expertise and experience with DAC outreach and coordination within the regions that was being overlooked by the proposal. The meeting concluded with plans for another meeting in the future.

Sierra Water Workgroup³ (SWWG) – SWWG coordinated a conference call of the IRWM regions on March 24th to discuss the RFP; ask the regions what role, if any, the IRWM regions would like the SWWG to take; and to discuss drafting comments on the RFP. The call was attended by representatives from most of the IRWM regions in the Mountain Counties Funding Area. In brief, the resulting request was for the SWWG to reach out to the MCWRA to initiate coordination of efforts and suggest a coordinating meeting of all groups be held in Auburn in April. Trina Cunningham, Uma Hinman, Jonathan Kusel and Leah Wills participated in the conference call. The SWWG also participated in the April 18th MCWRA meeting in Placerville.

On May 20, 2016, the SWWG is co-hosting a coordination meeting with the Inyo-Mono IRWM region to bring IRWM practitioners from the Sierra, eastern California and beyond together for a day of discussions centered around improving meaningful engagement, involvement and capacity building of DACs. Additionally, our hope is to provide a forum for discussions regarding broader regional coordination moving forward with Prop. 1 funding. Although it is recognized as needing further attention, the intention of the workshop is not to delve into political issues surrounding DACs, environmental justice and water resources management.

The workshop will include presentations from IRWM regions highlighting DAC related activities as well presentations from a few agencies about the types of projects/needs they support, fund and/or implement relating to DAC engagement, involvement and capacity building. Additionally (second half of the day or so) will focus on networking and group discussions with a goal being to identify projects/activities for specific regions along with opportunities for intra-Funding Area collaboration and potential inter-Funding Area collaboration. Leah Wills is attending on behalf of the UFR Region.

REQUEST

Informational.

Attachments: April 18, 2016 MCWRA meeting materials

³ Sierra Water Workgroup’s (SWWG) mission is to assist regional efforts to protect and enhance water quality, water supply, and watershed health; to develop cooperative regional responses; and to facilitate reinvestment in Sierra watersheds and water resources by all beneficiaries. <http://www.sierrawaterworkgroup.org/>



Education – Advocacy – Leadership

Integrated Regional Water Management Committee

Barbara Balen (Ex Officio) – Member
Marie Davis (PCWA) – Member
Dave Eggerton (CCWD) – Member
Ron Ringen (TUD) – Co-Chair
Art Toy (AWA) – Member
Tom Trott (THCSD) – Co-Chair

John Kingsbury – Executive Director

IRWM COMMITTEE MEETING AGENDA

El Dorado Irrigation District
2890 Mosquito Rd
Placerville, CA

Date: April 18, 2016

Time: 11:00 a.m.- 1:00 p.m.

Working Lunch - bring your own lunch

- ❖ Call the Meeting to Order – Tom Trott (Co-Chair)
- ❖ Welcome and Introductions
- ❖ Agenda Review – Additions and or changes
- 1. Background – John Kingsbury
- 2. Consideration to form DAC Sub-committee
- 3. Adjourn MCWRA IRWM Committee and Convene DAC Sub-Committee Meeting

MEMO

Date: April 17, 2016
To: IRWM Committee
From: John Kingsbury
Subject: Consideration to form a DAC Sub-committee

TAB 2

This is to consider forming a sub-committee to facilitate the coordination efforts of the Proposition 1 DAC Involvement Program as directed by the MCWRA Board of Directors.

The DAC Sub-Committee would consist of the IRWM Committee members and non MCWRA members to form a “partnership” as deemed necessary for the purpose of making application and, if supported by the Department of Water Resources, the decision making process and implement the Proposition 1 DAC Involvement Program activities, as defined in the DWR Draft Request for Proposal.

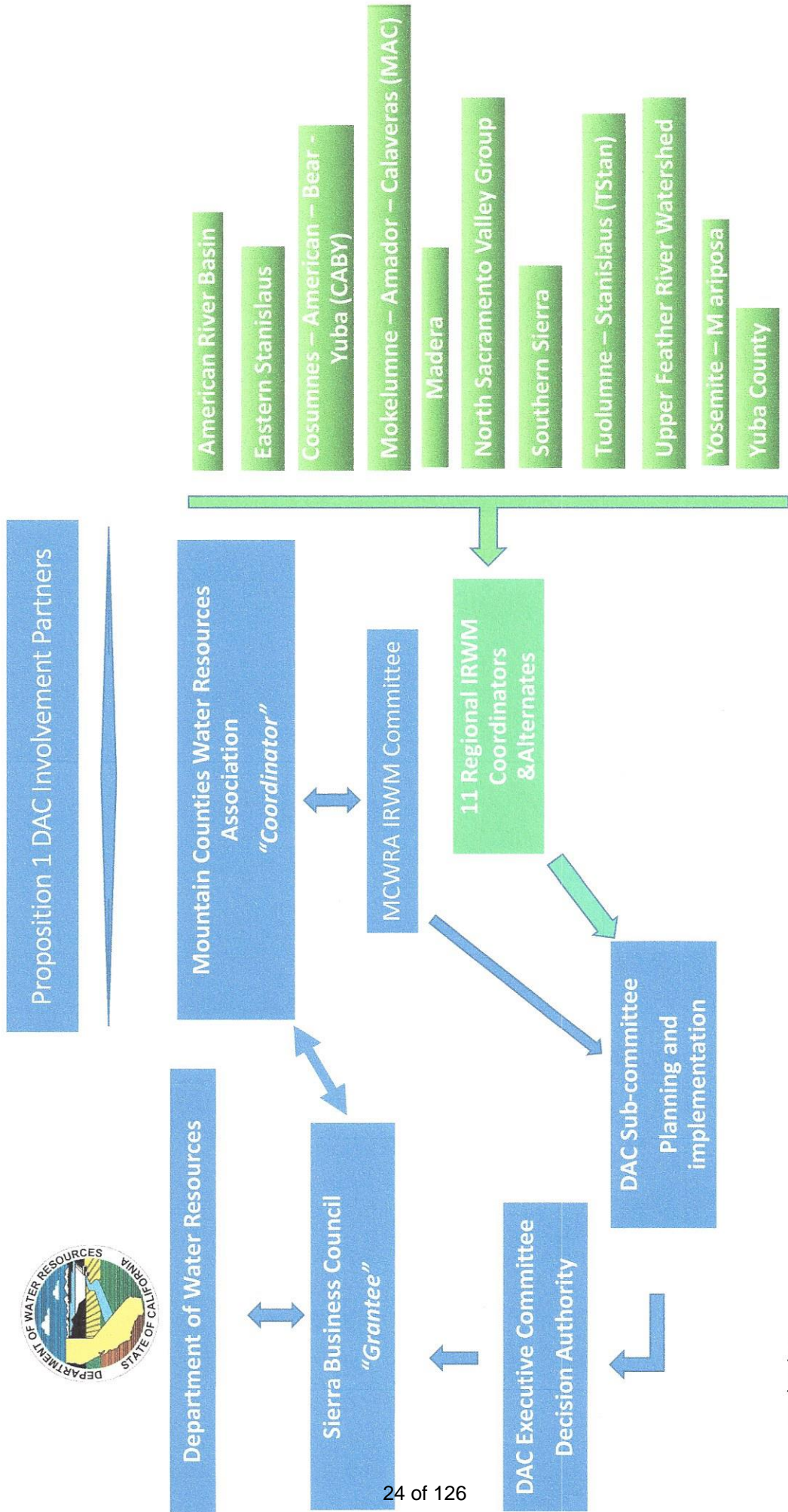
Upon forming the DAC Sub-committee, it should consider:

1. Establish members consisting of at a minimum;
 - a. MCWRA IRWM committee members
 - b. Fiscal Partner – Sierra Business Council (SBC)
 - c. Primary and Alternate Coordinator from each of the 11 IRWM's within the Mountain Counties Overlay Funding Area
 - d. Other stakeholders as required.
2. Appoint Chair and/or Co-Chairs from the MCWRA IRWM Committee to serve the DAC Sub-committee
3. Establish a DAC Executive Committee of the DAC – Sub-committee
 - a. Select members including:
 - i. MCWRA – Executive Director
 - ii. SBC – Vice President
 - iii. Three MCWRA IRWM Committee members
 - iv. IRWM Coordinator from three regional IRWM's as selected by the DAC sub-committee

If established, the DAC Sub-committee and the DAC Executive Committee should define roles, responsibilities, and authority, to effectively support the goals and objectives to meet and exceed the challenges set forth by this regional DAC program.

Recommendation:

Create a sub-committee of the IRWM committee: DAC Sub-Committee; and undertake tasks outline in Nos. 1-3 above.



**Upper Feather River
Integrated Regional Water Management**

**RWMG Meeting No. 11
May 20, 2016**

To: Upper Feather River Regional Water Management Group
From: Uma Hinman, Uma Hinman Consulting
Subject: Community Vulnerability Study
Date: May 14, 2016

INTRODUCTION

A task of the RWMG's Grant Agreement (Task 1.3 DAC Outreach) is to identify disadvantaged communities (DACs) and vulnerable groundwater dependent households, and to incorporate the drinking and wastewater treatment needs of DACs and vulnerable groundwater. A major focus of the IRWM Program in general, as well as the Proposition 1 funding opportunities, is to support the needs of disadvantaged communities (DACs). The list of DACs identified in Appendix 1 of the Socioeconomic Assessment for the Upper Feather River IRWM Region is the basis for DAC outreach and the Community Vulnerability Study, a special study of well vulnerabilities to nitrates for targeted DAC communities within the region.

The purpose of the Community Vulnerability Study is to better identify drinking water pollution risks for the approximately 40 percent of groundwater dependent households in the UFR Region that rely on individual wells and septic systems for their water and wastewater needs. The study assesses nitrate pollution risks to municipal and domestic drinking water wells in high groundwater table areas with septic systems and agricultural livestock production. Plumas Geo-hydrology is preparing the Study, which is similar in scope to the previously prepared American Valley DRASTIC Study.

A preliminary well vulnerability assessment was developed for nine¹ disadvantaged communities (DACs) in the Mohawk Valley and Sierra Valley areas using the DRASTIC² methodology. Subsequently, using professional judgment and existing information about the characteristics of community water and wastewater systems and other factors, four of the nine communities were selected for more intensive DRASTIC analysis. The Study focuses on the following four Sierra Valley communities: City of Loyalton, Chilcoot-Vinton, Sierraville, and Calpine.

¹ The nine DACs assessed for inclusion in the Study included: Cromberg, Clio, Sierraville, Loyalton, Vinton, Chilcoot, Sierra Brooks, Calpine, and Delleker.

² DRASTIC is a standardized system developed by the EPA for evaluating groundwater pollution potential using hydrogeologic settings.

An administrative Draft Community Vulnerability Study is currently being circulated to Plumas County, Sierra County, Calpine, Sierraville, and Loyalton for review.

NEXT STEPS

Once comments have been received from the entities identified above, Plumas Geo-hydrology will address comments and finalize the Study. The study will then be presented to the RWMG, posted on the UFR IRWM Plan website, and included in the IRWM Plan as an appendix.

REQUEST

Informational.

**Upper Feather River
Integrated Regional Water Management**

RWMG Meeting No. 11

May 20, 2016

To: Upper Feather River Regional Water Management Group

From: Uma Hinman, Uma Hinman Consulting

Subject: Project Development Process

Date: May 14, 2016

INTRODUCTION

The projects included in the IRWM Plan are the vehicles for Plan implementation. In order to select projects through a clear and consistent process, review factors must be evaluated for each project and compared for all projects in a systematic manner. While some review factors are developed by and specific to an IRWM region, there are also DWR minimum standards for project inclusion in an IRWM Plan.

At the June 15, 2015 meeting, the RWMG approved review factors for the Upper Feather River IRWMP project selection process, which correspond to factors A-L in the Proposition 84 Guidelines.

BACKGROUND

IRWM regions that have gone through the project selection and ranking process for the Plan typically have to reassess and rescore projects multiple times, based on each RFP's selection and ranking criteria. The RWMG chose to use the project selection process to facilitate inclusion of projects with all of the necessary attributes to implement the Plan; thereby deferring the scoring and ranking process until an RFP is released, which will have its own specific scoring criteria.

To select projects for inclusion in the Plan, the RWMG directed staff to work with project proponents to ensure each implementation project include the components required by the IRWM Guidelines as a means to determine how well a project meets the Plan implementation needs. If the RWMG does its due diligence in encouraging and selecting the best implementation projects for the region, it will facilitate future processes when it comes time to put together an application in response to an RFP (i.e., the better the projects are developed now, the easier it will be to select projects for RFPs).

Ultimately, the Plan will include several lists of project to aid the RWMG in future selection efforts in response to RFPs:

- General list, by category, identifying all review factors met
- Projects benefiting disadvantaged communities (DACs) and Native American Tribes
- Regional projects
- Integrated projects

The IRWM Program encourages RWMGs to consider strategic considerations that may benefit multiple stakeholders and acknowledges that there may be benefit in integrating local projects or project goals in developing regional projects. DWR expects RWMGs to take advantage of regional planning and integrating projects where possible, while acknowledging that there is also value in examining projects for potential integration efforts even if ultimately deciding that a project is best implemented as submitted to achieve plan implementation. This effort was started during the Workgroup Integration Workshop and addresses the project review criteria “Strategic considerations for Plan implementation,” which is identified in the IRWM Guidelines. This criteria encourages using the regional perspective to leverage any efficiency that might be gained by combining or modifying local projects into regional projects. Strategic aspects of plan implementation (projects) include purposefully restructuring or integrating projects and implementing regional projects and/or projects with multi-benefits.

Individual grant solicitations will shape and identify the project selection process as well, which will assist the RWMG in selecting regional, integrated, and/or individual projects.

UPDATE

During the September 23, 2015 meeting, the RWMG requested that staff continue to work with the project sponsors in the workgroups to 1) refine the project submittals, and 2) complete the climate change/GHG emissions calculator. The following further describes staff efforts:

1. Workgroup Coordinators to work with project sponsors to further develop the project submittals (i.e., filling in all the blanks as much as possible, identifying resources such as studies and background materials, etc.) to give the RWMG more developed projects to select from during future grant solicitations. The purpose of this effort is to frontload the project development effort to facilitate project submittals later, post-Plan. This would address the capacity issue to some degree and work towards a more inclusive and collaborative process between stakeholders in the region.
2. GHG emission consideration/worksheet – as part of the project review process, climate change must be considered. To aid with this effort, staff is developing a climate change/GHG emission calculator for use with each project. The high-level calculator will provide estimated GHG emissions and an indication of impacts on climate change.
3. Overall review of the project submittals to refine the selections for consistency and accuracy.

The Coordinators have reviewed each of the projects for the elements identified below. In doing so, the Coordinators worked closely with project sponsors to refine the project applications so as to address the review criteria identified within the Proposition 84 Guidelines. Review elements include the following:

- All questions on the forms answered
- Resource management strategies
- Budget
- Objectives
- Technical feasibility
- Benefit to disadvantaged communities (DACs)
- Benefit to Native American Tribes
- Integration opportunities
- Opportunities for integration with Traditional Ecological Knowledge project (TAC-6)
- Environmental justice issues
- Project status

The attached document consists of those projects that addressed and/or included all review factors. Of the 83 projects submitted, 77 were determined complete applications for the purposes of meeting the review factors for consideration in the UFR IRWM Plan.

REQUEST

Information, discussion and/or direction to staff.

Attachments: Draft Upper Feather River IRWM Plan Project lists

Upper Feather River IRWM - Plan Implementation Projects - 5/14/16

No.	Project Name	Project Sponsor	Benefits a DAC	Regional project	Integration Potential
Agricultural Land Stewardship					
ALS 1	Taylorsville Mill Race Dam Resurfacing	Feather River Resource Conservation District (FRRCD)			
ALS 2	Water Quality & Infrastructure Upgrades on Working Lands	FRRCD			
ALS 3	Enhanced Management of Livestock Grazing	FRRCD/Sierra Valley Resource Conservation District (SVRCD)			
ALS 4	Invasive Weed Management	Agricultural Commissioner		X	X
ALS 6	Sierra Valley Ag Water Diversion Efficiency/Imp.	SVRCD			
ALS 7	Sierra Valley RCD Resource Management Plan	SVRCD	X	X	
ALS 8	UFR Weather Monitoring Infrastructure	FRRCD		X	
ALS 9	Soil Health Assessment	University California Cooperative Extension (UCCE)		X	
ALS 10	Sierra Valley Groundwater Sustainability Plan	Sierra Valley Groundwater Management District	X		
ALS 11	Cold Stream Ag & Fire Storage Impoundment	SVRCD	X		
ALS 12	Alfalfa Alternative	SVRCD/UCCE		X	
ALS 13	Little Last Chance Lake	SVRCD/Sierra Watershed Habitat Conservation Foundation			X
Floodplains, Meadows, Waterbodies					
FMW 2	Water Quality Monitoring Program for Lake Almanor and its Tributaries	Lake Almanor Watershed Group/Sierra Institute			X
FMW 4	Wildlife Enhancement Project	Mountain Meadows Conservancy (MMC)			X
FMW 5	Hamilton Branch Watershed Fencing Restoration	MMC			
FMW 6	Watershed Monitoring Program	Natural Resource Conservation District			
FMW 8	Spanish Creek Restoration	Plumas County			
FMW 9	Watershed Education	Plumas County Unified School District	X		
FMW 10	Lake Almanor Basin Stewardship and Outreach Program	Lake Almanor Watershed Group/Sierra Institute	X		

No.	Project Name	Project Sponsor	Benefits a DAC	Regional project	Integration Potential
FMW 11	Lake Almanor Basin Water Quality Improvement Plan	Lake Almanor Watershed Group/Sierra Institute	X		
FMW 14	Folchi Meadow Project	U.S. Forest Service (USFS)			
FMW 15	Fish Habitat Assessment/Restoration, Public Awareness/Education	Trout Unlimited		X	X
FMW 16	Fish distribution modeling in relation to climate change	Trout Unlimited		X	X
FMW 18	Mountain Meadows Livestock Fencing	WM Beaty & Associates	X		
FMW 19	Debris dam survey, inventory and characterization	Trout Unlimited			
Municipal Services					
MS 1	Wastewater System Infrastructure Improvements	Portola	X		X
MS 2	Turner Springs improvement	Portola	X		
MS 4	Water Tank Project	East Quincy Services District (EQSD)	X		
MS 6	Old Mill Ranch	Feather River Canyon Community Services District	X		
MS 7	High elevation water tank & well	Gold Mountain Community Service District (GLCSD)	X		
MS 8	GM CSD water reclamation facility	GM CSD	X		
MS 9	Crocker water service meters	GLCSD	X		
MS 10	Crocker Welch ground tank repair	GLCSD	X		
MS 11	Delleker water meters	GLCSD	X		
MS 12	Delleker water tank rehab	GLCSD	X		
MS 13	Groundwater monitoring	Plumas County	X		
MS 15	Chandler Road bridge erosion	Plumas County			
MS 16	Humbug Valley Road bridge erosion	Plumas County			
MS 17	Road 311 culvert improvement	Plumas County			
MS 18	Road 318 culvert improvements	Plumas County	X		
MS 19	North Valley Road bridge erosion	Plumas County	X		
MS 20	Mill Creek erosion	Plumas County	X		
MS 21	Smith Creek erosion	Plumas County	X		
MS 22	Wapaunsie Creek erosion	Plumas County	X		
MS 23	Stampfli Lane bridge erosion	Plumas County	X		
MS 24	Walker Ranch CSD infrastructure improvements	Plumas County	X		

No.	Project Name	Project Sponsor	Benefits a DAC	Regional project	Integration Potential
MS 25	Humbug Valley Road 307 culvert improvements	Plumas County			
MS 26	Municipal well #3	Plumas-Eureka Community Services District (PECSD)			
MS 27	Treated wastewater reuse	PECSD	X		
MS 28	Water meter installation	PECSD			
MS 29	Water storage tank replacement	PECSD			
MS 30	Wastewater treatment plant #6 upgrade	PECSD			
MS 31	Wastewater treatment plant #7 lift station replacement	PECSD			
MS 32	Water system improvements	Quincy Community Services District (QCSD)	X		
MS-33	Sierra County road improvements	Sierra County			
MS 35	Alternative water source analysis and development	Sierraville Public Utilities District (SPUD)	X		
MS 36	Water storage project	Westwood Community Services District	X		
MS 37	Almanor Basin solid and wastewater treatment plant	Lake Almanor Watershed Group/Sierra Institute	X		X
MS 38	Leak detection and repair	SPUD	X		
MS 39	Meter replacement	SPUD	X		
MS 40	Pumphouse improvement	SPUD	X		
MS 41	Tank replacement project	SPUD	X		
MS 42	Automatic meter reading (ARM) project	EQSD	X		
MS 43	Replace copper service lines project	EQSD	X		
Tribal Advisory Committee					
TAC 2	Big Springs Vegetation Management	Maidu Summit Consortium			X
TAC 3	Mud Creek habitat recovery	USFS			X
TAC 5	Indian Jim River Resource Center	Maidu Summit Consortium	X		X
TAC 6	Traditional Ecological Knowledge	Maidu Summit Consortium		X	X
Uplands and Forest					
UF 1	Marian Meadow	Collins Pine Company			X
UF 2	Rock Creek Meadow restoration	Collins Pine Company			X
UF 6	Round Valley/Keddie handthin	USFS	X		
UF 7	U.S. Forest Service road improvements	USFS		X	
UF 8	Goodrich Creek biomass	WM Beaty & Associates			X

No.	Project Name	Project Sponsor	Benefits a DAC	Regional project	Integration Potential
UF 10	Greenville Creek biomass	WM Beaty & Associates			X
UF 11	Mountain Meadows Creek biomass	WM Beaty & Associates			X
UF 12	UFR Cooperative regional thinning	Soper Company		X	X
UF 13	UFR cooperative LiDAR and GIS support program	Plumas County		X	X

**Upper Feather River
Integrated Regional Water Management**

**RWMG Meeting No. 11
May 20, 2016**

To: Upper Feather River Regional Water Management Group
From: Uma Hinman, Uma Hinman Consulting
Subject: Draft Regional Water Issues Chapter
Date: May 14, 2016

INTRODUCTION

The Proposition 84 Integrated Regional Water Management (IRWM) Guidelines require a description be included in the Plan of the major water-related objectives and conflicts, or issues, in the region. The draft Regional Water Issues chapter addresses identified regional issues, capacity issues, and conflicts in the region.

Through a series of open meetings, the four Upper Feather River (UFR) workgroups identified and vetted regional water issues within the UFR Region. The issues identified are directly tied to the Plan's goals and objectives¹ and focus resource management and project recommendations for four areas of long-term interest within the UFR watershed: agricultural land stewardship; uplands and forest management; floodplain, meadow, and waterbodies management; and municipal services.

To acknowledge the substantial work by the workgroups, the chapter is structured to list and define the issues identified by workgroup: Agricultural Land Stewardship; Floodplain, Meadows, Waterbodies; Municipal Services; and Uplands and Forest. Another reason for organizing the issues by workgroup was that in some cases the same issue was identified by more than one workgroup, but with different context and definition. The chapter also includes a summary table for ease of reference.

This chapter also presents a discussion of the capacity issue in the region. It is noted that the lack of capacity in the region was identified by each of the workgroups, and has been discussed with the RWMG at previous meetings. The capacity issue facing the region is rooted in the management needs themselves, that is, the issue of capacity to meet those management needs. Capacity refers to staff, expertise, data, and local funds necessary to compete for and administer grants, without which the management needs of the Plan area cannot be met. Additionally, there is a general lack of capacity

¹ The Regional Water Management Group (RWMG) adopted goals and objectives for the Plan in January 2015.

within the region to meet regulatory requirements that are typically written with larger, more intensive operations or more highly populated or resourced locations in mind.

Finally, the chapter provides a discussion of conflicts in the region, which arise mostly from the allocation of finite water resources to a variety of competing needs and uses, both in the region and beyond. Competing needs and uses within the region include agricultural, municipal, residential using private wells, hydroelectric, and environmental water uses.

PROCESS AND NEXT STEPS

The Draft Regional Water Issues Chapter was drafted by staff with input from Workgroup Coordinators. The chapter was based on the regional issues identified by the workgroups during meetings held in 2015. The draft chapter was released to the workgroups, stakeholders, and posted on the website on March 10, 2016 for a 30-day review and comment period. The deadline for comments was April 11, 2016. Staff received four sets of comments in total. The comments were reviewed internally and with Randy Wilson, Project Manager, and revisions made accordingly. A complete set of all comments received on the chapter were provided to the RWMG on May 4, 2016. The version included in this agenda item is the revised chapter.

The next step in the process will be to address any comments received by the RWMG at the May 20, 2016 meeting. Upon completing this process with the other draft chapters, the chapters will be incorporated into a comprehensive Public Review Draft Plan, which will be the next opportunity for public input and comment. Once the Public Review Draft Plan is ready and made available, there will be two public meetings scheduled within the public review period to present the Draft Plan and to receive comments.

REQUEST

Discussion and direction to staff.

Attachment: Draft Regional Water Issues Chapter

DRAFT Regional Water Issues

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3. Regional Water Issues

3.1. Introduction

Through a series of open meetings, the four Integrated Regional Water Management (IRWM) workgroups identified and vetted regional water management issues within the Upper Feather River (UFR) Plan area. The issues identified are directly tied to the Plan's goals and objectives¹ and focus resource management and project recommendations for four areas of long-term interest within the UFR watershed: agricultural land stewardship; uplands and forest management; floodplain, meadow, and waterbodies management; and municipal services. Workgroups consist of stakeholders and interested individuals within the region and are open to anyone wishing to participate in the IRWM planning process. A more detailed description of the IRWM workgroups and their role in the planning process is provided in [Chapter XX Governance, Stakeholder Involvement, and Coordination](#).

3.2. Regional Water Issues

This section presents a summary of the current issues identified by workgroups during public meetings held in 2014 and 2015. Each issue is presented as a statement of the issue, followed by a brief discussion, if needed, for clarity. A summary table is provided at the end of the section (Table 3-1).

3.2.1.1. Agricultural Lands Stewardship

¹ The Regional Water Management Group (RWMG) adopted goals and objectives for the Plan in January 2015 (see Chapter 5 for detailed discussion of Plan goals and objectives).

- Issue: *Lack of consistent supply of surface and groundwater.*

Variations in annual water availability and shifting management priorities, particularly of surface water resources, result in uncertainties for agricultural users regarding sources of irrigation water.

- Issue: *Too little availability of public and private lands for grazing.*

There is some concern that the continued reduction in number of animal units per month (AUM) allowed to graze on U.S. Forest Service lands may put more pressure on private pastures and rangeland within the UFR watershed.

- Issue: *Capacity of groups and individuals in the agriculture community to access funding resources and provide management.*

A significant challenge to improving resource management in the region is the lack of a sufficient base of people trained and equipped in grant writing, staffing and administration to obtain and administer funds for management projects. Local groups such as the Sierra Valley Resource Conservation District (SVRCD), the Feather River Resource Conservation District, the Sierra Valley Groundwater Management District, and the Upper Feather River Watershed Group do not have enough trained staff or budget to seek and obtain grants and other outside funding, or to administer grants once obtained. The lack of capacity goes beyond grant procurement and includes data and people management as well.

- Issue: *Changing climate patterns of precipitation from snow to rain and higher temperatures.*

The recent trend in the region of winter precipitation coming in the form of rain instead of snow affects the timing of water available for irrigation. Rainfall has a much lower retention time in the watershed than snow, which changes the seasonal availability of water in irrigation ditches and on non-irrigated, seasonally wet meadows. Rain is released quickly in short-duration peak flows following winter precipitation events, while snow is released slowly allowing for a more uniform flow during the summer dry season.

- Issue: *Inefficiencies in irrigation management.*

Surface irrigation via old open ditch conveyances is a highly inefficient method for water delivery and is often time consuming to manage. However, most small districts and individuals find it difficult to justify the cost of replacing open ditches with buried pipe. While converting ditches to pipelines increases water supply efficiencies, it can also mean less water being returned to the local groundwater basin and, in some places, less for habitat. This also applies to the degraded conveyance system issue identified below.

- Issue: *Degraded and inadequate surface water storage facilities.*
- Issue: *Degraded and inadequate conveyance system infrastructure.*

Similar to aging municipal water and wastewater infrastructure, many of the diversion dams, storage reservoirs, irrigation ditches and pipes in the region have deteriorated from age and deferred maintenance. Aging infrastructure results in inefficiencies in irrigation water management including water loss through leakage and reduced capacity of storage and conveyance infrastructure.

- *Issues: Need for greater collaboration among water users.*

There is need for greater collaboration and suitable infrastructure in the region to promote matching water quality to use and creating more efficient water use, such as treated municipal wastewater being made available for irrigation.

- *Issue: Decreasing groundwater basin recharge.*

Changes in precipitation patterns, loss of montane meadows, and increased evapotranspiration in forests with high stand densities have caused a reduction in the rate of groundwater recharge in the region. Decreasing groundwater recharge results in less groundwater available for irrigation from wells. Furthermore, as in recent years, drought places a greater reliance on groundwater for irrigation, which taxes diminishing groundwater resources.

- *Issue: Management activities in the upper watershed affect availability of water downstream for irrigation.*

Restoration projects implemented in the upper watershed affect timing and quantity of downstream flows, particularly for irrigation purposes.

- *Issue: Conflicts between upstream and downstream water rights holders.*

Upstream management activities often affect the timing and availability of water to downstream water rights holders. This problem is exacerbated by efforts to increase retention time in the upper watershed, particularly during periods of declining total water availability.

- *Issue: Over allocation of declining water supply and conflicts between current and historical uses.*

Recent declines in precipitation and groundwater supplies, combined with the increased economic importance of tourism-related water uses in the region, result in over allocation of resources and conflicts between agricultural, municipal, and environmental uses. In adjudicated areas, users are allocated flows based on current supplies and water decrees, which limits such conflicts.

- *Issue: Lack of holistic management for soil health and forage mixes.*

Improving soil health increases water holding capacity, organic matter, and improved drought resiliency. Management practices in the Plan area have tended to focus on individual goals or projects rather than holistic resource management. Compliance with the Irrigated Lands Regulatory Program (ILRP) has been supplemented with ongoing research efforts funded through Proposition 50. Additionally, coordination through the IRWM process is anticipated to facilitate sharing and problem solving among land managers within the region.

- *Issue: Burdensome regulations and lack of resources for compliance.*

Regulations in the Plan area are enforced by numerous local, state, and federal agencies and often place an excessive burden on water users, and individuals and groups lack the time, money, and leadership required to comply. Also, Central Valley Regional Water Quality Control Board (CVRWQCB) waivers of waste discharge requirements for agricultural operations in the Plan area are tied to overall watershed water quality that is affected by sources of pollution other than agriculture.

- Issue: *Lack of resources for water quality management of agricultural and ranch lands.*

Currently, there is insufficient funding to promote improved management of agricultural and grazing lands to protect water quality in the Plan area. For example, fencing wetlands and streams to exclude cattle is costly and benefits from technical guidance on where to locate fences, and what types of measures work best to protect water resources without negatively affecting wildlife. Much work toward complying with water quality regulations has been accomplished in the region.

- Issue: *Need for increased management of agricultural lands for wildlife habitat enhancement.*

With increased funding and education from local agencies and organizations, improvements to agricultural management practices could improve wildlife habitat in the region. Agricultural lands are managed by the owner to maximize profit, and usually sustainability, as income is derived directly from the land. While enhancing wildlife is not the main goal, they do not have to be competing activities.

- Issue: *Need for greater clarification of water rights in the region.*

Communication and understanding of existing water rights (i.e., agricultural and others such as PG&E) within the region would be beneficial to water and land managers and decision-makers within and outside the region.

3.2.1.2. *Floodplains, Meadows, Waterbodies*

- Issue: *Impacts from abandoned mines.*

Copper mining in the Upper Feather River watershed has caused copper, cadmium, mercury, and zinc impairments in several of the Upper Feather River tributaries. The largest mine in the region is the Walker Mine, an inactive copper mine approximately 12 miles east of Quincy, in Plumas County. Acidic and metal-laden water (acid mine drainage) discharging from the mine portal and tailings impoundment has long affected the nearby streams of Dolly Creek and Little Grizzly Creek. The discharge was reported to have eliminated aquatic life in Dolly Creek, downstream from its confluence with the mine drainage, and in Little Grizzly Creek, downstream from its confluence with Dolly Creek, for a distance of approximately ten miles from the mine. Little Grizzly Creek flows to Indian Creek, a tributary to the North Fork of the Feather River. Additionally, the historic practice of hydraulic mining in the region resulted in the removal of large amounts of upper soil horizons and steepening of slopes in the upper watershed.

- Issue: *Lack of collaboration between agencies and people.*

Effective, collaborative relationships among agencies, watershed management groups, and local stakeholders have been challenged over the past several years on the topic of meadow restoration, in particular. Meadow restoration efforts for the past 25 years were focused on improving water quality by reducing the sediment load and reversing the trend of warmer stream-water temperatures that were negatively affecting aquatic habitat. With recent drought conditions, downstream water users are again concerned with the need to work toward re-building strong collaborative relationships among all stakeholders (public and private) for the future management of this important headwaters region.

Active adaptive management will encourage transparency and collaboration when all stakeholders are participating, when a strong, watershed-wide monitoring program (including third-party oversight) has been established, and when a central database is maintained and available to the public. In addition,

continuing and building upon the various outreach and education programs already available in the region is important for having informed stakeholder dialogue on water-related issues.

➤ Issue: *Tree encroachment into meadows.*

Stream incision caused by changes in flow regimes leads to drying of montane meadows by lowering the water table and severing the hydrologic connection between the stream and surrounding uplands. Many meadows have been invaded by conifer species, which lowers the water table further and contributes to continued drying of the meadows.

➤ Issue: *Degraded meadows.*

The most sensitive landforms in the watershed are meadow areas associated with the upper subwatersheds. Meadows are the remnant lake bottoms of highly erodible soil types and a source of large volumes of sediment to rivers and human-made infrastructure downstream when they are allowed to persist in a degraded state. Historic, unregulated activities of mining, logging, grazing, and related infrastructure have caused some level of degradation in nearly every meadow of the watershed. Restoration goals have been prioritized, which has focused efforts in the region. The lack of fire in the area may also contribute to encroachment of conifers into the meadows. Meadow restoration continues through implementation of projects through improved land management practices.

Restoration of degraded meadows is a priority and has numerous benefits such as protection of plant and animal species diversity and re-establishing hydrologic function. In addition, recent studies indicate that mountain meadows restored to a healthy condition have the potential to sequester up to 40 percent more carbon than degraded meadows.

➤ Issue: *Altered stream hydroperiod.*

Throughout the Upper Feather River watershed, incised active stream channels have reduced retention times, resulting in less water infiltration in meadows and wildfire-damaged uplands. This has led to rapid loss of precipitation to surface runoff in high peak flows, followed by greatly reduced stream flows during the summer dry season.

➤ Issue: *Loss of fisheries habitat.*

Water flows in the watershed are highly regulated by the Department of Water Resources (DWR) and Pacific Gas & Electric (PG&E) for hydroelectric purposes and water storage for downstream users. In addition to creating insurmountable fish barriers, some of the hydroelectric dams on the Feather River create shallow reservoirs (i.e., Rock Creek and Cresta) that result in increased water temperatures. Increased water temperatures, loss of channel pools, loss of riparian vegetation and undercut banks, increased sediment loads, and seasonal drying of streams due to decreased water retention in upland watersheds have resulted in loss of fisheries habitat throughout the region.

➤ Issue: *Need for improved flood management.*

Flood management can decrease groundwater infiltration and promote erosion when floodwaters are not allowed to spread across floodplains and be retained, thereby resulting in high flows downstream that scour channels. In addition, loss of water retention in uplands exacerbates the problem by causing higher floodwaters in streams that then require channelization management.

➤ Issue: *Need for better grazing management on public lands.*

Grazing on lands in the upper watershed may lead to changes in the vegetation, i.e., away from grass and forb communities that have high water retention and toward shrub communities with lower water retention. Livestock may also cause soil compaction, disturbance to wetlands, physical damage to stream banks, and waste pollution.

➤ Issue: *Impacts of wildfire.*

Widespread, intense wildfires in upland forests lead to erosion and sediment discharge into streams in subsequent rain events, increased peak flows, and significantly reduced capacity for water infiltration and retention in the watershed. Additionally, recent climate change studies have focused on the substantial release of climate change emissions from catastrophic wildfires including greenhouse gases, aerosols, and black carbon.

➤ Issue: *Deteriorating and inadequate recreational facilities.*

Recreational facilities, including forest roads, are often poorly located and poorly maintained. Roads, campgrounds, and trails located in seasonal wetlands and meadows can cause erosion, pollution, and channelization of runoff. Forest roads are the largest source of sediment in the watershed. Many roads were designed without adequate erosion control measures and have become rutted and gullied, which further accelerates sediment discharge. Additionally, as the economy transitions from the traditional resource base towards tourism, more and better managed recreational facilities will benefit the region.

➤ Issue: *Loss of wildlife habitat.*

Riparian corridors are beneficial for maintaining wildlife diversity, and function as an interface between aquatic and terrestrial habitats. Riparian buffers are also important in filtering runoff from meadows and pastures, which protects water quality. A majority of the montane riparian habitat in the UFR watershed is unprotected from conversion to other land uses, and is fragmented by inconsistent land management practices. Fencing off riparian corridors, providing off-site watering, and implementing improved grazing strategies are ways in which agencies and private stakeholders can work collaboratively to help enhance this vital habitat for wildlife while protecting the interests of private landholders.

➤ Issue: *Lack of integration of programs.*

Water resource management in the UFR watershed has been guided over the past decade by the following eight plans and water rights decrees with authority over parts of the Plan area:

1. FERC License 1962;
2. FERC License 2105;
3. FERC License 619;
4. Monterey Settlement Agreement;
5. Feather River Watershed Management Strategy (expired 2014);
6. Feather River Coordinated Resources Management Plan;
7. Quincy Library Group Act – Management Plans for Lassen, Plumas, and Tahoe National Forests;
and
8. Sierra Valley Groundwater Management District Legislation.
9. Indian Valley Decree
10. Sierra Valley Decree

Although the statutory term of some of these plans has expired, they have shaped and continue to shape water management in the upper watershed. Each of these plans deals in part with some water management issues of the watershed, but the plans collectively do not address all water issues and do not geographically encompass the entire watershed. Additionally, local plan requirements sometimes conflict with the requirements or interests of plans in other localities, and the piecemeal nature of planning in separate jurisdictions creates difficulties in addressing issues on a watershed scale. There have also been extensive restoration and land and water management efforts by various agencies, groups, and non-governmental organizations that would benefit from a more holistic approach, rather than site- or project-specific efforts.

➤ Issue: *Degraded floodplains.*

Streambank and channel degradation has led to deeply incised stream channels throughout the watershed, disconnecting the channel from its historic floodplain. New floodplains usually cannot be established in the incised channels, and those that are established are often too narrow to accommodate and spread out the water during peak flows.

➤ Issue: *Loss of salmon from the upper watershed.*

Dams have progressively excluded salmon from the main branches of the Feather River over time, culminating in the Oroville Dam, causing complete extirpation of ocean-run salmon from the upper watershed. In addition to creating insurmountable fish barriers, some of PG&E's Stairway of Power hydroelectric dams on the Feather River create shallow reservoirs (i.e., Rock Creek and Cresta) that result in increased water temperatures. Channel incision, headcutting, and increased water temperature have also degraded potential salmon spawning habitat in the upper watershed.

➤ Issue: *Need for better sediment management.*

Managing all sources of sediment export from the watershed should remain a high priority to protect water quality, prevent permanent loss of soil downstream, and protect reservoirs from filling in. The primary sources of sediment loss are streambank erosion and erosion from road cuts and fill slopes.

➤ Issue: *Threats to listed species.*

A total of 13 species listed as threatened or endangered under federal and/or state endangered species acts occur in the Plan area (see discussion in Chapter XX *Region Description*, Table X.5). Many of these, including two amphibians, four birds, one mammal, and one plant are associated with riparian or aquatic habitats and are, therefore, especially sensitive to water quality issues. Declining water quality from sedimentation, increased temperature, and pollution from mines has had deleterious effects on these listed species. In addition to general watershed issues with environmental water quality, rodenticides and herbicides used in illegal cannabis cultivation leach into streams and pose a particular threat to all species that depend on aquatic habitats.

➤ Issue: *Declining water quality.*

Increased water temperatures, sedimentation, reduced dissolved oxygen, and potential toxins from aging debris dams (historic gold mining) remain as primary reasons for declining water quality in the watershed. While some progress has been made towards improvement, it has not removed the threat posed to aquatic species. Building on existing monitoring efforts by DWR and Plumas Corporation, in

addition to outreach and education, could lead to increased awareness of the issues and a framework to guide future water quality improvement efforts.

➤ Issue: *Decreasing water quantity.*

Climate change models predict a 48 to 65 percent reduction in snowpack from the 1961–1990 average in the Sierra Nevada by the end of the 21st century.²

A network of monitoring stations such as those established by the California Data Exchange Center (CDEC) that measures streamflow is needed throughout the watershed, particularly in the upper watersheds. These stations should be located at important confluences or below critical river reaches such that a complete picture of water quantity can be seen over time.

➤ Issue: *Timing of water storage and release.*

Water storage and release for uses such as agriculture, hydroelectric generation, and flood control are often incompatible with the needs of natural ecosystems. The natural hydroperiod of streams has been altered, resulting in accelerated seasonal drying of tributaries and increased “flashiness” due to decreased retention in the upper watershed, unseasonal peaks in lower reaches due to releases for hydroelectric generation, and reduced seasonal flood peaks in lower reaches.

➤ Issue: *Increasing sediment load in streams.*

Increased turbidity in upper watershed streams negatively affects aquatic organisms, reduces fish spawning habitat, and increases water temperature. Increased turbidity by fine sediments inhibits photosynthesis, chokes aquatic animals, fills channel pools and covers rocky substrates, and raises water temperature by absorbing solar radiation. Approximately 1.1 million tons of sediment are transported out of the Upper Feather River watershed annually.³

3.2.1.3. Municipal Services

➤ Issue: *Aging infrastructure.*

Twenty-two special districts provide either or both domestic water and/or wastewater services in the Upper Feather River region (Chapter X, Table X.2). Infrastructure in many of these districts is old and in need of maintenance and/or upgrades. Aging infrastructure results in water loss, infiltration/inflow, broken service mains, inadequate capacity, accidental releases, and increased operating costs. The small populations in these service districts are burdened with high per-connection costs of water systems, which limit the revenue available to districts. Statutory restrictions on utility rate increases also often prevent service districts from raising needed revenue when voters reject rate increases.

➤ Issue: *Dam and reservoir integrity.*

There are 40 major dams and diversions in the Plan area⁴: the newest is 36 years old and the oldest is 150 years old (Chapter X, Table X.9). Declining structural integrity may result in a dam leaks, or force the

² Department of Water Resources, 2015. *California Climate Science and Data for Water Resources Management*. http://www.water.ca.gov/climatechange/docs/CA_Climate_Science_and_Data_Final_Release_June_2015.pdf

³ Plumas County, 2005. *Upper Feather River Integrated Regional Water Management Plan*; page 4-1. June 30.

⁴ Ibid. page 4-19.

lowering of maximum water levels to prevent failure, both of which reduce storage capacity. The risk of dam failure also poses a threat to communities downstream.

- Issue: *Inadequate storage.*

Despite the large number of dams in the watershed, many of which are owned and regulated by DWR and PG&E, there is inadequate storage to meet all the needs of water users in the region.

- Issue: *Infiltration and inflow into wastewater systems.*

Aging wastewater infrastructure can allow inflow of freshwater during precipitation events or floods. This results in flows that exceed the capacity of wastewater treatment facilities, which force releases of untreated or incompletely treated wastewater.

- Issue: *Insufficient flow capacity of wastewater infrastructure.*

Insufficient capacity in wastewater treatment facilities or collection lines can result in release of untreated or incompletely treated wastewater.

- Issue: *Insufficient operations and maintenance revenue.*

Many small special districts do not have a sufficient revenue base to cover the increasing costs of operations and maintenance. Statutory restrictions on utility rate increases often prevent service districts from raising needed revenue when voters reject rate increases. When small projects in rural communities are submitted to granting agencies, they often do not fare well when competing with larger projects in more populous areas. Small districts also have difficulty raising required matching funds.

- Issue: *Limited staff and budget.*

Many small service districts do not have enough staff to cover the increasing range of issues and tasks that water and wastewater service providers face, and lack funding to meet growing administrative needs.

- Issue: *Lack of data on location of private wells.*

A large proportion of the residents of the region rely on private wells for water. Many of these wells are vulnerable to contamination or may be located illegally. The State of California has mandated that regional water management authorities determine the location of all private wells in their management area. This is a significant effort in the region for which there is insufficient staff and funding.

- Issue: *Lack of integrated regional facilities.*

The large number of small special districts in the region can result in redundancies and inefficiencies that may be reduced by combining services, say, in larger regional facilities.

- Issue: *Financial strain of meeting regulatory requirements.*

The management and compliance responsibilities of local special districts have increased markedly under state and federal mandates. Small special districts in the region lack a sufficient revenue base to meet the increasing regulatory requirements.

- Issue: *Reservoir capacity loss.*

Increased sediment load in rivers and streams in the watershed is resulting in sedimentation of reservoirs.

- Issue: *Need for staff training and replacement.*

Local special districts and agencies are experiencing a shortage of trained staff as the current generation retires. Many operational and maintenance procedures require a certified operator of a particular grade. Local entities have not been able to train a new generation of operators, in part due to a lack of funding to support junior operators and in part due to a declining population, especially of young working people.

- Issue: *Wastewater pond/levee integrity.*

Similar to dam integrity, the declining integrity of wastewater treatment ponds leads to increased risk of leaks and failure, and to reduced capacity to avoid failure.

- Issue: *Lack of wastewater reuse programs.*

Recycled wastewater has great potential to help meet future water needs. Currently, the Plan area does not have significant wastewater recycling capacity, and developing such capacity is costly. Typical recycled wastewater must be distributed in separate parallel infrastructures.

- Issue: *Water quality.*

Municipal water in the region must be treated for high levels of toxic metals in some cases. Copper mining in the Upper Feather River watershed has caused copper, cadmium, mercury, and zinc impairments in several of the Upper Feather River tributaries. Water in the Sierra Valley is unusually high in arsenic from natural sources in thermal springs. Groundwater in the Sierra Nevada region is also unusually high in uranium from natural sources.

The Plumas Eureka Community Services District (PECSO) is a small special district that provides water and wastewater services to between 340 and 1,500 customers near Graeagle, depending on the season. Water from PECSO groundwater wells consistently exceeds standards for arsenic, iron, and manganese. Because alternative sources of water are not feasible, PECSO proposes to construct an arsenic filtration facility. The City of Portola has recently installed an arsenic filtration facility to meet state standards for drinking water quality.

- Issue: *Inadequate flood management.*

Floodwaters can enter municipal wastewater systems that then tax the flow capacity of treatment facilities and lead to release of untreated or incompletely treated wastewater.

3.2.1.4. *Uplands and Forest*

- Issue: *Impacts to soils from mining, roads, fires, grazing, and other land uses in the watershed have reduced overall forest health, water quality, and groundwater recharge.*

It is difficult to separate cumulative impacts to soils into manageable problems. The regulatory enforcement of best management practices (BMP) is contributing to fewer impacts to soils from modern grazing, mining, road construction, and maintenance activities. However, catastrophic wildfires have

increasingly impacted soils, thereby reducing forest health, water quality, and groundwater recharge, depending on fire severity and soil factors.

- Issue: *Drought, disease, accumulation of biomass, increased stand densities, and residential development have dramatically increased the probability of catastrophic wildfire and the threats of wildfire to natural resources, life, and property.*

Current stand densities in the region are six to eight times higher than estimates of prehistoric densities, and ground and ladder fuels have accumulated due to suppression of natural low-intensity fires. Post-harvest plantations result in dense, even-aged stands that are especially susceptible to drought, pests, and disease. Stand thinning is required throughout the watershed to restore forest health, reduce the risk of catastrophic wildfires, and maximize infiltration rates.

- Issue: *Regional wood processing facilities require upgrades in capacity to support needed forest management and economic initiatives.*

High stand densities in forests in the region increase the risk of catastrophic wildfires, increase evapotranspiration, decrease groundwater infiltration, and generally decrease forest health. Stand thinning is needed throughout the Plan area; however, regional wood processing facilities currently lack capacity to process the increased quantities of wood that stand thinning would create. Also, capacity to produce wood products other than lumber, such as pellets, posts, and manufactured wood products (value-added wood products), are important to maintaining a healthy forest products economy in the Plan area.

- Issue: *Regional active biomass power generating facilities require upgrades in capacity to support needed forest management initiatives.*

High stand densities in forests in the Plan area increase the risk of catastrophic wildfires, increase evapotranspiration, decrease groundwater infiltration, and generally decrease forest health. Stand thinning is needed throughout the Plan area; however, regional active biomass power generating facilities currently lack capacity to process the increased quantities of wood byproducts that stand thinning would create. Also, the State of California has a goal of generating 6.6 percent of its total energy from biomass by the year 2020. Currently, biomass provides approximately 3 percent of total energy production.

- Issue: *Deficiencies in transparency, monitoring, data sharing, and integration of data into management plans have led to inefficiencies and redundancies in past management.*

Forest management was not a priority in the 2005 UFR IRWM Plan; it was incorporated into the California Water Plan (CWP) for the first time in 2013. The record drought and exponential increase in severe wildfires in forests have stimulated additional research and data collection. Many published studies and guidance manuals for forest management and monitoring, such as GTR 220 and GTR 237, are posted in the IRWM Documents library.⁵ They are referenced in public NEPA documents for proposed forest management actions on federal forest lands.

IRWM forest improvement projects include scientific references, published data, and programs for data collection and sharing.

⁵ The Document Library is available on the UFR IRWM website: <http://featherriver.org/catalog/>.

- Issue: *Riparian forests are declining throughout the Plan area due to stream incision, impacts to floodplains from grazing and agriculture, and groundwater depletion.*

After decades of fire suppression and reduced logging due to management practices and lawsuits, conifers have invaded ecologically and culturally important stands of hardwood trees including black oak (*Quercus kelloggii*) and have greatly reduced the historic diversity of key riparian forest and streamside species such as cottonwoods, willows, and maples. Conifers also have invaded aspen (*Populus tremuloides*) groves, thereby altering wildlife habitat and aspen regeneration vigor. Groundwater recharge during the dormant season--combined with shading out sunlight during the growing season--weakens riparian, aspen, and black oak stands. The suppression of managed fire and the interruption of tribal stewardship of these important forest habitats are important issues raised in the Plan update.

- Issue: *Declining rates of groundwater infiltration are changing the hydroperiod of streams in the Plan area.*

Reduced retention times throughout the watershed has led to loss of precipitation to surface runoff in high peak flows, followed by reduced stream flows during the summer dry season. Additionally, the climate is trending towards a change in precipitation from snow to rain, which further reduces retention times.

- Issue: *Reduced groundwater availability and increasing temperatures are causing forests to convert to brush after disturbance.*

Reduced precipitation retention times from reduced snowpack storage in the upper elevation parts of the watershed, and from damaged soils in severely burned forests, can lead to rapid loss of precipitation to surface runoff. This occurrence typically results in highly turbid peak flows followed by increasingly reduced stream flows during the summer dry season. Over months and decades, effects of severe fires can vary depending on burn severities, soils, geology, precipitation, and vegetation response. The past decade (2005-2015) has included several years of severe drought. In the region's forestlands, drought stress is killing the biggest trees and threatening vast stands in mature forests. Drought also increases the flammability of dense understory forest thickets, which are "ladder fuels" for crown fires that kill mature trees. Severe multi-year, drought-stressed forest landscapes across the region are at increasing risk for destruction by catastrophic wildfire. Watershed recovery after severe wildfire is identified as an increasingly important management priority along with reducing forest fuels in order to enhance and sustain watershed functions including stream hydrology and quality. Altered stream hydrology and increasingly severe wildfires threaten the future of mature forests and summer streamflows, and intensifying conflicts over forest and watershed management. Including stream hydrology rehabilitation and groundwater recharge recovery in designing ecological recovery for both unburned and severely burned mature forests and other key forest habitats, such as streams, is the focus of more than one IRWM landscape scale watershed and forest ecosystem enhancement and recovery project. Initiating landscape scale and integrated approaches to forest and water conservation should reduce management conflicts over altered stream hydrology if monitoring and evaluations are used to inform adaptive management.

- Issue: *Loss of critical riparian habitats.*

Riparian habitats in the region are valuable to wildlife and ecological processes. Stream incision and meadow drying are causing declines in riparian habitats. Riparian habitats are increasingly prone to

destruction by severe fire when conifer thickets provide fire ladders into mature cottonwoods and maples in riparian forests.

- Issue: *Recent catastrophic fires have created a need for post-fire recovery efforts in burn areas.*

The natural fire regime of forests in the watershed consists of relatively frequent, low-intensity fires that clear the underbrush and allows for natural regeneration. Widespread, catastrophic wildfires result in total removal of biomass and require intensive recovery efforts to restore affected areas.

- Issue: *Tree encroachment into meadows.*

Stream incision caused by changes in flow regimes leads to drying of montane meadows by lowering the water table and severing the hydrologic connection between the stream and surrounding uplands. Hardwood trees including black oak (*Quercus kelloggii*) and aspen (*Populus tremuloides*), as well as sagebrush (*Artemisia tridentata*), have invaded some meadows.

- Issue: *Reduced groundwater infiltration.*

Changes in precipitation patterns, increased forest stand densities, and impacts to soils from land use have reduced the rate of groundwater infiltration and the amount of soil moisture available to trees.

- Issue: *Increases in forest stand densities lead to increased evapotranspiration and reduced groundwater infiltration.*

Historic forest management practices have led to a marked increase in stand densities over natural conditions and what is considered optimal for forest health. High stand density increases evapotranspiration, which depletes soil moisture and decreases groundwater infiltration.

- Issue: *Insufficient water available for forest and fire management.*

The increased frequency of catastrophic wildfires increases the demand for water for firefighting.

Table 3-1 Summary of Regional Water Issues Identified by Workgroups, 2014-2015

Workgroup	Regional Water Issue
Agricultural Lands Stewardship	
	Lack of consistent supply of surface and groundwater.
	Too little availability of public and private lands for grazing.
	Capacity of groups and individuals in the agriculture community to access funding resources and provide management.
	Changing climate patterns of precipitation from snow to rain and higher temperatures.
	Inefficiencies in irrigation management.
	Degraded and inadequate surface water storage facilities.
	Degraded and inadequate conveyance system infrastructure.
	Need for greater collaboration among water users.
	Decreasing groundwater basin recharge.
	Management activities in the upper watershed affect availability of water downstream for irrigation.
	Conflicts between upstream and downstream water rights holders.
	Over allocation of declining water supply and conflict between current and historical uses.
	Lack of holistic management for soil health and forage mixes.
	Burdensome regulations and lack of resources for compliance.
	Lack of resources for water quality management of agricultural and ranch lands.
	Need for increased management of agricultural lands of wildlife habitat enhancement.
	Need for greater clarification of water rights in the region.
Floodplains, Meadows, and Waterbodies	
	Impacts from abandoned mines.
	Lack of collaboration between agencies and people.
	Tree encroachment into meadows.
	Degraded meadows.
	Altered stream hydroperiod.
	Loss of fisheries habitat.
	Need for improved flood management.
	Need for better grazing management on public lands.
	Impacts of wildfire.
	Deteriorating and inadequate recreational facilities.
	Loss of wildlife habitat.

Workgroup	Regional Water Issue
	Lack of integration of programs.
	Degraded floodplains.
	Loss of salmon from the upper watershed.
	Need for better sediment management.
	Threats to listed species.
	Declining water quality.
	Decreasing water quantity.
	Timing of water storage and release.
	Increasing sediment load in streams.
Municipal Services	
	Aging infrastructure.
	Dam and reservoir integrity.
	Inadequate storage.
	Infiltration and inflow into wastewater systems.
	Insufficient flow capacity of wastewater infrastructure.
	Insufficient operations and maintenance revenue.
	Limited staff and budget.
	Lack of data on location of private wells.
	Lack of integrated regional facilities.
	Financial strain of meeting regulatory requirements.
	Reservoir capacity loss.
	Need for staff training and replacement.
	Wastewater pond/levee integrity.
	Lack of wastewater reuse programs.
	Water quality.
	Inadequate flood management.
Uplands and Forest	
	Impacts to soils from grazing, mining, roads, fires, and other land uses in the watershed have reduced overall forest health, water quality, and groundwater recharge.
	Drought, disease, accumulation of biomass, increased stand densities, and residential development have dramatically increased the probability of catastrophic wildfire and the threats of wildfire to natural resources, life, and property.
	Regional wood processing facilities require upgrades in capacity to support needed forest management and economic initiatives.

Workgroup	Regional Water Issue
	Regional active biomass power generating facilities require upgrades in capacity to support needed forest management initiatives.
	Deficiencies in transparency, monitoring, data sharing, and integration of data into management plans have led to inefficiencies and redundancies in past management.
	Riparian forests are declining throughout the Plan area due to stream incision, impacts to floodplains from grazing and agriculture, and groundwater depletion.
	Declining rates of groundwater infiltration are changing the hydroperiod of streams in the Plan area.
	Reduced groundwater availability and increasing temperatures are causing forests to convert to brush after disturbance.
	Loss of critical riparian habitats.
	Recent catastrophic fires have created a need for post-fire recovery efforts in burn areas.
	Tree encroachment into meadows.
	Reduced groundwater infiltration.
	Increases in forest stand densities lead to increased evapotranspiration and reduced groundwater infiltration.
	Insufficient water available for forest and fire management.

3.2.2. Capacity

3.2.2.1. Capacity definition and needs

Many of the significant issues in the Upper Feather River IRWM region are rooted in environment – both the natural environment and the built environment. Issues rooted in the natural environment include trends of decreasing total precipitation; shifts from snow to rain that result in decreases in retention and groundwater infiltration; changes in the frequency and intensity of precipitation events that result in higher flood flows and seasonal drying of streams; more severe droughts; increased fire risk from hotter summers and drier fuels; and forests made unhealthy by drought, disease, invasive weeds, and pests. Issues rooted in the built environment include aging or inadequate infrastructure; land management practices that have led to degraded meadows and headwaters, unhealthy forests, and diminished water quality; current and historic water management practices that have led to loss of species and aquatic habitats, and altered stream hydrology; conflicting water uses; and increasing water demand. These environmental issues interact to create complex, holistic watershed management challenges for the Plan area.

A capacity issue facing the region is rooted in the management needs themselves, that is, the issue of capacity to meet those management needs. Capacity refers to staff, expertise, data, and local funds necessary to compete for and administer grants, without which the management needs of the Plan area cannot be met. Additionally, there is a general lack of capacity within the region to meet regulatory requirements that are typically written with larger, more intensive operations or more highly populated or resourced locations in mind.

In an average year, the State Water Project and Central Valley Project deliver approximately 10 million acre-feet of water to 23 million Californians, of which the Upper Feather River watershed contributes approximately 3.2 million acre-feet annually. Thus, the region is a major exporter of water to the rest of California, and the health of the Upper Feather River watershed is vitally important to far more than the 32,000 residents of the Plan area⁶. In addition, state and federal laws guarantee that water rights appropriations cannot deprive the ‘Area of Origin’⁷ of the water it needs for the development of the area and must adequately supply the needs of the area and its inhabitants.

Restoring and maintaining the health of the Upper Feather River watershed benefits millions of people far beyond the watershed boundaries but requires financial resources that are not available from within

⁶ The Plan area includes all of Plumas County and portions of Sierra, Butte, Lassen, Shasta, and Yuba counties.

⁷ An “Area of Origin” is generally considered an area where a headwaters of a river or other significant water body originates. The “area” may be a county, region, or other geographic region of the state. The IRWM region boundary follows the watershed boundary for the Upper Feather River. Area of Origin protections emerged initially when the California legislature adopted the Feigenbaum Act in 1927, which authorized the State to file for unappropriated water to enable the State to develop the SWP (CWC Sections 10500-10507). The SWP, when operational, would divert water for export at the Delta for use elsewhere. Upstream areas became concerned about the potential loss of water, and in 1931 the Legislature amended the Feigenbaum Act to protect the rights of those sources or Counties of Origin (CWC Sections 10504-10506). California law now provides that no water rights appropriation or assignment may be granted by the SWRCB that will deprive the county in which the water originates for any such water as may be needed for the development of the county (CWC Section 10505). Areas of Origin are also protected by the federal Central Valley Project Improvement Act (later incorporated by reference into the Burns-Porter Act of 1959, Section 12931) that provides that the watershed of origin areas shall not be deprived of the prior right to all of the water reasonably required to adequately supply the beneficial needs of the watershed, area, or any of the inhabitants or property owners (CWC Section 11460).

the watershed itself, and so funding to implement the Plan must come from outside the Plan area. However, taking money from outside sources obligates one to the conditions those sources place on the funding. Although funds are available for watershed restoration and municipal services projects, most are in the form of competitive grants rather than funding entitlements. Small special districts, agencies, and organizations in rural areas are at a substantial disadvantage when competing with larger metropolitan areas for grant funding.

Many small special districts and agencies are understaffed, and either lack experienced staff or the time it takes to develop staff and administer grant funding. Nor are funds available to pay for training or for the investment in time needed to prepare a competitive application. Outside consultants may be too expensive for small districts and agencies to employ, or there simply may not be any local consultants. Competitive grants often require a substantial amount of technical data to support applications, such as water quality testing, geotechnical exploration, hydrology studies, and monitoring data, that are costly and time consuming to obtain. Past success is a principal predictor of future success in grant writing: Grants tend to be awarded to applicants with a track record of winning and implementing similar grants. This in itself discourages small districts and agencies from entering the competitive process as first-time applicants because they do not already have pilot programs or initial infrastructure in place from previous grants.

Many grants require an accompanying CEQA or NEPA process, which is itself expensive, time consuming, and requires further expertise that may be lacking at the local level. Many grants focus on specific functions, such as urban stormwater or water-use efficiency--that are not applicable to small rural communities because they don't meet the grant eligibility thresholds. Additionally, grants may be targeted to certain regions such as the Central Valley, Delta or the coast and not to mountain communities, such as the Upper Feather River region. Difficulties in obtaining grants can also be affected by the nature of the infrastructure in the region. Very old infrastructure such as ditches and flumes dating from the 19th century, or untreated wells, may not meet the basic infrastructure definitions that grants mandate for eligibility. A very large percentage of the region is administered by the federal government; state grant money may be either unavailable or require the cooperation of a federal agency to be used in those areas. Finally, grants often require matching funds that a small district or agency cannot raise.

A third capacity issue is the staffing and expertise necessary to administer basic operations and funds. Because of budget limitations, small districts and agencies often cannot afford to train junior skilled technicians and operators to fill vacancies when more senior employees retire. Some service districts find that they have no staff with the required certifications to perform operations and maintenance tasks, or with the experience and training to perform certain administrative functions. Private land owners also face the issue of capacity: Agency staff and technicians are stretched thin and may not be available to provide requested guidance and support for land management activities or obtaining funds targeted at individual landowners to improve private land management practices.

3.2.2.2. Integration as means of capacity building

Fully addressing the issue of capacity in the Plan area, and in similar rural watersheds in the Sierra Nevada, will require a more holistic approach to water resources management in California. Water resources should be viewed as an interconnected ecological system that extends from the highest peaks in the Sierra Nevada to the Pacific Ocean, integral to the quality of life of every human and natural

community from the mountains of the upper watersheds, through the major rivers and delta, to the coastal regions. Water management should also be viewed as an integrated system in which funding and administrative resources are applied wherever they are needed instead of through competition. Water resources management should be integrated statewide while respecting the sovereignty and value of local communities. Coordination between the California Water Plan and regional watershed plans such as the UFR IRWMP is important to statewide integration of water management. Statewide organizations such as the Association of Water Agencies (ACWA) and the regional water boards work for the good of all the state.

Integration at a regional or watershed level can also help address the capacity issue. As a result of the 1993 Monterey Settlement Agreement, the DWR paid \$4,000,000 to Plumas County for watershed improvement and environmental restoration. Upon final settlement, there is potential for another \$4,000,000 for Plumas County. These funds have been administered by the Plumas Watershed Forum (PWF) according to goals and criteria set forth in the Feather River Watershed Management Strategy. The PWF has funded high-priority projects that have demonstrated positive results in improving watershed retention and reducing sedimentation. Although the funding does not come from competitive grants, the administrative capacity of the PWF is an important regional asset for administering funds for environmental restoration. Other examples of regional integration for watershed management in the Plan area include the Quincy Library Group Act that mandated inclusion of the Quincy Library Group Stability Proposal into the forest management plans of the Plumas, Lassen, and Sierra National Forests, and the Upper Feather River Roundtable, a voluntary program for coordinating management projects with private landowners and funding sources. The 2005 UFR IRWMP itself was funded by DWR under Proposition 50, while Proposition 84 funded the 2016 update.

The PWF and the Quincy Library Group are examples of enhancing capacity for environmental resources management through integrating goals and administration at a regional scale. Similar regional integration would enhance capacity for community services such as water, wastewater, and flood control. Meeting such needs at a regional level may create economies of scale not available to small local special districts; however, performing a cost-benefit analysis may be most beneficial. A regional wastewater treatment facility, for example, would have higher flow capacity, lower administrative costs, and a larger revenue base than numerous separate local wastewater facilities. A single wastewater authority for the region may take advantage of staffing efficiencies, thereby making the highest utilization of available operators as well as freeing resources for grant writing and other capacity-building functions. A wastewater authority serving most of the approximately 24,000 residents of the Plumas and Sierra county portions of the region would be more competitive for grant funding, by returning a benefit to a larger number of people, which is often a concern for funding agencies. In addition, integrating such services throughout the Plan area would address disparities of capacity and service within the region itself that are similar to the disparities between the Plan area and other regions of the state described in the previous section. Finally, regional integration of all water management would increase capacity by bringing together expertise, experience, effort, and knowledge of stakeholders with disparate interests.

3.3. Conflicts in the Region

Conflicts in the region arise mostly from the allocation of finite water resources to a variety of competing needs and uses, both in the region and beyond.

The most pervasive conflict arises from the fact that disadvantaged rural communities in the region exist in an abundance of immensely valuable water resources but receive very little compensation (i.e., more disadvantaged communities have fewer resources to pursue grant funding, or the grants are geared towards more urbanized areas). Flood control, electrical power generation, agriculture, urban development, recreation on foothill reservoirs and Central Valley rivers, and environmental uses in the Central Valley and Bay/Delta—all beneficial uses of the region’s area water—are primarily or entirely directed by entities outside of the watershed. Management of water in the region for maintenance of these outside-the-region beneficial uses of water can conflict with economic, social, beneficial uses of water within the region, and cultural development needs within the region as well.

Competing needs and uses within the region include agricultural, municipal, residential using private wells, hydroelectric, and environmental water uses. Agriculture is the largest consumptive use of water in the watershed, and in dry years relies heavily on groundwater pumping. Groundwater overdraft can cause conflicts between competing uses if farms and municipalities rely on the same aquifer, or if lowered water tables affect stream flows or riparian habitat. Irrigation in the Sierra Valley resulted in significant groundwater pumping, which has steadily increased from approximately 7,500 acre-feet in 2001 to 13,117 acre-feet in 2015. The Sierra Valley Groundwater Management District Technical Reports identify a safe groundwater basin yield of 6,000 acre-feet. Ranching is an important economic activity as well as a cultural tradition in the watershed. However, in some areas within the region cattle grazing in meadows and uplands has resulted in impacts to wetlands, streams, vegetation, and soils, which contribute to decreases in water quality. Watershed restoration may require changes to grazing. Dams on the region’s rivers constructed for hydroelectricity and water management have caused the extirpation of salmon above Oroville Dam. Salmon are an important part of local Native American culture and traditional lifeways. Restoring salmon to the Upper Feather River would require modification of water management for hydroelectric production as well as substantial restoration of upper watershed streams that could impact grazing and agricultural uses.

Environmental water uses involve base in-stream flow levels necessary to maintain aquatic, wetland, and riparian habitats as well as aesthetic values. The Middle Fork of the Feather River between Mohawk Valley and Lake Oroville has been designated a Wild and Scenic River and has mandated minimum flow levels. The headwaters of the Middle Fork are in Sierra Valley, which is the largest agricultural area in the watershed with over 40,000 acres of irrigated farm land and include the only two incorporated cities in the region. Consumptive water uses in Sierra Valley and Mohawk Valley can conflict with mandated minimum flow requirements in the downstream Wild and Scenic reach of the Middle Fork.

Hydroelectric uses often result in conflicts over how the timing of water releases affects recreation, water temperature, and sensitive species habitat downstream. Over the past 15 years, FERC relicensing has been controversial at Rock Creek, South Feather, Oroville, Lake Almanor, and Poe because of issues related to water temperature, recreation, species habitat, and climate change.

Other conflicts in the watershed arise from land management practices. The vast majority of the watershed is forested uplands, and past and current management of those lands has resulted in substantial impacts to water resources. Past mining and logging activities have left a legacy of pollution from tailings and a large number of dirt roads that promote erosion. Cessation of logging in the late 1980s has resulted in buildup of fuels, increased stand densities, and declining forest health, all of which affect the quantity and quality of surface and ground water in a variety of ways. The most important forest management strategies for watershed improvement are stand thinning and road restoration; however, these activities are controversial and frequently opposed—especially stand thinning. Also,

stand thinning operations might conflict with closure or redesign of forest roads, as roads will be necessary for access.

Meadow restoration projects also can create conflicts with downstream water users. Many meadows in the watershed have become degraded by road construction, draining, removal of native vegetation, poorly managed grazing, and natural factors that have resulted in stream incision and headcutting. As streams become disconnected from their floodplains, formerly wet meadows transition to dry shrub lands, and groundwater recharge and flood attenuation functions are lost. Meadow restoration has long-term benefits to the entire watershed, but can result in short-term reductions in stream flows as restored wetlands refill with water, and groundwater recharge takes up a greater percentage of surface water.

DRAFT

**Upper Feather River
Integrated Regional Water Management**

**RWMG Meeting No. 11
May 20, 2016**

To: Upper Feather River Regional Water Management Group
From: Uma Hinman, Uma Hinman Consulting
Subject: Draft Land Use and Water Planning Chapter
Date: May 14, 2016

INTRODUCTION

The Land Use and Water Planning chapter of the IRWM Plan is a discussion of potential impacts and benefits of Plan implementation and to clearly communicate them to stakeholders. The discussion includes impacts and benefits within the IRWM region, between regions, and those directly affecting disadvantaged communities, environmental justice¹ concerns, and Native American Tribal Communities.

Per the Proposition 84 IRWM Guidelines, the IRWM Plan must be congruent with local plans, and include current, relevant elements of local water planning and water management issues common to multiple local entities in the Region. Regional planning does not replace or supersede local planning, rather regional planning should appropriately incorporate local planning elements. The IRWM Plan must describe how the RWMG has or will coordinate its water management planning activities to address or incorporate all or part of the following actions of its members:

- Groundwater management
- Urban water management
- Water supply assessments
- Agricultural water management
- City and county general planning
- Resource management planning
 - Flood protection
 - Watershed management
 - Multipurpose program planning
- Low impact development (LID)
- Stormwater management

¹ California Government Code §65040.12(e) defines environmental justice 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.

- Salt/salinity management
- Emergency response/disaster plans

The intent of the Guidelines' "Relation to Local Land Use Planning Standard" is to require an exchange of knowledge and expertise between land use and water resource managers; examine how RWMGs and land use planning agencies currently communicate; and identify how to improve planning efforts between the RWMGs and land use planning agencies. The chapter should include a discussion of the following topics:

- IRWM and the link between water management and land use planning;
- Description of the current relationship between local land use planning entities and water management entities; and
- Description of future efforts in the process of establishing a proactive relationship between land use planning and water management.

PROCESS AND NEXT STEPS

The Draft Land Use and Water Planning Chapter was drafted by staff with input from Workgroup Coordinators. The chapter was based on a thorough review of regional general plans, planning documents, and information collected from regional water and wastewater agencies. The draft chapter was released to the workgroups, stakeholders, and posted on the website on April 11, 2016 for a 30 day review and comment period. The deadline for comments was May 10, 2016. Staff received four sets of comments in total. The comments were reviewed internally and with Randy Wilson, Project Manager, and revisions made accordingly. A complete set of all comments received on the chapter were provided to the RWMG on May 11, 2016. The version included in this agenda item is the revised chapter.

The next step in the process will be to address any comments received by the RWMG at the May 20, 2016 meeting. Upon completing this process with the other draft chapters, the chapters will be incorporated into a comprehensive Public Review Draft Plan, which will be the next opportunity for public input and comment. Once the Public Review Draft Plan is ready and made available, there will be two public meetings scheduled within the public review period to present the Draft Plan and to receive comments.

REQUEST

Discussion and direction to staff.

Attachment: Draft Land Use and Water Planning Chapter

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XX.0 Introduction

A goal of the Integrated Regional Water Management Plan (IRWMP) process is to facilitate communication between land use planners and water managers to better address coordination between land use planning and regional water planning. The IRWMP must incorporate and be consistent with local water and land use plans to encourage opportunities to implement local goals and policies; conversely, local planning documents should also incorporate IRWMP goals and objectives to provide collaborative opportunities with regard to IRWMP implementation.

One of the goals of the California Water Plan Update 2013 is to ensure water managers and land use planners make informed, collaborative water management decisions to better assure California's water needs are met into the future, especially in the face of climate change and drought. To address the integration of land use and water planning, the IRWMP must describe the relationship between the planning fostered by the IRWMP process—in this case, the Regional Water Management Group's (RWMG) planning efforts—and local agencies' water and land use planning. Early coordination of water and land use planning decisions is recognized as one of the best methods for meeting that future need; to that end, this chapter recognizes existing coordinated planning practices and highlights opportunities for future improved coordination.

Plan Area

Plumas County comprises 71.68 percent of the Upper Feather River watershed. Neighboring Butte (14.99 percent), Sierra (7.47 percent), and Lassen (5.2 percent) counties comprise the vast majority of the remainder of the Upper Feather River (UFR) IRWM plan region. Only a small fraction of the region (0.68 percent) is located within Shasta, Tehama, and Yuba counties (Table XX-1).

Table XX-1. County Acreages in the Upper Feather River IRWM Plan Area

County	Total County Size (acres)	Acres of County in Watershed	Percentage of County in Watershed
Butte	1,072,692	345,850	14.99%
Lassen	3,020,394	119,394	5.2%
Plumas	1,673,682	1,653,456	71.68%
Shasta	2,460,537	13,574	0.59%
Sierra	615,880	172,367	7.47%
Tehama	1,893,614	136	0.01%
Yuba	411,973	1,880	0.08%
Total Upper Feather River IRWM Region (acres)		2,306,657	100%

Source: Deer Creek Resources, 2015.

Although the UFR IRWM plan area includes portions of Butte, Shasta, Tehama, and Yuba counties, it was mutually decided that they not be actively included in the UFR IRWM planning process for a variety of reasons:

Butte County¹ because it is already entirely covered by the North Sacramento Valley IRWMP; Yuba County because it is entirely covered by the Yuba County IRWMP; and Shasta and Tehama counties because the land area covered by the UFR IRWMP in these counties is minimal and is managed primarily by Lassen National Park. This chapter, therefore, evaluates only those land managers within Lassen, Plumas, and Sierra counties. Further details on the Plan Area are included in [Section XX.2.1](#) of this chapter.

Watershed Characteristics

The UFR watershed is part of the northern Sierra Nevada, where that Range intersects with the volcanic Cascade Range to the north and the Diamond Mountains of the Basin and Range Province to the east. The tributaries of the Upper Feather River drain this terrain and flow southwest to eventually fill Lake Oroville, the second largest reservoir in the state. The Oroville Reservoir is the principal water storage facility of the State Water Project (SWP), which conserves and delivers water to over two-thirds of California's population.² Water flows from Lake Oroville through canals to irrigate farms of the Central Valley and provide domestic water to Southern Californians, and also to the Lower Feather River and beyond to enrich the aquatic ecosystem of the Sacramento-San Joaquin Delta.

Water Supply

Water supplies in the Upper Feather River Watershed come from both surface and groundwater, with the majority from surface water. In Plumas County, 66 percent of supply water is from surface sources, with the remaining supply relying upon groundwater.³ During drought years, additional groundwater is pumped to compensate for reduced surface water supplies. In Sierra County, a majority of supply water is from surface sources (94 percent).

The region is the primary headwaters for the State Water Project (SWP), supplying 3.2 million acre-feet (AF) per year through Lake Oroville for downstream urban, industrial, and agricultural use. Lake Oroville is the largest of the SWP's storage facilities, with a storage capacity of 3.5 million AF of water; it provides 48 percent of the developed municipal and industrial surface water supplies in California.⁴ The East Branch North Fork Feather River alone, which is contained completely in Plumas County, provides 25 percent of SWP water. Groundwater sources, both privately owned and publicly operated, occur mostly in the valleys on the east side of the Sierra Crest. Sierra Valley, the largest valley in the watershed, contains a large aquifer that is identified in DWR Bulletin 118 as a medium priority groundwater basin, thereby establishing it as subject to compliance with the recent sustainable groundwater management legislation.

Regional Land Use and Water Planning

Land and Water Managers in the Region

The Upper Feather IRWM Plan Area includes ten primary land managers ([Table XX-2](#)). Of these land managers, the counties and cities have the distinct and unique responsibility for planning land development policies and

¹ The UFR RWMP entered into an MOU with Butte County for the overlap area between the UFR IRWM and the Northern Sacramento Valley IRWM. The MOU stipulates coordination guidelines between the two entities for implementation projects located within the overlap surrounding Lake Oroville.

² Ecosystems Sciences Foundation, 2005, Integrated Regional Water Management Plan, Upper Feather River Watershed, California, Vol.1, p. 1-1.

³ Supply water refers to all water uses including domestic, agricultural, and irrigation.

⁴ Ibid, p. 4-28.

projects for privately held lands, which represent a small portion of the UFR region. The US Forest Service/National Forests prepare land management plans and conduct land management activities such as restoration work and vegetation modification for fire protection, but do not plan for private development of land.

Table XX-2. Primary Land Management Agencies in the Plan Area

State of California	County of Sierra
City of Loyalton	County of Lassen
City of Portola	Lassen National Forest
County of Plumas	Plumas National Forest
Lassen National Park	Tahoe National Forest

Municipal Water Management

The region includes 31 water managers (Table XX-3) responsible for managing water supply, quality, acquisition and delivery infrastructure, and administering the day-to-day operations of these activities. None of the water purveyors in the region meet the DWR's definition of an urban water purveyor: one that provides over 3,000 AF of water annually or serves more than 3,000 urban connections. Urban water purveyors are subject to more stringent water conservation and reporting standards than are small water purveyors such as those in the Upper Feather River IRWM Plan Area.

Table XX-3. Water Purveyors and Managers in the Plan Area

Calpine California Water District	Chester Public Utility District
City of Loyalton	City of Portola
Clear Creek Community Service District	Clio Public Utility District
Dixie Valley Community Service District	East Quincy Community Service District
Feather River Canyon Community Service District	Gold Mountain Community Service District
Graeagle Community Service District	Graeagle Mutual Water Company
Greenhorn Creek Community Service District	Grizzly Lake Community Service District
Grizzly Ranch Community Service District	Hamilton Branch Community Service District
Indian Valley Community Service District	Johnsville Public Utility District
Lake Almanor Country Club Mutual Water Company	Last Chance Creek Water District
Long Valley Community Service District ⁵	Plumas County Flood Control & Water Conservation District
Plumas-Eureka Community Service District	Quincy Community Service District
Sierra Valley Groundwater Management District	Sierra Valley Mutual Water Company
Sierraville Public Utility District	Walker Ranch Community Service District
West Almanor Community Service District	Westwood Community Service District
Whitehawk Ranch Community Service District	Department of Water Resources ⁶
Pacific Gas and Electric (PG&E)	Mill Race

The UFR region also includes a number of agencies, Tribes and organizations that manage or otherwise have an interest in water management but do not purvey water. Other water stakeholders in the region, identified as those entities that participate in water management activities and have a role in water management, are identified in Table XX-4.

⁵ Although Long Valley Community Service District doesn't currently provide water services, they could in the future.

⁶ Department of Water Resources management activities include two water masters, one each for Indian Valley and Sierra Valley.

Table XX-4. Other Water Stakeholders in the Plan Area

Water Manager/Stakeholder	Interest in Water Management
Plumas County Environmental Health	Regulates community wells; possible future monitoring of private wells
Sierra County Environmental Health	Regulates community wells; possible future monitoring of private wells
Lassen County Environmental Health	Regulates community wells; possible future monitoring of private wells
Feather River Resource Conservation District	Advocates conservation of soil, water, and natural resources
Greenville Rancheria	Water users in Indian Valley
Lassen County	Interest in water planning as it relates to land use planning
PG&E	Holds water rights for hydropower generation on area reservoirs and lakes
Plumas County	Interest in water planning as it relates to land use planning
Plumas County Community Development Commission	Interest in water planning as it relates to land use planning
Feather River Stewardship Council	Advocates forestlands stewardship through education and restoration for resilient watersheds
Sierra County	Interest in water planning as it relates to land use planning
Sierra Institute for Community and Environment	Advocates for healthy watersheds and forests by developing assessments and programs in rural communities
Sierra Valley Resource Conservation District	Advocates conservation of soil, water, and natural resources
State Department of Water Resources	Headwaters of the State Water Project; leads IRWM planning process; Water Masters for Indian Valley and Sierra Valley
University of California Cooperative Extension, Plumas-Sierra Counties	Research and education to address community challenges focused on sustaining agricultural vitality and enhancing natural resources
Plumas Watershed Forum	Implement watershed management and restoration activities for the mutual benefit of Plumas County and the State Water Project
Upper Feather River Watershed Group	Advocates irrigated lands stewardship through education and partnerships to ensure preservation of water quality

Groundwater Management

Due to the complexity of the subsurface geology in the region (see Chapter XX Region Description), the UFR watershed's groundwater basins are primarily located east of the Sierra Nevada Crest. Of the 14 groundwater basins in the region,⁷ the Middle Fork contains the largest in the Region, the Sierra Valley Groundwater Basin.⁸ The Sierra Valley Groundwater Basin is the only basin in the region that is currently listed in DWR's Bulletin 118 as a priority groundwater basin requiring a Sustainable Groundwater Plan (SGP). However, the smaller groundwater basins located throughout the region are relied upon by much of the region's population which utilize groundwater wells for domestic, municipal, industrial, and agricultural irrigation needs.

⁷ See chapter XX Region Description for a comprehensive list and description of groundwater basins and sub-basins within the region.

⁸ Ecosystems Sciences Foundation, 2005, Integrated Regional Water Management Plan, Upper Feather River Watershed, California, Vol.1 2005, pp. 4-3.

The groundwater basins within the region contain significant quantities of groundwater. In these areas, all of the municipal water purveyors except the City of Portola rely on groundwater for municipal/industrial water supply. Existing agricultural uses in these areas also rely on groundwater for a majority of their irrigation needs, typically more so during dry years when groundwater is used to substitute for surface water. Groundwater is an important source for rural homes' individual domestic wells, as well as agricultural uses and public and private water supply systems.

It is anticipated that new demand on groundwater supplies within Plumas County will be relatively minor.⁹ However, as groundwater is assumed to continue being the primary potable water source in Plumas County, increased demand on groundwater supplies could result in the decline of groundwater levels within portions of the county. Particular areas which may experience declining groundwater levels are those with expected growth (including Almanor, Mohawk, and Sierra Valley) and those having previously experienced substantial groundwater declines (e.g., Sierra Valley Groundwater Basin). Groundwater recharge is an identified issue in the region and is further discussed in [Chapter XX Regional Water Issues](#).

The Plumas County General Plan's EIR assessed the impacts of General Plan buildout on groundwater recharge and supply and found them to be a significant and unavoidable impact. Although increased demand on groundwater resources is expected to be relatively minor, the additional water demand of 2,066 acre-feet annually and resultant impacts on groundwater resources would be an irreversible consequence associated with the projected demand through 2035.¹⁰ The 2035 Plumas County General Plan includes open space designations and policies for groundwater management, groundwater recharge area protection, groundwater demand reductions, conservation easements, and sustainable water practices. Specifically, policy 9.1.1 supports the development and implementation of regional groundwater management plans and protection of groundwater recharge areas from development, and encourages groundwater demand reduction where feasible.

Sierra Valley Groundwater Management District

Since its inception in 1980,¹¹ the Sierra Valley Groundwater Management District (SVGMD) has monitored groundwater levels and installed flow meters to monitor groundwater pumping on all wells in the Sierra Valley that pump 100 gallons per minute or more. The District periodically prepares Sierra Valley Hydrologic Studies, the most recent update occurring in 2015. In response to declining groundwater levels, the SVGMD established water budgets in the areas of significant agricultural pumping. The Sierra Valley Groundwater Basin is identified as a medium priority groundwater basin by the DWR, and as such is required to have a Groundwater Sustainability Plan (GSP) prepared and adopted by January 31, 2022 in accordance with the Sustainable Groundwater Management Act of 2014. The region's remaining groundwater basins (with the exception of the Mohawk Valley Groundwater Basin) have no adopted groundwater management plans, groundwater ordinances, or basin adjudications.¹²

Agricultural Water Management

Agriculture in the UFR Watershed is a significant user of water, particularly in the Sierra Valley and Indian Valley. Farms, pastures and other agricultural entities obtain irrigation water from many sources, including

⁹ 2035 Plumas County General Plan Update Draft EIR, 2012. pp. 4.6-22.

¹⁰ 2035 Plumas County General Plan Update Draft EIR, 2012. pp. 4.6-22.

¹¹ The Sierra Valley Groundwater Basin Law (Senate Bill 1391, dated January 28, 1980) authorized the creation by joint exercise of joint powers agreements, district described boundaries for the purposes of groundwater management. The districts include the Sierra Valley Groundwater Basin (Sierra and Plumas Counties), and the Long Valley Groundwater Basin (Plumas and Lassen Counties).

¹² A draft groundwater management plan was prepared for the Sierra Valley Groundwater Basin by the Sierra Valley Groundwater Management District; however, it has not been formally adopted as of yet.

both surface and groundwater resources. Accounting for nearly all of the agricultural lands within the Upper Feather River region, Plumas and Sierra counties report approximately 62,000 acres of irrigated agricultural lands consisting primarily of grazing and hay lands.¹³ Because there are no agricultural water management entities that trigger the state requirements for Agricultural Water Management Plans (AWMP),¹⁴ agricultural water management is typically dependent on private land owners. Department of Water Resources' Water Masters manage almost all agricultural water provided by surface supplies in Sierra and Indian Valleys.

Generally, agricultural customers are the heaviest users of water, and replacement of agricultural lands with residential uses can be expected to reduce overall water consumption. However, residential development on "greenfield" or previously undeveloped and non-irrigated lands does result in increased water consumption.

Tribal Water Management

Each of the Upper Feather River Tribes and Tribal groups exerts its authority to manage water according to traditional policies, laws, mandates, and capacity. Tribes are separate and independent sovereign nations within the territorial boundaries of the United States. This sovereignty is inherent and flows from the pre-constitutional and extra-constitutional governance of the Tribe. Tribal governmental structures recognize the sovereign and political independence of Tribal nations and their members; a right also recognized by the State of California. Pursuant to Executive Order B-10-11, the State recognizes and reaffirms the inherent right of these Tribes to exercise sovereign authority of their members and territory.¹⁵ The region is the ancestral territory of Maidu Tribes who have an inherent responsibility for managing their ancestral territories. Therefore, Upper Feather River Tribes' jurisdiction goes beyond the gathering, fishing, and hunting rights, which each individual Tribal member retains.

Water Supply Assessments

Coordination between land use planners and water managers may or may not occur during the initial review and evaluation of a project, depending on the scope of the project. However, projects with more than 500 units typically result in more land use planner/water purveyor collaboration due to the requirements of Senate Bills (SB) 221 and 610. These statutes ensure the consideration of water supply in land use decisions related to large residential developments. SB 221 requires projects with more than 500 proposed dwelling units to obtain verification from the water purveyor that there is sufficient water to service the proposed project, as well as all other existing and anticipated future uses (such as agricultural and industrial) in its service area for a 20-year period in normal, single dry, and multiple dry years. SB 610 requires certain development projects, including those with more than 500 proposed dwelling units, and projects that will increase residential service connections by more than 10 percent, to prepare a Water Supply Assessment (WSA). The WSA is used by the lead planning agency in its state-mandated environmental review of the project under the California Environmental Quality Act (CEQA) and must evaluate the water purveyor's supplies to meet existing and anticipated demands for the proposed project. Both of these statutes repeatedly identify the urban water management plan (UWMP) as a planning document that, if properly prepared, can be used by a water supplier to fulfill the specific requirements of these statutes' standards.¹⁶

¹³ DWR, 2015. Annual Land and Water Use Estimates. Available at: <http://www.water.ca.gov/landwateruse/anaglwu.cfm>.

¹⁴ According to the Water Conservation Act of 2009, agricultural water suppliers with greater than 25,000 irrigated acres are required to adopt and submit an AWMP. (Senate Bill X7-7, available at: <http://www.water.ca.gov/wateruseefficiency/agricultural/agmngmt.cfm>)

¹⁵ Executive Order B-10-11. September 19, 2011. Available at: <https://www.gov.ca.gov/news.php?id=17223>.

¹⁶ CA Department of Water Resources. 2003. Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001 to assist water suppliers, cities and counties in integrating water and land use planning. Available at: http://www.water.ca.gov/pubs/use/sb_610_sb_221_guidebook/guidebook.pdf.

One of the limitations of SB 221 and SB 610 is that the opportunity for land use and water supply planning collaboration is only applicable to large-scale residential developments. In rural areas such as the UFR IRWM Plan Area, planning usually occurs at a smaller scale. The only WSA prepared to date in the UFR IRWM Plan Area has been for the Lake Front at Walker Ranch development.

Flood Protection and Other Hazard Mitigation

Flood reduction, prevention, and mitigation are a challenge to residents and floodplain managers within the region. Many areas of the region are at risk of flooding, especially property near rivers and along valley floors. The region's topography creates concentrated flows from high elevations that spread out into the valleys before again becoming concentrated in steep river canyons. Populations occur primarily in the valleys and along rivers in the canyons, making them particularly prone to floodwaters. Flood-prone areas within the region include the Sierra Valley, Chester, Indian Valley, American Valley, Mohawk Valley, and the North Fork Feather River Canyon. Localized flooding associated with creek or stream overflow occurs in the region when rainfall/snowmelt runoff volumes exceed the design capacity of drainage facilities or a lack of flood control structures exist. Heavy seasonal rainfall, which typically occurs from November through March, can result in localized flooding which can be exacerbated by warmer rain on snow events.

200-Year Flood Protection Standards

New California flood protection standards under the Central Valley Flood Protection Program (CVFPP) require 200-year flood protection for structures (while FEMA still requires 100-year flood protection). These new flood protection mandates require not only physical protection from 200-year flood events, typically in the form of levee improvements, but also trigger increased insurance requirements. The Department of Water Resources has not yet mapped the 200-year floodplain within the region, nor has FEMA. Consistent with Federal Emergency Management Act and Federal Insurance Rate Mapping requirements, Plumas County requires that new construction and substantial improvements of any structure shall have the lowest floor, including the basement, elevated at least one foot above the base 100-year flood elevation. Similarly, the General Plan policies of the County of Sierra, City of Portola, and City of Loyalton support protection of inhabited uses from the deleterious impacts of floods, while permitting compatible uses such as open space and recreation within floodplains.

Watershed Management

The Monterey Settlement Agreement (2003) was a settlement among numerous entities that authorized the establishment of a Water Forum to implement watershed management and restoration activities in the Feather River watershed. Parties to the Agreement included the Planning and Conservation League, Plumas County Flood Control and Water Conservation District, Citizens Planning Association of Santa Barbara County, Inc., and the State of California Department of Water Resources, Central Coast Water Authority, Kern Water Bank Authority, and State Water Project Contractors. The Water Forum's specific goals include:

- Improve retention (storage) of water for augmented base flow in streams
- Improve water quality (reduced sedimentation), and streambank protection
- Improve upland vegetation management
- Improve groundwater retention/storage

Another watershed collaboration, the Feather River Watershed Authority, is comprised of several entities and organizations of which Plumas County is the lead agency: Plumas National Forest, Sierra Valley Groundwater Management District, and Plumas County Flood Control and Water Conservation District are partner agencies. These four entities have statutory authority in the Upper Feather River Watershed and oversaw

development of the 2005 Feather River Watershed IRWM Plan under a Proposition 50 planning grant. Over the past several years, the region has seen the completion of more than 50 watershed projects, including studies and assessments, stream restoration, monitoring, resource management plans, strategic planning, community outreach and educational activities that resulted from these efforts.

Stormwater Management

Effective storm water planning and management on a regional scale involves collaboration of local and regional governments, utilities, and other stakeholder groups to analyze the hydrology, storm drain/runoff conveyances systems, opportunity sites, and other habitat or community needs within sub-watersheds. Design of green infrastructure to capture dry weather runoff should correspond to a regional plan that supports water quality protection of surface and groundwater. Coordinated stormwater management, monitoring, and evaluation on a regional scale minimizes monitoring costs and maximizes the value of monitoring results across programs intended to protect beneficial uses.

The Storm Water Resource Plan (SWRP) Guidelines allow for an existing planning document or a collection of existing documents and local ordinances to be utilized as a functionally equivalent Plan, including but not limited to: watershed management plans, integrated resource plans, urban water management plans, green infrastructure plans, water quality improvement plans, salt and nutrient management plans, total maximum daily load (TMDL) implementation plans, or similar plans that include storm water and dry weather runoff capture and use as a component of the watershed goals and objectives. The watershed approach is essential to integrate storm water management with other basic aspects of aquatic resource protection and overall water management such as flood control, water supply, and habitat conservation. The Water Code allows for a collection of local plans and ordinances and regional plans to constitute a functionally equivalent SWRP, if the plans and ordinances collectively meet all of the requirements of Water Code section 10560 et seq.

Proposition 1 Guidelines require an IRWM Plan to include any stormwater resource plans developed for the region. Per Water Code § 10562 (b)(7), the development of a stormwater resource plan and compliance with the provisions are required in order to be eligible for grants for stormwater and dry weather runoff capture projects. However, the Storm Water Resource Plan Guidelines and the associated Water Code provisions provide the following exceptions:¹⁷

- Funds provided for the purpose of developing a Storm Water Resource Plan; or
- A grant for a disadvantaged community as defined in Section 79505.5, with a population of 20,000 or less, and that is not a co-permittee for [an MS4] National Pollutant Discharge Elimination System (NPDES) permit issued to a municipality with a population greater than 20,000. (Wat. Code, § 10563(c) et seq.)

There are currently no SWRPs within the UFR region. However, should a SWRP be developed within the region, the RWMG would incorporate it into the UFR IRWM Plan as an appendix and include the SWRP in the Data Management System.

¹⁷ State Water Resources Control Board, 2015. *Storm Water Resource Guidelines*; pg 15. December 15. Available at: http://www.waterboards.ca.gov/water_issues/programs/grants_loans/swgp/docs/prop1/swrp_finalguidelines_dec2015.pdf.

XX.1 Current Coordination between Land Use and Water Planning Entities

Land use planning is conducted within the region primarily by the counties of Plumas, Sierra, and Lassen; the cities of Portola and Loyalton; the US Forest Service for the Tahoe, Lassen, and Plumas National Forests; Plumas-Eureka State Park; and regional Tribes. In general, counties have land use jurisdiction of unincorporated lands and cities for incorporated lands, with much of the public land administered by the national forests. (See Sections XX.0 and XX.2 for a discussion of other land use managers within the region.)

The integration of land use and water planning is becoming increasingly emphasized at all levels of governance, the need for which is particularly evident during droughts and emergencies such as wildfires within the wildland urban interface (WUI). To describe existing coordination between land use and water planning entities in the region, water managers in the UFR region were contacted for baseline data and other input. Information from the entities that responded is presented below.

Westwood Community Services District

Westwood Community Services District (CSD) reported that it coordinates with land planning entities on projects in Lassen County, where those projects are applicable to the CSD, and occasionally provides input at Lassen County Planning Commission meetings on projects that involve water supply or water quality issues. Westwood CSD does not have any water planning documents, which limits their ability to coordinate with land planning entities regarding potential water and district-related impacts.

Sierraville Public Utility District

The Sierraville Public Utility District (PUD) reported that it has very limited interactions with the Sierra County Planning Department because of its small service area (110 homes and businesses). Sierraville PUD recently commissioned a “Preliminary Engineering Study” for submittal with an application for a loan and grant from the USDA Rural Water Agency for a new water tank; no coordination with Sierra County’s planning agency occurred because the improvement would not result in land use or growth effects.

Plumas-Eureka Community Services District

The Plumas-Eureka CSD receives the agenda for the Plumas County Planning Commission and Zoning Administrator meetings for special use permits via email but has not provided input on projects to date. The CSD coordinates with Plumas County Local Agency Formation Commission (LAFCo) for annexations to the CSD. Water planning documents for the CSD include a Municipal Service Review, Preliminary Engineering Report for Arsenic Remediation, a groundwater management plan, and numerous Hydrological Reports on groundwater quality.

City of Portola

The City of Portola, an incorporated community that is both a land planning agency and water purveyor in Plumas County, provides water to its customers from springs, municipal wells, and surface water from Lake Davis through the Plumas County Flood Control and Water Conservation District. Portola’s Public Works Department coordinates with the Plumas County Planning Department on land use projects and provides input at city council meetings. The Public Works Department is not involved with Housing Element updates or any other general plan updates.

When project applications are received in the region's city and county governments, the respective planning departments notify service agencies, including applicable water purveyors and other governmental regulatory agencies. Those entities may then submit comments, requests for additional information or studies, concerns, and potential conditions they would like to impose on the project.

All planning agencies must also comply with state requirements under SB 221 and SB 610 (see Water Supply Assessments section of this chapter). For large subdivisions of 500 or more units, the applicant must work with the water provider that services the project to prepare a Water Supply Assessment (WSA) in compliance with SB 610. For smaller projects, the water provider is notified of the application and given an opportunity to provide comments and conditions.¹⁸

XX.1.1 Land and Water Use Patterns in the Region

There are no metropolitan areas within the watershed, and the population density is low (e.g., 7.2 people per square mile in Plumas County using US Census Bureau population statistics for 2013). The majority of people reside in small communities clustered around the population centers of Quincy, Chester, Westwood, Indian Valley, Greenville, Taylorsville, Crescent Mills, Almanor Basin, Portola, Sierraville, Loyalton, Chilcote, Vinton, Beckwourth, and Graeagle. Plumas County accounts for the majority of population within the watershed, with a few small communities also occurring in the Lassen and Sierra county portions of the region. A variety of land uses occur in the Upper Feather River Watershed. Of these land uses agriculture is predominant, yet it only covers 3.5 percent of the total 2.2 million acres of the watershed.¹⁹

Plumas County

The vast majority of the Upper Feather Watershed region is within Plumas County. In Plumas County, water accounts for just over two percent of the land cover and is represented by over 1,000 miles of rivers and streams, hundreds of lakes, several reservoirs, and wetlands (Figure X.X Land Cover – *Region Description Chapter*). Riparian areas, which interface between aquatic and terrestrial habitats, comprise less than two percent of land cover.

In Plumas County, 62 percent of urban water use is for industrial and commercial uses; the remaining 38 percent is used for residential purposes. According to the 2035 Plumas County General Plan Land Use Element,²⁰ the primary land use within Plumas County is open space, with approximately 94 percent of the total county area dedicated to timberland or other managed resource uses, including but not limited to recreation, mining, timber production, agriculture production, and cultural and historic resources. The remaining six percent of the land area is reserved for uses such as residential, commercial, industrial, and public service.²¹ Land use patterns in Plumas County and other areas of the Upper Feather Watershed are largely reflective of the pre-automobile era, with developed uses clustered around transportation and resource hubs.

¹⁸ Boeck, Van, Yuba County Department of Public Works, and Wendy Hartman, Yuba County Planning Department, email communication to Jessica Hankins (April 9, 2014).

¹⁹ Ecosystems Sciences Foundation, 2005, Integrated Regional Water Management Plan, Upper Feather River Watershed, California, Vol.1 2005.

²⁰ The 2035 Plumas County General Plan Update, adopted in 2013. Pending litigation on the allowed uses in Timber Production Zones. The General Plan is not being litigated on factual correctness, so for the purposes of this IRWMP Update, the 2035 General Plan is used as a data reference as well as a source for policy analysis. It is the Plan in effect as of the date of this writing.

²¹ Ibid, p. 19.

Sierra County

A majority of urban water use (75 percent) in Sierra County is residential, with the remaining 25 percent used for industrial/commercial purposes. According to the 1996 Sierra County General Plan, approximately 99 percent of the land within Sierra County consists of resource uses: open space (0.2 percent), forest (91 percent), water (0.8 percent), and agricultural lands (7.1 percent). Urban and community uses comprise only 0.9 percent of lands which includes seasonal residential/lodging (0.4 percent), and residential uses (0.3 percent). More than 71 percent of land in Sierra County is in public ownership: the Tahoe National Forest, Humboldt Toiyabe National Forest, and Plumas National Forest. Under the General Plan's buildout conditions, resource uses would decrease and urban uses would increase to 1.0 percent.

Lassen County

More than 63 percent of the land in Lassen County is administered by federal, Tribal, state, or local agencies. Lassen County's geographic area within the Upper Feather IRWM Plan Area includes portions of Lassen National Park, Mountain Meadows Valley (a geographic region), and the unincorporated community of Westwood. Westwood is largely comprised of residential uses, while Mountain Meadows Valley predominantly consists of agricultural uses.

Cities of Portola and Loyalton

The only two incorporated communities in the region are the cities of Portola and Loyalton, which have typical urbanized uses with a predominant mix of residential and commercial water users. Neither community has large industrial areas and agricultural uses are minimal. Because both cities are incorporated, all lands within the cities are under the planning jurisdiction of city government.

XX.1.2 Population Growth and Water Demand Trends in the Region

Plumas County

Using California Department of Finance projections, the 2035 Plumas County General Plan Land Use Element estimates that the average population growth for Plumas County between 2010 and 2050 will be approximately 1.0 percent per decade. With this limited population growth in the region, per capita water demand is forecasted to slightly increase if no conservation measures are implemented, and is expected to decrease if Best Management Practices (BMPs) and other conservation measures are applied as stipulated in the Urban Water Management Planning Act.

The 2035 Plumas County General Plan Update encourages growth within or near seven developed/developing Planning Areas in order to reduce impacts to agricultural production, natural resources, and public services, and provide a concise, orderly pattern consistent with the economic, social, and environmental needs of the specific communities that can accommodate future planned population growth. Orderly growth and development clustering are of the utmost importance in the efficient provision of public services and their attendant infrastructure. There are no planned large-scale infrastructure projects included in the General Plan.²²

Growth in the number of housing units in Plumas County has consistently exceeded the growth in the county's residential population during the past two decades. Between 1990 and 2000, the housing stock grew by 12.1

²² Plumas County. General Plan EIR, Land Use and Aesthetics Chapter. 2013.

percent, or 1,444 units, while the number of resident households grew by only 10.8 percent during the same time period. These trends became even more marked during the nationwide housing boom between 2000 and 2010, when the Plumas County housing availability increased by 16.3 percent, or 2,180 units, even as the number of resident households dropped by 0.3 percent. Between 2000 and 2010 Plumas County experienced a 4.0 percent decline in population from 20,824 to 20,007 persons. Caltrans predicts that the number of housing units constructed within Plumas County will grow from 15,649 in 2010 to 20,606 in 2035. Caltrans predicts that the county's housing stock will grow almost three times as fast as its permanent resident population during the General Plan time horizon, implying that homes constructed for vacation use will represent a substantial portion of the overall residential construction. Based on the increment of new housing units projected by Caltrans for Plumas County, it is estimated that the county's overall housing stock will grow by approximately 5,000 new housing units between 2010 and 2035, an increase of about 200 units per year.²³

Sierra County

According to the 2006 Sierra County Housing Element, most of the development in Sierra County consists of single-family homes built by individuals. Large tract developments have rarely occurred in Sierra County, though several small subdivision developments have been built, most of which have created no more than four parcels at a time. The Sierra County General Plan further notes that some areas in the county lack sufficient surface or ground water for development. In addition, there are areas where there may appear to be sufficient water but the potability is affected by heavy metals or minerals such as arsenic, mercury, sodium, chloride, and boron. Flood-prone areas also occur in Sierra County.

Four communities in Sierra County may have limited development potential due to either water quality issues or lack of capacity. For example, Calpine's public water system has limited capacity. Most of the county's population living in or near the various communities are served by one of the numerous public and/or privately owned water utilities.

The Sierra County Planning Department identified 17 individual water companies operating in the county, serving anywhere from 3 to 200 or more individual customers. In Sierra City alone there are nine different privately owned water companies. The remainder of the county's residents not connected to one of these public/private water utilities have either tapped into springs or surface water supplies, or have dug their own wells.

Lassen County

Westwood has a Westwood/Clear Creek Area Plan (2002) and a Westwood Revitalization Plan (2001) that envision residential, commercial, job, and recreational growth within the Westwood area. Land use maps were unavailable for Lassen County, though slow growth is projected for the area due to the distance from urban centers.

City of Portola

The total average water supply available to the City of Portola, located in Plumas County, is approximately 1.4 million gallons per day (mgd), with sources from Willow Creek Springs (312 gpm), the maintenance yard well (300 gpm), and the Commercial Street well (600 gpm). The city also has rights to four separate spring sources on Beckwourth Peak, south of the city – Turner, Malloy, Golden, and Darby – totaling 170 gpm or 270 AF per year. Development of these springs for future use would require improvements to collect the water below ground (below root level) and a new delivery pipeline system. The cost of such improvements is unknown,

²³ Plumas County. General Plan EIR. Appendix B, Countywide growth assumptions.

but is likely to be substantial relative to the amount of water that can be delivered.²⁴ The city stopped using the springs as a water source in 1971, after Lake Davis water became available. At that time the Lake Davis water was considered more reliable and subject to fewer potential health hazards. Lake Davis water is part of the State Water Project (SWP); Portola is the only recipient of SWP water within the region. The water is managed by the Plumas County Flood Control and Water Conservation District, which is a State Water Contractor to the SWP.

In 1997 the California Department of Fish and Wildlife introduced poison into the lake in an attempt to remove the invasive Northern Pike fish, and domestic use of the lake water was subsequently terminated. In the following years, after numerous public hearings and the settlement of a lawsuit that resulted in an agreement to bring the Lake Davis Water Treatment Plant up to new Safe Drinking Water Act standards, the city and county entered into an agreement to work together to bring the plant back online. The plant is currently operational.

The City of Portola is an urbanized area of approximately 1,957 people with slow growth projected for the next ten years and increasing growth over the next 20 years. Approximately 400 acres of land south of the existing developed areas is anticipated for primarily residential development. Water supply issues associated with the ongoing drought are the city's foremost growth concern.²⁵ The Portola General Plan indicates that the existing water supply and delivery system is adequate only for the existing community and that development anticipated in the Land Use Element would require an increase in the water supply and expansion and upgrading of the water storage and distribution systems. The City completed a Water System Master Plan in 2006 that addresses the water supply and distribution needs for the growth of the community.²⁶

According to the Eastern Plumas Municipal Service Review, regionalization of sewer services in the Delleker/Portola area is a potential opportunity for facility sharing and regional collaboration. Joint efforts between Portola and Grizzly Lake Community Services District (GLCSD) may maximize efficiencies, reduce costs, and assist them to better leverage available resources.²⁷ However, GLCSD will pursue other options for water treatment facilities due to the costs associated with connecting to Portola's treatment plant.

City of Loyalton

The City of Loyalton, located in Sierra County, experienced a decline in population between 2000 and 2010 with negative annual growth rates for an overall loss of 12.4 percent of its population. The City had a 2014 population of 729. The City's historical growth rates and countywide growth rate projections by the Department of Finance and Plumas County Transportation Commission indicate minimal growth in the future. As of 2015, there were 21 residentially-zoned, undeveloped parcels totaling 9.96 acres within the city that could accommodate a maximum of 94 residential dwelling units.²⁸

XX.1.3 Coordination with State and Federal Planning Efforts

Currently, Westwood CSD and other small water purveyors in the Plan Area work with the local office of the State Department of Public Health. Sierraville PUD is working with the USDA Rural Water Agency on funding

²⁴ City of Portola. Portola General Plan 2020. January 11, 2012. pp. 78-79.

²⁵ Personal communication, Robert Meacher, City Manager, City of Portola. *Land Use Planning Information Request*. 2015.

²⁶ City of Portola, Portola General Plan 2020. 2012.

²⁷ Plumas County LAFCo. Eastern Plumas Municipal Services Review. October 3, 2011.

²⁸ City of Loyalton 2015 Housing Element.

and installing a new 200,000 gallon water tank. Sierraville PUD is working with the state on conserving water, implementing a drought ordinance, and developing an alternative water source. The City of Portola has adopted emergency regulations for water conservation in response to the State Water Board's recently adopted emergency regulations in May 2015. Plumas-Eureka CSD has little contact with state and federal agencies since they use groundwater as their drinking water source.

Ongoing collaboration with relevant federal and state agencies, Tribes, and other stakeholders, will continue after the IRWMP is finalized. Efforts will include coordination with DWR, California State Water Resources Control Board, ongoing meetings with the Tahoe and Plumas National Forests and CALFIRE on fuel-load reduction and forest management, and participation in emerging regionally focused efforts aimed at aspects of water supply, water quality, and environmental stewardship.

California Water Plan

The Upper Feather River IRWM region is located within the Mountain Counties Overlay Area, which was newly identified in the California Water Plan Update 2013. The designation was actively promoted by the Mountain Counties Water Resources Association and the Sierra Water Workgroup, of which the UFR RWMG is a member. The designation recognizes the significance of the region and importance of the Sierra Nevada mountain range to the local communities, the environment, the Delta, and all of California. The purpose of the overlay area is to collect and provide information that will better enable planners and decision makers to address issues in areas of special interest where the following criteria apply:

1. The area is of statewide significance — meaning that water management strategies and actions taken in one area affect much of the remainder of the state.
2. Common water management conditions exist in the area — meaning that issues and integrated planning opportunities span more than one of the 10 hydrologic regions.

Water is an essential element of the social, economic and environmental well-being in the Mountain Counties Area. It requires continued Area of Origin and County of Origin protections, healthy forests, and headwaters to ensure reliable water supply and high water quality for the region and the entire state. The multiple benefits and services provided by the Mountain Counties Area to local residents, California, and beyond are often not recognized or easily quantified. In addition to water, the area provides habitat for thousands of species, many identified as endangered or rare. The area's forests and rangelands provide food, energy, timber, and other renewable resources that can be sustainably produced. The Mountain Counties Area also offers a unique service in helping to achieve statewide policy goals, such as reductions in GHG emissions, by storing large amounts of carbon.

Understanding the issues facing the Mountain Counties region and making thoughtful, effective, and broadly supported changes is demanding. Land use management and planning in this rural region is complicated by the size and ownership of the land with myriad local, state, and federal agencies, and tribes, governing everything from energy and infrastructure to environmental quality, species, and human health and safety. State and local interests that depend on the health of the Sierra watersheds and ecosystems of the Mountain Counties Area are as vast and diverse as the state itself.

A key vehicle for developing and implementing successful long-term management strategies for the region is a multi-stakeholder collaborative group such as watershed councils, fire safe councils, forest management collaboratives, water purveyors, and integrated regional watershed management groups whose members work across interests to achieve results. Stakeholder groups can increase statewide understanding of the

region's importance and support efforts to find viable financial and political solutions that address issues such as the lack of funding for projects to tackle localized resource issues critical to the entire state.

RWQCB Basin Plan

The Clean Water Act requires that the EPA adopt water quality standards for surface waters within the United States, and that these standards be reviewed and revised, if necessary, at least every three years. The State Water Resources Control Board (SWRCB) carries out its water quality protection authority through the application of specific Regional Water Quality Control Plans, formulated and adopted by Regional Water Quality Control boards (RWQCB) that submit these plans to the SWRCB for review and approval.

The RWQCB basin plans provide standards through 1) a designation of existing and potential beneficial uses, 2) water quality objectives to protect those beneficial uses, and 3) programs of implementation needed to achieve those objectives. The RWQCBs are required to consider a number of items when establishing water quality standards, including: 1) past, present, and probable future beneficial uses; 2) environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto; 3) water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect water quality in the area; and 4) economic considerations.

The SWRCB management goals are specified in the Central Valley RWQCB's Water Quality Control Plan (Basin Plan) for the Sacramento and San Joaquin Rivers, the fourth edition of which was initially adopted in 1998 and most recently revised in 2009. The Basin Plan formally sets forth designated existing and potential beneficial uses and water quality objectives for areas, including the entire Upper Feather River IRWM region.

Water quality objectives included in the Plan establish criteria for meeting the Plan's goals for several water quality parameters. Parameters identified in the plan for inland surface waters include levels of bacteria, bio-stimulatory substances, chemical constituents, dissolved oxygen, oil and grease, pH, pesticides, salinity, sediment, temperature, toxicity, and turbidity. Groundwater parameters include bacteria, chemical constituents, radioactivity, tastes and odors, and toxicity.

XX.2 Local Planning Relationship to the IRWMP

Water management and land use planning are inherently interconnected, with activities that occur on land directly impacting the movement and quality of water within a watershed, and events or disturbances in the watershed affecting landscapes and land uses. For example, land use decisions that impact population growth (such as the approval of new subdivisions or industrial facilities) or land use policies (such as water conservation or landscape ordinances) can impact water supply and demand. Further, other projects, such as resource extraction or land clearing for new development, can impact water quality with regard to sedimentation and storm water runoff. Conversely, a water management decision such as the amount of water supplied to agricultural or environmental uses in a dry year, or how close to the flood line a levee is constructed, can impact events and uses on land.

XX.2.1 Plan Area Evaluated in the Upper Feather IRWMP

A substantial portion of eastern Butte County (345,850 acres) is covered by the Upper Feather IRWM Plan Area (Table XX-2). However, because the entirety of Butte County is within the Northern Sacramento Valley IRWM Plan Area in which Butte has already participated, Butte County representatives have decided not to

participate in the Upper Feather IRWM Plan Area. At the same time, Butte County wants to coordinate on any proposed projects that could affect Butte County and not cede any jurisdictional authority it has with respect to IRWMP projects. Butte County also does not want its own funding on North Sacramento Valley IRWMP projects affected by any Upper Feather IRWMP projects. For these reasons, a memorandum of understanding (MOU) is being developed to outline the coordination between Butte County, and the UFR IRWM process.

The same situation occurs with Yuba County: The entire county is within the Yuba County IRWM Plan Area. That area's IRWMP was recently adopted in May 2015, so the 1,880 acres in Yuba County that overlap the Upper Feather River IRWM Plan Area were not included in the UFR IRWM planning effort.

Additionally, minimal portions of Shasta and Tehama counties are also within the Upper Feather IRWM Plan Area (13,574 and 136 acres, respectively). All of the IRWMP land within Shasta County is in Lassen National Park. Within Tehama County, a small portion (approximately 40 acres) is privately owned by Collins Pine Company and is thus under the jurisdiction of Tehama County; a similarly sized area is managed by the US Forest Service Lassen National Forest. Because the area of land in Shasta and Tehama counties is minimal and is under federal land management, the project team made a conscious decision not to conduct outreach activities to their county planning agencies. However, the Lassen National Forest is identified as an advisory member of the RWMG and receives all IRWMP update information and notifications.

XX.2.2 IRWMP Participation

Many entities were contacted during the Upper Feather River IRWM planning process (Table XX-1, XX-3, and XX-4); 53 of them have participated regularly (Table XX-5), either via RWMG membership or workgroup membership.

Table XX-5. Participation in the Upper Feather IRWMP Process

REGIONAL WATER MANAGEMENT GROUP	
Plumas County	Sierra Valley Groundwater Management District
Sierra County	Plumas County Community Development Commission
Plumas County Flood Control and Water Conservation District	Maidu Summit Consortium
Feather River Resource Conservation District	USDA Forest Service – Plumas National Forest (Advisory)
Sierra Valley Resource Conservation District	USDA Forest Service – Lassen National Forest (Advisory)
Public member from the Almanor Basin	USDA Forest Service – Tahoe National Forest (Advisory)
WORKGROUPS	
Agricultural Lands Stewardship Workgroup	
Plumas County	Sierra Valley RCD
UC Cooperative Extension	Feather River RCD
Plumas-Sierra Department of Agriculture	Feather River Land Trust
Mountain Meadows Conservancy	Plumas County Department of Agriculture
Plumas Sierra County Food Council	Upper Feather River Watershed Group
Floodplains, Meadows, Waterbodies Management Workgroup	
Mountain Meadows Conservancy	University California Cooperative Extension
Feather River Trout Unlimited	Plumas Corporation
Lindquist Environmental Consulting	Lake Almanor Water Group
Plumas County	Natural Resources Conservation District
Department of Water Resources	Plumas National Forest
Indian Valley Agricultural Producers	California Department of Fish and Wildlife

WM Beaty	Greenville Rancheria
Sierra Pacific Industries	Central Valley Regional Water Quality Control Board
Feather River Land Trust	Point Blue Conservation Science
Sierra County	Sierra Valley RCD
Trout Unlimited	
Uplands and Forest Workgroup	
Plumas County	Lake Almanor Water Group
Plumas National Forest	Soper-Wheeler Company
Office of Emergency Services	Collins Pine
Natural Resources Conservation District	Feather River Land Trust
Central Valley Regional Water Quality Control Board	Sierra Institute
Plumas County Fire Safe Council	Environmental Water Caucus
Maidu Summit Consortium	City of Portola
WM Beaty	
Municipal Services Workgroup	
Plumas-Eureka CSD	Clio PUD
City of Portola	Gold Mountain CSD
Plumas County Environmental Health	Sierraville PUD
Plumas County Public Works	Calpine
Plumas County Flood Control District	Greenhorn Creek CSD
Sierra County	Quincy CSD
Plumas County Community Development Commission	East Quincy CSD
Indian Valley CSD	Old Mill Ranch CSD
University of California Cooperative Extension	
Tribal Advisory Committee	
Greenville Rancheria of Maidu Indians	Susanville Rancheria of Pomo Indians
Maidu Summit Consortium	
Note: The agencies and organizations identified as workgroup participants in this table are not necessarily signatories to the Memorandum of Understanding for the Upper Feather River IRWM Plan. However, member organizations of the RWMG are signatories.	

The Regional Water Management Group guides and oversees the development of the IRWMP, and forms the governance practices during and after IRWMP development. Based on their interest and focus, individual workgroups are responsible for developing Resource Management Strategies (RMS); however, all workgroups are responsible for development of land use planning and management RMSs. See Chapter XX Governance, Stakeholder Involvement, and Coordination.

During the Upper Feather IRWMP Update process, many local entities have indicated that the IRWMP process has, for the first time, provided opportunities to coordinate between land use and water planning with other government agencies, Tribes and water districts. The IRWMP process has provided a unique forum, particularly in the Municipal Workgroup, to share information and problem solve. This IRWMP Update process has provided the first all-inclusive forum that includes small districts; these districts have reported that the workgroups and IRWMP process have been helpful for data sharing.

The project team for the IRWMP interviewed local land use agencies via phone and emailed a questionnaire to determine current interagency relationships and procedures. The US Forest Service and local jurisdictions of Plumas County, Sierra County, and the City of Portola are represented in the RWMG and the various workgroups, and have provided information for this chapter.

XX.2.3 Programs, Policies, Standards, and Procedures

This updated Integrated Regional Water Management Plan includes a review of the water and land use planning policies, programs, and plans of other governmental and NGO entities in the region (Table XX-6).

Table XX-6: Water and Land Use Planning Documents and Programs in the Upper Feather IRWMP Region

Water Managers	Documents and Programs
Plumas County Flood Control and Water Conservation District	<ul style="list-style-type: none"> Feather River Watershed Management Strategy for Implementing the Monterey Settlement Agreement (2004)
Sierra Valley Groundwater Management District	<ul style="list-style-type: none"> Sierra Valley Hydrogeologic Studies (2015) Results of the Fall 2005 Aquifer Tests in Sierra Valley (2006) Technical Report on 2005-2011 Hydrogeologic Evaluation for Sierra Valley (2012) Technical Report on 2012-2014 Hydrologic Evaluation for Sierra Valley (2015)
Land Managers	Documents and Programs
City of Loyalton	<ul style="list-style-type: none"> Housing Element (2015)
City of Portola	<ul style="list-style-type: none"> General Plan (2012) Parks and Recreation Master Plan (2010)
Feather River Land Trust	<ul style="list-style-type: none"> Feather River Land Trust Annual Reports (2004-2013)
Feather River Resource Conservation District	<ul style="list-style-type: none"> Long-range Workplan 2005-2009 (2004)
Lassen County	<ul style="list-style-type: none"> Lassen County, City of Susanville, & Susanville Rancheria Hazard Mitigation Plan (2010) General Plan (2000) Groundwater Management Plan (2007)
Lassen Local Agency Formation Commission (LAFCo)	<ul style="list-style-type: none"> Clear Creek CSD and Westwood CSD Municipal Service Review and Sphere of Influence (2013)
Plumas County	<ul style="list-style-type: none"> Hazard Mitigation Plan (2015) Emergency Operations Plan (2011) Hazardous Fuel Assessment and Strategy (2004) Communities at Risk Wildland Urban Interface Map (2010) General Plan Update CEQA Findings and Statement of Overriding Considerations (2012) 2035 General Plan Update Draft EIR (2012) 2035 General Plan Update (2013)
Plumas County Environmental Health	<ul style="list-style-type: none"> Plumas County Public Health Agency Environmental Health Division Annual Report 2010
Plumas County Community Development Commission	<ul style="list-style-type: none"> Community Action Plan (2014-2015)
Plumas County Local Agency Formation Commission (LAFCo)	<ul style="list-style-type: none"> Central Plumas Fire Municipal Service Review (2013) Eastern Plumas Municipal Service Review (2011) Indian Valley and Quincy Area Municipal Service Review (2015) Lake Almanor Area Municipal Service Review (2012)
Sierra County	<ul style="list-style-type: none"> 2012 General Plan (1996)
Sierra LAFCo	<ul style="list-style-type: none"> City of Loyalton Municipal Service Review (2010)
Stewardship Council	<ul style="list-style-type: none"> Pacific Forest and Watershed Lands Stewardship Council Land Conservation Plan (2007) Status of Land Planning Efforts (2015) Stewardship Council Annual Reports (2005-2013)
Other Resource Managers and NGOs	Documents and Programs

Central Valley Flood Protection Board	<ul style="list-style-type: none"> Central Valley Flood Protection Plan (2012)
Department of Water Resources, California	<ul style="list-style-type: none"> Upper Feather River Flood Management Plan (Draft 2013) California Water Plan Update (2013) Bulletin 118 and related resources, pertaining to the Sacramento Valley Basin (2015) State Water Project documents (http://www.water.ca.gov/swp)
PG&E	<ul style="list-style-type: none"> Rock Creek - Cresta Project, FERC Project No. 1962: Rock Creek - Cresta Relicensing Settlement Agreement (2000) Upper North Fork Feather River Project, FERC Project No. 2105: Project 2105 Relicensing Settlement Agreement (2004); License stalled pending approval of 401 certification – Draft EIR has been released FERC Project 619 - Bucks Creek: Fish Entrainment Risk Assessment (2014) Bucks Creek Project Relicensing documents (www.bucksrelicensing.com) (2015) Lake Oroville Project Relicensing documents (2015) South Feather Power Relicensing documents (2015) Poe Hydroelectric Project Relicensing documents (FERC Project 2107) (2015) Project 2105 documents (2015)
Feather River Coordinated Resource Management Group	<ul style="list-style-type: none"> Coordinated Resource Management Plan for the East Branch of the North Fork Feather River (1989) Numerous technical studies (see Document Catalog)
Regional Water Quality Control Board	<ul style="list-style-type: none"> Water Quality Control Plan (Basin Plan) for the Sacramento and San Joaquin Rivers (2009)
Sacramento River Watershed Program	<ul style="list-style-type: none"> The Sacramento River Basin: A Roadmap to Watershed Management (2010)
State Water Resources Control Board	<ul style="list-style-type: none"> Watershed Management Initiative for the Sacramento Hydrologic Region (2003) Development of Flow Criteria for the Sacramento-San Joaquin Delta (2010) Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basin (2011)
US Forest Service	<ul style="list-style-type: none"> Tahoe National Forest Land and Resource Management Plan (1990) Plumas National Forest Land and Resource Management Plan (1988) Plumas National Forest: Forest Plan Monitoring Report (2012) Lassen National Forest Land and Resource Management Plan (1992) Lassen Land and Resource Management Plan Monitoring Report for FY 2005 and 2006 (2005 and 2006)
Sierra Institute for Community and Environment	<ul style="list-style-type: none"> 2011 Lake Almanor Review: Survey of Water Quality, Trend Analysis, and Recommendations (2012) Lake Almanor Watershed Project (2015) Lake Almanor Watershed Management Plan (2009) State of the Almanor Basin Watershed Forum documents (2014)

The information, strategies, and policies in all applicable water management plans have been incorporated in this chapter and elsewhere throughout the IRWMP Update. As these plans are updated, the revised versions will be reviewed and considered in subsequent IRWM planning efforts. As discussed in **Chapter XX Goals & Objectives**, the goals and objectives of this IRWMP are consistent with local water plans. Most purveyors of agricultural water in the region are not included in **Table XX-6** because they have not adopted planning documents.

The Upper Feather IRWMP Update incorporates local water resource management planning documents and information from groundwater management plans, adjacent IRWMPs, and local general plans. A brief description and background of several relevant water plans reviewed during the UFR IRWMP Update follow, along with their jurisdictions, how they apply to the IRWMP, and the compatibility of and dynamics among the IRWMP, the water plans, and the land use plans. The Plumas County General Plan EIR incorporated the IRWMP by reference and now includes a discussion of the IRWMP planning process in the Hydrology, Water Quality, and Drainage section of the EIR.

US Forest Service Land Use Plans

US Forest Service (USFS) planning documents provide guidelines and management direction for the Upper Feather IRWM Plan Area. The 2004 Sierra Nevada Forest Plan Amendment lays out broad management goals and strategies for addressing five issue areas in the dozens of complex ecosystems within the Sierra Nevada: old forest ecosystems and associated species; aquatic, riparian, and meadow ecosystems and associated species; fire and fuels management; noxious weeds; and foothill oak woodland ecosystems. In addition, the 2012 Planning Rule²⁹ for land management planning for the National Forest System became effective on May 9, 2012. The Forest Service has subsequently released final planning directives³⁰ that are the key set of agency guidance documents that direct implementation of the 2012 Planning Rule.

The Forest Land and Resource Management Plans for Plumas (1998), Lassen (1992), and Tahoe (1990) National Forests direct the management of their respective National Forest lands. The purpose is to guide efficient use and protection of forest resources, fulfill legislative requirements, and balance local, regional, and national needs. The plans describe the current management direction, supply or production capability, existing and projected demands for forest goods and services, and the need or opportunity for changes in current management direction. Applicable resource areas that are discussed include recreation, fish, wildlife, and sensitive plants, diversity, riparian areas, water, ownership, land uses, and the urban/rural/wildland interface. The plans also present both forest-wide and area-specific management direction for the National Forest lands.

Monitoring reports for the Lassen and Plumas National Forests are also available from the Forest Service and document the successful implementation of their forest plans, such as the 1999 Herger Feinstein Quincy Library Group Record of Decision, the 2004 Sierra Nevada Forest Plan Amendment, and the 1994 Northwest Forest Plan Amendment as amended in 2001 and 2004.

The Sierra Nevada Conservancy's 2014 report "State of the Sierra Nevada's Forests" outlines key findings that include, "science-based ecological restoration of our Sierra Nevada forests must be dramatically increased in order to stem the tide of large, uncharacteristic wildfires." This key finding will likely be a guide to policy development within USFS land.

California Environmental Quality Act

Development projects are subject to the California Environmental Quality Act (CEQA), which requires consideration of potential environmental impacts of the project. Impacts to water quality, water supply (including groundwater availability), and flooding are all evaluated for any project that has the potential to have a physical impact on the environment. While the IRWM Plan itself is not subject to CEQA, project sponsors will be required to comply with CEQA and prepare an evaluation to assess the physical impacts of their projects upon implementation grant application.

²⁹ USFS. 2012 Planning Rule. April 9, 2012, Available at: <http://www.fs.usda.gov/detail/planningrule/home/?cid=stelprdb5359471>

³⁰ USFS. 2012 Planning Rule Final Directives. Available at: <http://www.fs.usda.gov/detail/planningrule/home/?cid=stelprd3828310>

Williamson Act

The California Land Conservation Act, better known as the Williamson Act, is a statewide agricultural land protection program that reduces property taxes on qualifying agricultural land in exchange for a commitment from the landowner not to develop the land with uses other than those compatible with and supportive of agriculture. This tax incentive preserves agricultural and open space lands by discouraging premature conversion to urban uses. Plumas County and Sierra County have both chosen to participate in the Williamson Act.³¹ Lassen County still participates in the Williamson Act, but to a more limited extent and with more stringent requirements for enrollment.³²

LAFCo Municipal Service Reviews

In 2000, California adopted the Cortese-Knox-Hertzberg Act (AB 2838) requiring Local Agency Formation Commissions to review and update the spheres of influence of cities and districts in their jurisdiction once every five years. Before each sphere of influence review and update, a LAFCo must comprehensively review municipal services within the affected jurisdiction(s). A Municipal Service Review (MSR) covers an analysis and determinations on the adequacy of service for public services such as water, fire protection, and reclamation. An MSR provides comprehensive knowledge of available services, future needs for each service, and the efficiency and expansion capacity of service providers.

The following MSRs were completed in the Upper Feather IRWM Plan Area and are applicable to this IRWMP:

- Eastern Plumas MSR (October 3, 2011)
- Central Plumas Fire MSR (December 9, 2013)
- Lake Almanor Area MSR (October 15, 2012)
- City of Loyalton MSR (December 9, 2010)

Within each of these adopted MSRs is a list of determinations related to the existing and future provision of public services in their respective service areas. Determinations related to water issues in the region are highlighted below.

City of Loyalton MSR

- “There is sufficient source water available to serve the expected population growth.”
- “The City of Loyalton should do everything possible to meet the requirements of the Central Valley Regional Water Quality Control Board and avoid costly fines.”
- “The City is working to correct deficiencies in its WWTP and Collection system.”
- “The City of Loyalton wastewater treatment plant is being improved to meet the requirements of California Regional Water Quality Control Board, Central Valley Region Order No. R5-2009-0108 Waste Discharge Requirements for City of Loyalton and Grandi Ranch Wastewater Treatment Facility Sierra County, dated October 8, 2009.”
- “The improvements in the Loyalton wastewater treatment plant are being made to correct problems noted in the Cease and Desist Order No. R5-2005-0089.”
- “The City of Loyalton has increased wastewater fees to pay for the required improvements to the wastewater treatment system.”

³¹ Plumas County website: www.countyofplumas.com; Sierra County website: www.sierracounty.ca.gov.

³² SusanvilleStuff.com. A Report from the Lassen County Cooperative Extension. September 16, 2012. Accessed at: <http://www.susanvillestuff.com/lassen-agweb-report-the-williamson-act/>.

Eastern Plumas MSR

- “There is a general lack of tracking of demand and other service indicators, which inform remaining capacity and level of services, in particular for water [. . .]”
- “With the exception of Gold Mountain and the City of Portola, the connections throughout the other water systems are unmetered. In order to accurately gauge the remaining capacity of the systems and determine the exact rate of water loss, it is recommended that water providers begin installing meters as financing allows. Meters will also enable agencies to charge water rates that promote water conservation.”
- “All of the potable water providers presently rely on groundwater from wells and springs. The City of Portola will be transitioning to a surface water source once the new Lake Davis Water Treatment Plant is online and operational.” *Update: the Treatment Plant is now operational.*

Central Plumas Fire MSR

- “Crescent Mills Fire Protection District reported a lack of available water in the District as a major challenge. Except for within the Crescent Mills community, the water for fire suppression has to be hauled.”
- “The Greenville water system continues to need substantial improvements to reduce significant unaccounted for water loss [50% in 2012 due to breaks and leaks].”
- “Quincy Fire Protection District cited absence of a sufficient water system as a capacity constraint for the District.”

Lake Almanor MSR

- “All of the potable water providers presently rely on groundwater from wells and springs, much of it from the Lake Almanor Valley groundwater basin.”
- “Chester PUD was unable to provide an estimate of what portion of water is lost between the water source and the connections served.”
- “Hamilton Branch Community Services District reported approximately 47 breaks and leaks per 100 miles of pipe lines in 2011, while other providers in the region had a median rate of 11 breaks per 100 pipe miles.”
- “Walker Ranch CSD estimates that the loss rate is approximately 16 percent during peak usage months (May through October), and no loss during winter months (November through April) between the water source and the connections served. Average water loss in the region is 12 percent.”

A general theme among these MSRs was that consolidation of water suppliers could result in conservation of water resources but, as in many rural areas, consolidation is largely infeasible due to the isolated geography of the service providers. Lake Almanor and Central Plumas special districts had specific infrastructure maintenance issues such as excessive leak and break rates, while Eastern Plumas districts reported a lack of tracking and metering that resulted in inadequate data on supply and demand. The limited availability of data has made compliance with state-mandated conservation targets difficult to assess.

These determinations support the RWMG objectives that emphasize the need for collaboration between land use and water planning due to uncertainties of water supply into the future. Because the Cortese-Knox-Hertzberg Act requires MSRs to be updated every five years, there is opportunity for coordination regarding MSR determinations and IRWM objectives, including participation in the MSR process by IRWMP adoptees.

Newly Acquired Conservation Lands

While conserved lands and land trust groups are not typically a part of the regulatory environment (though in certain large land development projects, they can play a role), their presence in the region warrants discussion for their positive impacts on the local watershed. The Feather River Land Trust (FRLT) is the major land conservancy group in the Upper Feather River watershed. To date, the FRLT has helped to conserve over 36,000 acres of private lands that promote valuable watershed goals, including recreational opportunities, educational opportunities, cultural sites, agricultural lands, and waterway and habitat preservation. The FRLT conserves land by means of conservation easements on private properties and fee title acquisition. The FRLT owns five properties:

- Folchi Ranch, Sierra Valley – 331-acre property purchased in 2014, which contains extensive seasonal and permanent wetlands, open water, and upland sage brush habitat
- Maddalena Property, Sierra Valley – 575-acres purchased in 2003, which contains freshwater wetland and marsh habitat
- Leonhardt Ranch Learning Landscape, American Valley – 42-acres purchased in 2012 and used as a living classroom for youth; habitats include meadows, riparian and wetlands
- Heart K Ranch, Genessee Valley – 900-acre ranch purchased in 2006, which contains woodlands, meadows, and riparian habitats and supports 26 species of concern
- Olsen Barn, Almanor Area – 107-acre property purchased in 2015, which is being preserved for wildlife habitat, recreation, and cultural heritage

Numerous conservation easements on agricultural lands are also held by the California Rangeland Trust and partnerships. The Sierra Nevada Conservancy is another conservation partner in the region.

Another conservation group in the region is the Maidu Summit Consortium and Conservancy, which has conservation lands which include portions of Humbug Valley as well as portions of land around Lake Almanor and along State Route 89 near Lake Almanor in Plumas County.

The Natural Resource Conservation Service (NRCS) also preserves private lands through its programs. Through its Wetland Reserve Program (WRP), the NRCS established conservation easements on hundreds of acres in Plumas and Sierra counties.

Land conservation is consistent with local land use planning documents, including the 2035 Plumas County General Plan Update and the Sierra County General Plan. Goal LU 1.11 of the Plumas General Plan is “to promote development patterns that recognize the need to conserve water resources, consistent with other stated goals,” while Goal 7.1 is “the conservation and utilization of natural resources, including water and its hydraulic force, forests, soils, rivers and other waters, fisheries, wildlife, minerals and other natural resources and protection of open space land for the continuation of the County's rural character; scenic beauty; recreation; the protection of natural and cultural resources; and as consideration of open spaces as an important factor in the County's quality of life.” The Water Resources Element goal in Sierra County's General Plan is to “protect and maintain its water resources for the benefit of County residents and natural habitats and to assure protection of its watersheds as a primary land use constraint.” Sierra County's General Plan has goals related to conserving timberlands, agricultural lands, fisheries, wildlife, and related natural resources.

Local General Plans and Other Municipal Planning Documents

California state law requires each county to adopt a general plan, “for the physical development of the County and any land outside its boundaries which ...bears relation to its planning” (Government Code Section 65300).

The general plan serves as a county's constitution for the physical use of its resources and is the foundation upon which all land use decisions are made. The general plan expresses the community's development goals and embodies public policy relative to the distribution of future public and private land use. Planning and land use play a vital role in water use and distribution, and as such will influence infrastructure needs, water demand and supply, and impacts on natural systems addressed in the IRWMP.

These local jurisdictions within the Upper Feather IRWM Plan Area have prepared general plans:

- 2035 Plumas County General Plan (December 2013)
- 2012 Sierra County General Plan (1996)
- 2000 Lassen County General Plan (2000)
- City of Portola General Plan (January 11, 2012)
- City of Portola Parks and Recreation Master Plan (June 1, 2010)

Most general plan updates (other than the Housing Element) are updated once every 20 years, on average. As the general plans are updated, there will be opportunities for collaboration among land use planners, water managers, and the RWMG to consistently plan for water resource management issues. Further opportunities for synchronized efforts at land use and water planning occur with the adoption of new or revised zoning ordinances, which often implement the goals and objectives of the general plans.

During the issuance of building permits, applicants must comply with local, state, and federal statutes addressing erosion control and storm water management. Local development standards, codified by a local jurisdictions' zoning or municipal ordinances, are the on-the-ground implementation measures used to enact these protections.

XX.2.4 Consistency between IRWMP and Local Plan Goals

Local planning goals and policies were reviewed to ensure that the goals and objectives of the Upper Feather River Integrated Regional Water Management Plan are compatible with and support local planning efforts (**Appendix XX-1**). These documents were reviewed to support development of the Upper Feather IRWMP's updated objectives and projects.

In general, the goals and objectives adopted by the Regional Water Management Group are closely aligned with local general plan goals and policies. For example, the RWMG found that the need to "reduce [the] potential for catastrophic wildland fires in the Region" while "balanc[ing] the needs of forest health, habitat preservation, fuels reduction, forest fire prevention, and economic activity" were important objectives. All of the local general plans also include goals and policies closely related to these RWMG objectives (e.g., City of Portola General Plan Goal WF-1, Lassen County General Plan Goal N-10, and Plumas County General Plan Goal 6.3). "Build[ing] communication and collaboration among water resources stakeholders in the Region" were also found to be important objectives for the Upper Feather region and, again, all of the local general plans support collaboration with other local, state and federal entities (e.g., Plumas General Plan Policies 7.1.3, 7.2.18, 9.2.4, 9.2.7, 9.7.6, 9.9; and Sierra County Parks and Recreation Element Policy 3, Water Resources Element Policies 14, 17, 21, and Energy Element Policy 3).

Many of the older general plans do not contain specific policies on climate change. However, Plumas County's General Plan does contain numerous policies on energy efficiency in its Economics Element, as well as carbon sequestration, biomass energy, and sustainable agriculture policies (Policies 7.10.2, .4, .6, 9.3.1 and 9.3.2). The RWMG goals and objectives are not specific with regard to range land and timber land objectives as are many

of the local general plans and policies. However, the RWMG goals and objectives are broad enough to include these issues, as in the objectives calling to “Maximize agricultural, environmental and municipal water use efficiency” and “Balance the needs of forest health, habitat preservation, fuels reduction, forest fire prevention, and economic activity in the Upper Feather River Region.”

Local planning policy documents support the overarching IRWM planning concepts of regional coordination among various land and water planning entities, as well as enhanced management of water that leads to greater conservation. All of the area general plans support the concept of focusing growth in areas that can readily provide public services and infrastructure, and support conservation of fisheries and water resources. The Plumas County General Plan specifically supports regional water management efforts and watershed program funding via Policies 9.4.4 and 9.4.5. Plumas County General Plan Policies 9.1.1-9.1.3 and 11.1.1 support regional groundwater planning consistent with the RWMG objective to “coordinate management of recharge areas and protect groundwater resources.” Water conservation is also a specific goal of the Plumas County General Plan (Goal 9.8), consistent with the RWMG objective to “maximize agricultural, environmental and municipal water use efficiency.”

All local plans and the IRWMP support goals of enhancing water quality, flood control infrastructure, and water supplies that support recreational uses while minimizing impacts on water quality and offer multiple benefits such as recreational, ecosystem, and agricultural benefits.

The ability to meet growing demands for water in the face of possible declining water supply due to climate change was a common theme in local general plans, particularly the City of Portola General Plan Policy PF-P-5 (supporting additional supply); Lassen County General Plan Policy NR-16 (supporting surface water rights), Goal N-5, Policy NR-21 and NR-22 (supporting the development of new reservoirs and other water supplies); Plumas County General Plan Policy 9.5.5 (supporting water rights); and Sierra County General Plan Water Resources Element Policies 1, 2 and 3 (supporting water rights) and 23 (opposing new diversions or impoundments that would limit Sierra County’s supply).

Protecting and improving water supply reliability is also a major goal of the RWMG. However, as seen in Sierra County’s Water Resources Element Policy 23, new diversions or impoundments intended to bolster one local jurisdiction’s supply can harm another jurisdiction’s supply downstream. Regional water planning will, therefore, need to balance growing demands in the context of competing interests. The RWMG may wish to consider further discussions not only of increased surface water supplies but also of the conjunctive management of groundwater and surface water.

Finally, none of the local general plan policies relating to water “address water resources and wastewater needs of Disadvantaged Communities (DACs) and Native Americans” which is an RWMG objective. Future general plan updates should take into consideration DACs and Tribal entities during the planning process.

XX.3 Plan in Relation to Neighboring Regional Planning Efforts

Seven IRWM planning areas are directly adjacent to the Upper Feather River Integrated Regional Water Management Plan region: Lahontan Basin, Upper Pit River Watershed, Upper Sacramento-McCloud, North Sacramento Valley Group, Yuba County, Cosumnes American Bear Yuba, and Tahoe-Sierra. During the preparation of this Plan, collaboration with these regions occurred primarily through informal contact, conferences, workshops, and working groups (e.g., Sierra Water Workgroup). The various regional representatives will continue to coordinate with the Upper Feather IRWM via scheduled meetings at least

annually, phone conversations as needed, attendance at RWMG meetings as requested, and through casual meetings at regional events and conferences such as the Sierra Water Workgroup, the Association of California Water Agencies, and attendance at DWR-sponsored workshops. Issues of common concern include forest management, flooding, water supply, fisheries, climate change, and capacity challenges. The adjacent regions have not yet begun to systematically focus on the options for inter-IRWMP project development coordination. More information on next steps in regional collaboration is contained in [Chapter XX Governance, Stakeholder Involvement and Coordination](#).

XX.4 Recommendations to Improve Coordination

As described in [Chapter XX Governance, Stakeholder Involvement and Coordination](#), at the outset of the IRWMP Update process, stakeholders with an interest in the region's water issues were identified through various outreach and engagement strategies. During subsequent interviews and meetings with interested stakeholders who became part of the Regional Water Management Group, the project team was able to identify regional issues and water-related conflicts. The contacted water agencies identified many similar water management issues such as water supply reliability, groundwater aquifer level sustainability, water quality improvement (with some purveyors experiencing heavy metal contamination), aging infrastructure, and flood management. Recent curtailment orders from State Water Board due to the ongoing drought also present a significant water management challenge that necessitates not only conservation outreach and management, but also ongoing coordination and sharing of information and resources among water and land use planners.

During the development of this Water and Land Use chapter, all of the water and land use planning entities in the Upper Feather Plan Area were contacted. Plumas County and the City of Portola responded to requests for information and input, but the remaining land planning agencies did not respond. Of the 31 water agencies in the region, three responded. However, many of those that did not respond are active participants in the RWMG or workgroup meetings. The RWMG meetings are formatted to elicit discussion and problem-solve emerging issues. They appear to be an important and effective tool in creating a convergence point for future collaboration, and will continue to be so during annual meetings throughout the IRWMP implementation process. Outreach will continue to Lassen County, Sierra County, and the City of Loyalton to engage these agencies in conversations about water and land use planning issues via the RWMG and the featherriver.org website. To provide effective outreach, the RWMG could consider one-on-one meetings with representatives the non-participating entities. Routine email communication to all water and land use planning entities with grant and other funding opportunities for water-related projects should also continue. Sierraville PUD in particular has noted that as an all-volunteer board, the PUD misses opportunities for funding, modernization and development because of their lack of expertise. Funding for a paid consultant, grant writer, or advisor could dramatically improve coordination between the PUD, other local water purveyors, and land planning agencies.

Most of the responding water managers, including Westwood CSD, Sierraville PUD, and Plumas-Eureka CSD, reported little to no coordination with land planning entities on current planning projects (those individual projects currently proposed), and virtually no coordination on long-range planning or policy-level documents that can impact growth and water demand, such as Housing Element and General Plan updates. It is recommended that the land planning agencies in the Upper Feather IRWM region, particularly those agencies that encompass multiple water agencies, such as Plumas, Lassen, and Sierra counties, include their local water purveyors in all land planning efforts. Consistent with the Ahwahnee Principles for Resource Efficient Land

Use,³³ which advocate a more proactive relationship between land use and water management, coordination efforts should include,

1. distribution of land use project application materials to water purveyors, when applicable, as well as
2. enhanced outreach to these small water purveyors during long-range, strategic, and policy-planning efforts.

At the same time, small water suppliers should also coordinate with the local land planners when conducting water planning and management activities that could affect growth and land use patterns. For example, local land planning agencies and Tribes should be informed when the water purveyor is planning additional water storage or conducting floodplain management activities.

A significant issue related to emergency drought curtailments of surface waters and from springs to disadvantaged (DAC) households and communities without access to other water sources remains unresolved. The City of Portola and Sierra and Plumas Counties provided extensive comments during the drought water curtailment process. Tribes in the region have identified the conservation and enhancement of springs as a regionwide tribal water and land use priority. (insert photo from the tribal gathering in Genesee Valley)

Coordination among the land and water managers of the Upper Feather region will be enhanced in the future by continued participation on the RWMG and by the Upper Feather IRWMP website (<http://featherriver.org>). Opportunity for ongoing coordination include shared equipment (such as specialized equipment used in wastewater and water treatment processes), shared knowledge (such as groundwater management plans and studies or GIS mapping efforts), and routine meetings to discuss potential grant funding opportunities and planning occurring in the area. A general theme among the region's MSRs was that consolidation of water suppliers would likely result in conservation of water resources, but that due to the rural nature of the water providers, consolidation was largely infeasible. The RWMG should take advantage of future planning document updates (General Plans, Area Plans, MSRs, Housing Elements, etc.) to coordinate IRWM and local plan objectives related to water planning. RWMG members should participate in the local planning process to ensure that future general plan updates consider all potentially impacted areas and communities, including DACs and Tribal entities during their planning processes.

Prior to the IRWMP process, coordination among the larger land use and water planning agencies was functional, with reviews of new developments distributed to water agencies for review and input. However, the IRWM Update process has provided a unique opportunity for smaller, more isolated water purveyors to communicate and coordinate with other water and land use planners.

³³ Local Government Commission. Ahwahnee Principles for Resource-Efficient Communities. 1991. Sacramento, CA. Available at: <http://www.lgc.org/about/ahwahnee/principles>

Appendix XX

General Plan Goals and Policies Relating to Integrated Regional Water Management Planning

Consistency w/ IRWMP Goals (✓ = consistent, disc = further discussion provided in Land Use chapter)	Goal and Policy Name/Number	Goal/Policy Description (verbatim)
CITY OF LOYALTON GENERAL PLAN		
Housing Element (ADOPTED 2015) (no other Elements available)		
N/A	N/A	
CITY OF PORTOLA GENERAL PLAN 2020 (ADOPTED 2012)		
Land Use Element		
✓	Goal LU-2.	Protect and preserve natural environmental features and amenities
✓	Goal LU-3.	Reinforce strong urban design, quality development, and a compact City form.
✓	Goal LU-8.	Maintain access to open space within the urban portions of the City, particularly the Middle Fork Feather River.
✓	Goal LU-10.	Ensure that the mix of land uses results in a balance between public revenues and public service demands.
✓	Goal LU-11.	Establish orderly growth in new development areas to ensure logical public service areas.
✓	Policy LU-P-1	The City shall manage and plan for growth in population and economic development.
✓	Policy LU-P-2	The City shall encourage a pattern of development that promotes the efficient and timely development of urban infrastructure and preserves valuable natural and environmental resources.
✓	Policy LU-P-3	Growth shall mitigate its own impacts and shall provide a positive benefit to the community.
✓	Policy LU-P-8	Development shall be managed to ensure that adequate public facilities and services, as defined in the Public Services Element, are planned and provided and the public health, safety, and welfare is protected.
✓	Policy LU-P-9	The City of Portola will accommodate projected population and employment growth in areas where the appropriate level of public infrastructure and services are planned or will be made available concurrent with development.
✓	Policy LU-P-12	The City will consider applications for annexations that are consistent with the City's Annexation Policy and: <ul style="list-style-type: none"> a. Are contiguous with City boundaries and provide for a logical expansion of the City; b. Create clear and reasonable boundaries; c. Ensure the provision of adequate municipal services;

		<p>d. Are a fiscal benefit to the City and its residents;</p> <p>e. Are consistent with State law and Plumas County Local Agency Formation Commission standards;</p> <p>f. Are consistent with the General Plan.</p>
✓	Policy LU-P-13	<p>The City may consider expanding its sphere of influence to incorporate areas that logically should be planned and serviced by Portola. Pursuant to LU-P-11, the City shall consider the following factors when making determinations involving sphere of influence boundaries:</p> <p>a. Present and planned land uses in the area;</p> <p>b. Present and probable need for public facilities and services in the area;</p> <p>c. Present capacity of public facilities and adequacy of public services;</p> <p>d. Existence of any social or economic communities of interest in the area; and</p> <p>e. Open space and forest lands.</p>
Community Design Element		
✓	Goal CD-1.	Guide development of the community in a manner that will sustain the natural resources and amenities and will be economically sustainable over time.
✓	Goal CD-3.	Ensure that development will be compatible with the natural features that define the existing City and surrounding area.
✓	Goal CD-5.	Protect natural environmental features and integrate the built environment with the natural environment.
✓	Policy CD-P- 2.	<p>Meadows and riparian corridors along drainage ways and the river are to be maintained in the natural condition. No structures will be permitted in meadows or riparian corridors other than small structures incidental to recreation, agriculture, forest management, environmental management, or education activities. Such structures may include open pavilions, seating areas, small informal amphitheaters, kiosks, open shelters for recreation, small structures for storage required for maintenance, and similar basic structures. Major structures such as lodges, residences, restaurants, resorts and other similar buildings will not be permitted in a meadow or riparian corridor.</p>
✓	Policy CD-P- 3	The edge of the City adjacent to forests and meadows will provide a transition from urban to open space by reducing the intensity of land development.
✓	Policy CD-P-34	Businesses will provide a view toward the river from the main sales or dining area where feasible. Decks and terraces oriented to the river are encouraged.
✓	Policy CD-P-35	Refuse, storage and service areas will be screened and/or located to have minimum visual impact from the river.
✓	Policy CD-P-39	The City shall continue to seek to acquire land for recreation and public purposes.
Public Services and Facilities Element		
✓	Goal PF-1.	The City will be innovative in new techniques and technologies to provide the best available “state-of-the-art” level of public services in a cost effective manner.
✓	Goal PF-2.	Public infrastructure and services will be affordable to the residents and business interests in the City.
✓	Goal PF-3.	Facilities improvements and services required to serve development will not place an economic burden on existing residents of the City. Development will pay a fair share of all costs of required public infrastructure and services.
✓	Goal PF-5.	The City’s public services and facilities will support economic development and residential growth in the city.
✓	Goal PF-6.	Public facilities and services agencies will cooperate on a regional basis.

✓	Goal PF-7. Conduits to provide connection between public facilities on both sides of the river shall be included on any new bridge structure.	
✓	Policy PF-P-1	Facilitate development of the in-fill areas by extending infrastructure.
disc	Policy PF-P-5	Secure sufficient sources of water to meet the needs of the existing community and planned growth.
✓	Policy PF-P-7	The City will allocate water for future development to maintain a balance of jobs and housing. Exceptionally high water users that do not generate a reasonable number of jobs will not be permitted in the absence of other significant benefits to the community.
✓	Policy PF-P-8	City water service will not be extended to unincorporated areas unless an adequate supply is available for all areas within the city.
✓	Policy PF-P-9	The City will develop a program for the use of recycled water for exterior landscaping within the parameters of State and County Health Codes and standards.
✓	Policy PF-P-10	Develop and implement water conservation measures as necessary elements of the water system.
✓	Policy PF-P-11	Ensure that all development provides for and funds a fair share of the costs for adequate water distribution, including line extensions, easements, and plant expansions.
✓	Policy PF-P-12	Monitor water quality regularly and take necessary measures to prevent contamination.
✓	Policy PF-P-13	Provide an emergency backup system which that meets 150% of average demand.
✓	Policy PF-P-17	The City will maintain the ability to handle peak discharge flow while meeting State Regional Water Quality Control Board Standards as established in the current NPDES Permit.
✓	Policy PF-P-18	The City will seek to minimize additional storm water runoff from new development areas.
✓	Policy PF-P-20	Storm water will be managed in natural channels rather than underground pipes where feasible.
✓	Policy PF-P-21	No net increase in storm water compared to the undeveloped condition will be permitted in new development areas.
✓	Policy PF-P-22	Stormwater system improvements will be extended to the in-fill areas shown in Figure 6-1 when feasible.
Safety Element		
✓	Goal SG-1. Minimize injury and property damage due to seismic activity and geologic hazards.	
✓	Policy SG-P-3	Create and adopt slope development standards to be used in the planning process for any area identified as having significant slope.
✓	Policy SG-I-2	Employ the services of a professional Registered Geotechnical Engineer or Certified Engineering Geologist for hillside development and to evaluate the potential for landslides (including debris slides and mudslides).
✓	Policy SG-I-5	Require contour grading, where feasible, with drainage directed away from the tops of slopes.
✓	Policy SG-I-6	Require revegetation to control erosion and mitigate the appearance of engineered slopes.
✓	Policy SG-I-7	Implement the Uniform Building Code sections related to Excavation and Grading Ordinance, which requires that hillside lots with substantial cuts and fills have the fills properly compacted by sheepsfoot roller.
✓	Policy SG-I-8	Develop a comprehensive plan for septic tanks and water-wells based upon Berry's Geologic Map and applicable regulations of the Regional Water Quality Control Board.
✓	Goal F-1. Minimize the potential for loss of life and property due to flooding.	
✓	Goal F-2. Pursue flood control solutions which minimize environmental impacts.	
✓	Policy F-P-1	Regulate all uses and development in areas subject to potential flooding through zoning and other land use regulations.

✓	Policy F-P-2	Prohibit development that is not raised above the 100-year floodplain level.
✓	Policy F-P-3	Pursue a regional approach to flood issues.
✓	Policy F-P-4	Combine flood control, recreation, water quality, and open space functions, where feasible.
✓	Policy F-P-6	Ensure that impacts of flooding are adequately analyzed when considering areas for future urban expansion.
✓	Policy F-P-7	Protect fisheries and allow for adequate water passage to ensure the survival of downstream riparian ecosystems.
✓	Policy F-P-8	Maintain natural stream courses and adjacent habitat, where feasible.
✓	Goal DF-1. Minimize injury and property damage due to dam failure inundation.	
✓	Policy DF-P-1	Ensure that all development is above the inundation zone of any potential dam failure at Lake Davis.
✓	Goal WF-1. Protect against injury, loss of life, and damage to property and the environment due to wildland fire.	
✓	Policy WF-P-2	Work with the Plumas National Forest, the California Department of Forestry, and Plumas County Fire Departments to establish cooperative participation in establishing fuel breaks and prescribed burns.
Conservation and Open Space Element		
✓	Goal WC-1. Minimize the consumption of water to reasonable levels consistent with a high level of amenities and quality of life for residents and visitors.	
✓	Goal WC-2. Maximize the beneficial uses of water by recycling water for irrigation and other non-potable uses.	
✓	Policy WC-P-1	Develop and implement water conservation standards for all commercial and industrial development, and for all existing and new residential development.
✓	Policy WC-P-2	Explore potential uses of treated wastewater.
✓	Policy WC-P-3	Protect the quantity of Portola's groundwater.
✓	Goal SC-1. Preserve and maintain Portola's soils to avoid pollution of the Feather River and its tributaries and loss of soil.	
✓	Policy SC-P-1	Minimize soil erosion and loss of topsoil from land development activities, wind, and water flow.
✓	Goal WQ-1. Maintain water quality in Portola surface and ground waters.	
✓	Policy WQ-P-1	Minimize sedimentation and loss of topsoil from soil erosion.
✓	Policy WQ-P-2	Minimize pollution of waterways and other surface water bodies from urban runoff.
✓	Policy WC-P-3	Maintain a high level of water quality in the Feather River and tributary areas.
✓	Policy WC-P-4	Protect the quality of Portola's groundwater.
✓	Goal OS-1. Maintain open space as a key feature of Portola.	
✓	Policy OS-P-3	Minimize sedimentation and loss of topsoil from soil erosion.
✓	Goal FR-1. Enhance and make use of the river for public access and recreation compatible with the qualities of the Wild and Scenic River designation.	
✓	Policy FR-P-1	The Feather River corridor through the City of Portola will be accessible to the public where feasible and practical.
✓	Policy FR-P-2	The Feather River corridor through the City of Portola will provide recreation amenities for residents consistent with the natural resource.
✓	Policy FR-P-3	The Feather River corridor through the City of Portola will provide space for public events such as craft fairs and music presentations consistent with the natural resource.
✓	Policy FR-P-4	The Feather River corridor through the City of Portola will include a bike trail along the river.

✓	Goal BR-1: Protect and maintain all biological resources in the Portola area.	
✓	Policy BR-P-1	Emphasize existing natural areas bordering the Wild and Scenic Middle Fork Feather River.
✓	Policy BR-P-2	Encourage exchange of urban land uses for U.S. Forest Service lands within the City's Sphere of Influence.
✓	Policy BR-P-3	Protect special-status species and other species that are sensitive to human activities.
✓	Policy BR-P-4	Maintain healthy and well-managed habitat areas in conjunction with one another.
✓	Policy BR-P-5	Enhance the fish habitat potential of the Feather River in the City.
LASSEN COUNTY GENERAL PLAN 2000 (ADOPTED 1999)		
Land Use Element		
✓	GOAL L-5: Orderly, contiguous growth and appropriate land-conserving densities as an alternative to sprawl and "leap-frog" development.	
✓	Policy LU-8	Future residential development should consist of the expansion of, or be located adjacent to, existing communities, designated residential centers, and established residential areas. An increasing number of small, isolated housing tracts in outlying areas shall be discouraged since they are difficult to provide with urban services and they tend to disrupt the surrounding rural and productive activity of ranches, forests and farms.
✓	Policy LU-9	County zoning and subdivision regulations shall protect agricultural and open space lands, including grazing lands and wildlife habitat, by not allowing land divisions intended for residential use to be developed in areas which are not specifically designated in the General Plan or an area plan for community development land use (e.g., rural residential or agricultural residential) and zoned accordingly.
✓	Policy LU-15	In order to provide open space and buffer areas within development areas to protect important resources, the County will encourage the use of conservation and clustering subdivisions designed to dedicate and maintain open space areas where they will be most effective.
✓	GOAL L-14: A rate and the location of community growth which does not result in a significant burden to existing levels of public services and facilities, including schools, fire protection, and community sewer and water facilities.	
✓	Policy LU-36	Public facilities and services should be based upon a projection of reasonably expected population increase and economic growth, and should recognize the limits of the County's human, financial, and natural resources.
✓	Policy LU-38	The County supports the provision of community facilities and services to provide for the orderly development of existing communities.
✓	GOAL L-19: Multiple use of public lands in ways which provide for the effective management and protection of natural resources for the public while optimizing the continuing contribution and support of public land resources to the economy, lifestyle, and traditions of County residents.	
✓	GOAL L-21: Minimize damage caused to and by development within areas which are subject to flooding.	
✓	Policy LU-46	The County shall continue to discourage inappropriate development in areas subject to flooding as indicated in the most recent and effective Flood Insurance Rate Maps adopted by the Federal Emergency Management Agency; said maps being hereby incorporated by reference into this Land Use Element.
✓	Policy LU-47	Land within identified 100-year flood hazard areas should be zoned for agricultural uses or other relatively low-intensity land uses.
✓	Policy LU-48	In consideration of proposed development within areas subject to flooding, the County shall encourage the use of sites outside of flood prone areas when such alternatives exist and options are feasible.

✓	GOAL L-22: Protection and enhancement of important wildlife habitats to support healthy, abundant and diverse wildlife populations.	
✓	Policy LU-49	The County supports the management of wildlife resources in ways that enhance the health and abundance of wildlife populations and the diversity of species and their habitats and which, at the same time, balance management policies and program objectives with the range of social and economic needs for which the County is also responsible
Natural Resources Element		
✓	GOAL N-1: Productive cooperation with and from Federal and state agencies which manage natural resources in Lassen County and improved consistency in resource management objectives, policies and programs.	
✓	Policy NR-1	Federal and state agencies shall be requested and expected to coordinate and cooperate with the County when considering resource management issues in Lassen County, and to recognize the County's General Plan and resource management policies pursuant to the National Environmental Policy Act and the Federal Land Policy and Management Act.
✓	Policy NR-3	The County supports partnerships of private resource users with public agencies to provide for continued progressive management and conservation of public and private resources within the context of productive stewardship.
✓	Policy NR-4	Proposed changes in Federal resource management policies and related environmental evaluations need to consider and mitigate potential economic, social and cultural impacts to Lassen County citizens and communities, and impacts to related private lands in Lassen County.
✓	GOAL N-2: To protect and maximize the present and future productive, economic and environmental values of the County's soil resources.	
✓	Policy NR-10	The County shall exercise an appropriate degree of regulation designed to minimize soil erosion, including the administration of standards for grading and site clearance related to development projects.
✓	Policy NR-12	The County encourages sound soil management and erosion prevention and control programs and projects, including the use of windbreaks, minimum tillage practices, grazing management, and riparian area rehabilitation.
✓	GOAL N-3: Water supplies of sufficient quality and quantity to serve the needs of Lassen County, now and in the future.	
✓	Policy NR-13	The County recognizes the critical importance and future value of its water resources and shall support the conservation of water supplies and protection of water quality.
✓	Policy NR-14	The County supports efforts by state and Federal agencies, including the California Department of Water Resources, to monitor the quantity and quality of the County's water supplies and to protect the water resources of the County when such efforts are demonstrated to be based on sound, scientific assessment of potentially adverse impacts to those resources.
✓	Policy NR-15	The County advocates the cooperation of state and Federal agencies, including the State Water Resources Control Board and its regional boards, in considering programs and actions to protect the quality of ground water and surface water resources.
disc	Policy NR-16	The County supports the continued use of appropriated and adjudicated surface water rights.
✓	Policy NR-17	The County supports measures to protect and insure the integrity of water supplies and is opposed to proposals for the exportation of ground water and surface waters from ground water basins and aquifers located in Lassen County (in whole or part) to areas outside those basins.
✓	Policy NR-18	The County may adopt specific resource policies and development restrictions to protect specified water resources (e.g., Eagle Lake, Honey Lake, special recharge areas, etc.) to support the protection of those resources from development or other damage which may diminish or destroy their resource value.

✓	Policy NR-19	The County supports control of water resources at the local level, including the formation of local ground water management districts to appropriately manage and protect the long-term viability of ground water resources in the interest of County residents and the County's resources.
✓	GOAL N-4: Maintain a sensible appropriation and utilization of water for agricultural use in the county	
✓	Policy NR-20	In order to insure adequate supplies of irrigation water to areas having the highest potential for agricultural productivity, the County supports analysis and, when warranted, development of water impoundments and aqueducts to transport water resources to areas within the County which have the foremost agricultural soils.
disc	GOAL N-5: The development of new, well-planned reservoirs and other facilities and projects for water supply and/or flood control purposes which will benefit related resources and provide opportunities for multiple public benefits.	
disc	Policy NR-21	The County encourages feasibility studies for and, when appropriate, the development of new, well-planned reservoirs and the conservation and replenishment of water resources through means such as infiltration basins and reinjection when feasible.
disc	Policy NR-22	Plans for reservoirs, flood control facilities and other water supply and flood control programs and projects shall regard the related impacts and cost-benefit relationships to other resource values and land uses which may be affected, and shall consider opportunities and design elements to achieve multiple public benefits including recreation and enhancement of wildlife and fishery resources.
✓	GOAL N-6: Eliminate the threat of flood events which may result in the loss of lives and major damage to property and resources.	
✓	Policy NR-23	The County supports interagency cooperation in developing programs and considering projects to protect people, property and resources from the threat of and damages from flood events.
✓	Policy NR-24	The County encourages feasibility studies, planning projects and, when appropriate, the development of new, well-planned reservoirs, flood channels and other facilities and programs which can serve to control flooding and help reduce flood-related damage.
✓	GOAL N-7: To maintain diverse and healthy vegetation communities in order to sustain natural and economic benefits, including watershed, soil stabilization, wildlife, fisheries, timberland, grazing and scenic values.	
✓	Policy NR-25	The County recognizes that there are vegetation communities that warrant special consideration and protection, and that these areas may be regarded as important or significant vegetation communities or areas of special biological importance. These areas include, but are not limited to, bitterbrush plant communities, wetlands and riparian areas.
✓	Policy NR-26	In order to avoid or reduce the extent of potential adverse impact to important vegetation communities which may result from projects and land use decisions within its jurisdiction, the County shall consider the potential extent of such impacts in the course of project review.
✓	Policy NR-27	Projects subject to County approval which will result in significant disturbance of a site's vegetative cover shall be required to prepare and implement an effective plan to revegetate disturbed, undeveloped areas of the site.
✓	GOAL N-8: Protection of rare and endangered plant species balanced with the need to sustain productive, multiple land uses when possible.	
✓	GOAL N-9: Control invasive weeds and plant species.	
✓	GOAL N-10: Manage wildfire for the protection of life, property and natural resources.	
✓	Policy NR-30	The County supports programs for vegetation management to reduce the probability and potential severity of wildfires, provided that due consideration is given to related site-specific resource issues including protection of wildlife habitat and

		visual impacts in highway corridors.
✓	GOAL N-11: Healthy forest environments which will continue to provide resources for multiple uses and timber production in sustainable quantities which will benefit the local economy.	
✓	Policy NR-31	It is recognized by the County that the timber industry has historically been and continues to be a major economic and social component of Lassen County and therefore represents a vital factor in the fundamental culture and customs of the community.
✓	Policy NR-32	The County supports the conservation and management of timber production areas for the production of timber and shall, within the County's authority, protect them from land uses (e.g., residential development) and factors which would significantly restrict their capacity for production.
✓	Policy NR-33	The County supports the balancing of policies for the conservation of natural resources (including wildlife management policies) in forested areas with the need to maintain production of timber at abundant, sustainable levels as an economic resource.
✓	Policy NR-34	The County recognizes the critical role that timber resources on Federal lands have in the economy of Lassen County and shall continue to advocate and support Federal resource management policies and practices which make plentiful, sustainable quantities of timber available for local lumber and timber-related industries.
✓	Policy NR-35	The County supports the efforts of the timber industry and local citizens to forge cooperative plans and agreements to achieve diverse objectives for protecting and managing forest resources while providing for the long-term economic stability of timber-reliant industries.
✓	Policy NR-36	In areas having significant forest and timber resources, the County supports the formulation of resource management goals and objectives which address the long-term health and diversity of resources in these areas as well as the sustained productivity of timber products.
✓	Policy NR-37	The County supports management of endangered species and critical wildlife habitats in balance with other resource management needs, including the need for economic stability related to timber industries.
✓	Policy NR-38	The County supports successful reforestation of harvested and fire damaged areas on private and publicly-owned timberlands.
✓	GOAL N-12: To manage the resources of rangeland areas within Lassen County by maintaining healthy, diverse ecosystems while encouraging and providing for multiple use of resources which contribute to the economic stability of the County's citizens.	
✓	Policy NR-39	To protect the extensive resource values of rangeland areas, the County will support the maintenance of relatively large parcel sizes by discouraging small, isolated land divisions without appropriate justification.
✓	Policy NR-41	The County supports grazing practices on private lands and lands managed by state and Federal agencies which support the long-term health and sustainability of rangeland resources.
✓	Policy NR-42	The County advocates grazing policies on Federal and state lands which support the economic viability of related private livestock operations while maintaining the long-term productivity of rangeland ecosystems. Proposed changes to resource management policies regarding rangeland use need to consider and mitigate potential economic, social and cultural impacts to Lassen County citizens and communities, and impacts to related private lands in Lassen County.
✓	Policy NR-44	In order to address environmental concerns regarding rangelands while continuing to provide for economic and social needs related to resource use and management of private and public lands, the County supports the development and

		implementation of cooperative resource management programs, based on sound biological science, which include goals and objectives that address and provide for the sustained health of rangeland resources.
✓	Policy NR-45	The County encourages strategy plans and strong measures to manage feral horses and burros on public and private rangelands and to minimize related damage to livestock and wildlife forage and water resources.
✓	GOAL N-21: Continued use and enhancement of the county's fishery resources.	
✓	Policy NR-72	The County supports the continued availability of the Eagle Lake trout for sport and recreational fishing, supports improvement of Eagle Lake trout habitat, and opposes proposals for the listing of the species as a threatened or endangered species.
✓	Policy NR-73	The County supports provisions to reintroduce and improve natural spawning of the Eagle Lake trout in Pine Creek as a component of the population produced under natural selection.
Agriculture Element		
✓	GOAL A-1: Conservation of productive agricultural lands and lands having substantial physical potential for productive agricultural use, and the protection of such lands from unwarranted intrusion of incompatible land uses and conversion to uses which may obstruct or constrain agricultural use and value.	
✓	Policy AG-3	Residential development in agricultural areas shall be discouraged because it disrupts the surrounding productive activity of ranches and agricultural operations. Future residential development, with the exception of building permits on an individual basis, should be relegated to the expansion of existing communities and residential areas, including areas designated as "residential" by the County in the General Plan or an area plan even though those areas may not yet be developed.
✓	Policy AG-9	When considering proposals for agricultural land conversions and/or associated mitigation measures, the County will recognize that the cumulative impacts from land conversions places an increased burden on the remaining agricultural land to provide environmental quality, wildlife habitat and open space values and may threaten the viability of the remaining agricultural land; therefore, the County will support measures to help minimize the impacts of that burden.
✓	GOAL A-5: Productive cooperation with and from Federal and state agencies which manage natural resources in Lassen County and improved consistency in resource management objectives, policies and programs.	
✓	Policy AG-17	The County supports grazing practices on private lands and lands managed by state and Federal agencies which support the long-term health and sustainability of rangeland resources.
✓	Policy AG-18	The County supports cooperative efforts between private sector interests and public agencies that incorporate economic viability while addressing environmental resource concerns such as the Eagle Lake I Pine Creek CRMP.
✓	Policy AG-19	The County advocates grazing policies on Federal and state lands which support the economic viability of related private livestock operations while maintaining the long-term productivity of rangeland ecosystems. Proposed changes in resource management policies regarding rangeland use need to consider and mitigate potential economic, social and cultural impacts to Lassen County citizens and communities, and impacts to related private lands in Lassen County.

Wildlife Element		
✓	GOAL W-3: Enhanced opportunities for consumptive and non-consumptive uses of wildlife resources recognizing the economic, educational, recreational and aesthetic benefits these uses bring to the County	
✓	Policy WE-13	The County supports enhanced public access to wildlife resources for hunting and fishing, as well as for recreational and scientific wildlife observation, while respecting private property rights.
✓	Policy WE-15	The County encourages improvements to wildlife habitat, including the continued use, maintenance, and further development of guzzlers to augment natural water sources and to provide dependable new water sources for wildlife.
✓	GOAL W-4: Protect and enhance the wildlife habitat of riparian areas and wetlands.	
✓	Policy WE-16	The County supports interagency efforts to protect and restore the wildlife habitat values of lakes, riverine and riparian areas and wetlands.
✓	GOAL W-6: Maintain, restore and enhance fishery resources and habitat within the county.	
✓	Policy WE-18	The County supports the protection and improvement of the County's fishery resources, including fish stocking of local waters, in concert with related land use and resource management objectives.
✓	Policy WE-19	The County supports the continued availability of the Eagle Lake trout for sport and recreational fishing, and will support efforts to improve habitat, reestablish and improve natural spawning in the Pine Creek watershed, and other steps which will improve the long-term health of the species and avoid listing as a threatened or endangered species.
✓	Policy WE-20	The County supports the continued availability of the Eagle Lake trout for sport and recreational fishing, and will support efforts to improve habitat, reestablish and improve natural spawning in the Pine Creek watershed, and other steps which will improve the long-term health of the species and avoid listing as a threatened or endangered species.
✓	Policy WE-21	The County encourages feasibility studies for and, when appropriate, the development of new, well-planned reservoirs which may be used, along with other objectives, to expand the County's fishery, wildlife and related recreation resources.
Open Space Element		
✓	GOAL O-2: To manage and help the people of Lassen County prosper from the wealth and diversity of Lassen County's open space resources which are available for responsible productive use and development.	
✓	Policy OS-6	When open space is needed for residential or other forms of development for mitigation or enhancement purposes, such open space shall be dedicated and provided within the development area by techniques such as conservation subdivisions and clustering, and neighboring lands shall not be expected to provide the needed open space.
✓	Policy OS-27	The County recognizes that its surface and ground water resources are especially valuable resources which deserve and are in need of appropriate measures to protect their quality and quantity.
2035 PLUMAS COUNTY GENERAL PLAN UPDATE (ADOPTED 2013)		
Land Use Element		
✓	Goal 1.1 General Land Use Development within the County is planned in a manner which will provide opportunities for current and future residents to enjoy rural, community-oriented living environments that are similar to those currently found in the County. Encourage higher densities in Town and Community defined areas and their identified expansion areas where appropriate, and promote in-fill development to discourage	

	agricultural and forest lands conversion demands.	
✓	1.1.1 Future Development	The County shall require future residential, commercial and industrial development to be located adjacent to or within existing Planning Areas; areas identified on Plumas County's General Plan Land Use Maps as Towns, Communities, Rural Areas or Master Planned Communities (insert reference to maps here) in order to maintain Plumas County's rural character with compact and walkable communities. Future development may also be approved within areas for which Community Plans or Specific Plans have been prepared. Small, isolated housing tracts in outlying areas shall be discouraged as they disrupt surrounding rural and productive agricultural lands, forests, and ranches and are difficult and costly to provide with services. Land division may be allowed outside of Planning Areas only when the resulting development complies with all applicable General Plan Policies and County Codes
✓	1.1.2 Infill Development	The County shall plan to concentrate new growth both within and contiguous to existing Towns and Communities and require expansion of existing infrastructure as needed to efficiently and safely serve the new growth.
✓	1.1.3 Increased Housing Density	The County shall allow for and promote increased housing densities within existing developed areas where adequate public services are available and community character can be maintained.
✓	1.1.4 Land Divisions	<p>The County shall ensure that zoning and subdivision regulations protect agricultural and ranching lands, open space, and natural resources which include: grazing, forests, and wildlife habitat lands, by not allowing land divisions that convert the primary land use to residential to be developed in areas which are not specifically designated as residential in the General Plan, for which appropriate long-term planning has not been completed as outlined within the General Plan. The County shall require the following findings for land divisions outside of Planning areas:</p> <ul style="list-style-type: none"> • The resulting development will have structural fire protection; Land division does not result in any conflict with zoning and density standards, and • Any clustering of parcels does not convert the primary land use to residential and is part of an overall integrated plan for resource protection.
✓	1.1.5 Community Plans	<p>In order to be responsive to the needs and opportunities of various areas within the County, specific Community Plans may be developed for designated commercial, residential, industrial or recreational areas within a Town, Community or Rural Place boundary. A Community Plan will develop standards that are equal to or superior to those of the County and, at a minimum, will address the following:</p> <ul style="list-style-type: none"> • Design Standards • Circulation and Parking • Density • Public Spaces • Infrastructure • Land Uses • Public Health and Safety
✓	Goal 1.3 Coordination with City of Portola Coordinate with the City of Portola in land use planning and development within their sphere of influence and joint planning areas. Plan towards compatibility and coordination of land use designations.	

✓	Goal 1.5 Maximize Existing Infrastructure To promote a development pattern that maximizes the use of existing infrastructure prior to the construction of new infrastructure. Develop a land use pattern to facilitate the delivery of community services in the most cost-effective manner possible for infrastructure construction and maintenance, fire protection, emergency medical and police.	
✓	1.5.1 Use of Existing Infrastructure	The County shall require the use of existing infrastructure for new development whenever feasible
✓	1.5.2 Cost Effective Land Use Pattern	The County shall develop a land use pattern that, to the maximum extent feasible, will facilitate the delivery of community services in the most cost-effective manner for water, sewer, flood control, public safety services, and road construction and maintenance.
✓	GOAL1.11 Land Use and Water Conservation To promote development patterns that recognize the need to conserve water resources, consistent with other stated goals.	
✓	1.11.1 Groundwater Management Plans	The County shall support the development and implementation of a regional groundwater management plan and shall work with water resources agencies, water users, and other affected parties to develop basin-specific plans for high priority groundwater basins to ensure a sustainable, adequate, safe and economically viable groundwater supply for existing and future uses within the County.
Economics Element		
✓	GOAL 5.9 Energy Efficiency and Transportation Develop a sufficient connection between land-use and transportation systems to maximize energy efficiency and minimize vehicle miles traveled.	
✓	5.9.5 Incentives for Use of Existing Infrastructure	The County shall provide incentives for the location of new uses in close proximity to existing infrastructure by requiring that new development pay the full cost of their share of the extension of new infrastructure and by creating incentives for uses that maximize the function of existing infrastructure.
✓	GOAL 5.11 Energy Efficient Businesses and Agricultural Enterprises Encourage the operation of businesses and agricultural enterprises as energy efficiently as possible, within the bounds of sound economic principles. A specific objective of this goal is a 10% improvement in 2010 business and agricultural energy use on a per-capita basis by 2025.	
✓	GOAL 5.12 Energy Efficient Community Services, Facilities & Infrastructure Encourage the construction, operation and maintenance of community services, facilities and infrastructure as energy efficiently as possible, within the bounds of sound economic principles. A specific objective of this goal is a 15% improvement in 2010 community service, facility and infrastructure energy use on a per capita basis by 2025.	
✓	GOAL 5.13 Increase Local Renewable Generation Encourage the development of local renewable-energy resources for direct application and power-generation purposes. A specific objective of this goal is increasing the amount of current local renewable energy generation by 100% without adverse effects to energy resources or the environment in 10 years.	
Public Health and Safety Element		
✓	GOAL 6.3 Wildland Fire Hazards and Fire Protection To minimize the possibility of the loss of life, injury, damage to property, and loss of habitat and natural resources as a result of fire.	
✓	6.3.9 Fuel	The County shall require new development within high and very high fire hazard areas to designate fuel break

	Modification	zones that comply with defensible space requirements to benefit the new and, where possible, existing development.
✓	6.3.10 Prescribed Burning	The County shall encourage the use of prescribed burning as a management tool for hazardous fuels reduction, timber management purposes, livestock production and enhancement of wildlife habitat. The County shall support removal of fuels and chipping and onsite distribution of chipped materials as an alternative to burning.
✓	6.3.13 Landscape-Scale Fuel Modification	The County shall support fuel modification across public and private forestlands to reduce the potential for catastrophic wildfires, with the highest priority directed toward reducing hazardous fuel levels in the wildland-urban interface.
✓	GOAL 6.4 Flood and Dam Inundation Hazards To minimize the loss of life, injury or damage to property as a result of floods in Plumas County.	
✓	6.4.2 Development in Floodways and Dam Inundation Areas	The County shall prohibit the development of new critical or high-occupancy structures within the floodway of any river, stream or other body of water. Similar structures should not be located within the inundation area resulting from failure of dams identified by the State Department of Water Resources Division of Safety of Dams.
✓	6.4.3 New Parcels in Floodplain	The County shall strongly discourage the creation of new residential parcels which lie entirely within Special Flood Hazard Areas as identified on the most current version of the Flood Insurance Rate Maps provided by the Federal Emergency Management Agency. Proposals for new parcels that are partially located within designated Special Flood Hazard Areas must be evaluated to determine if sufficient land is available outside the Special Flood Hazard Area to support residential development and that potential flood impacts can be sufficiently mitigated.
✓	6.4.4 Floodplain Development Restrictions	The County shall ensure that riparian areas and drainage areas within floodplains are free from development that may adversely affect floodway capacity or characteristics of natural/riparian areas or natural groundwater recharge areas.
✓	6.4.5 Multi-Purpose Flood Control Measures	The County shall encourage multi-purpose flood control projects that incorporate recreation, resource conservation, preservation of natural riparian habitat and scenic values of the County's waterways.
✓	6.4.6 Flood Control Design	The County shall avoid flood control projects involving further channeling, straightening or lining of waterways until alternative multi-purpose modes of treatment, such as wider berms and landscaped areas in combination with recreation amenities, are studied.
✓	6.4.7 Limit Surface Runoff	The County shall review development projects to determine that such development can be permitted without alteration of off-site historical flood patterns or contribution to flooding hazards for downstream users. Each project with the potential to create off-site drainage shall be required to submit a plan showing how the impacts of such drainage will be addressed, both on-site and off-site.
✓	6.4.8 Storm Water Retention/Detention and Groundwater Infiltration	As appropriate, the County shall require development to incorporate storm-water retention/detention ponds to encourage groundwater recharge and to make efficient use of storm water.
Conservation and Open Space Element		

✓	GOAL 7.1 Conservation and Open Space The conservation and utilization of natural resources, including water and its hydraulic force, forests, soils, rivers and other waters, fisheries, wildlife, minerals and other natural resources and protection of open space land for the continuation of the County's rural character; scenic beauty; recreation; the protection of natural and cultural resources; and as consideration of open spaces as an important factor in the County's quality of life.	
✓	7.1.3 Collaborative Open Space Land Use Management	The County will promote collaborative resource management among land management agencies, including State and Federal agencies and private entities, monitor the resource quality over time, and engage in public processes with management agencies to advance the County's interest in land management in those processes.
✓	7.1.4 Conservation Easements	The County shall encourage private and public conservation easement programs that protect natural resource and open space lands that generate economic returns to the landowners along with continued resource production, in exchange for permanent protection of natural resource and open space values.
✓	GOAL 7.2 Biological Resources Conserve and protect the County's biological resources.	
✓	7.2.1 Habitat Protection	The County shall protect areas that have significant habitat and wetland values, including riparian corridors, wetlands, grasslands, and creeks and rivers, from incompatible rural development. The County shall also support their protection as a method to provide carbon sequestration for GHG emissions under applicable State programs.
✓	7.2.2 Species and Habitat Avoidance	The County shall require new development projects to avoid or minimize adverse impacts to threatened, rare, or endangered species and critical, sensitive habitat, as defined by appropriate local, state, and federal agencies, through proper project location and design. In the event that avoidance is not feasible, the County shall require a "no-net-loss" of these sensitive natural plant or habitat communities. Wildlife habitat will be preserved and managed in a manner that will not lead to the listing of additional species as threatened and endangered or negatively impact listed threatened or endangered species.
✓	7.2.3 Land Use Management	The County shall restrict the density and intensity of development in wildlife habitat areas to the extent needed to avoid significant interference with the habitat. These restrictions shall include, but not necessarily be limited to, maintenance of large parcel sizes, increasing building setback lines, limiting building and fencing, and designating open space corridors.
✓	7.2.4 Stream Corridor Development	The County shall only permit new development within stream corridors when there is no lesser environmentally damaging feasible alternative and where the best feasible mitigation measures have provided to minimize adverse environmental effects. This policy is not intended to affect the cleaning of stream channels to avoid the flooding or erosion of existing developed lands, stream restoration projects or permitted mining operations consistent with CEQA and the SMARA.
✓	7.2.5 Fishery and Stream Corridor Inventories	The County shall cooperate with the California Department of Fish and Game in inventorying streams and lakes with spawning and rearing habitat, evaluating those streams' existing and potential habitat value, and determining current and potential fish population levels.
✓	7.2.6 No Net-Loss of Wetland Habitats	The County shall require new development that is subject to review under the California Environmental Quality Act to achieve a "no-net-loss" of wetland habitat through avoidance or appropriate mitigation in consultation with the appropriate resource protection agencies.

✓	7.2.7 Wetland and Riparian Habitat Buffers	The County shall require new development that is subject to review under the California Environmental Quality Act to identify wetlands and riparian habitat areas and designate a buffer zone around each area sufficient to protect these habitats from degradation, encroachment, or loss. The County shall continue to identify areas as Open Space and Significant Wetlands as an ongoing process when those areas are identified.
✓	7.2.12 Habitat Protection and Monitoring	The County shall continue to cooperate with land trusts, organizations, and local, State, and Federal agencies to ensure that adequate on-going protection and monitoring occurs within or adjacent to sensitive habitat areas.
✓	7.2.13 Biological Resource Maps	The County shall maintain and consult biological resource maps during the discretionary permit review process in order to identify habitat concerns and guide mitigations that will reduce biological resource impacts.
✓	7.2.14 Natural Landscapes in Site Design	The County shall encourage the integration of natural landscapes, such as rivers streams, lakes, ponds, wetlands, and riparian areas, into new development in such a way as to enhance the aesthetic and natural character of individual sites while avoiding the destruction, disturbance, and fragmentation of these natural landscapes.
✓	7.2.15 Use of Native Plant Species for Landscaping	The County shall encourage the use of native plant species in landscaping plans and projects, where feasible.
✓	7.2.16 Controlled Fuel Management	The County shall support the use of controlled fuel management where feasible and appropriate as a natural ecosystem process, to reduce the threat of catastrophic wildfire and promote healthy forest environments and habitats.
✓	7.2.17 Private Land Management	The County shall support private land owners or organizations that acquire land in order to provide habitat protection for the maintenance of sensitive habitats and/or rare, threatened, or endangered plant/wildlife species.
✓	7.2.18 Inter-Agency Coordination	The County shall consult with appropriate State, Federal, and trustee agencies during the environmental review process when special status species and/or sensitive habitats may be affected by a project
✓	GOAL 7.3 Soil Resources Conserve and protect the County's soil resources.	
✓	7.3.2 Soil Erosion and Vegetation Protection	For development projects that require earthwork and grading, including cut and fill for roads, the County shall require the developer to minimize erosion and sedimentation, conform to natural contours, maintain natural drainage patterns, minimize impervious surfaces, and maximize the retention of natural vegetation wherever feasible. Specific standards for minimizing erosion and sedimentation shall be incorporated into the Zoning Ordinance.
✓	7.3.3 Soil Limitations and Sewage Disposal	The County shall require low-density residential development in areas where soils have moderate or severe limitations for sewage disposal, unless infrastructure exists for a public sewer system.
✓	7.3.4 Erosion Control Plan	The County shall require the preparation of a runoff evaluation and erosion control plan by an engineer for erosion potential areas. The runoff evaluation and erosion control plan shall provide mitigations which preclude hazards to public health, safety and general welfare and ensure maintenance of water quality and fish and wildlife habitat.
✓	GOAL 7.7 Parks and Recreation To maintain an equitable and quality system of parks, recreation areas, multiuse trail systems, and access to local, state, and federal recreation opportunities within Plumas County.	

✓	7.7.3 Recreation Use along Waterways	The County shall encourage increased public access and recreational uses along waterways wherever feasible and where it does not conflict with adjacent landowner rights.
✓	GOAL 7.10 Climate Change To address climate change and manage its effects by pursuing programs and strategies in order to meet or exceed state requirements for reductions in GHG emissions.	
✓	7.10.2 Develop a Climate Change Strategy	The County shall integrate climate change planning and program implementation into County decision making by developing a climate change strategy that implements requirements adopted by the California Air Resources Board and/or the Northern Sierra Air Quality Management District. Components of the strategy may include the establishment of a GHG emissions qualitative and quantitative threshold of significance, establishment of GHG reduction targets and, wherever feasible and appropriate, incorporation of SB 375 Sustainable Communities Strategy measures.
✓	7.10.4 Forest Sequestration and Biomass Energy	The County shall investigate providing incentives for increased carbon sequestration on forest lands and encourage the use of forest biomass for sustainable energy generation.
✓	7.10.6 Sustainable Agricultural Practices	The County shall promote GHG emission reductions by encouraging carbon efficient farming methods, such as no till farming, crop rotation, cover cropping, installation of renewable energy technologies, protection of grasslands, open space, riparian, and forest lands from conversion to other uses, and development of energy-efficient structures.
Agriculture and Forestry Element		
✓	GOAL 8.1 Protect Agriculture as a Productive Use of Resource Land Protect and Support agriculture as a productive use of resource lands, for the continuation of a diversified economy, for the maintenance of the County's rural character, for the protection of scenic, natural, and recreational resources, and as a defining characteristic of the County's quality of life.	
✓	GOAL 8.2 Prevent Conversion to Non-Agricultural Uses The County will strive to protect Agricultural lands, strongly discourage conversion to non-agricultural uses, and prohibit uses that are incompatible with long-term agricultural production.	
✓	GOAL 8.5 Preserve, Protect and Conserve Water Supply and Quality Protect the supply and quality of the County's water resources, by maintaining the proper ecological function of watersheds, including sediment transport groundwater recharge and filtration, biological processes, flood mitigations, and maintaining enough water for local and agricultural needs and uses.	
✓	GOAL 8.6 Protection of Resources to Ensure Agriculture's Sustainability Protect the natural resources needed to ensure that agriculture remains an essential part of Plumas County's future.	
✓	8.6.1 Groundwater Recharge Areas	Protect areas identified as significantly contributing to groundwater recharge from uses that would reduce the ability to recharge or would threaten the quality of the underlying aquifers.
✓	8.6.2 Preserve Water Resources	Ensure that adequate water resources for agriculture are secure, both in quantity and quality, before water allocations are dedicated to developments, mitigation banks, and/or interests from outside of the County.
✓	8.6.7 Agriculture's	Recognize the valuable role that agriculture plays in mitigating the effects of climate change, including permanent

	Role in Mitigating Climate Change	crops that sequester carbon for long periods of time and the use of farming methods that reduce the use of fossil fuels and pesticides.
✓	GOAL 8.8 Maintain Healthy Productive Forest Maintain a healthy and sustainable forest that provides the raw materials necessary for continued timber production while limiting intrusion of incompatible uses and activities.	
✓	GOAL 8.11 Forest Management and GHG Emissions Promote the utilization of forested lands to address GHG emissions.	
✓	8.11.1 Forestlands as Locations for Carbon Sequestration	The County shall work through the CEQA process to comply with GHG reductions as set forth in AB 32 to create policies that encourage utilization of forestlands to serve as locations for carbon sequestration.
✓	GOAL 8.12 Timber Resource Lands and Development Entitlements Provide for the efficient consideration of development entitlements on Timber Resource lands.	
✓	8.12.1 Development Application Findings for Timber Resource lands	<p>The County shall evaluate discretionary development applications involving identified Timber Resource lands and parcels adjoining those lands. Prior to granting an approval, the approving authority shall make all of the following findings:</p> <ul style="list-style-type: none"> a. The proposed use will not significantly detract from the use of the property for, or inhibit, growing and harvesting timber on that parcel or to adjoining parcels for long-term timber resource production value or conflict with timber resource production in that general area, b. The proposed use will not intensify existing conflicts or add new conflicts between adjoining proposed uses and timber production and harvesting activities, c. The proposed use will not create an island effect wherein timber production lands located between the project site and other non- timber production lands are negatively affected, d. The proposed use will not hinder timber production and harvesting access to water and public roads or otherwise conflict with the continuation or development of timber production harvesting, and e. The proposed use will not significantly reduce or destroy the buffering effect of existing large parcel sizes adjoining timber production lands.
Water Resources Element		
✓	GOAL 9.1 Groundwater Management To manage groundwater as a valuable and limited resource and to ensure its sustainability as a reliable water supply sufficient to meet the existing and future needs of Plumas County.	
✓	9.1.1 Groundwater Management	<p>The County shall support the development and implementation of a regional groundwater management plan and shall work with water resource agencies, such as the Sierra Valley Groundwater Management District, water users and other affected parties to develop basin-specific plans for high priority groundwater basins to ensure a sustainable, adequate, safe and economically viable groundwater supply for existing and future uses within the County. As appropriate, the groundwater management plans should include the following:</p> <ul style="list-style-type: none"> • Computer models of groundwater recharge, storage, flows, usage and sustainable yield; • Assessment of water quality contaminants;

		<ul style="list-style-type: none"> • Analysis of resource limitations and relationships to other users for wells serving public supply systems and other large users; • Opportunities for changing the sources of water used for various activities to better match the available resources and protect groundwater; • Possible funding sources for monitoring, research, modeling and development of management options; and • Provisions for applicant fees and other funding of County costs. • Groundwater elevation monitoring to address the requirements of the California Statewide Groundwater Elevation Monitoring Program (CASGEM) • Groundwater quality monitoring to address the requirement of the Irrigated Lands Regulatory Program.
✓	9.1.2 Groundwater Recharge Area Protection	The County shall require new development projects to adequately protect groundwater recharge areas.
✓	9.1.3 Groundwater Demand Reductions	The County shall encourage the use of alternate sources of water supply as appropriate and to the maximum extent feasible in an effort to reduce demand on key groundwater resources in the county.
✓	GOAL 9.2 Water Quality To protect, restore and enhance the quality of surface and groundwater resources to meet the needs of all reasonable beneficial uses.	
✓	9.2.1 Participation in Water Quality Objectives	The County shall support and assist in the development of reasonable and prudent Total Maximum Daily Loads (TMDLs) for the impaired water bodies and pollutants of concern identified by the Central Valley Regional Water Quality Control Board (RWQCB) to achieve compliance with adopted Total Maximum Daily Loads. Work with the Central Valley Regional Water Quality Control Board to develop and implement measures consistent with the adopted TMDLs. The County shall also work closely with the Central Valley Regional Water Quality Control Board, the City of Portola, public water supply purveyors and other interested parties in the development and implementation of water quality plans and measures.
✓	9.2.2 Background Water Quality	The County shall encourage the use of water management strategies, biological remediation and the best available technology to address naturally occurring water quality problems.
✓	9.2.3 County Facilities	The County shall design, construct and maintain County buildings, roads, bridges, drainage and other facilities to minimize sediment and other pollutants in stormwater flows.
✓	9.2.4 Wildfire and Water Quality Controls	The County shall, in cooperation with wildfire management agencies, such as Cal Fire, United States Forest Service and local fire protection agencies, develop a variety of land-use planning, site design and vegetation management techniques to reduce the risk of wildfires. This risk reduction shall also include post-fire erosion, sedimentation and water-quality conditions.
✓	9.2.5 Wastewater Standards and National Pollutant Discharge Elimination System (NPDES)	The County shall support wastewater agencies' efforts to meet applicable NPDES permit requirements and waste discharge requirements in compliance with the Federal Water Pollution Control Act and California's Porter-Cologne Water Quality Control Act.
✓	9.2.6 Erosion and	The County shall ensure that Best Management Practices to control erosion and sediment will be incorporated into

	Sediment Control Measures	development design and improvements.
✓	9.2.7 Wastewater Application Management	The County shall approach all wastewater applications, both individual on-site and community systems, in a manner that supports Federal, State and local wastewater regulations to ensure the protection of public health and the environment.
✓	GOAL 9.3 Climate Change Adaptation To ensure that the County proactively develops and supports programs and policies for forest and watershed management to counteract trends in declining snowpack storage, accelerated Spring runoff, and declining overall runoff that threaten both larger flood events and diminished late-season water supplies.	
✓	9.3.1 Water Resource Adaptation	The County shall encourage water purveyors to develop plans for responding to potential changes in weather patterns resulting from climate change effects, the sharing of water resources to improve water supply reliability and the allocation of water supply to priority users. Climate patterns will also be monitored for their ability to affect existing drainage patterns and their resultant effects to floodprone areas.
✓	9.3.2 Forest Management	The County shall support plans and projects to improve the conditions of overstocked forestlands, especially around communities-at-risk, to reduce the potential adverse impacts from wildfires, to protect watersheds, habitats and reduce excessive evapotranspiration losses.
✓	GOAL 9.4 Watershed Management and Water Exports To maintain sound management of the water resources in Plumas County's diverse watersheds and assure that any proposals for surface and groundwater exports are stringently reviewed to ensure that they do not undermine the County's ability to sustain an adequate supply of high-quality water for all its water users and dependent natural resources.	
✓	9.4.1 Watershed Protection	The County shall require new development projects to mitigate potential impacts on surface water, recreation areas, agriculture and wildlife habitat areas.
✓	9.4.2 In-stream Flow Rate Management	The County shall support reasonable in-stream flow standards to protect aquatic habitat and fisheries while balancing water supply needs and protecting water rights within the Feather River watershed.
✓	9.4.3 Watershed and Community-Based Efforts	The County shall support the efforts of local community-based watershed groups to protect water resources and work with local groups to ensure decisions and programs take into account local opinions, priorities and needs.
✓	9.4.4 Regional Water Management	The County shall support regional efforts through the Upper Feather River Integrated Regional Water Management Plan (UFRIRWMP) to ensure coordination and adaptive management between statewide water resource planning efforts, regional priorities and local needs. The goals and objectives of the UFRIRWMP shall be considered in establishing County water resource priorities and policies.
✓	9.4.5 Watershed Program Funding	The County shall support efforts to obtain grant funding for locally sponsored watershed programs, planning efforts and projects that enhance and protect the Feather River Watershed.
✓	9.4.6 Water Export Projects on Plumas County Watercourses	The County, prior to giving its approval and support to export projects on county watercourses, will require the following information to demonstrate the export project's adherence to the requirements of California Water Code Section 10505 protecting development rights and Section 11460 protecting beneficial needs of the watersheds. The analysis of the export project shall include:

		<ul style="list-style-type: none"> • Effects on in-stream flows including flood events; • Assessment of the environmental impact of the proposed project using appropriate ecological studies by a team of independent experts qualified to conduct such studies, funded by the project sponsor and completed before project authorization; • Effects on fisheries and native wildlife habitat and restoration efforts; Analysis of the sustainability of any proposed fisheries and wildlife habitat mitigations; • Impacts to Native American communities, including cultural and archaeological resources, economies, fisheries and water supplies; • Water supplies necessary to meet the ultimate future development needs of residential, agricultural, municipal, industrial and recreational users and to promote environmental protection and fisheries habitat restoration; • Cost and benefits to recreation; • Water quality impacts and provisions for enhancement of any impaired water bodies (Section 303(d) of the federal Clean Water Act; • Property tax and other fiscal or economic losses to local entities; • Public infrastructure and service demands and costs including roads and recreation facilities; and • Public cost and benefits on statewide, regional, county and local scales including the monetized value of impacted ecological services.
✓	9.4.7 Minimizing the Effects of Water Exports	<p>The County shall require that exports not damage the County’s environmental and economic setting by ensuring that “no unreasonable effect” occurs in the transfer and withdrawal of water resources pursuant to Section 1810 of the State Water Code. County standards for defining “no unreasonable effect” include actions that will not:</p> <ul style="list-style-type: none"> • Contribute to a decline in the population of any sensitive or protected plant, fish or wildlife species; • Reduce water levels in any existing public or private groundwater wells to levels that preclude withdrawal by existing users or would substantially increase the costs or such withdrawal; • Contribute to any impacts on water quality that reduces water quality below health standards or Federal or State water quality standards; • Contribute to effects on water quality that would result in a deficiency by the water treatment agency’s ability to treat water to appropriate standards; • Reduce available groundwater or surface water resources to levels that would make access and/or use of these waters uneconomical for development planned in accordance with this General Plan; and • Directly or indirectly discharge contaminants into surface or groundwater resources
✓	9.4.8 Hydroelectric Project Relicensing	<p>The County shall encourage that dam relicensing projects effectively balance development values, such as electric power, flood control and water supply, with non-developmental values, such as environmental resource protection, recreation, habitat restoration and water quality, and other values that best reflect the public interest. Efforts to mitigate project impacts should not impose redirected impacts on other public or private resources.</p>
✓	GOAL 9.5 Public Water Supply To encourage public water systems and their sources to provide an adequate supply to meet long-term needs and that is provided in a manner that maintains water resources for other water users while protecting the natural environment.	
✓	9.5.1 Adequate	<p>The County shall support water purveyors’ plans to develop new reliable future sources of supply, while promoting</p>

	Water Supply Facilities and Services	water conservation and water recycling/reuse. Additionally, through the development review process, the County shall ensure that public water facilities and services will be adequate and operational to serve new development and meet capacity demands when needed. Such needs shall include capacities necessary to comply with public safety.
✓	9.5.2 Cooperative Planning for Water Supply	The County shall work with public water supply purveyors to disseminate and discuss information on the limits of available water supplies, how the supplies can be used efficiently, the possible effects of drought conditions, acceptable levels of risk of shortage for various water users, priorities for allocation of the available water supply, conditions for use of limited supplies and limits of alternate sources that could be used or developed..
✓	9.5.3 Urban Water Management Plans	The County shall encourage and assist in the preparation of master facilities plans, and urban water management plans where required by State law, for all public water suppliers to design and construct all facilities in accordance with sustainable yields and the planning documents of applicable jurisdictions.
✓	9.5.4 Water Supply for New Development	The County shall ensure a sufficient water supply for all new residential/nonresidential development. To do this, the County shall enforce Water Code Section 10910 (Senate Bill 610) and Government Code Section 66473.7 (Senate Bill 221), or more current state code requirements. Where these codes do not apply, the County shall impose conditions similar to Water Code Section 10910 Senate Bill 610) and Government Code Section 66473.7 (Senate Bill 221), or more current state code requirements, and suitable for the size and scale of the development.
disc	9.5.5 Water Rights Protection	The County shall support public agencies and private entities within Plumas County in their efforts to protect their water rights and water supply contracts.
✓	9.5.7 Community Water Systems	The County shall require any new community water system, in the unincorporated area of the county, serving residential, industrial or commercial development to be owned and operated by a public or private entity that can demonstrate to the County adequate financial, managerial and operational resources.
✓	9.5.8 Level of Service Impacts	The County shall ensure that any new development projects do not create significant adverse impacts on existing water and wastewater infrastructure.
✓	9.5.9 Funding for Water Supply Improvements	The County shall support water/wastewater purveyors use of all appropriate and equitable financing methods (e.g., grant funding, assessment districts and development fees) to finance public facility design, construction, operation and maintenance.
✓	GOAL 9.6 Wastewater Management To ensure that wastewater is managed to provide for the long-term protection of public health, safety and welfare of the environment, including support of the logical and progressive expansion of community wastewater systems within the County.	
✓	9.6.1 Adequate Facilities and Services	The County shall ensure, through the development review process, that wastewater facilities and services will be adequate and operational to serve new development and meet capacity.
✓	9.6.2 Alternative Wastewater System Approval	The County may approve new development that can demonstrate to the County that sewer service will be provided from an alternative wastewater system with adequate financial, managerial and operational resources, where connection to an approved sewer system is not feasible.
✓	GOAL 9.7 Stormwater Management To manage stormwater from existing and future development in an efficient manner through methods that maintain natural water quality,	

	enhance percolation for groundwater recharge, reduce potential flooding, support natural wetlands and provide opportunities for reuse.	
✓	9.7.1 Natural Stormwater Drainage Courses	The County shall require that natural drainage courses, including ephemeral streams, be retained and protected from development impacts which would alter the natural drainage courses, increase erosion or sedimentation or have a significant adverse effect on flow rates or water quality. Natural vegetation within riparian and wetland protection zones shall be maintained to preserve natural drainage characteristics consistent with the policies provided in the Conservation Element. Storm-water discharges from outfalls, culverts, gutters and other drainage control facilities that discharge into natural drainage courses shall be dissipated so that they make no contribution to additional erosion and, where feasible, are filtered and cleaned of pollutants.
✓	9.7.2 Downstream Peak Flows	For new development, the County shall require that peak stormwater discharge not exceed the capacity limits of off-site drainage systems or cause downstream erosion, flooding, habitat destruction or impacts to wetlands and riparian areas.
✓	9.7.3 Maintenance of Stormwater Runoff Systems	The County shall maintain its existing stormwater runoff systems to the extent possible, to assure that these systems do not fall into a state of disrepair such that they are causing water quality degradation inconsistent with their original design function.
✓	9.7.4 Runoff Quality	The County shall require all drainage systems in new development and redevelopment to comply with applicable state and federal non-point source pollutant discharge requirements.
✓	9.7.5 Best Management Practices	The County shall require best management practices in new development and redevelopment to reduce pollutants from entering natural water bodies while allowing stormwater reuse.
✓	9.7.6 Interagency Cooperation	The County shall work with the Central Valley Regional Water Quality Control Board and local, other state and Federal flood control and water resources management agencies to adopt effective stormwater management measures.
✓	GOAL 9.8 Water-Use Efficiency and Conservation To increase the role of conservation and water-use efficiency to help meet domestic or municipal water supply needs.	
✓	9.8.1 Water Conservation	The County shall work with local water purveyors and managers to implement a variety of water conservation measures appropriate for existing and future needs that comply with state and federal legislation and the California Urban Water Conservation Council. General water conservation measures may consist of the following: <ul style="list-style-type: none"> • Increasing water conserving design and equipment in new construction, including the use of design and technologies based on green building principles; • Educating water users on water conserving landscaping and other conservation measures; • Encouraging retrofitting with water conserving devices; • Designing wastewater collection systems to minimize inflow and infiltration; and • Reducing impervious surfaces to minimize runoff and increase groundwater recharge.
✓	9.8.2 Recycled Water Use	The County shall encourage new development, redevelopment, and landscape and agricultural irrigators to use recycled water wherever practical and available; this includes striving for the highest possible quality of wastewater treatment to increase the potential use of recycled water for existing and future needs of the county.
✓	9.8.3 Compact	The County shall support and encourage compact forms of development and shall focus new growth within existing

	Development	community plan areas to help reduce water demands, reduce landscape areas and reduce the costs of water and wastewater infrastructure.
✓	9.8.4 Existing Development	The County shall promote programs for retrofitting plumbing, providing cost rebates, identifying leaks, changing landscaping, irrigating efficiently and other methods of reducing water consumption by existing users. As appropriate, the County will assist existing users seeking grants or other funding opportunities for such water conservation projects.
✓	9.8.5 County Buildings	The County shall assess its water use in County buildings and facilities and reduce water consumption to the maximum extent possible.
✓	9.8.6 Agricultural Water Use	The County shall encourage and support water conservation for agricultural activities that increase the efficiency of water use for crop irrigation and livestock maintenance.
✓	9.8.7 Sustainable Water Practices	The County shall encourage the use of sustainable, affordable water management practices that meet state and local standards, such as greywater reuse, rainwater capture/harvest, watershed management and stormwater infiltration to reduce demands on potable supply.
✓	9.8.8 County Codes	The County shall establish a program to revise County Codes to increase, as appropriate, the use of recycled water for new commercial, residential, industrial and agricultural development.
✓	GOAL 9.9 Interagency Coordination To promote interagency communication and cooperation between land use and water, wastewater, and flood control entities, so that they may optimize utilization of their resources and provide the highest level of dependable, yet affordable, service, while respecting individual entities' water rights and interests.	
✓	9.9.1 Coordinated Infrastructure Planning	The County shall work with water/wastewater purveyors in the planning and development of future water, wastewater and flood control facilities needed to transmit, treat, store and distribute potable water supplies and to collect, convey, treat and dispose of wastewater pursuant to adopted General Plan policies, urban water management plans, water supply agreements and facility plans.
✓	9.9.2 Interagency Coordination	The County shall support cooperative interregional planning efforts that prioritize the protection of existing water rights of local agencies and water users.
✓	9.9.3 Funding Source Procurement	The County shall support and work with local agencies and water/wastewater purveyors to pursue alternative funding sources that can be used for projects that improve water reliability and regional watershed opportunities.
✓	9.9.4 Information Sharing	The County shall share relevant data and encourage water/wastewater purveyors and flood-control agencies to share data that assist in planning activities.
✓	GOAL 9.10 Public Education To increase public awareness of water resources and wastewater planning, water quality and water conservation through education and outreach.	
✓	9.10.1 Public Education Materials	The County shall encourage water/wastewater purveyors, flood control districts and other local organizations or individuals to develop and distribute educational material regarding water conservation and water quality protection measures and programs.
✓	9.10.2 Water Planning and Public	The County shall encourage water/wastewater purveyors to involve the public in their water resource and wastewater planning activities.

Involvement		
2012 SIERRA COUNTY GENERAL PLAN (OCTOBER 1996)		
Land Use Element		
✓	Goal 1: It is the goal of the County to promote and encourage residential and commercial growth in Community Core Areas and confine the extension of public facilities to these areas.	
✓	Goal 2: It is the goal of the County to provide that areas outside of Community Influence Areas be maintained for natural resource industry growth and enhancement, for protection of the County's rural lifestyle, and for protection of environmental quality.	
Housing Element (updated 2006)		
✓	Policy 3	The County shall provide adequate sites and services for development of housing units by rezoning additional land for residential land use, and assist in the expansion of water and sewer facilities.
Public Services and Utilities Element		
✓	Goal: It is the goal of the County to provide for essential public facilities and services and allow for the provisions of quasi-public facilities and services which are in keeping with the customs, culture and heritage of Sierra County Priority for public facilities is directed to community core areas.	
✓	Policy 5	Ensure that adequate and safe water supply is available to all users.
✓	Policy 5b	Encourage community water systems where economically feasible and assure a legally enforceable mechanism is in place for long term financing and maintenance of a water or sewage disposal system.
Parks and Recreation Element		
✓	Goal 1: Provide a wide variety of recreational opportunities in the County that direct priority to County needs.	
✓	Goal 2: Provide a level of public and private recreation and tourism that does not destroy the quality of life or environmental quality of the County.	
✓	Policy 1	Strive for the provision of developed recreational facilities geared to the needs of local residents.
✓	Policy 3	Work with the Forest Service and federal government to ensure provision of ample, high quality recreation facilities and services which are compatible with the character of Sierra County.
✓	Policy 4a	Work towards alleviation of conflicts between differing recreational uses.
✓	Policy 4b	Coordinate future and existing recreational uses with other responsible agencies.
✓	Policy 5a	Ensure adequate access to public waterways.
✓	Policy 5b	Recognize North Yuba River as a key recreational resource.
✓	Policy 6	Provide for an encourage use of methods to ensure protection of unique recreational areas in the County.
✓	Policy 7	Decrease dependence on federal lands for improved recreation.
✓	Policy 8a	Ensure adequate access to public lakes and reservoirs.
✓	Policy 8b	Assure that boating access facilities do not encourage over-use of smaller, fragile lakes in the County.
✓	Policy 8c	Prevent location of intense use areas, including but not limited to campgrounds and equestrian areas, within close proximity of lakes and reservoirs.
✓	Policy 8d	Assure that adequate sanitation and maintenance is in existence for all lake users and visitors.

✓	Policy 8e	Work toward alleviation of conflicts between lake users.
✓	Policy 11	Preserve and maintain high levels of forest health, including but not limited to water quality, fire protection, etc., to preserve high quality outdoor recreation experiences.
Water Resources Element		
✓	Goal 1: It is the County's goal to protect and maintain its water resources for the benefit of County residents and natural habitats and to assure protection of its watersheds as a primary land use constraint.	
disc	Policy 1	Encourage local water suppliers to file for water rights if they have not already done so.
disc	Policy 2	Request information from the Water Resources Control Board (WRCB) on the availability of new water rights and seek to obtain them if feasible.
disc	Policy 3	Support adjudication of surface water rights if potential growth induced as a result is compatible with existing land uses (eg North Yuba Hydrographic Unit).
✓	Policy 4	Investigate the potential to establish additional water rights for fish and wildlife: work with the California Department of Fish and Game if that potential exists and can be balanced with other traditional local uses.
✓	Policy 5	Oppose new diversions of water outside of watersheds and transfers of water rights to any other jurisdiction.
✓	Policy 6	Encourage quiet and non-polluting recreational use of water.
✓	Policy 7	Encourage water conservation, require water-saving fixtures, and encourage water suppliers to require water meters.
✓	Policy 8	Oppose any weather modification efforts which may adversely affect the County.
✓	Policy 9	Discourage the establishment of new water rights to water in natural lakes which would permit major new land uses around lakes.
✓	Policy 10	Encourage further efforts to find a low impact use of the low temperature County geothermal waters so long as any associated uses do not encroach upon agricultural or other important resource areas.
disc	Policy 11	Encourage ranchers to continue irrigation which contributes to marshes.
✓	Policy 12	Encourage reasonable access to marshes, lakes, rivers, and streams.
✓	Policy 13	Restrict large developments with impervious surfaces, and those with septic systems, in groundwater recharge areas.
✓	Policy 14	Cooperate with State and federal agencies in the control of water pollution, require sufficient performance bonds of mining projects to allow for revegetation and water quality restoration efforts, and pursue funding sources to repair abandoned mining sites which continue to pollute.
✓	Policy 15	Cooperate with State and federal agencies in the control of water pollution and seek grants to repair abandoned landfills.
✓	Policy 16	Encourage dredging techniques that have the least effect on water quality of those available.
✓	Policy 17	Cooperate with State and federal agencies to address water quality and require: Retrofits of failing systems with alternative systems where appropriate when any related permit is sought, and proper sealing of wells when any related permit is sought.
✓	Policy 18	Pursue funding sources for septic system and well retrofitting and centralized sewage treatment systems.
✓	Policy 19	Request regulations to allow for County input on setbacks, post-project road closure, and other water quality protection measures with an eye toward avoiding cumulative impacts on water quality.
✓	Policy 20	Oppose the long-term storage, use or transport of hazardous materials through the County.
✓	Policy 21	Cooperate with State and federal agencies in the requirement for Best Management Practices (BMPs).

✓	Policy 22	Protect natural swales and wetlands, plus a buffer from those features, for water quality protection.
disc	Policy 23	Actively oppose major new diversions or impoundments which have significant environmental effects or limit the County's use of the water. Seek mitigation of effects created by small diversions and impoundments.
✓	Policy 24	Organize an interagency and interdisciplinary Water Resources Task Force for the purpose of assisting in project review.
✓	Policy 25	Maintain strong management policies in the Sierra Valley and Long Valley to protect groundwater resources.
✓	Policy 26	Identify other groundwater basins in the County that require management direction.
✓	Policy 27	Identify surface water management policies and water rights in existence to determine potential uses, transferability and other options.
✓	Policy 28	Identify surface water resources that could be at risk to be sold, used, and/or transferred to other basins.
✓	Policy 29	Organize a task force to continue monitoring all negotiations associated with ground and surface water resources of the Truckee River Basin.
✓	Policy 30	Actively oppose any effort of water purveyors, water utilities, and other public or private entities from purchasing, transferring, developing, diverting, or otherwise attempting to use ground and/or surface water resources for use in the State of Nevada.
✓	Policy 30a	Work with local water purveyors to minimize degradation of drinking water.
✓	Policy 30b	Encourage industrial land use proposals which are consistent with this General Plan and which use a minimum of polluting materials or which employ proven technologies to contain hazardous materials.
✓	Policy 31	Preserve the integrity of water courses throughout the County.
Timber Resources Element		
✓	Goal 1: It is the goal of the County to support the prudent management of timber and to maintain the timber industry as a viable part of the County economy.	
✓	Goal 2: It is the goal of the County to bring back and maintain the forest, lake, and stream environment in Sierra County to a healthy, fire resistant and productive system that will be a strong asset to the quality of life and citizens of Sierra County.	
✓	Policy 1	Continue to support concept of selective harvest, or other methods of low visual impact in State and locally designated Scenic Corridor overlay areas and Special Treatment areas.
✓	Policy 6	Actively strive to maintain the timber industry and related individuals as a main economic force in the County. Discourage annually fluctuating USFS and CDF staff.
✓	Policy 13	Encourage retention of timber lands for that use through land use decisions; seek to avoid the pressure to convert timber lands to urban uses that arises when residences or related uses are approved amid timber producing lands.
✓	Policy 19	Seek to reduce the environmental impacts of the THPs for Sierra County through sensitive watershed regulations.
✓	Policy 20	Promote and accept use of wildlife/riparian easements on private timber lands.
✓	Policy 21	Discourage excessive road construction for timber harvests.
✓	Policy 25	Support responsible fuel modification.
✓	Policy 26	Promote a land use pattern which reduces fire hazard.
✓	Policy 27	Establish and maintain an aggressive and continuing management plan for healthy, fire-resistant and productive forest within Sierra County.
✓	Policy 28	Promote and provide for the continued diversity and sustainability of forest resources, including timber, watershed,

		wildlife habitat, recreation and aesthetics.
Agricultural Resources Element		
✓	Goal 1:	Protect and defend agriculture as a priority land use, one of those which give the County its essential character.
✓	Goal 2:	Provide a strong, local agricultural economy.
✓	Goal 3:	Provide for and protect agricultural water supplies.
✓	Policy 2	Focus development in Community Areas and ensure contiguous urban development.
✓	Policy 14	Maintain a strong groundwater management policy in the County.
✓	Policy 14b	Prevent the conversion of surface or groundwater supplies historically used for agriculture to municipal or industrial uses.
✓	Policy 15	Support the ongoing efforts to conserve and restore soil.
Mineral Resources Element		
✓	Policy 6b	Exploration shall not include: off-site sedimentation degradation of visual or air resources degradation of surface or ground waters.
✓	Policy 7	<p>Surface mining is conditionally permitted outside Community Core and Influence Areas, or on parcels more specifically designated ME. Surface mining shall be allowed only after impacts on the environment and nearby land uses have been adequately reviewed and found to be in compliance with CEQA, SMARA, and the goals and policies of this Element, and that proven resources reports have been submitted, and that third party studies have been conducted ensuring the adequacy of water quality and quantity conditions:</p> <ul style="list-style-type: none"> - Requiring the conservation of on-site water during mining operations - Requiring that off-site water discharge complies with State water quality standards - Requiring that any increase or decrease of off-site discharge is not detrimental to the downstream environment or downstream water users.
✓	Policy 8	<p>Subsurface mining and surface access shall be conditionally permitted throughout the County. Surface plants for underground mines differ greatly in complexity and extent a case by case evaluation is needed. Subsurface shall be allowed only after impacts on the environment and affected surface land uses have been adequately reviewed and found to be in compliance with CEQA, SMARA, the goals and policies of this Element, and that third party studies have been conducted ensuring the adequacy of water quality/quantity conditions:</p> <ul style="list-style-type: none"> - Requiring the conservation of on-site water during mining operations - Requiring that off-site water discharge complies with State water quality standards - Requiring that any increase or decrease of off-site discharge is not detrimental to the downstream environment or downstream water users.
✓	Policy 9	Aggregate extraction may be conditionally allowed in rivers and floodplains outside of Community Areas and within Community Influence Areas but not within Community Cores provided associated environmental impacts are addressed through the CEQA process and SMARA.
✓	Policy 10	<p>Permits shall be issued only after meeting the following criteria:</p> <ul style="list-style-type: none"> - No degradation of surface water - Adherence to County Noise standards

		- Adherence to health regulations
Plants & Wildlife Element		
	Goal 2	It is the County's goal to defend its important natural features and functions; these have included and always will include, scenic beauty, pristine lakes and rivers, tall mountain peaks and rugged forested canyons, abundant and diverse plants and animals, clean air, water and watershed values.
	Stream Zones: Building Setbacks	<p>Within Community Core areas, enforce the following setbacks for septic systems:</p> <ul style="list-style-type: none"> - 50 foot horizontal distance from intermittent streams and wetlands - 100 foot horizontal distance from the high water line of perennial streams <p>Within Community Core areas, except those of Downieville and Sierraville, enforce the following setbacks for structures:</p> <ul style="list-style-type: none"> - 50 foot horizontal distance from the high water line of water courses. <p>Establish Downieville and Sierraville structural setbacks Special Treatment review procedures based on the maximum feasible avoidance possible given the existing physical constraint of those communities. Outside of Community Core areas, the setbacks shall apply to structures and septic systems and shall be:</p> <ul style="list-style-type: none"> - 50 foot horizontal distance from intermittent streams and wetlands - 150 foot horizontal distance from the high water line of perennial streams <p>These building setbacks may be reduced by as much as 50% (but in no case to less than 50 feet) if the Planning Commission finds that a narrower setback:</p> <ol style="list-style-type: none"> would not increase the potential for erosion, due to substantial existing vegetation cover and soil and slope stability, and would not fall within the 100-year floodplain, and would fully protect existing riparian vegetation at the site.
✓	Policy 2	Within stream zones, control uses over which the County has jurisdiction to the extent necessary to prevent significant impacts on riparian and aquatic habitat.
✓	Policy 3	Prohibit removal of native vegetation in lake and stream zones except when done in conjunction with the permitted uses as described under #2, above.
✓	Policy 4	Protect bodies of water and their watersheds to prevent water degradation.
✓	Policy 5	Discourage future surface water diversions and impoundments which could have a major adverse effect on fisheries and riparian areas. In general this policy will apply when water is proposed to be diverted from or impounded upon natural water courses rather than existing diversion ditches. Where diversion is permitted, require at a minimum, releases higher than or at least as high as existing late summer minimum flows.
✓	Policy 6	Prohibit land uses which require major new groundwater withdrawals which may impact meadows or other water-influenced habitats.
✓	Policy 7	Prohibit development in meadows.
Safety Element		

✓	Policy 1	Support the efforts of OES and local flood control organizations such as the Downieville Flood Control District and the Smithneck Creek Coordinated Resources Management Plan Group; cooperate with the City of Loyalton in its efforts to reduce the effects of flood flows
✓	Policy 2	Encourage open space uses and restrict dwelling in floodplains outside of Community areas.
✓	Policy 3	Continue to require special flood design for new structures built within the floodplain of Community areas.
✓	Policy 4	Maintain accurate and current floodplain information. Avoid downstream flooding potential by protecting natural drainage and vegetative patterns through project site plan review.
Energy Element		
✓	Policy 3	Sierra County shall cooperate with the California Department of Fish and Game, State Water Resources Board, the BLM, the Forest Service, and the Federal Energy Regulatory Commission, in assessing impacts to streams from existing and proposed hydroelectric power generation, diversion for consumptive use, or other uses.
✓	Policy 4	The County shall provide input to those federal and state decision-making bodies having the authority to grant permits for hydroelectric plants regarding criteria to be evaluated prior to issuing or denying permission to develop further the hydroelectric potential of already impacted streams and watersheds.
✓	Policy 5	The County shall actively oppose major new diversions or impoundments which have significant environmental effects or limit the County's use of the water.
✓	Policy 6	Water shall not be diverted from a stream that provides habitat for listed or candidate species of threatened or endangered status, or that is an important spawning stream or other fishery resource, unless it can be returned without significant adverse effect to habitat.
✓	Policy 7	Hydroelectric facilities shall be designed in such a way as to maintain stream flows essential for aquatic life.
✓	Policy 14	Geothermal exploration and development projects shall be sited, carried out and maintained by the permit holder in a manner which best protects hydrologic resources and water quality and quantity.
Visual Resources Element		
✓	Policy 9	Promote the protection of the visual integrity of streams and rivers.

**Upper Feather River
Integrated Regional Water Management**

**RWMG Meeting No. 11
May 20, 2016**

To: Upper Feather River Regional Water Management Group
From: Uma Hinman, Uma Hinman Consulting
Subject: Sierra Water Workgroup Memorandum of Understanding
Date: May 14, 2016

INTRODUCTION

The Sierra Water Workgroup (SWWG) is a 501(c)(3) whose mission is to assist regional efforts to protect and enhance water quality, water supply, and watershed health; to develop cooperative regional responses; and to facilitate reinvestment in Sierra watersheds and water resources by all beneficiaries (<http://www.sierrawaterworkgroup.org/>). The SWWG was formed to promote and facilitate inter-regional cooperation and communication amongst the IRWM regions.

The SWWG addresses water issues of concern to the Sierra by:

- Coordinating amongst local and regional water plans;
- Exchanging information and tools for water and watershed management amongst stakeholders in the region;
- Serving as an information source regarding state and federal water policy issues for local governments, nonprofits, and other stakeholders; and
- Raising the profile of the Sierra to increase private, state and federal funding opportunities
- Advocating for Sierra water issues in state and federal legislative and administrative forums.

Although the Upper Feather River IRWM Region's membership in SWWG has not been formalized, individuals from the Upper Feather River region have been participating in SWWG's coordinating meetings and annual conferences over the years. Approval of the attached Memorandum of Understanding (MOU) would formalize the UFR Region's membership and participation in the SWWG.

REQUEST

Approve and authorize signature of the Sierra Water Workgroup MOU.

Attachments: Sierra Water Workgroup Memorandum of Understanding

Memorandum of Understanding (MOU) Regarding coordination among participants in the Sierra Nevada Water Workgroup

Recitals

WHEREAS the Sierra Water Workgroup (hereinafter collectively referred to as the “SWWG”) was formed to provide a collaborative multi-stakeholder, Sierra-wide, flexible approach to assisting regional efforts in protecting and enhancing water quality, water supply, and watershed health;

WHEREAS, the SWWG geographic boundary includes all or part of the twenty-two counties that make up the Sierra Nevada region and is organized into six sub-regions: North: Modoc, Lassen, Shasta Counties; North Central: Tehama, Butte, Plumas, Sierra Counties; Central: Yuba, Nevada, Placer, El Dorado Counties; South Central: Amador, Calaveras, Tuolumne, Mariposa Counties; South: Madera, Fresno, Tulare, Kern Counties; East: Alpine, Mono, Inyo Counties;

WHEREAS, the SWWG is comprised of representatives from each Integrated Regional Water Management Planning region (IRWMP) in the Sierra Nevada and advisory members that include regional organizations representing diverse water interests: sovereign Tribal nations, non-profit/non-governmental organizations, local, state, and federal agencies, and private citizens;

WHEREAS the SWWG objectives include coordinating amongst IRWMP; coordinating and collaborating with local and regional agencies, organizations and other stakeholders interested in Sierra water; exchanging information and tools for water and watershed management; serving as an information source regarding state and federal water policy issues for local governments, non-profits, and other stakeholders; raising the profile of the Sierra to increase private, state and federal funding opportunities;

WHEREAS the SWWG will advocate for Sierra water issues in state, federal and legislative administrative forums as it relates to educating Californians on the importance of the State’s primary watershed, investing resources and funding to headwater stewardship; protecting water quality through watershed management; protecting the principles of the area of origin and watershed protection laws; supporting sustainable forest management practices; and improving headwater stewardship by coordinating state, federal, local and regional resource management agencies with regional stakeholders in the Sierra Nevada;

WHEREAS the SWWG represents a collaboration of IRWMP stakeholders in the Sierra, while recognizing that each IRWMP and participant in the Sierra region has different and unique issues of concern;

WHEREAS the SWWG recognizes that important relationships and mutual interests exist between the upper and lower watersheds, and in some cases, the objectives of one region are dependent on actions in the other;

WHEREAS the SWWG believes that collaborative communication and coordinated regional responses to water resource management within the Sierra Nevada will enhance watershed management activities and resource sustainability overall;

THEREFORE, be it resolved that each of the undersigned participants in SWWG agree to work in cooperation with the SWWG pursuant to the following Principles of Agreement and Procedural Understanding:

Principles of Agreement

1. The IRWMPs in the Sierra will select one formal designee to represent them on the SWWG. The designee will represent the views of the region that selected them to participate in the process.
2. SWWG members will attend meetings consistently and, if unable to attend, will send an alternate also designated by their participating region. However, use of alternates is not encouraged as this can interfere with the continuity of discussion and decision-making.
3. The SWWG is the decision-making body of the SWWG process, and its members will achieve consensus (agreement among all participants) in all of its decision-making.
4. Definition of "Consensus": In reaching consensus, some Workgroup members may strongly endorse a particular proposal while others may accept it as "workable." Others may be only able to "live with it." Still others may choose to "stand aside" by verbally noting a disagreement, while allowing the group to reach a consensus without them if the decision does not compromise their interests. Any of these actions still constitutes consensus.
5. SWWG members will regularly communicate information about the process and programs to their regional groups, which should include organizations and agencies, as well as the individual constituencies and communities they represent.
6. A SWWG member's eligibility to take part in SWWG decision-making depends on active participation by that member or alternate. "Active Participation" is defined as a member or alternate attendance of a minimum of three of the four previous meetings in person or by phone.
7. Regional stakeholders are non-voting members, who are regional organizations. They may choose to formally support any programs, projects, policies, or documents produced by the SWWG.
8. Regional Stakeholders will consist of regional organizations, state and federal agencies, and tribal interests.
9. Definition of a "regional organization": intended to describe an organization whose jurisdiction

and/or boundaries extend over multiple IRWMP regions in the Sierra Nevada.

10. One formal designee and alternate will be selected, and will represent the views of the regional organization that selected them to participate in the process.
11. Nothing in this MOU shall obligate any signatory to transfer or commit any funds. Specific work projects or activities that involve the transfers of funds, services, or property among and/or between the various SWWG participants require the execution of a separate written agreement;

Procedural Understanding

1. The signatories to this MOU may extend, terminate, or otherwise amend this MOU at any time in their discretion by mutual written consent signed by all signatories to this MOU. This MOU will be reviewed and updated as needed.
2. Any signatory to this MOU may terminate its participation in this MOU at any time.
3. This MOU shall commence as of the Effective Date and continue for five (5) years thereafter, unless earlier terminated as provided herein.
4. Any group or individual with an interest in the SWWG may become a signatory to this MOU.
5. This MOU does not, in itself, provide such authority to bind any signatory hereto to any future project or activity. Negotiation, execution, and administration of each such agreement for future projects or activities must comply with all applicable statutes and regulations.
6. To the fullest extent allowed under State and federal law, including without limitation the Federal Tort Claims Law, each signatory to this MOU shall defend, indemnify, and hold harmless each of the other signatories to this MOU (and their officials, employees, agents and representatives) from and against any and all liability, loss, expense, and/or claims for any injury or damages to any person (including without limitation death of any person) or property (real, personal or financial) arising out of any activity under this MOU but only in proportion to and to the extent that such liability, loss, expense, and/or claims are caused by or result from the negligent or intentional acts or omissions of the indemnifying party.
7. Because of the participation of several governmental organizations in the proceedings of the SWWG activities, any information shared or indicated within SWWG meetings or other meetings including SWWG agenda items and/or discussions may be subject to public disclosure under the Freedom of Information Act (5 U.S.C. § 552) and/or California Public Records Act (Gov. Code § 6250, et seq.).

8. The original MOU, including signature pages of all original and subsequent signatories, will be kept on file at the Sierra Water Workgroup Headquarters located at 3500 Valley View Road, Rescue, CA 95672 under the custody of Liz Mansfield, Sierra Water Workgroup Director (916) 273-0488. Complete copies will be made available upon request.

I have read the MOU, and agree to follow the established guidelines and perform the established tasks.

Liz Mansfield
Director, Sierra Water Workgroup

DATE

Designated
Representative: _____
IRWM: _____

DATE

Designated
Alternate: _____
IRWM: _____

DATE

**Upper Feather River
Integrated Regional Water Management**

**RWMG Meeting No. 11
May 20, 2016**

To: Upper Feather River Regional Water Management Group
From: Uma Hinman, Uma Hinman Consulting
Subject: Next Meeting Date and Topics
Date: May 14, 2016

INTRODUCTION

Regular Meeting

Suggested dates for the next RWMG meeting: June 24, 2016.

Topics recommended for the next RWMG meeting:

1. Update on Proposition 1 DAC Involvement Request for Proposals
2. Update on Draft Forest-Water Balances Study
3. Presentation of the Draft Community Vulnerability Study
4. Draft Implementation Project lists
5. Draft Resource Management Strategies chapter
6. Draft Plan Implementation, Performance and Monitoring Chapter

Future topics:

- Presentation of Forest-Water Balances Study
- Draft Goals and Objectives Chapter
- Draft Project Development and Review Process
- Draft Plan Development Chapter
- Draft Finances Chapter

REQUEST

Schedule the next meeting date, time and tentative content.

Calendar for year 2016 (United States)

January

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

☉: 2 ☊: 9 ☋: 16 ☌: 23 ☍: 31

February

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29					

☊: 8 ☋: 15 ☌: 22

March

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

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April

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

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May

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

☊: 6 ☋: 13 ☌: 21 ☍: 29

June

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

☊: 4 ☋: 12 ☌: 20 ☍: 27

July

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

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August

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

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September

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

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October

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

☉: 9 ☌: 16 ☍: 22 ☎: 30

November

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

☉: 7 ☌: 14 ☍: 21 ☎: 29

December

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

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Holidays are listed on the following page.