Upper Feather River Watershed
Integrated Regional Water Management Program

Submittal for Region Acceptance Process

Question 1. Submitting Entity

The entity submitting the RAP materials is the Plumas County Flood Control & Water Conservation District. A resolution from the participants in the Regional Water Management Group authorizing submission of the RAP materials is included as Attachment 1.

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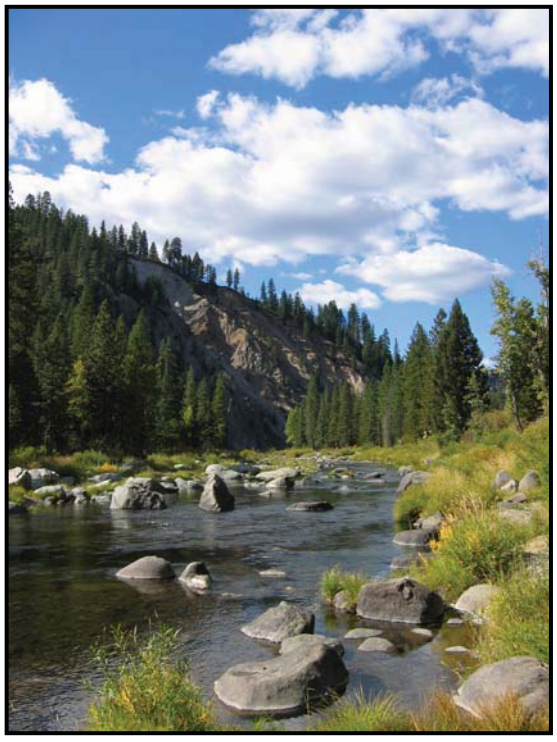
Question 2. Regional Water Management Group

The "modern era" of regional water management in the Upper Feather River region could be considered to date back to 1985, with the formation of the Feather River Coordinated Resource Management (CRM) group. In the past decade, there has been significant expansion and acceleration of regional collaboration as a result of the Monterey Settlement Agreement and the progression of the State's Integrated Regional Water Management Program through its Prop. 50 and Prop. 84 phases. Each new level of activity has built upon the former levels, so the description of the Regional Water Management Group is presented in the way it has evolved over time.



To reflect the many interconnecting structures and relationships, each time an agency or entity is listed its appearance is numbered. In the final lists, each number is somewhat of a reflection of the "generations" of integration and collaboration over which the agency or entity has been involved in regional programs and issues.

Feather River CRM: The Feather River CRM (1) was formed in 1985 to maintain, protect, and improve water quality and water quantity on the East Branch of the North Fork Feather River. The CRM eventually expanded its area of operation to encompass the entire Upper Feather River watershed, while it also expanded its activities from physical restoration and management projects to include public education,

community involvement, and volunteer opportunities. A central element of the "coordinated resource management" process is broad stakeholder engagement and consensus-based decision making. The experience of the Feather River CRM's member agencies and stakeholders functioning under this governance model over the past 25 years provides a fundamental foundation for the consensus-based governance model of the current Regional Water Management Group.

The Feather River CRM as an entity is a member of the Regional Water Management Group, providing one aspect of representation of the common interests of the CRM's constituent members:

California Department of Water Resources (1)
Central Valley Regional Water Quality Control Board (1)
Natural Resources Conservation Service (1)
North Cal-Neva Resource Conservation and Development District (1)
Plumas Corporation (1)
Plumas County (1)
Plumas County Flood Control & Water Conservation District (1)
Plumas National Forest (1)
Plumas County Community Development Commission (1)
California Department of Conservation
California Department of Forestry and Fire Protection
California Department of Fish and Game (1)
California Department of Transportation
California Department of Parks and Recreation
Feather River College (1)
Plumas Unified School District
Pacific Gas & Electric Company
U.S. Army Corp of Engineers
U.S. Fish and Wildlife Service
Plumas County Community Development Commission (1)
U.C. Cooperative Extension (1)
Feather River Resource Conservation District (1)
Salmonid Restoration Federation
USDA Farm Services Agency
Trout Unlimited

Plumas Watershed Forum: The Plumas Watershed Forum was established in 2003 as a result of the Monterey Settlement Agreement to direct investment in the Upper Feather River watershed for the mutual benefit of local interests and the State Water Project. The voting members of the Watershed Forum are:

California Department of Water Resources (2)
State Water Project Contractors
Plumas County Flood Control & Water Conservation District (2)

Decision making in the Watershed Forum is based upon the consensus of the three voting members. Program expenditures are guided by the Feather River Watershed Management Strategy, a plan that was developed and adopted by the Forum with the assistance of a Technical Advisory Committee. The Technical Advisory Committee also assists in the review of project proposals. Participating members have included:

California Department of Fish & Game (2)
Central Valley Regional Water Quality Control Board (2)
Feather River Resource Conservation District (2)
Feather River CRM (2)
Maidu Cultural & Development Group (1)
Mountain Meadows Conservancy (1)
Natural Resources Conservation Service (2)
Plumas Corporation (2)
Plumas County (2)
Plumas National Forest (2)
Sierra Institute for Community and Environmental (1)
Sierra Valley Groundwater Management District (1)
Sierra Valley Resource Conservation District (1)
Sierra County (1)
U.C. Cooperative Extension (2)

During the first phase of the Watershed Forum from 2003 to present, more than 30 projects have been funded or are in the process of being funded though and with the following project sponsors:

California Department of Public Health
California State University, Chico
City of Portola (1)
Ecosystem Sciences Foundation
Feather River College (2)
Feather River Coordinated Resource Management (3)
Feather River Resource Conservation District (3)
Grizzly Lake Resort Improvement District (1)
Indian Valley Community Services District (1)
Maidu Cultural and Development Group (2)
Mountain Meadows Conservancy (2)
Natural Resources Conservation Service (3)
Plumas Corporation (3)
Plumas County (3)
Plumas County Flood Control and Water Conservation District (3)
Plumas Geo-Hydrology (1)
Plumas National Forest (3)
Quincy Library Group
Sierra Valley Groundwater Management District (2)
Sierra Valley Resource Conservation District (2)
U.C. Cooperative Extension (3)
U.C. Davis / California Hydrologic Research Laboratory (1)
Upper Feather River Watershed Group (1)
U.S. Army Corps of Engineers

The Watershed Forum holds two regular meetings each year, as well as occasional special meetings and meetings of the Technical Advisory Committee as needed to review projects. All meetings are publicized and open to the public. The first phase of the program was based upon an initial allocation of funding under the Monterey Settlement, which has been nearly expended. A second allocation of funding will be begin upon completion of the Monterey Plus

EIR, which relates to operation of the State Water Project under the Monterey Amendments to the State water supply contracts.

IRWM - Prop. 50 Phase: In 2005, the initial IRWM plan was developed for the Upper Feather River region in accordance with Prop. 50 guidelines. The two general options under the Prop. 50 guidelines were to rely upon an existing "functionally equivalent" plan or to develop a new, stand-alone plan. The Upper Feather River region adopted a hybrid approach, creating a "new" IRWM Plan that attempted to inventory, reconcile, and identify gaps in a number of existing plans. The following plans and authorities were the building blocks for the IRWM plan:

Feather River Coordinated Resource Management MOU
Feather River Watershed Management Strategy
FERC Project 1962 Settlement Agreement
FERC Project 2105 Settlement Agreement
Herger-Feinstein Quincy Library Group Forest Recovery Act
Monterey Settlement Agreement
Plumas National Forest Land and Resource Management Plan
Sierra Valley Groundwater Management District Act

The "formal" regional water management group was based upon an MOU between four entities adopting the IRWM plan and agreeing to collaborate on regional water management:

Plumas County ***(adopted IRWM plan)*** (4)
Plumas County Flood Control & Water Conservation District ***(adopted IRWM plan)*** (4)
Plumas National Forest ***(adopted IRWM plan)*** (4)
Sierra Valley Groundwater Management District ***(adopted IRWM plan)*** (3)

While there were only four formal parties to the MOU, the roles played by those parties in the Feather River CRM and the Plumas Watershed Forum had the practical result of a much larger web of integration. Under the IRWM MOU, meetings of the IRWM group were held in conjunction with meetings of the Plumas Watershed Forum. As a result of that practical collaboration, projects funded under a Prop. 50 implementation grant in 2007 were sponsored by the following entities:

California Hydrologic Research Laboratory (2)
Feather River Coordinated Resource Management (4)
Feather River Land Trust (1)
Plumas Corporation (4)
Plumas County (5)
Plumas Geo-Hydrology (2)
Plumas National Forest (5)
Quincy Community Services District (1)
Sierra Valley Groundwater Management District (4)

IRWM – Prop. 84 Phase: In retrospect, there were two significant areas where the regional process undertaken within the Prop. 50 guidelines could have been improved. While the consolidation of existing plans was an efficient and practical approach to an initial IRWM plan, that course of action did not provide much opportunity to search for potential new stakeholders and consider new perspectives. Also, the governance and operation of the initial IRWM structure relied too heavily upon informal relationships. In view of those lessons and

considering the new requirements of Prop. 84 and the IRWM Planning Act of 2008, the structure and function of the Upper Feather IRWM Program are evolving.

To ensure a more formal, transparent, and accessible governance process, a new Memorandum of Understanding is being finalized to document the structure and function of the Feather River Regional Water Management Group (RWMG). A number of local agencies have already agreed to participate and meet the statutory requirements for a regional water management group, and a number of additional agencies are in the process of joining the RWMG. In addition, non-governmental organizations from throughout the region have been involved in developing the MOU. As of the date of RAP submission, the following agencies and NGOs have agreed to participate in the RWMG:

Members of the Feather River Regional Water Management Group
County of Plumas (6)
Feather River Coordinated Resource Management (NGO) (5)
Feather River Land Trust (NGO) (2)
Feather River Resource Conservation District (4)
Greenhorn Creek Community Services District (water supplier) (1)
Grizzly Ranch Community Services District (water and wastewater) (1)
Mountain Meadows Conservancy (NGO) (3)
Plumas Corporation (NGO) (5)
Plumas County Community Development Commission (water infrastructure finance) (2)
Plumas County Flood Control & Water Conservation District (water supplier) (5)
Plumas Eureka Community Services District (water and wastewater)
Quincy Community Services District (water and wastewater) (2)
Sierra Institute for Community and Environment (NGO) (2)
Sierra Valley Groundwater Management District (4)
Upper Feather River Watershed Group (NGO - Irrigated Lands/Ag Waiver coalition) (2)
Walker Ranch Community Services District (water and wastewater) (1)

The RWMG is still in the process of conducting outreach to agencies and NGOs and inviting additional participation. Entities that have been approached and are interested in participating include:

U.S. Forest Service (Plumas, Lassen, and Tahoe National Forests) (6)
Natural Resources Conservation Service (4)
Sierra County (2)
City of Portola (water and wastewater) (2)
City of Loyalton (water and wastewater)
Sierra Valley Resource Conservation District (3)
Sierraville Public Utility District (water supplier)
Sierra County-Calpine Waterworks District No. 1 (water supplier)
Chester Public Utility District (water and wastewater)
East Quincy Services District (water and wastewater)
Indian Valley Community Services District (water and wastewater) (2)
U.C. Cooperative Extension (4)
Plumas-Sierra Cattlemen's Association
Sierra County Fire Safe & Watershed Council (NGO) (1)

Inclusion of Water and Wastewater Agencies: One important evolution of the Upper Feather IRWM Program is improved coordination with providers of municipal water and wastewater

services. In a region that has far more acres than people, "regional" water issues have long focused on landscape-scale management and restoration actions that affect surface water supplies, which has been reinforced by the alignment of local interests with the attention and investment of "outside" interests such as the U.S. Forest Service, PG&E, and the State Water Project.

The communities in the Upper Feather River region are widely dispersed and generally not conducive to water or wastewater interties or shared facilities. (See Attachment 2 for the relative locations of the main population centers.) However, there are some areas where regional consolidation is being evaluated or pursued, and the IRWM program seeks to support those processes:

State Water Project Allocation: The Plumas County Flood Control & Water Conservation District is a State Water Project contractor receiving water from Lake Davis. Current subcontractors for the water supply include the City of Portola, the Grizzly Lake Resort Improvement District (GLRID) Crocker Mountain service area, and the Grizzly Ranch Community Services District. Possibilities for increased use of the State Water Project allocation have been identified, including extension of the Grizzly Valley Pipeline to GLRID's Delleker service area; an intertie of the Portola and GLRID-Delleker water systems; and delivery of State Water Project water to Plumas Eureka Community Services District in Mohawk Valley via the Middle Fork of the Feather River.

Almanor Peninsula: The Walker Ranch Community Services District and the Lake Almanor Country Club Mutual Water Company provide water service to most of the Lake Almanor Peninsula area. In conjunction with a pending project to develop "Lakefront at Walker Ranch" (1,670 dwelling units plus resort and commercial), an intertie between the two water systems has been proposed to ensure reliable water supply.

Lake Almanor Regional Wastewater Facility: Maintaining a high level of water quality in Lake Almanor is a paramount concern to residents and visitors due to water-related recreation, fishing, and other uses of the popular lake. Certain parts of the Lake Almanor area were developed many years ago and rely predominantly upon septic tanks as their means of wastewater disposal, particularly along the east shore of the lake. For a number of years it has been considered a possibility that old septic systems will increasingly begin to fail and a regional wastewater system will need to be constructed to protect the high water quality of the lake.

American Valley: The American Valley Community Services Authority is a joint powers authority established by the Quincy Community Services District and the East Quincy Services District. The two water systems have been interconnected to share groundwater supplies, and the community of East Quincy has constructed a sewer system and connected to the Quincy CSD wastewater treatment facility. The two districts are in the process of consolidating into a single governmental entity.

Regional Septage Receiving Facility: The septage receiving facility at the Quincy wastewater treatment plant was closed in 2007 due to concerns over heavy metals and the discharge standards of the Regional Water Quality Control Board. As a result, the only septage receiving stations in the region are in Westwood and Portola/Delleker. Plumas County has been collaborating with Lassen County, the Plumas National Forest, and the Indian Valley Community Services District to develop a regional septage receiving facility. Depending on the ultimate resolution of the pending AB885 regulations

for on-site wastewater systems, a regional septage receiving facility may become a pressing need.

Another benefit of incorporating municipal service providers in regional water management is the practical connection with "landscape" management actions that effect water supply and water quality. Surface water quality and quantity have significant implications for the operations of wastewater dischargers. Also, it is important to have coordinated management of recharge areas and to protect the groundwater sources upon which most of our communities rely. Finally, there is the opportunity to pursue projects that have multiple resource benefits. For example, under the Prop. 50 implementation grant, we are developing a wetlands complex as the final element of the wastewater treatment process at the Quincy wastewater facility. The wetlands will improve the quality of water discharged to the North Fork Feather River system, help Quincy CSD meet its discharge standards, and provide new habitat for sensitive species.

There are a number of very small public agencies providing water services to isolated areas in the region. As examples, the Clio PUD, Feather River Canyon CSD, and Johnsville PUD all have fewer than 100 service connections. Although these agencies are invited to participate in the regional water management group, the lack of staff and resources can be a significant obstacle. However, the Plumas County Community Development Commission works with districts to help them make capital improvement plans and finance water supply and wastewater projects, and the Community Development Commission provides a link between very small districts and the IRWM program.

The following water and wastewater agencies are participating or have been invited to participate in the RWMG:

City of Loyalton (water and wastewater) **DAC**
City of Portola (water and wastewater) **DAC**
American Valley Community Services Authority (water and wastewater) **DAC**
Chester Public Utility district (water and wastewater) **DAC**
East Quincy Services District (water and wastewater) **DAC**
Greenhorn Creek Community Services District (water supplier)
Grizzly Lake Resort Improvement District (water and wastewater) **DAC**
Grizzly Ranch Community Services District (water and wastewater)
Indian Valley Community Services District (water and wastewater) **DAC**
Plumas Eureka Community Services District (water and wastewater)
Quincy Community Services District (water and wastewater) **DAC**
Sierraville Public Utility District (water supplier)
Sierra County – Calpine Waterworks District No. 1 (water supplier)
Walker Ranch Community Services District (water and wastewater)

The agencies listed above serve more than 60 percent of the region's population and include all of the major community water systems.[1] The balance of the population is served by many small water systems or individual wells.

[1] The communities of Paradise, Magalia, and Concow in Butte County are not included in the population calculations or the Upper Feather IRWM process. The communities are located on the southern edge of the Upper Feather River watershed in the regional overlap with the Butte County/Four County/Sacramento Valley IRWM plans, and for purposes of Integrated Regional Water Management are more appropriately coordinating with the Butte County and Sacramento Valley regions and plans.

Also, those agencies serving disadvantaged communities (DAC) are identified on the list. Population and income information on the disadvantaged communities is included as Attachment 3.

Future Plans: Once the Region Acceptance Process is completed, the next task for the RWMG will be to work on the first update of the Upper Feather IRWM Plan. The RWMG as an entity is expected to adopt updated plan, and it is anticipated that the RWMG's members will independently adopt the plan as well.

Question 3. Stakeholder Involvement

As described above in response to Question 2, there is a long history of stakeholder collaboration in the Upper Feather River region across a wide range of communities and interests. The current evolution of the Upper Feather IRWM program is much more about formalizing relationships and governance than about identifying new stakeholders. However, our door is open to anyone who would like to participate, and we have conducted targeted outreach to ensure representation of important interests.

Three staff members from Plumas County, the Plumas County Flood Control District, and the Feather River CRM have served as the primary coordinators of the Upper Feather IRWM program since 2005. Collectively, those three staff members have more than 50 years experience in the Feather River region, and their knowledge and relationships have served as the hub of stakeholder outreach and involvement. As part of the reorganization of the RWMG, "invitation" letters were sent to all of the entities noted under Question 2 and staff meetings or public presentations to governing boards have been conducted with the following entities:

Plumas County Board of Supervisors (public meeting)
Sierra County Board of Supervisors (public meeting)
Butte County (staff meetings)
Plumas National Forest (staff meetings)
Sierra Valley Groundwater Management District (public meeting)
Feather River Resource Conservation District (public meeting)
Sierra Valley Resource Conservation District (public meeting)
Feather River CRM (public meeting)
Feather River Land Trust (staff meetings)
Mountain Meadows Conservancy (staff meetings)
Sierra County Fire Safe & Watershed Council (public meeting)
Plumas County Fire Safe Council (public meeting)
Plumas County Community Development Commission (public meeting)
Plumas County Special Districts Association (public meeting)
Greenhorn Creek Community Services District (public meeting)
Grizzly Ranch Community Services District (public meeting)
Plumas Eureka Community Services District (public meeting)
Quincy Community Services District (public meeting)
Walker Ranch Community Services District (public meeting)

As another means of outreach, from 2005 to 2007, the Upper Feather IRWM program contracted with the Maidu Cultural & Development Group to work with Native American interests in the region and to seek out other populations whose interests may be underrepresented through normal local government processes. The governance of the RWMG provides for one seat on the Steering Committee appointed by Tribes and Native American

organizations, which will be one of the NGO Steering Committee members for whom travel expenses and a stipend are provided to facilitate participation.

There is also an existing MOU between Plumas County and the Greenville Rancheria that provides for government-to-government consultation on matters related to regional water management. The RWMG provides for similar consultation for any tribes that desire to coordinate through government-to-government-type procedures.

From the perspective of "economically disadvantaged" communities, Plumas County and Sierra County on the aggregate each have median household incomes that are less than 80 percent of the median California income. Individual communities with income levels below the 80-percent threshold are listed on Attachment 3. Water and wastewater entities serving economically disadvantaged communities are identified in Question 2.

Question 4. Public Involvement

For the past four years, IRWM meetings have been conducted in conjunction with meetings of the Plumas Watershed Forum. Meetings are conducted in accordance with the Brown Act and are open to the public. Agendas are posted in public and on the Plumas County website in the same manner and in the same locations with which the public is accustomed to receiving agendas for the Plumas County Board of Supervisors. Agendas are also distributed to the e-mail list described below.

Under the new RWMG, IRWM meetings will be conducted separately from any future meetings of the Plumas Watershed Forum. The RWMG MOU provides for four types of meetings:

- RWMG Members – no less frequently than every four months
- Steering Committee – no less frequently than every three months
- Workgroups – each workgroup designated in the MOU will meet as needed
- Public – one annual meeting in each HUC-8 watershed
    - North Fork Feather River (Chester)
    - East Branch North Fork Feather River (alternating Greenville & Quincy)
    - Middle Fork Feather River (alternating Portola & Loyalton)

All meetings are open to the public. The RWMG MOU provides that meetings of the RWMG Members and of the Steering Committee will be noticed and conducted in accordance with the Brown Act.

The public may obtain information on the IRWM program at our website (www.FeatherRiverWater.com), by visiting the offices of the Plumas County Flood Control District, or by contacting the Plumas County Flood Control District by mail, e-mail, or telephone. Contact information is provided on the website and on various documents distributed at public meetings.

We also maintain an Upper Feather IRWM e-mail list. Members of the public have been able to sign up for the e-mail list at public meetings and there is a sign-up link on the home page of the Feather River Water website.

IRWM activities have also been publicized in the local press through public notices and news coverage in the following publications:

Feather River Bulletin
Indian Valley Record
Portola Reporter
Chester Progressive
Mountain Messenger
Sierra County Prospect

Public input is received during meetings of the RWMG Members and of the Steering Committee. In addition, each subject-matter workgroup has a designated chairperson, but participation in a workgroup is otherwise left open, including being open to members of the general public.

Question 5. Governance Structure

In the past, organization in the Upper Feather region has sometimes been referred to as the "Mayberry Model" of governance – which is to say that a lot of communication happens at the grocery store and the gas station and through many long-time relationships. Also, with a population density of only seven people for square mile, a "town-hall" style of governance persists in the region that would be unrecognizable to most Californians. From local water district board meetings to meetings of the counties' boards of supervisors, there is a level of public interaction and engagement that goes far beyond a typical "public comment" opportunity.

One of the tenets of traditional town-hall governance is that decisions are shaped by personal understanding of a neighbor's interests, facilitating concessions and compromises that could be much more difficult to achieve on a more impersonal level of government. That approach to governance is carried forward in the Upper Feather River region through a history of consensus-based decision making, which continues to serve as our primary governance model for regional water management.

Generally, all matters of policy are decided through a consensus-based process involving the RWMG Members, including IRWM plan goals and objectives, IRWM plan revisions, and project prioritization. Administration, finance, and implementation of the IRWM plan are the responsibility of the Steering Committee, the RWMG Secretary, and individual project sponsors. The MOU authorizes the Steering Committee to designate one of the RWMG Members as the Fiscal Agent for the RWMG.

The Steering Committee is appointed by the membership through the following categories to create an eight-member body:

1 – Appointed by agreement of the County Members
(representing local government and disadvantaged communities)
2 – Appointed by agreement of the County Members
(representing local government and disadvantaged communities)
3 – Appointed by agreement of participating Resource Conservation Districts
(representing watershed issues and private landowner interests)

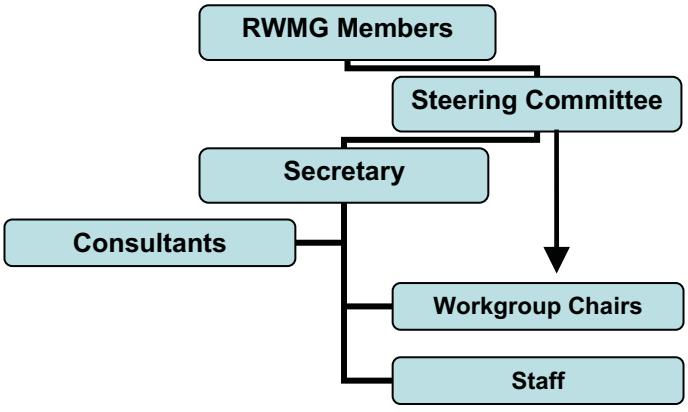
4 – Appointed by agreement of the municipal water and wastewater members (representing municipal services and disadvantaged communities)
5 – Appointed by participating Tribes and Native American interests (representing Tribes and Native American interests)
6 – Appointed by participating members representing production agriculture (representing agriculture and ranching interests)
7 – Appointed by the Feather River CRM (representing watershed groups)
8 – Appointed by the NGO Members not otherwise represented on the Steering Committee

The Steering Committee also has authority to resolve issues where the RWMG Members fail to achieve consensus. By the affirmative vote of at least 10 Members, a matter may be referred to the Steering Committee, and the Steering Committee may determine policy or resolve any other matter by a three-quarters vote of the full committee (6 affirmative votes). This procedure is a variation from previous governance approaches based on pure consensus, but it is an attempt to balance the openness of the IRWM governance process with the need to prevent a single interest from having veto power over policy or projects.

To facilitate participation, the four Steering Committee members appointed by agencies may receive reimbursement for mileage to attend meetings of the Steering Committee and of the RWMG Members, and Steering Committee members appointed by non-agencies may receive mileage and a $100 stipend to help pay for their time.

Feather River Regional Water Management Group

Organizational Chart



Subject-matter workgroups have responsibility for addressing detailed issues in particular areas of interest under the coordination of a workgroup chairperson designated by the RWGM Members. As projects, programs, or policies are developed by the workgroups, they are advanced to the RWMG Members for consideration. The Members and the Steering Committee may also refer particular matters to the workgroups.

The workgroup structure that has been established classifies issues and responsibilities into the following categories:

Community Watershed Education & Outreach: The Community Watershed Workgroup shall address issues including public education, public affairs, public relations, private landowner education and financial assistance, and community involvement and opportunities for volunteer participation in watershed activities.

Floodplain and Meadow Restoration & Management: The Floodplain and Meadow Workgroup shall address stream and meadow restoration projects as well as coordination with County general plans to manage floodplains and recharge areas.

Irrigated Lands: The Irrigated Lands Workgroup shall address matters related to the Irrigated Lands Regulatory Program, including coordinating any required water quality monitoring with other monitoring programs; identifying and assisting in the implementation of best management practices; and providing assistance to private landowners with irrigated lands.

Municipal Services: The Municipal Services Workgroup shall address municipal water and wastewater services and groundwater management, including supply and demand management, water use efficiency, and coordination of the provision of municipal services with County general plans.

Project Prioritization: As project proposals are advanced by other workgroups, the Project Prioritization Workgroup shall consider project prioritization across the Upper Feather River IRWM Program, including prioritization of projects that benefit disadvantaged communities.

Science & Monitoring: The Science & Monitoring Workgroup shall serve as a venue to share information and research and identify and prioritize information and research needs in the region.

Uplands & Forest Management: The Uplands & Forest Management Workgroup shall address issues and projects related to the interconnection between upland and forest management and water supply and water quality.

A key aspect in establishing the workgroup structure was identifying existing programs and relationships to avoid creating new, redundant layers of governance. Instead, the workgroup structure helps define how different programs and relationships are connected and how they relate to the IRWM program. As examples:

- The Community Watershed Education & Outreach Workgroup includes representatives from the Feather River and Sierra Valley RCDs, the Feather River CRM, the Sierra Institute, NRCS, Nor-Cal Neva RC&D, and the Almanor Basin Watershed Advisory Committee. These entities are coordinating their efforts through

the workgroup for purposes of the IRWM program as well as for the Department of Conservation's watershed program.

- The Floodplain and Meadow workgroup is built out from the Feather River CRM management committee. The recent addition of the Mountain Meadows Conservancy as a member of the Feather River CRM is an example of how an existing organization has been expanded to ensure that its participants represent the full Upper Feather River region. (The Mountain Meadows Conservancy focuses on Mountain Meadows Reservoir in Lassen County.)
- The Irrigated Lands Workgroup is arranged around the Upper Feather River Watershed Group, which is the regional coalition addressing the regional water board's Irrigated Lands Regulatory Program.
- The Municipal Services Workgroup is an expansion of the Plumas County Special Districts Association, which normally convenes quarterly meetings attended by a number of the water and wastewater agencies that are Members of the RWMG.

Integrating these existing structures with the Regional Water Management Group builds upon a number of long-standing and successful programs and helps ensure the effectiveness and success of the IRWM program. And the consensus-based decision making process – with backup from a super-majority dispute resolution mechanism in a Steering Committee representing the diverse interests in the region – will effectively perpetuate regional collaboration on a water management portfolio with broad stakeholder support to address regional priorities.

Funding: Operation of the Regional Water Management Group is supported by substantial in-kind contributions from the participants in the form of their time and the overhead absorbed by their respective agencies and organizations. Direct expenditures, such as consultant assistance for the preparation of the 2005 IRWM Plan, have been financed by the local agency members, particularly Plumas County and the Plumas County Flood Control District. Grants have also been obtained, such as one awarded by the Sierra Nevada Conservancy to work on development of the current regional water management group. Funds have been budget by the Plumas County Board of Supervisors to support continued IRWM organization and planning through the 2009-2010 fiscal year to assist with direct expenditures related to operation of the RWMG, in addition to their ongoing and substantial in-kind contributions from staff and consultants.

Funding for IRWM projects falls into two general categories of watershed management and municipal infrastructure. Beyond Prop. 50, Prop. 84, and the Monterey Settlement, watershed reinvestment related to ecosystem services is an important funding mechanism that is being pursued by Plumas County, the Plumas National Forest, the Sierra Institute, the Feather River Land Trust, and other partners. A recent article by ACWA Executive Director Tim Quinn highlighted the need for water agencies to reinvest in watershed management as a central component of climate change adaptation. See Attachment 4. We also continue to hope that the Department of Water Resources and the State Water Project Contractors will make a long-term commitment to support restoration and management actions in the Feather River watershed to improve water quality and water supplies for the State Water Project.

Municipal infrastructure will continue to be financed by developers, existing customers, and continued assistance from USDA Rural Development, the Safe Drinking Water State Revolving Fund, and the Clean Water State Revolving Fund, among other possible sources of funding.

There may also be opportunities for Prop. 84 funds to support municipal infrastructure projects that have multiple resource benefits, such as the wetlands that are being constructed at the Quincy CSD wastewater facility using Prop. 50 funds.

Question 6. Regional Boundary

The IRWM regional boundary is the Upper Feather River watershed, which encompasses the area from Lake Oroville upstream to the headwaters of the Feather River. The region covers 2.3 million acres, including parts of seven counties and three National Forests. Figure 1.2 from the IRWM Plan shows the watershed boundary and major water features, and Figure 1.3 shows the watershed boundary with counties, National Forests, and population centers.
Given the limited population and municipal infrastructure in the region, regional water management issues are predominantly landscape-scale and deal with watershed, forest management, and groundwater management issues with significant implications for the downstream beneficiaries of flood control, water supply, and hydroelectric generation.

The watershed boundary of the Upper Feather River region reflects the “watershed” and landscape-scale issues that predominate in the region and provides a workable geographic scale for addressing those issues in an effective, efficient, and integrated manner.

Legend

- Streams
- Lakes and reservoirs
- Rivers
- Watershed Boundary

Elevation (m)

- 2719.143 - 3169
- 2269.286 - 2719.143
- 1819.429 - 2269.286
- 1369.571 - 1819.429
- 919.714 - 1369.571
- 469.857 - 919.714
- 20 - 469.857

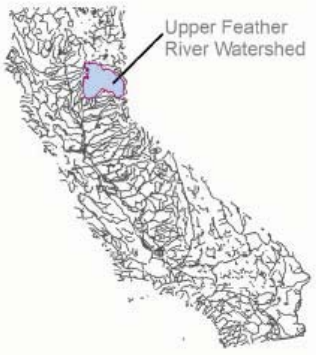
FIGURE 1.2

UPPER FEATHER RIVER WATERSHED

N

Watershed base map depicting elevation, major rivers, tributaries, streams, lakes and reservoirs.

GIS Metadata Information
Rivers, streams, lakes and reservoirs shapefiles:
California Spatial Information Library CASIL
Feather River Watershed Elevation Grid:
Ecosystem Sciences



Legend

- Lakes and Reservoirs
- Rivers
- Watershed Boundary
- Plumas County
- Highways
- Urban
- Plumas Nat. Forest
- Lassen Nat. Forest
- Tahoe Nat. Forest
- County Boundary

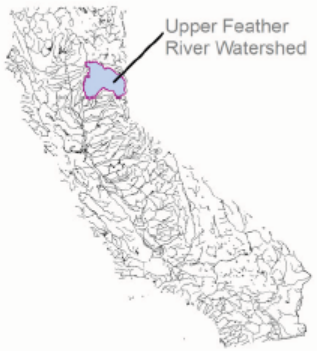
FIGURE 1.3

UPPER FEATHER RIVER WATERSHED
Political Boundaries and Urban Areas

N

Watershed base map depicting cities, towns, political boundaries, major highways and elevations.

GIS Metadata Information
Rivers, streams, lakes, counties and cities shapefiles:
California Spatial Information Library CASIL
National Forest Boundary Shapefiles:
Plumas National Forest and CASIL
Feather River Watershed Elevation Grid:
Ecosystem Sciences



Political/Jurisdictional Boundaries: As shown in Figure 1.3, the watershed boundary is largely reinforced by the boundaries of Plumas County and the Plumas National Forest. Large parts of three other counties are also located in the region as shown in the table below. Also, parts of the Lassen National Forest and Tahoe National Forest are located in the region.

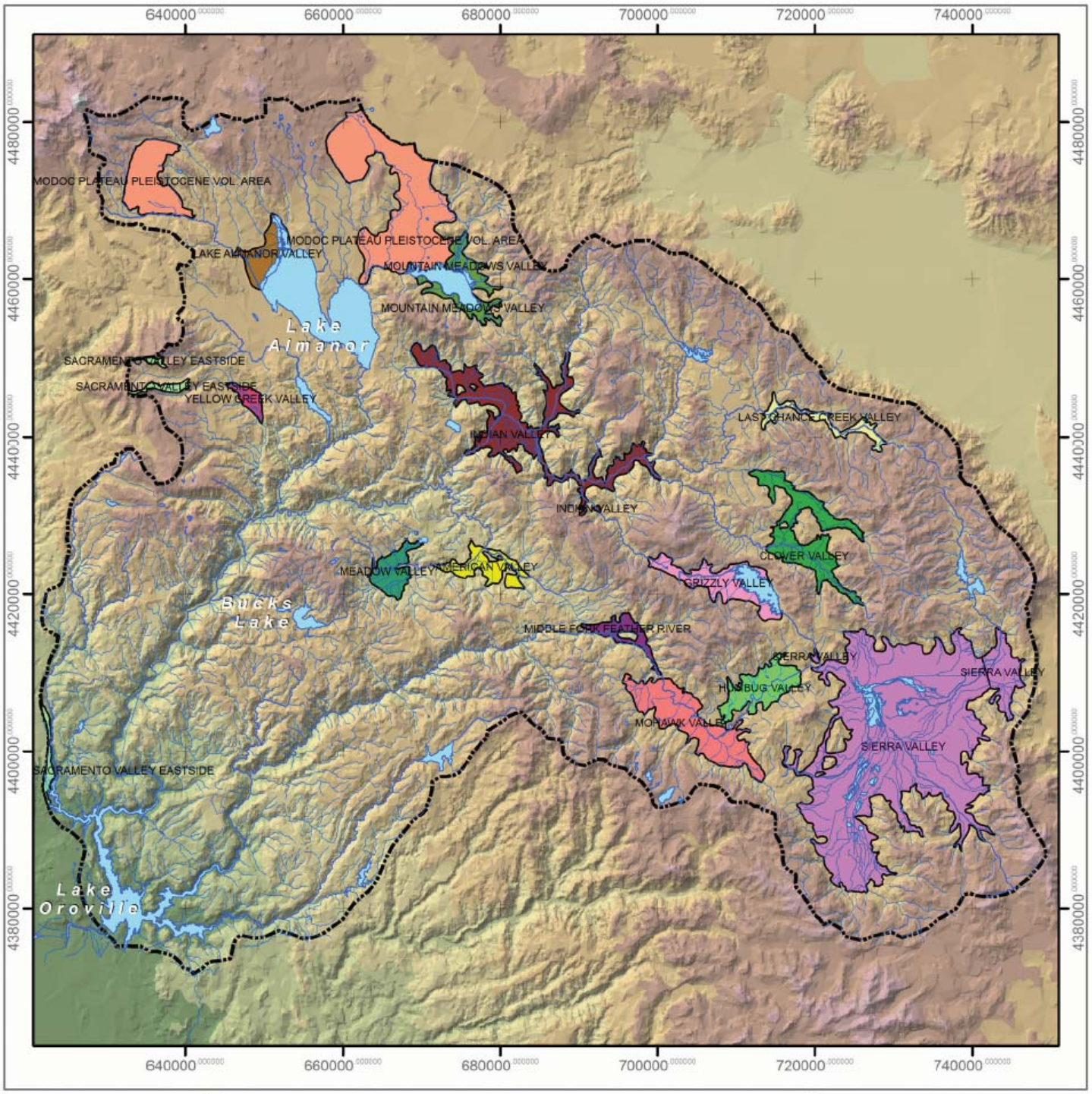
County	Total Size (Acres)	Acres in Watershed	% in Watershed	% of Watershed
Butte	1,072,692	341,476	31.83	14.9
Lassen	3,020,394	118,954	3.94	5.2
Plumas	1,673,682	1,651,084	98.65	72.1
Sierra	615,880	164,979	26.79	7.2

Water/Conservation/Irrigation/Flood District Boundaries: The following agencies are located entirely within the region and do not significantly affect the regional boundary:

- Plumas County Flood Control & Water Conservation District
- Last Chance Creek Water District (irrigation)
- Feather River Resource Conservation District
- Sierra Valley Resource Conservation District
- City of Loyalton (water and wastewater)
- City of Portola (water and wastewater)
- American Valley Community Services Authority (water and wastewater)
- Chester Public Utility district (water and wastewater)
- East Quincy Services District (water and wastewater)
- Gold Mountain Community Services District (water and wastewater)
- Greenhorn Creek Community Services District (water supplier)
- Grizzly Lake Resort Improvement District (water and wastewater)
- Grizzly Ranch Community Services District (water and wastewater)
- Indian Valley Community Services District (water and wastewater)
- Plumas Eureka Community Services District (water and wastewater)
- Quincy Community Services District (water and wastewater)
- Walker Ranch Community Services District (water and wastewater)
- Westwood Community Services District (water and wastewater)

Groundwater Basins: Figure 4.5 on the following page shows the groundwater basins in the region, including the following basins from Bulletin 118:

5-7 Lake Almanor Valley
5-8 Mountain Meadows Valley
5-9 Indian Valley
5-10 American Valley
5-11 Mohawk Valley
5-12 Sierra Valley



Legend

- Streams
- Lakes and reservoirs
- Rivers

Ground Water Basin

- AMERICAN VALLEY
- CLOVER VALLEY
- GRIZZLY VALLEY
- HUMBUG VALLEY
- INDIAN VALLEY
- LAKE ALMANOR VALLEY
- LAST CHANCE CREEK VALLEY
- MEADOW VALLEY
- MIDDLE FORK FR
- MODOC PLATEAU PLEIST. VOL. AREA
- MOHAWK VALLEY
- MOUNTAIN MEADOWS VLY.
- SACRAMENTO VLY E.SIDE
- SIERRA VALLEY
- YELLOW CREEK VALLEY

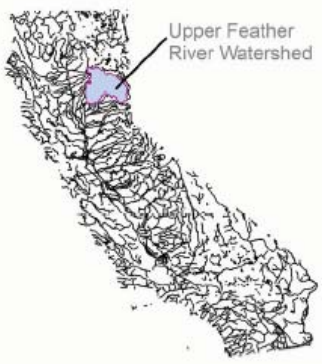
FIGURE 4.5

UPPER FEATHER RIVER WATERSHED GROUNDWATER BASINS

N

Watershed base map depicting groundwater basins.

GIS Metadata Information
Groundwater basins shapefile:
California Spatial Information Library CASIL



Regional Water Quality Control Board Boundaries: The region is located entirely within the boundary of the Central Valley Regional Water Quality Control Board.

Floodplain Maps: The region is based upon a watershed boundary and floodplain maps had no effect on the boundary.

Physical/Topographical/Geographical/Biological: The region is based upon the watershed boundary of the Upper Feather River. One physical distinction is that about 10 percent of the region consists of large alpine valleys and meadows with significant groundwater storage potential, which is an important water management consideration for the region. In comparison, in the CABY region directly to the south, only about 1 percent of the region is alpine valleys and meadows.

Surface Water Bodies: The region is based upon the watershed boundary of the Upper Feather River, with the main tributaries being the North Fork, Middle Fork, and South Fork. Other significant water bodies include Lake Oroville, Lake Almanor, Lake Davis, Antelope Lake, Frenchman Lake, Mountain Meadows Reservoir, Bucks Lake, and Little Grass Valley Reservoir. All of the State Water Project storage facilities upstream of the Delta are located in the region (Oroville, Davis, Antelope, Frenchman). Major water bodies are shown in Figure 1.2, above.

Major Water-Related Infrastructure: Major water-related infrastructure includes the State Water Project storage facilities described above, along with the State Water Project's Grizzly Valley Pipeline running from Lake Davis to the City of Portola. The other most notable infrastructure is PG&E's famous "stairstep of power," a series of hydroelectric projects on the North Fork of the Feather River stretching from Lake Almanor to Lake Oroville.

Impaired Water Bodies: There are a number of water bodies in the Upper Feather River region that are included on the 303(d) list of impaired water bodies, currently proposed for listing, or recently evaluated for listing. Common issues across the region include mercury, water temperature, and PCBs.

North Fork Feather River
- Mercury
- Temperature
- PCBs (proposed)
- Unknown Toxicity (proposed)

Middle Fork Feather River
- Dissolved Oxygen (proposed)
- Unknown Toxicity (proposed)

South Fork Feather River
- PCBs (proposed)
- Unknown Toxicity (proposed)

West Branch Feather River
- Unknown Toxicity (proposed)

Little Grizzly Creek
- Copper
- Zinc

Lake Oroville
Mercury (proposed)
PCBs (proposed)

Lake Almanor
Mercury (proposed)

Population: Population density in the region is low, with an average of approximately seven people per square mile. Population centers in the region include the communities of Chester, East Quincy, Graeagle, Greenville, Loyalton, Portola, Quincy, and Westwood.

The communities of Paradise, Magalia, and Concow in Butte County are not included in the population calculations or the Upper Feather IRWM process. The communities are located on the southern edge of the Upper Feather River watershed in the regional overlap with the Butte County/Four County/Sacramento Valley IRWM plans, and for purposes of Integrated Regional Water Management are more appropriately coordinating with the Butte County and Sacramento Valley regions and plans.

Biological Significant Units: The North Fork Feather River was traditional habitat for steelhead trout and Chinook salmon prior to construction of the dam at Lake Oroville. There have been proposals by the National Marine Fisheries Services (NMFS) to reintroduce steelhead and salmon to the North Fork watershed through a trap and haul program, but the current Habitat Expansion Agreement between NMFS, the Department of Water Resources, and PG&E has moved away from the North Fork watershed.

The western part of the region includes portions of the summer range for the Eastern Tehama Deer Herd.

Disadvantaged Communities: Disadvantaged communities and income data is presented in Attachment 3.

- - -

Maps: A CD is included with the following GIS layers.

Shapefile Name	Projection	Shapefile Description	Type	Origin
cal_drains	NAD27_Z10	Streams of California	line	CASIL
FERC_1962	NAD27_Z10	Rock Creek/Cresta Dam Relicensing	Polygon	ES
FERC_2105	NAD27_Z10	Belden/Canyon Dam Relicensing	Polygon	ES
FR_counties	NAD27_Z10	Counties comprising FR watershed	Polygon	CASIL
FR_dams	NAD27_Z10	Dams location in FR watershed	Point	CASIL
FR_grdwater	NAD27_Z10	Groudwater Basins in the FR	Polygon	CASIL
FR_lakes	NAD27_Z10	Lakes in the FR watershed	Polygon	CASIL
FR_Rivers2	NAD27_Z10	More refined river network - FR_rivers	line	CASIL
FR_streams	NAD27_Z10	Streams, creeks, rivers of FR watershed	line	CASIL
FR_watershed	NAD27_Z10	Feather River Watershed	Polygon	ES
Lassen_NF	NAD27_Z10	Lassen National Forest Land	Polygon	CASIL

Plumas	NAD27_Z10	Plumas County	Polygon	CASIL
Plumas_line	NAD27_Z10	Plumas County line file	line	CASIL
Plumas_NF	NAD27_Z10	Plumas National Forest Land	Polygon	CASIL
Tahoe_NF	NAD27_Z10	Tahoe National Forest Land	Polygon	CASIL
SVGMD	NAD27_Z10	Sierra Valley Groundwater Management D	Polygon	ES
FR_elev	NAD27_Z10	Feather River Elevation	Grid	ES
SWRCB_R5_pts	NAD27_Z10	SWRCB points in the FR watershed	point	SWRCB

Sources:
California Spatial Information Library (CASIL)
Plumas County, California State Water Resource Control Board (SWRCB)
Ecosystem Sciences Foundation (ES) .

Question 7. History, Conflicts, and Water Resources

The history of IRWM efforts in the region is included in the description of the Regional Water Management Group in Question 2. The region boundary encompasses an area of long-standing collaboration on water and watershed management issues.

Conflicts in the region relate primarily to landscape issues arising from the 90 percent of the region that is forested uplands and the 10 percent of the region that is alpine valleys and meadows, as well as issues arising from groundwater management, from providing water and wastewater service to small, rural communities, and from the relicensing of FERC hydroelectric projects.

Forest Management: Forest Management is the predominant land use in the watershed. National Forest System lands occupy approximately 75 percent of the watershed, on the Tahoe, Plumas, and Lassen National Forests. Significant private industrial timber lands also occur in the watershed. Historically, Feather River area forests have been the largest producer of timber in the Sierra Nevada, and one of the top timber producers in the State of California.

In the late 1980s, as a result of concern about habitat for the California Spotted Owl, logging on National Forest lands came to an abrupt halt. Eventually, a collaborative effort of timber industry representatives, environmentalists, and local officials known as the Quincy Library Group developed a community stability proposal to balance the needs of forest health, habitat preservation, fuel reduction, forest fire prevention, and economic activity in the Upper Feather River region. In 1998, that proposal became federal law as the Herger-Feinstein Quincy Library Group (HFQLG) Forest Recovery Act, a pilot project to implement and evaluate a number of forest and watershed management strategies. The HFQLG Act has been reauthorized until 2012.

The HFQLG pilot project included fuel reduction projects, forest thinning to establish a network of areas with increased fire resistance, and watershed restoration projects. A science component of the program included a number of requirements to report back to Congress, including an analysis of forest management practices on water supply and water quality. One report that has already been completed addressed the question of increased evapotranspiration in forests that have become heavily overgrown as a result of fire suppression and the lack of historic, low-intensity fires that used to thin the forest. The report concluded that when areas of the forest were manually thinned to a state approximating pre-Gold Rush conditions, there was

a decrease in evapotranspiration loss of one acre-foot for every ten acres of fuel treatment. Applied across the National Forests in the region, the evapotranspiration loss compared to historic conditions could be on the order of 200,000 acre-feet per year.

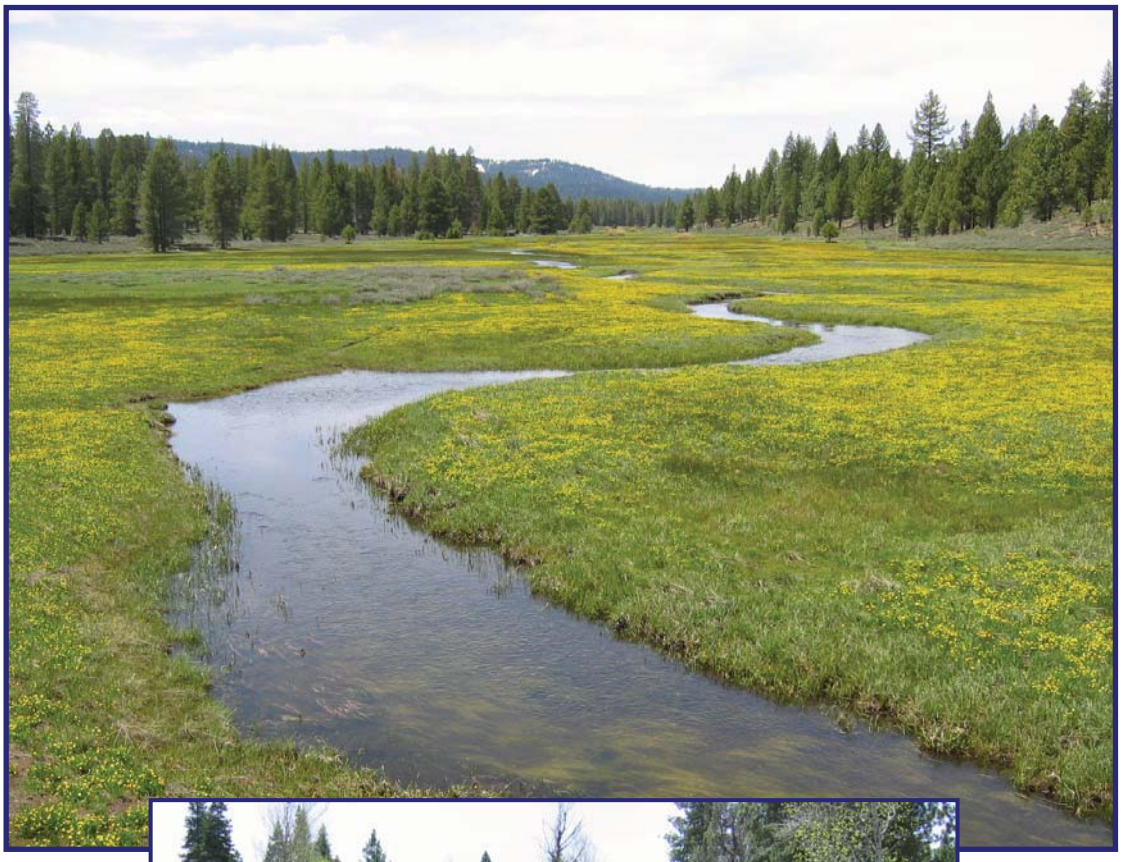
Unfortunately, full scale implementation of the HFQLG pilot project has been stalled by a small group of individuals and organizations, including those that oppose any timber operations on National Forest System lands. Appeals and litigation have challenged almost every proposed project, and stopped many. Many thousands of acres of forest treatments have been designed, analyzed, and prepared, yet not implemented. Negotiations to resolve the conflict were mandated by Senator Feinstein in legislation in 2008. That process is currently underway. Hopefully, a resolution will be agreed upon and necessary forest health projects will move forward.

An emerging emphasis in forest management is wildfire. While forests in the Feather River watershed have evolved with frequent wildfire events, the number, size, and intensity of wildfires has been significantly increasing in the past decade. Fires are impacting forests, hydrologic process, and communities at an increasing rate. Community fire protection, in the form of reducing forest fuels adjacent to settlements, is recognized as critical now more than ever. Increasingly larger areas of formerly-forested areas are being burned, and ecological change that will alter hydrologic processes for decades.

The implications of forest management on water supply and water quality in the Feather River watershed are significant, and illustrated starkly by a comparison between the current condition of the watersheds surrounding the State Water Project facilities at Antelope Lake and Lake Davis. The Antelope Lake area was particularly hard hit by repeated, widespread, high-intensity forest fires between 2005 and 2007. Most vistas from the lake are of severely burned landscapes, as shown in the pictures on the following page.


ANTELOPE
LAKE
A FACILITY
OF THE
STATE
WATER
PROJECT
DEPARTMENT OF WATER RESOURCES
DEPARTMENT OF FISH AND GAME
DEPARTMENT OF PARKS AND RECREATION
PLUMAS NATIONAL FOREST

In contrast, Lake Davis is in a more protected state as a result of fuel reduction projects that were conducted on the north side of the lake about ten years ago and on the south side of the lake in 2008. The pictures below show a thinning and "Aspen release" project in progress on one drainage adjacent to Lake Davis, as well as one of the main tributaries flowing into the lake.



Meadow Restoration & Management: Most of the large meadows and valleys in the Upper Feather region suffered degradation and loss of natural hydrologic function as the result of various human activities over the past 150 years, including road building, railroad construction, intentional drainage, timber operations, mining, and under-managed grazing. The result of those activities was erosion and severe stream channel incision in many areas, resulting in lowered water tables and the disconnection of streams from their natural floodplains.

The photo below shows the condition of Last Chance Creek (tributary to the North Fork Feather River) at Alkali Flat prior to restoration.

Over the past 20 years, the Feather River CRM and the Plumas National Forest have made substantial progress in developing restoration techniques and implementing projects to return stream channels to their historic levels and reconnect streams to their natural floodplains. The photos on the next page show Last Chance Creek at Alkali Flat after a technique known as "pond and plug" was used to rearrange material available onsite to convert the gully into a series of ponds and plugs.

The result of the restoration work is the return of the meadow/valley's natural function, which slows and captures flood flows in the winter and spring and then gradually drains downhill/downstream through the summer and into fall. Additional benefits include increased forage, natural return of native plants, renewed fish and wildlife habitat, increased carbon sequestration (50 tons/acre), and reduced summer stream temperatures. The table below shows the effects of a restoration project by the Feather River CRM supported with Prop. 50 IRWM funding.

Last Chance Creek Project
9-Mile Stream Restoration / Meadow Rewatering Project

Calculated by California Hydrologic Research Laboratory
University of California, Davis

Change in Baseflow (acre-feet)				
Winter	Dec. = -43	Jan. = -45	Feb. = -141	Mar. = -143
Summer	Jun. = +49	Jul. = +35	Aug. = +42	Sep. = +30

Stream Water Temperature (F)				
	Pre-Project	Post-Project	Change (F)	Change (%)
June	64.9	53.1	-11.8	-18%
July	69.6	57.9	-11.7	-17%
August	66.1	54.6	-11.5	-17%

With the concern over climate change, more extreme storm events, and DWR's projected reduction in snowpack in the coming decades, restoration of natural function in meadows and valleys is an important flood control augmentation and water storage substitute. Some studies have been conducted and more are underway in the Upper Feather region to develop better inventories of meadow and valley landforms and substrates and to determine possible variation in specific yield in different locations. In 2008, Jones & Stokes was selected by DWR and the State Water Contractors to conduct a review of the Plumas Watershed Forum, including an assessment of the potential water supply benefits of meadow restoration. While the report contained a number of caveats and assumptions, it concluded that there was in excess of 500,000 acre-feet of volume in de-watered meadows in the region, and that additional water storage in excess of 100,000 acre-feet could be restored.

While meadow restoration projects can remediate impacts from some of the past conflicts, they do present challenges of their own. Although the long-term time-shift in stream flows is beneficial for all downstream water users, sometimes that benefit is not immediately apparent to water users who are accustomed to current conditions. There can also be concerns about stream flow disruption during project construction and during the initial "filling" of a completed project.

In the course of implementing projects funded through the Plumas Watershed Forum, a protocol was developed to consult with and educate downstream water users and to work with watermasters to ensure that the a proposed project was fully understood, feasible, and supported. To help reduce potential conflicts, measures can be taken during project

construction to relocate any resident fish populations, as well as to continue to pass stream flows through a project area.

Groundwater Overdraft: In a region where the majority of the population relies upon groundwater for its water supply, concern over groundwater management and groundwater overdraft is growing along with the growth in population. Some examples:

- Sierra Valley – Groundwater is used to irrigate significant acreage in Sierra Valley, and the potential for groundwater overdraft is an ongoing concern. In 1980, the Legislature established the Sierra Valley Groundwater Management District to manage and protect groundwater resources in the area. The Plumas Watershed Forum has funded monitoring wells for the groundwater district, as well as hydrogeologic studies to better understand functioning of the aquifer. Using Prop. 50 IRWM funds, Plumas County and the Sierra Valley Groundwater Management District are conducting a well inventory, capping, and sealing project to improve public safety and to project groundwater quality. Also using Prop. 50 IRWM funds, U.C. Davis and Plumas Geo-Hydrology are developing a state-of-the-art physically-based model of the Upper Middle Fork watershed to help inform decision-making by water management agencies.
- Grizzly Ranch – Grizzly Ranch is a new development of 400 homes and commercial and recreation facilities located between Lake Davis and Portola. In 2005, as the development started irrigation, alarms were raised by a number of adjoining property owners that their wells were going dry. In assessing the situation, it was determined that the developer had not established a groundwater monitoring program as required by its planned development permit. Such a monitoring program was subsequently established, and provisions were made that would trigger a requirement for the developer to provide substitute water supplies for any neighboring landowners who were affected by drawdown of the aquifer. Ultimately, delivery of State Water Project water from Lake Davis started in 2008 for irrigation purposes, reducing the development's groundwater needs.
- Lakefront at Walker Ranch – A new development of nearly 1,700 dwelling units, as well as commercial and resort properties, is proposed for the west side of the Lake Almanor Peninsula. The Walker Ranch Community Services District has certified that there is adequate water supply as required by SB 221 and SB 610, but neighboring areas, including the Lake Almanor Country Club, have questioned the water supply and opposed full approval of the new project. One proposed option is to establish an intertie between the Walker Ranch CSD water system and the Lake Almanor Country Club Mutual Water Company to help ensure water supply reliability. The proposed project is a good example of the need for having the best available water supply science and information to inform land use decisions. The U.C. Davis physically-based model has been developed for certain parts of the North Fork Feather River watershed. The model is in development for Sierra Valley and the Upper Middle Fork, as mentioned above, and we seek to ultimately have it completed for the entire Upper Feather River region.

Municipal Services: Small communities face disproportional challenges in providing water and wastewater services at affordable rates in the face of ever-increasing standards for drinking water and wastewater discharges. Some public water districts in the region serve fewer than 200 people, and the largest systems serve no more than 5,000 people, meaning economies of scale that benefit most of California's population are out of reach in the Upper Feather River

region. Compounding the challenge is that the majority of our communities have income levels that qualify as "economically disadvantaged," and the region also has a relatively high population of retirees on fixed incomes. One illustration of the fundamental challenges in providing municipal services is that many water districts have trouble simply maintaining full membership on a five-member board of directors.

Another challenge is that the communities in the Upper Feather River region are widely dispersed and generally not conducive to water or wastewater interties or shared facilities. (See Attachment 2 for the relative locations of the main population centers.) However, as discussed in Question 2, there are some areas where regional consolidation is being evaluated or pursued, and the IRWM program seeks to support those processes:

One financial lifeline is the assistance that comes from USDA Rural Development, the Drinking Water State Revolving Fund, and the Clean Water Safe Revolving Fund. At any given time, a number of projects are underway in the Upper Feather River region with support from these programs. The Plumas County Community Development Commission plays an important role in the process by helping districts identify their infrastructure needs, determined appropriate funding sources, prepare engineering designs, submit funding applications, and see projects through construction.

FERC Relicensings: The relicensing of the following FERC projects has caused a variety of conflicts to surface over the past five years.

Project 1962 (Rock Creek/Cresta) – A settlement agreement and license were completed in 2000. The primary conflict in license implementation has been reconciling recreation releases for whitewater kayaking and rafting with habitat for foothill yellow-legged frogs. The license established an Ecological Resources Committee (ERC) to serve as an adaptive management committee for license implementation. Participants in the ERC meetings typically include PG&E, the U.S. Forest Service, Plumas County, the Department of Fish & Game, American Whitewater, the California Sportfishing Protection Alliance, and the State Water Resources Control Board. Over the course of the past nine years, the ERC has refined and modified the whitewater releases. Current operation provides for five whitewater weekends in wet and normal years on the Rock Creek reach of the project and three weekend releases in dry and critically dry years. No whitewater releases are currently scheduled on the Cresta reach of the project due to habitat concerns.

Project 2088 (South Feather) – Relicensing is currently in process, and one predominant issue involves relative responsibility for water temperature between the operation of the South Feather project and the operation of DWR's Oroville Facilities.

Project 2100 (Oroville Facilities) – A settlement agreement was signed in 2006 by a number of state agencies, most of the State Water Project contractors, and a number of local entities in the Oroville area. No entities from the Upper Feather River region agreed to the settlement, and Plumas County and the Plumas County Flood Control District are currently seeking to ensure that the new 50-year license includes climate adaptation actions in the Upper Feather River watershed.

Project 2105 (Upper North Fork Feather River – Lake Almanor) – A partial settlement agreement for a new license was completed in 2004. The State Water Resources Control Board is currently preparing an EIR to address Clean Water Act Section 401 water quality

certification. The primary issue in the 401 certification is expected to be the effort to reconcile the needs of the cold water fishery in Lake Almanor with the requirements of the "cold water habitat" designation of the North Fork Feather River between Almanor and Oroville and water temperatures in that section of the river. The Feather River CRM, the Maidu Summit, and Plumas County have proposed a "watershed alternative" to pursue restoration actions on the East Branch of the North Fork to reduce water temperatures and attempt to provide a win-win solution for both Lake Almanor and the North Fork.

Project 2107 (Poe) – The project is currently in relicensing, but the process is largely suspended until North Fork water temperatures are addressed through the Project 2105 license.

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Water-Related Components in the Region: Virtually all of the water in the region arrives in the form of precipitation. The two exceptions are a diversion from the Little Truckee River that provides water to parts of Sierra Valley and water that is delivered to the region in bottled form.

Municipal water supplies are based primarily on groundwater sources which are managed by a number of local special districts (CSDs, PUDs), small private water systems, and individual well owners. However, the City of Portola and Crocker Mountain receive surface water from Lake Davis, and the town of Greenville receives surface water from Round Valley Reservoir. Local public agencies are responsible for those systems (City of Portola, Grizzly Lake Resort Improvement District, and Indian Valley Community Services District, respectively).

Most of the population is located in the larger communities and have community wastewater systems. The largest exception is the community of Graeagle, which relies upon septic tanks. Septic tanks are also used by the dispersed population living outside the main communities.

Recent developments, such as those served by the Grizzly Ranch Community Services District and the Walker Ranch Community Services District, are designed to recycle wastewater for irrigation purposes.

The Department of Water Resources and Pacific Gas & Electric have significant facilities in the region with a number of implications for water supply and water quality. Under the Monterey Settlement Agreement, DWR has agreed to deliver State Water Project water to the Plumas County Flood Control District based on the availability of water in Lake Davis, regardless of the annual statewide allocation percentage for SWP deliveries. DWR also agreed to confer with the Plumas County Flood Control District to develop strategies and actions for the management, operation, and control of SWP facilities in Plumas County in order to increase water supply, recreational, and environmental benefits to Plumas.

PG&E operations in the Upper Feather River region are governed largely by the terms of licenses issued by the Federal Energy Regulatory Commission. A settlement agreement and license were completed for Project 1962 (Rock Creek/Cresta) in 2000, and a settlement agreement was completed for Project 2105 (Lake Almanor) in 2004. The license for Lake Almanor is currently under review by the State Water Resources Control Board for purposes of a Clean Water Act Section 401 water quality certification. Licenses for Project 2107 (Poe), Project 2088 (South Feather) and Project 2100 (Oroville) are also pending, and Project 619 (Bucks Lake) will begin relicensing in 2012.

The settlement agreements for Projects 1962 and 2105 are both included as two of the underlying "mandatory plans" in the 2005 IRWM plan. The Project 1962 license established an Ecological Resources Committee (ERC), which serves as an adaptive management committee overseeing license implementation. Participants in the ERC meetings typically include PG&E, the U.S. Forest Service, Plumas County, the Department of Fish & Game, American Whitewater, the California Sportfishing Protection Alliance, and the State Water Resources Control Board. Most of the same parties were involved in the 2105 licensing collaborative and the 2107 relicensing.

Related to PG&E operations, the Pacific Forest & Watershed Lands Stewardship Council (Stewardship Council) is in the process of divesting PG&E lands that are not needed for hydroelectric operations by developing land conservation and management plans. The Bucks Lake Planning Unit in the Feather River region was one of four "pilot projects" in which the Stewardship Council sought to refine its process. Six entities submitted Statements of Qualifications and were approved as qualified donees to potentially receive watershed lands in fee title or to hold a conservation easement over the planning unit:

Plumas National Forest
Plumas County
Greenville Rancheria
Enterprise Rancheria
Plumas Corporation
Feather River Land Trust

Ultimately, one collaborative land conservation proposal was submitted jointly by Plumas County, Greenville Rancheria, Enterprise Rancheria, and Plumas Corporation. The proposal is currently under review by the Stewardship Council.

The Stewardship Council has announced that in the summer of 2009 it will being work on the Lake Almanor, Mountain Meadows, Butt Valley, and Humbug Valley planning units. Plumas County is in the process of coordinating stakeholder meetings to identify interests and issues among a number of parties, including the Maidu Summit Consortium, the Forest Service, the Department of Fish & Game, Plumas Corporation, and the Feather River Land Trust.

Question 8. Overlapping and Adjacent Regions

Overlap: The Four County IRWM has an overlapping area with the Upper Feather River Region IRWM in the portion of Butte County that includes the Upper Feather River watershed. Both planning areas consider the overlap area to be an important and appropriate part of both the Four County IRWM and the Upper Feather River Region for a number of reasons:

1. The Upper Feather River Region is based on a watershed boundary which encompasses the entire Feather River watershed upstream of Lake Oroville.

2. It is important to include Lake Oroville and the bottom portion of the watershed in the regional boundary because Lake Oroville provides a discrete point where management actions in the Upper Feather Region can be monitored and measured on a macro scale. Since the Feather River watershed supplies the State Water Project's primary storage facility at Lake Oroville, monitoring and measuring effects on the watershed scale is an important means of quantifying benefits and directing watershed investment in

collaboration with the Department of Water Resources and the State Water Project Contractors.

3. The Plumas National Forest, which is one of the key partners in the Upper Feather IRWM program and manages nearly half of the land in the Upper Feather River watershed, includes areas that extend into Butte County in the vicinity of Lake Oroville.

Butte County and the Upper Feather River IRWM agree that coordination of projects within this overlap area is appropriate and plan to address the means of coordination through an MOU. The MOU will address planning and management in the overlap area, determine areas of responsibility, and provide for appropriate consultation on certain matters. For example, the communities of Paradise, Magalia, and Concow are located on the western edge of the watershed in Butte County. For purposes of municipal water and wastewater services, any integrated management issues would best be addressed by those communities coordinating with Butte County, the Four County Group and the other population centers in the valley. For forest management and Fire Safe activities, there is already coordination between the Plumas National Forest and the Butte County Fire Safe Council, which will be enhanced through the MOU.

Adjacent Regions: In 2005, following the submission of Prop. 50 - Step 1 grant applications, Upper Feather representatives participated in discussions facilitated by DWR regarding IRWM regional boundaries and overlaps in the Sacramento Valley hydrologic region. As a result of those discussions and our own internal review, we determined that the Upper Feather River region was an appropriate scale, contained reinforcing watershed and jurisdictional boundaries, and had primary issues and interests that were distinct from adjacent regions. Below is a summary of relations and contacts with adjacent regions.

West: Butte County lies to the west and is encompassed by the Four County IRWM region. Primary issues relate to groundwater management and conjunctive use focused on the Sacramento Valley floor. As described above, the one area of overlap is best addressed through divisions of responsibility and coordination via an MOU.

North: There are common issues with the upper watershed areas to the north encompassing the areas upstream of Lake Shasta. We understand there is renewed interest in developing an IRWM program in that area, and we have discussed the situation at various times with the Pit River Alliance, the Nor-Cal Neva Resource Conservation and Development District, NCWA, and various parties from Lassen and Modoc Counties. While we would like to assist the development of the IRWM program in that area and collaborate on common issues, we believe the geographic scale makes a single “upper watershed” region unwieldy.

East: The Upper Feather Region extends to the boundary of the Sacramento River hydrologic region, and extending the regional boundary beyond that point would enter the east-side watersheds, cross boundaries for the regional water quality control boards, and cross the boundaries of the IRWM funding areas.

One area we have reviewed closely is the Little Truckee River watershed. There is jurisdictional overlap between the Feather River and the Little Truckee watersheds on the part of both Sierra County and the Tahoe National Forest, and there is a hydrologic connection between the two watersheds through water that is diverted from the Little Truckee and imported to Sierra Valley. However, as noted above, the two watersheds are divided by the regional water board boundaries and the IRWM funding area boundaries. Also, after many years of negotiation, the

Truckee River Operating Agreement was approved in 2008 with federal legislation, including provisions that govern operation of the Little Truckee. After consultation with the Tahoe-Sierra IRWM, we believe the Little Truckee watershed is appropriate for inclusion in the Tahoe-Sierra IRWM.

South: The CABY region lies to the south. One of the distinctions between the Upper Feather and the CABY regions is that immediately south of the Feather River region the county lines change from generally following watershed boundaries to following rivers themselves – effectively bisecting watersheds across multiple jurisdictions. As a result, CABY has grouped together a number of smaller watersheds into a workable IRWM region. We believe there is valuable efficiency in the largely reinforcing jurisdictional and watershed lines in the Upper Feather region (particularly the watershed, Plumas County, and the Plumas National Forest), and that efficiency would be lost if the Upper Feather and CABY were consolidated. Consolidation would also present a geographic scale that would create new barriers to effective program integration.

There are areas where we have collaborated with CABY and we will continue to do so. There are a number of common issues that span the Sierra, and the Upper Feather and CABY were two of the founding members of the Sierra Water Workgroup in 2007. We have been holding meetings on approximately a quarterly basis to share information across Sierra IRWM programs and identify areas where we can collaborate effectively.

Question 9. RAP Interview Participants

Brian Morris, Leah Wills and/or John Mills
Plumas County Flood Control & Water Conservation District

Joe Hoffman and/or Angie Dillingham
Plumas National Forest

Jim Wilcox, Program Manager
Feather River Coordinated Resource Management

Attachment 1

ORIGINAL

Resolution 09-01

A RESOLUTION OF THE MEMBERS OF THE FEATHER RIVER REGIONAL WATER MANAGEMENT GROUP AUTHORIZING SUBMISSION OF REGION ACCEPTANCE MATERIALS TO THE DEPARTMENT OF WATER RESOURCES

Whereas, the Upper Feather River region has a long history of success in collaborative water resource management amongst local, state, and federal agencies, tribes, non-governmental organizations, and a diverse collection of stakeholders; and

Whereas, the Feather River Coordinated Resource Management (CRM) group was established in 1985 by a broad group of agencies and other entities; and

Whereas, the Plumas Watershed Forum was established in 2003 and has worked closely with the Feather River CRM and other entities to implement programs and projects in the Upper Feather River region for the benefit of local stakeholders and the State Water Project; and

Whereas, in 2005 an initial regional water management group was organized under the guidelines of the Prop. 50 phase of the Integrated Regional Water Management (IRWM) Program, building upon the past collaboration of the Feather River CRM, the Plumas Watershed Forum, and other existing programs and plans in the region; and

Whereas, the initial Upper Feather River IRWM Plan was adopted by the regional water management group in 2005;

Whereas, in 2007 Prop. 50 implementation funding was awarded to carry out seven IRWM projects in the Upper Feather River region; and

Whereas, in 2008 a process was initiated to reorganize the Upper Feather River Regional Water Management Group to create a more formal governance structure, increase stakeholder participation and collaboration, and meet requirements of the IRWM Planning Act of 2008; and

Whereas, the participants in the Upper Feather River Regional Water Management Group seek to have the Department of Water Resource recognize their efforts and approve the Upper Feather River Region through the Region Acceptance Process;

NOW, THEREFORE, BE IT RESOLVED that the attached document is authorized to be submitted under the Region Acceptance Process to the Department of Water Resources.

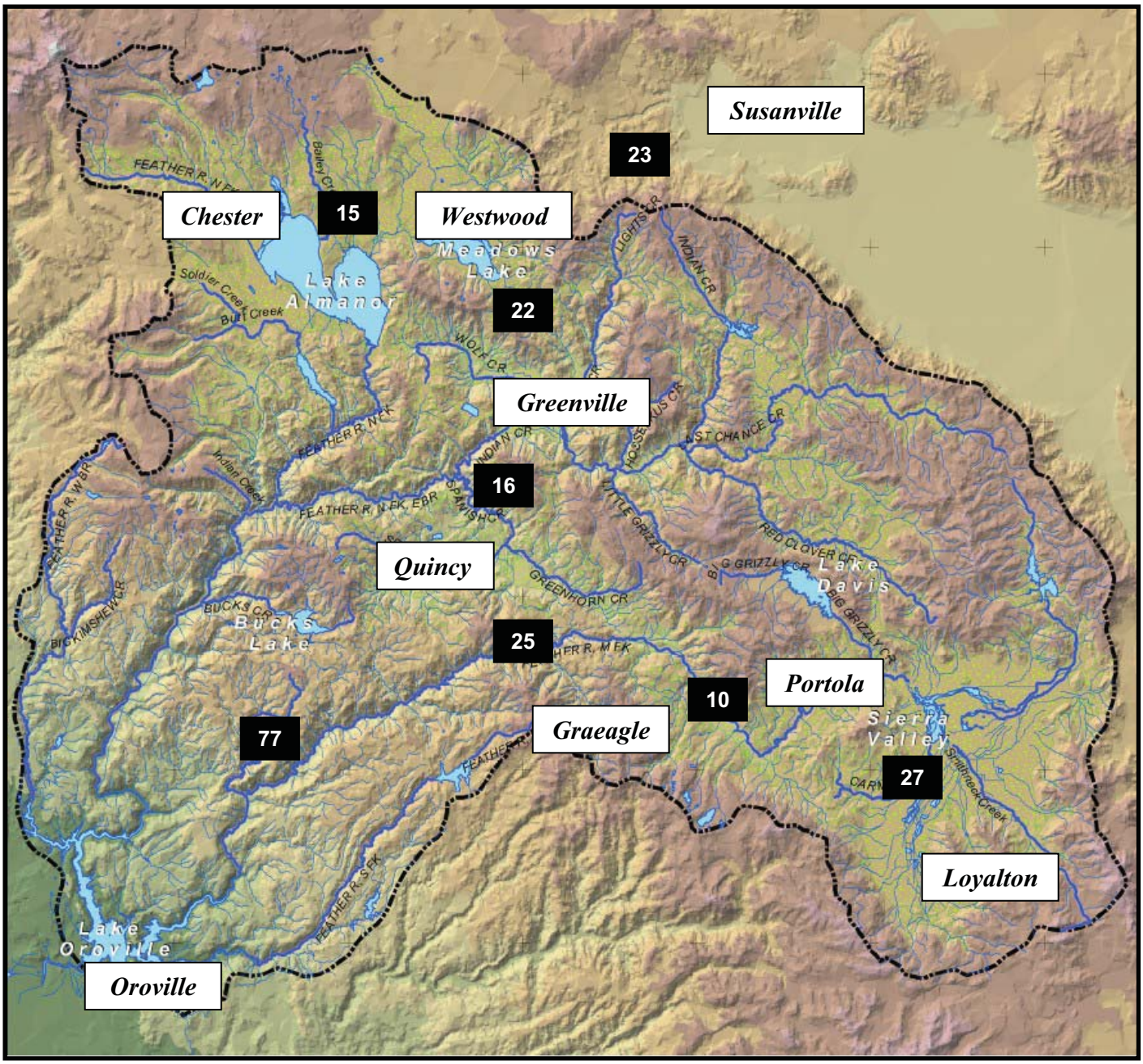
The foregoing Resolution was duly passed and adopted by the Feather River Regional Water Management Group at a regular meeting held on the 23rd day of April, 2009.

Brian J. Morris
Secretary

Attachment 2

Relative Location of Population Centers

(distance in miles)



Attachment 3

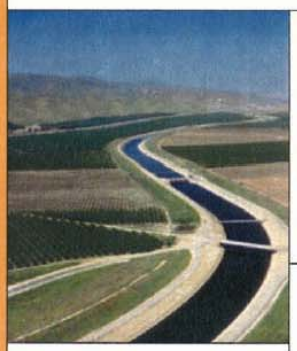
Disadvantaged Communities 2000 Census Data			
U.S. Census "Place"	**Median Household Income in 1999**	**Total Population**	**% of CA MHI**
Plumas County	**$ 36,351.00**	**20,824**	**76.5%**
Sierra County	**$ 35,827.00**	**3,555**	**75.4%**
Johnsville CDP, California	**$ 6,042.00**	37	12.7%
Belden CDP, California	**$ 6,719.00**	22	14.1%
Indian Falls CDP, California	**$ 7,321.00**	22	15.4%
Tobin CDP, California	**$ 11,250.00**	25	23.7%
Twain CDP, California	**$ 16,071.00**	61	33.8%
Clio CDP, California	**$ 23,036.00**	101	48.5%
Greenville CDP, California	**$ 23,309.00**	1,217	49.1%
Westwood CDP, California	**$ 24,148.00**	1,937	50.8%
Lake Almanor Peninsula CDP, California	**$ 26,000.00**	378	54.7%
C-Road CDP, California	**$ 26,250.00**	139	55.3%
City of Portola, California	**$ 28,103.00**	2,251	59.2%
Iron Horse CDP, California	**$ 30,208.00**	347	63.6%
Crescent Mills CDP, California	**$ 30,268.00**	269	63.7%
Quincy CDP, California	**$ 30,508.00**	1,849	64.2%
La Porte CDP, California	**$ 30,781.00**	40	64.8%
Blairsden CDP, California	**$ 33,393.00**	70	70.3%
Chester CDP, California	**$ 33,413.00**	2,239	70.4%
Meadow Valley CDP, California	**$ 33,571.00**	569	70.7%
City of Loyalton, California	**$ 34,063.00**	874	71.7%
East Quincy CDP, California	**$ 35,648.00**	2,390	75.1%
Chilcoot-Vinton CDP, California	**$ 35,938.00**	291	75.7%
Delleker CDP, California	**$ 37,500.00**	662	79.0%

Percentage of Population in "Disadvantaged" Place	**82%**

Attachment 4

Drought, Climate Change Put New Emphasis on Watershed Management

MOUNTING WATER SUPPLY CHALLENGES, FIRE DANGER REQUIRE COMPREHENSIVE APPROACH



California's water management and delivery plans must move beyond pipes and canals to include forested watersheds.

By Timothy Quinn

It takes only a few images of low reservoirs and charred landscapes to know it's a new day in California resource management.

Drought, climate change and a host of other factors have ushered in challenges for our water system and new levels of wildfire risk.

Reservoirs such as Lake Oroville are at their lowest levels in decades, while Mount Shasta recorded its lowest snowfall in 80 years. More than 10,000 wildfires scorched California in 2008, double the average number in a year.

These statistics are not an anomaly. We are starting to see a pattern, and it's not a good pattern for our forests, our watersheds and our water resources.

Most of California's water originates in forested watersheds in the north and east of the state. Most of the demand, however, is to the south and west. Moving the water from where it is to where we want it is a complicated endeavor. Compounding this difficulty is the fact that while California's population has grown by about 5 million people in the last 10 years, there hasn't been a significant statewide investment in our water infrastructure since the 1970s.

And then there are fires. Last June, lightning strikes started more than 5,000 fires, forcing the state to spend $6 million to $7 million a day in fire suppression costs. Where fire season used to be a relatively short period each year, forestry managers and firefighters alike know it's 12 months of the year now.

The water-quality effects of a wildfire can last for years.

Lasting impacts from fire

After the flames die down, the charred landscapes left behind are often stripped of the vegetation that holds soil in place and helps control water runoff from rain. Post-fire rain then washes topsoil, nitrates and debris into watercourses, wreaking havoc on water quality and aquatic ecosystems. Mud can clog intake valves and block water delivery systems. Extra nitrates, phosphates and sediments in the water require additional filtration. Post-fire stress on delivery systems ultimately raises the cost of providing clean drinking and irrigation water. The water-quality effects of a wildfire can last for years.

Healthy forests help filter water and control runoff, almost like a sponge. Fire-scarred forests have the opposite affect — they raise the cost of delivering water and they are susceptible to flood events that degrade water quality and diminish our ability to store water.

The severity of California's wildfire and water crises cries out for a comprehensive approach that includes physical improvements in our water system and investments in watershed management, ecosystem restoration, conservation and other strategies. Communication between upstream resource managers and downstream water users is a growing imperative.

<< California faces significant challenges meeting the water consumption demands of a growing population.

Fire-scarred forests raise the cost of delivering water.

Solutions to sustain water sources must build upon management to sustain forests and protect watersheds.

Integrated solutions

We also must integrate sustainable water resource management and direct investments in California's water infrastructure. We must plan beyond pipes, canals and reservoirs to ensure water quality and availability for a growing California. After all, our concrete water delivery systems are connected to the forested ecosystems. Their futures must be planned simultaneously, and solutions to sustain water sources must build upon management to sustain forests and protect watersheds.

Drought and ongoing stressors are having a visible effect on the watersheds we rely on for our water resources. In the Colorado River basin, for example, bark beetles have devastated miles of overcrowded forests. Tens of thousands of acres of dead and dying timber stand ripe as fuel for high-severity wildfires. Wildfires in those forests could impact more than 60 million acre-feet of water storage that Southern California depends on. We need to understand and invest in those relationships sooner rather than later. And we must acknowledge the value of managing resources to protect water at its source.

Current climate change models predict significant reductions in the Sierra Nevada snowpack. Less mountain snowpack means less natural water storage. Some models suggest that as much as one-third of the precipitation that currently falls as snow could instead come in the form of rain, resulting in earlier runoff and potentially producing major floods. These changes hold real implications for the state's reservoirs and flood control facilities, which were designed to accommodate the relatively slow runoff of melting snow, not the rapid runoff from rain.

In the same way that climate change is creating interest in carbon markets to reduce or offset greenhouse gas emissions, we may see an ecosystems service approach ultimately play a part in addressing California's water supply issues. If upstream land owners, downstream water users and market analysts can agree how much value is derived from land management practices that reduce wildfire threats and impacts, we could see water services markets develop.

California faces a water crisis and significant challenges in meeting the demands of a growing population. It's time to take responsibility for the entire natural and man-made system we've been entrusted to manage — for the water we need for our economy, our watersheds and our forests. ■

<< Post-fire rain can wreak havoc on water quality and delivery systems.