

**Feather River**  
**Coordinated Resource Management**

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**2006**  
**Annual Report to**  
**Signatory Agencies**



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**Prepared by**  
**Plumas Corporation**  
**June 2006**

**Introduction**

In the last twenty years the Feather River Coordinated Resource Management Group (FR-CRM) has successfully implemented a total of 88 projects through the support and cooperation of many agencies, both private and public. These include current projects and those in the planning stages. Of this total, 54 have been on-the-ground work, 11 studies/strategies, 13 planning and coordination, and 13 education projects. On-the-ground projects have treated approximately 28 miles of stream, directly restoring approximately 2,449 acres of meadow/floodplain within the Feather River watershed. In addition, 5 miles of creek and 403 acres of meadow are scheduled for restoration in 2006 and 2007. Without the support from your agencies these collaborative achievements would not be possible. The FR-CRM's accomplishments are your agency's accomplishments, and we hope you include these projects in your progress reports. The FR-CRM is a fine example of what can be achieved by public and private agencies supporting local communities on mutual goals.

This report briefly describes the FR-CRM's accomplishments in 2005, program activities for 2006 and 2007, and potential planned out-year projects. These projects could not go forward without your agency's participation. This is the third annual report to the agencies that the FR-CRM has produced. This report is a vehicle to report accomplishments to a broader audience of our participants.

These projects, as well as general program outreach and coordination, have been funded by a variety of federal, state and local funds on a project-by-project basis. Current state and federal budget situations affect these funding sources in different ways depending on whether they are appropriated or bond funded.

**Budget Table:**

<u>Year</u>	<u>Total Program Expenditures</u> <sup>1</sup>	<u>State/Federal Funding</u>	<u>County Cooperative Grants</u> <sup>2</sup>	<u>Non-program Match</u> <sup>3</sup>
2004-05	\$690,000.00	\$640,000.00	\$50,000.00	\$135,000.00
2005-06	\$990,000.00	\$740,000.00	\$250,000.00	\$135,000.00
2006-07(proj.)	\$1,423,000.00	\$945,000.00	\$478,000.00	\$140,000.00
<b>2007-10(est.)</b>	<b>\$5,000,000.00</b>	<b>\$2,800,000.00</b>	<b>\$2,200,000.00</b>	<b>\$500,000.00</b>

<sup>1</sup>Does not include funds expended through partner contracts (i.e. PC Public Works Prop. 204 construction contracts)

<sup>2</sup>Collaborative Grants/Participating Agreements (Prop.50, CalTrans, Water Forum, etc.)

<sup>3</sup>Direct partner project match contributions (funds, in-kind).

Coordination funding was secured in 2005 to pursue out-year projects for landowners seeking assistance. This funding was made available through the CalFed Watershed Restoration Program (Proposition 13) for the Red Clover Creek/McReynolds Creek Restoration Project and from Plumas County Water Forum Monterey Agreement funds allowing landowners requesting project assistance to be assisted at an adequate level through 2006. Additional coordination and project management funding is being sought for 2007 and beyond; with the potential of hiring a new staff project manager in 2007 if funding is secured.

**Summary of Projects Completed in 2005:**

**Dooley Creek/Downing Meadow Restoration Project-** Downing Meadow is an 80 acre, 1+ mile-long, meadow system on the Dooley Creek tributary to Last Chance Creek. The project is predominately on private lands belonging to Alan Nichols. The channel had moderate to severe entrenchment resulting in gully formation, gully wall erosion and lowered meadow water table. A road/culvert crossing at the lower end exacerbated the entrenchment locally.



**Pre-project October 2005**



**Post-project November 2005**



The Downing Meadow Project utilized pond and plug (a technique used to obliterate the gully) and some rock to restore the base level of the stream channel. Fencing, cattle guards, and off-site water improvements were additional components of the project to facilitate livestock management on both public and private land. The main access road across the meadow had the culvert removed and replaced with a rock low-water crossing. Revegetation work was done by FR-CRM staff and high school students from Jim Beckworth High School in Portola, seeding plugs with locally collected native grass and *Pyracoma* (a rare perennial forb) seeds.

**Rock low-water xing, above**



PL 106-393, Secure Schools, Title II funds, with contributions from the U.S. Forest Service (USFS) Range Program and the landowner, funded the project. The construction contract was awarded to Hat Creek Construction & Materials Inc. of Burney and was completed in October of 2005. Major partners: Plumas National Forest (PNF) and Alan Nichols,



landowner. Total project budget was \$55,000.

**Lower meadow channel, 2/23/06, at right**



**Jordan Flat Supplemental Project-** This project was on lands managed by the USFS-PNF and is the second phase of a project that eliminated approximately 1,200 feet of entrenched channel using the pond and plug technique on both Last Chance Creek and critical gullied areas on the Jordan Creek fan. This supplemental project obliterated an additional 1,000 feet of gully on Last Chance Creek and 800 feet at the mouth of Jordan Creek using the same technique. Two and a half miles of fence was re-constructed by Dave Heard of Susanville to improve livestock management and allow vegetative re-growth. FR-CRM staff completed revegetation with locally collected native grass seed. The construction contract was awarded to Hat Creek Construction & Materials Inc. of Burney. Construction began late September and was completed in October of 2005. Project budget was \$64,000, funded by the Plumas Watershed Forum. Major partners: PNF and Plumas County. This project is also part of a larger project that encompassed both private and public land. The public land phase of the 9-mile long Last Chance Creek project entailed obliteration of 20,255 feet of gully with pond and plug, directly including 800 acres of meadow and remnant channel. The Jordan Flat project performed well during the 12/31/05 flood

event (see photo at right), spreading water across the meadow, re-establishing the floodplain function and attenuating flows. A small nick developed in one of the plugs and needs to be repaired. FR-CRM staff will be working with PNF to get this done this year.



**Pre-project September 2005**



**During construction September 2005**

**Jamison Creek Restoration in Plumas-Eureka State Park** – Cyndi Walck, State Park Geologist and Plumas Pines Golf who owned the diversion dam and was considering replacing it initiated this project. The project encompassed the removal of the failed diversion dam, replacing the dam with a fish-passable series of step-pools that raised the elevation of the streambed to the intake of the existing Lundy irrigation ditch. Raising the bed with step-pools also addressed a head-cutting problem that had caused channel degradation. CRM staff at Plumas Corporation assisted on the initial CEQA preparation, survey contract administration, and design and construction consultations. Wilburn Construction completed construction in September of 2005. Feather River CRM project budget was \$39,000.



**Pre- and post-construction September 2005**

Overall, this project performed well during the 2005-06 high flow events. The intake remained at grade. The fish screen was damaged and is in the process of being replaced. The ponds filled with material and a few boulders moved downstream, but the objective of the project was still met. The handful of boulders that moved will be replaced this season.



#### 12/31/05 flood event



**Last Chance Creek Watershed Modeling-** This project demonstrated a state-of-the-art watershed model developed by UC Davis on a large (125 mi<sup>2</sup>) watershed. The model has shown much greater accuracy in smaller watersheds over more commonly used model types. This grant was a collaborative submission to CalFed by the FR-CRM and UC Davis to integrate the model application with the ongoing Last Chance Creek Watershed Restoration Project. Total budget was \$675,000. The UC Davis team worked with FRCRM staff, which conducted field monitoring of the watershed, collecting streamflow, groundwater, snowpack, sediment, nutrient, and realtime precipitation data, that were used as the hydrologic inputs for the model. The product was a field-validated watershed model that was completed in August of 2005, and is now available for future use on project planning within the county. Dr. Lev Kaavas, from UC Davis, presented the model at the 2005 Non-Point Source Conference last fall. UC Davis and the FR-CRM are currently submitting a new proposal for funding through Proposition 40 to expand the model to include Indian Creek watershed and a temperature component; in addition, another proposal for modeling on the Middle Fork Feather River was submitted for Proposition 50 funds. **Photo of Leslie Mink, FR-CRM staff, collecting streamflow data on Last Chance at the Million Dollar Bridge.**

**Last Chance Evapotranspiration Study-** In 2005 Stanford University graduate student, Steven Loheide II, completed an investigative study using remote airborne infrared thermography to assess watershed hydrology with an emphasis on watershed restoration. The intent of the research was to analyze the relationship between surface and groundwater, comparing the hydroecology of restored and degraded meadows in the Sierra Nevada of northern California. The study area focused on meadows in the Last Chance watershed. FR-CRM staff provided support to this study, which was funded by the National Science Foundation through Stanford University. Comparing the evapotranspiration (ET) regime using remote airborne infrared thermography in two restored and two degraded meadows, the study showed that daily ET in the restored meadows was approximately twice that of the degraded ones, indicating the success of restoring the meadow flow regimes and raising groundwater levels. In addition, detailed images of ET showed impacts of land-use change and re-vegetation efforts. Temperature changes at Big Flat showed a three degree reduction in temperature over a one mile channel reach. Publications of the study can be found in *Remote Sensing of Environment, A local-scale, high-resolution evapotranspiration mapping algorithm (ETMA) with hydroecological applications at riparian meadow restoration sites*, July 2005; and in Loheide, S.P. and S.M. Gorelick, *Quantifying stream-aquifer interactions through analysis of remotely sensed thermographic profiles and in-situ temperature records*, *Environmental Science and Technology*, 40, p.3336-3341, 2006. Both publications are available on the Feather River Coordinated Resource Management website [www.feather-river-crm.org](http://www.feather-river-crm.org).



**Sulphur Creek Assessment and Restoration Strategy-** This project was completed in 2004 and included public and private lands in the 33 square mile Sulphur Creek watershed. A detailed strategy was developed with affected landowners and stakeholder consensus and is available on our website at [www.feather-river-crm.org](http://www.feather-river-crm.org). Other project components included a significant citizen monitoring effort, which was continued through December 2005. The project was funded by a Proposition 13 watershed grant. Although funding has ended, one citizen monitoring volunteer has continued to help read stream gages in the Sulphur Creek watershed. The project budget was \$177,000.

Three identified projects in the Restoration Strategy have been submitted for funding. One has been approved for PL 106-393, Secure Schools, Title II funds, and the others have been sent to the State as part of a proposal for Proposition 40 funds (see Upcoming Project Overview-Sulphur Creek Complex).

#### **Sulphur Creek Citizen Monitors 2005**

## Projects planned for completion in 2006:



**Spanish Creek Assessment and Restoration Strategy-** This project is on both public and private lands along the reach of Spanish Creek in American Valley. The intent of this project is to provide landowners with the necessary information to develop a long-term restoration strategy for Spanish Creek to address accelerated bank erosion. Since 1997, numerous landowners along Spanish Creek have requested assistance from the FR-CRM. Proposition 13 grant funding for this project is administered by the State and Regional Water Quality Control Board (RWQCB) and began in early 2004. Other major partners include Department of Water Resources (DWR) and Desert Research Institute (DRI), who are contributing to the total project budget of \$255,000. **Collecting bedload samples April 2005**

In-kind contributions are also being provided by Plumas County and Quincy Community Services District. This project was funded through November of 2005, but has been extended through November of 2006. As of this writing, a draft of the assessment and strategy is being finalized and will be released in July. Three demonstration projects have been developed as part of the restoration strategy (see the Dyrre Bank project below and Upcoming Project Overview - Meadow Valley Projects in the following section).

**Spanish Creek Restoration Demonstration Projects (Vortex Sampler and Dyrre Bank Stabilization)-** This project is integral with the Spanish Creek Watershed Assessment and Restoration Strategy referenced above. The project has two components that demonstrate potential restoration technologies that may be applicable to the future implementation of the Spanish Creek Restoration Strategy. The first component is operation of the vortex gravel sampler installed in 1997 at the Snake Lake Bridge. This new technology has the potential for providing aggregate supplies without physical disturbance to the riparian areas. FRCRM staff operated the sampler from 1998-2001 under a Clean Water Act grant and collected very useful data both on the sampler operation, as well as quantifying the actual gravel load in Spanish Creek. The sampler plugged during a high load event in 2001 and funds were not available to restore its function until 2004. These funds (\$47,000) were obtained from PL 106-393, Secure Schools, Title II funds, with in-kind contributions from the Quincy Community Services District, DRI, Plumas County Department of Public Works, and PNF. The sampler recently plugged again during the flood event on December 31, 2005. The elevation of the creek bed also dropped raising the sampler above the streambed and water surface. The TAC will be reviewing this project in June 2006 to discuss future options. There are currently no available funds to repair the sampler.

### Vortex sampler and gravel pond outlet after the 12/31/05 flood event.



Photo on left shows the drop in bed elevation and water flowing under the sampler. Right photo shows the outlet pipe and collection pond buried by gravels (pipe was just below the willow bush in the center of the photo).



The second component of this project is to stabilize two eroding banks on the Dyrre property upstream of the Hwy 70 bridge. This will be accomplished using boulder vanes, sloped bank, and revegetation. Vanes are an innovative technique that protect the lower portion of eroding banks while maintaining the energy dissipation role of a channel meander. These have been used successfully on Wolf, North Canyon, Greenhorn and Indian Creeks. They are specifically applicable to channels like Spanish Creek where the flood flows are confined and there is a high sediment load. Project construction was planned for 2005, but has been postponed until summer 2006. Funding (\$20,000) is from PL 106-393, Secure Schools, Title II funds with equipment contributions from Feather River Materials. **Photo of eroding outcurve bank along Spanish Creek on Dyrre property in 2005.**

**Red Clover/McReynolds Creek Restoration Project-** This project on the Goodwin Ranch and USFS lands is now under contract between Plumas Corporation and SWRCB. Utilizing the pond and plug technique this project will restore 4.2 miles of stream channel and 350 acres of meadow floodplain. Environmental investigations, archeological surveys, and all required documentation were completed in spring/summer 2005. Final design and permit applications were submitted in December 2005.



Construction is planned for the summer of 2006. This project also includes fencing and off-site water improvements to maximize livestock management and land productivity. Proposition 13 CALFED Watershed Program is providing primary funding, with contributions from DWR, Natural Resources Conservation Service (NRCS), USFS, and the landowner. Total project cost is expected to be \$1.3 million. **Photo of Red Clover Creek gully April of 2005.**



**Hosselkus Creek Phase II-** This project is an extension of work undertaken in 2002 under Plumas County's Proposition 204 Indian Creek Watershed Project grant. The project encompasses the private Neff Ranch, and public lands managed by PNF. The initial grant completed approximately 1500 feet of channel/meadow restoration integrated with County road drainage improvements. The Phase II work is entirely meadow channel restoration that will extend from the upstream end of the Phase I reach up-valley to the tree line, completing the entire meadow. The project budget includes \$80,000 in County Water Forum funding with approximately \$30,000 of in-kind contributions from USFS, DWR, NRCS,

and the landowner, Paul Neff. Environmental documentation and all required permits were completed in 2005. Construction was planned for the fall of 2005 however, delays with the NEPA documentation postponed construction until the fall of 2006. The 2005-06 high winter flows caused some headcutting around the grade control

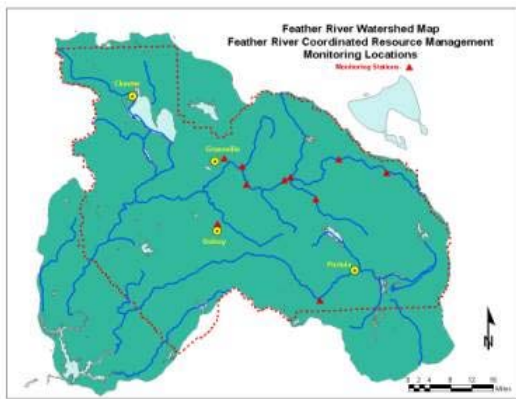
structure at the downstream end of the Phase I project. Some repairs were done this spring with landowner assistance. Recent discussions with the landowner and TAC have proposed some changes to the original design, putting the main flows in a remnant channel along the east side of the meadow. Further TAC evaluation and assessment of any environmental documentation needs will be done this summer before any formal changes are proposed.



**Humbug/Charles Creek Phase II-** The first phase of Humbug/Charles Creek was on the private lands of Bill and Judy Michelson, north of Portola. The project consisted of gully obliteration using the pond and plug technique on 800 feet of Charles Creek, and on 1500 feet of Humbug Creek. The landowner is also working with the NRCS to implement grazing management changes. The project was predominately funded by SWRCB 319 funds for non-point source pollution (sediment, temperature) and the by landowner. Total project budget was \$201,000. Wilburn Construction of Quincy completed construction in September of 2004. Photos on left show **Phase I pre-project September 2004 and post-project September 2005.**

The Phase II project is an extension of the work done in 2004 under the State 319 grant. The grant was extended to the end of the 2005, to fund

modifications and complete the environmental documentation and acquire permits for the second phase for \$16,000 with \$1,000 match from Plumas County Water Forum funds. Phase II entails treating 600 feet of degraded channel and headcuts along mid-Charles Creek, upstream of the ranch main access road. Restoration includes installing sod riffles to raise the existing channel, so the floodplain can be accessed when streamflows reach bankfull levels. Downstream of the access road, 700 feet of the channel will be filled with soil material left over from the first phase of the project. Flows will be diverted into the remnant channel system. On upper Humbug Creek, above the 2004 project, 800 feet of the degraded channel will be treated and flows diverted into the remnant channel system. A rock grade control, channel-drop structure will be constructed at the most downstream headcut to step flows down to the stable reach below. Funding for construction is being coordinated with the NRCS and landowner for \$12,000, and is planned for the fall of 2006.



**Watershed Monitoring Program (on-going)-** This program is being conducted at numerous locations, on both public and private lands, in the eastern two thirds of the Feather River watershed in Plumas County. This effort began in earnest in 1998 in response to the question "How do we know the FR-CRM program is having an effect at the larger watershed scale?" Using a variety of grant sources and contributions the monitoring program currently collects continuous streamflow and temperature data at ten locations (including turbidity at two of those), and biennially collects data on 20 stream reference reaches. The program also involves continuation high school students collecting data in Portola and Quincy, and volunteer citizen monitors in Sulphur and Spanish Creek watersheds. The watershed monitoring data and annual summary reports (as well as project information) is available on our website at [www.feather-river-crm.org](http://www.feather-river-crm.org). The data has been used by a variety of local entities, as well as the FR-CRM to assist in meeting project and regulatory mandates. The cost of this ongoing program is approximately \$20,000 to \$50,000 annually. The Plumas County Water Forum funded program monitoring for 2006.



**CRM Education Program-** The CRM received \$110,000 in DWR funding for two years for an education and citizen monitoring coordinator position in the spring of 2004. The DWR grant has been extended until June of 2007. This position is divided between two subcontractors, Rob Wade and Kristy Hoffman. Ongoing efforts within the program include: implementation of a sixth grade watershed education program; establishing a river education center in the Feather River Canyon; teacher trainings; community and classroom presentations; citizen monitoring training

and coordination; and the development of outreach materials for the *Feather River Watershed Awareness Campaign*. In the spring of 2006, the CRM Education Program received an award for their outstanding efforts and accomplishments in Conservation Education from the Soil and Water Conservation Society- CA and NV Chapters. **Top left photo of Rob Wade, FR-CRM Education Coordinator with the Conservation Education award he accepted on behalf of the CRM at the annual Soil and Water Conservation Society conference.** The partnership display done by the FR-CRM and NRCS in the background took first place at the poster session.



In October of 2005 the FR-CRM Education Committee organized an educational outreach event. The Feather River Headwaters Festival was a two-day event with presentations, booths, hands-on activities, outings and a stewardship project aimed at educating the community about the Feather River watershed. In May of 2006 in recognition of Watershed Awareness Month, an outreach stewardship project was held in Portola stenciling storm drains with "Do Not Dump- Drains to the Middle Fork Feather River"; in addition, information was distributed reminding residents that storm drains catch run-off from yards, driveways, streets and sidewalks and that pet waste as well as fertilizers and pesticides used in their backyards can make their way into storm drains, too. Further funding for education and citizen monitoring programs is being sought through Plumas Water Forum, PL 106-393 Secure Schools Title II funds, and Proposition 50. **Photo of volunteers planting willows during the Feather River Headwaters Festival held at Feather River College.**

#### **Upcoming Project Overview:**

The following proposed projects were funded for project development under a Water Forum grant for approximately \$5,000 each. The funding was used to accomplish initial data collection and analysis for the purpose of developing design alternatives and seeking implementation funding. Data collection, analysis, and conceptual design alternatives were completed in 2005. Reviews by the technical advisory committees are being completed this spring and early summer. All projects have been submitted for funding through a variety of local, state and federal sources in early 2006.



**Dixie Creek-** Dixie Creek is a major tributary to Red Clover Creek. One landowner, Bill Mapel, requested FRCRM assistance in protecting/restoring Dixie Creek through his property in 2004. He recently sold the property in early 2006. FRCRM staff met with the new landowners and they are supportive of the project. They



also discussed the project at the annual Dixie Valley Landowners Association meeting in 2005, which resulted in additional landowner interest for a potentially more comprehensive restoration project downstream in the future. The current project proposal entails eliminating approximately 2,000 feet of gully on Dixie Creek using the pond and plug technique, and constructing a rock-armored, moderate gradient valley grade structure at the downstream plug. Streamflows would be diverted to existing remnant channels on the meadow surface. The project is already well fenced from livestock. NEPA/CEQA investigations and permit applications would be part of the project. Project construction will be completed in the fall of 2007. A proposal for funding was submitted to the Plumas Water Forum for \$56,000 and was approved in May 2006. Total project budget is estimated at \$62,000. Plumas National Forest is a partner on this project, contributing \$5,000 of rock for the valley grade structure.

**Photo of Dixie Creek gully taken at TAC meeting on May 2, 2006.**

**Smith Creek-** Smith Creek is a tributary to the Middle Fork Feather River, a designated wild and scenic river. An important fishery, project restoration would involve gully obliteration, installing additional floodplain access culverts at the upstream bridge, and a short bank vane treatment on a 700 foot channel segment to reduce bank erosion. Initially, thirteen landowners requested FRCRM assistance in 2003. FRCRM staff and DWR conducted the initial data collection in 2004 and 2005. Through numerous landowner meetings, field visits, and discussions the project now involves ten committed landowners. Total project costs are estimated at \$252,000. Trout Unlimited and landowners are funding the environmental survey work. This project was included in the Prop. 40 application for funding, as part of a complex of projects within the Upper Middle Fork Feather River watershed. Construction would occur in 2007 or 2008 if the project is funded.

**Little Last Chance Creek-** One landowner, Don Guidici, requested FRCRM assistance in protecting/restoring Little Last Chance Creek through his property in 2004. Discussions and tours in 2004-2005 between FRCRM staff, Sierra Valley Resource Conservation District, and Little Last Chance Creek Irrigation District members resulted in additional landowners requesting inclusion with project planning. The proposed project area can be broken into three treatment reaches: The Guidici Ranch, the North Creek ; the East Creek. The entire project area is located in Sierra Valley on an alluvial fan, with the Guidici Ranch at the top of the fan in the most constricted part of the valley. On the Guidici Ranch, the channel is confined in a gully on the west side of the valley, with eleven-foot gully walls on the east bank. The concept for restoration would treat the Guidici banks with boulder vanes directing the force of flows away from the east bank along a one-mile stretch of channel. On North and East Creeks, a combination of concentrated flows, highway culverts, loss of sediment supply, and intensive agricultural use have contributed to the development of entrenched channels to an existing depth of three to nine feet. Some diversion structures are no longer operable, and most are at risk of failure. Without treatment, incision cycles are expected to continue moving upstream, resulting in a deeper and wider gully, making irrigation structure maintenance more difficult and expensive. The restoration concept uses riffle augmentation that would allow high flows (over 200 cfs) to spill out onto the floodplain. The project also includes management changes through the use of fencing. Total estimated cost is \$973,250. A partial funding request for \$190,000 was submitted to the Watershed Forum and is being used for the required 25% match for a Prop 40 proposal to the state. A request for \$155,000 was submitted to the Resource Advisory Council (RAC) for PL 106-393 Secure Schools Title II funds for the Guidici Ranch portion of the project. Both the Forum and RAC proposals were approved for funding in May and June of 2006. Partners include PNF (Guidici portion only) and the NRCS. Construction is proposed to occur in 2007 and 2008.



**Photo above: Entrenched channel on Little Last Chance-North Creek in November 2005. Photo to right: Cut banks on Little Last Chance, Guidici Ranch in May 2006.**

**Meadow Valley Projects: Silver Creek and Spanish Creek @ Kellett-** These projects involve two landowners, Bob Burney on Silver Creek and Larry Kellett on Spanish Creek, who both requested FRCRM assistance in 2005. Silver Creek is a tributary to Spanish Creek. Project goals for Silver Creek are to induce aggradation within the entrenchment to access the upper floodplain with frequent high flows, restore deposition of coarse bedload material, reduce or eliminate loss of property, and improve water quality. Restoration techniques proposed would utilize boulder vanes, construction of whole tree jams, bank reconstruction, vegetation transplants, constructing rock-riffles, and planting riparian vegetation on the floodplain. Project goals and objectives on Kellett's property include reducing the deposition of sediment and the aggradation of the channel within the project reach, lessening property loss, reducing the risk of high flow damages to the county road crossing, and improving water quality on-site and downstream. The project proposal includes reconstructing the south approach to the County's bridge, adding culverts at floodplain elevation, constructing boulder vanes, utilizing vegetation transplants, bank reconstruction, and removal of large gravel berms within the active floodplain. Estimated total costs for both projects are \$347,000 (\$52,000 Silver Crk/\$295,000 Spanish Crk or 170,000 for amended treatment, i.e. less culverts). Plumas County Department of Public Works is a partner on the Spanish Creek @ Kellett portion of the project, contributing match for installation of the culverts. One funding request for \$321,000 was submitted to the Plumas Watershed Forum for both projects. Funding for \$198,000 was approved in May 2006. Construction will occur in the fall of 2007.



**Long Valley Creek-** Landowner Dean Panfili, requested FRCRM assistance in 2005. The primary goal of this project is to fully restore Long Valley and Little Long Valley Creeks, and their floodplain through the Long Valley Ranch. Long Valley Creek is a tributary to the Middle Fork Feather River. Project goals would be accomplished through capturing the bedload now entering and traveling through the project reach within the upstream section, reconnecting the stream channel with its historic functional floodplain, eliminating erosion and rapid land loss, raising the water table to its historic elevation, and restoring aquatic and riparian habitat conditions utilizing the pond and plug technique. Total project cost is estimated at \$243,000. Partners include the landowner and NRCS, who are contributing funds for project construction, fencing, and grazing management. Funding requests were submitted to the RAC for PL 106-393 Secure Schools Title II funds, and the state for Proposition 40 funds. Funding was approved by the RAC in June 2006. Construction is proposed in the summer/fall of 2008. **Photo of Steering Committee tour at Long Valley Creek in November of 2005.**



**Last Chance Phase II-** This project involves private land owned by the Vasey Family, and Plumas National Forest lands. The FRCRM has currently completed restoration of over 12 miles of stream channel/meadow system in the Last Chance watershed, with an additional 2 miles restored in



2005, leaving Last Chance Phase II as the largest segment remaining. The Phase II project encompasses 8 miles of mainstem channel and short reaches of the confluence zones of the four significant tributaries (Willow Creek, Little Stony Creek, Stone Dairy Creek and Cottonwood Creek), all of which have channel incision occurring near the confluence as they adjust their base channel levels to the downcut elevation of Last Chance Creek. The project would directly restore 800 acres of relic meadow and reduce the incision risk to still functional tributary meadows. Implementation of the Phase II project would essentially complete the restoration program for the entire 100 mi<sup>2</sup> basin above Doyle Crossing and remove any intervening untreated reaches above the long-term Doyle Crossing gage station. The project, with a budget of \$2,300,000, was submitted for Proposition 50 funds under a Plumas County-sponsored proposal in 2005. We are still awaiting a decision on that proposal. **Aerial photo of Last Chance Creek below Stone Dairy Creek taken in June 2005.**

**Sulphur Creek Complex-** The Sulphur Creek watershed is a major source of sediment into the Middle Fork Feather River. The Sulphur Creek complex involves multiple landowners and project locations. Project development funds were used to conceptualize project proposals and coordinate amongst landowners. Two demonstration projects, Rapp-Guidici and Boulder Creek, were identified in the Sulphur Creek Watershed Analysis as high priority because the entrenchment of both of these channels has nearly worked upstream to the edge of the coarse material alluvial fan off of the steep western slope of the watershed. The analysis revealed that this material is a primary source of a vicious circle of instability (sediment coming into the channels that in turn causes more instability) on the mainstem of Sulphur Creek, and the restoration of natural sediment capture features in the watershed is a primary restoration goal. The Rapp-Guidici project was recently approved for funding through the PL106-393 Secure Schools Title II funds for \$131,575, with project cost totaling \$170,720. On Boulder Creek the existing entrenchment currently merges with neighboring Rapp-Guidici Creek about 200 feet before entering Sulphur Creek. The projects propose to restore the floodplain function through gully obliteration utilizing the pond and plug technique. Utilizing an existing remnant channel would result in Rapp-Guidici and Boulder Creeks merging approximately 400 feet further up valley than they currently do. Concurrent construction of these two projects together (planned for 2007), would result in a savings of approximately \$25,000. The Boulder Creek project was recently submitted for funding to the state for Prop. 40 funds. Implementation of the Boulder project would cost \$75,000. Partners include multiple landowners, USFS, and NRCS.

**Big Grizzly Creek-** Sierra Health Foundation requested FRCRM assistance in early 2004 on Big Grizzly Creek immediately north of Hwy 70. FRCRM staff met with the landowner, adjacent landowners and other interested stakeholders to determine goals and objectives for the channel. A \$5,000 earmark from a Water Forum coordination grant funded initial data collection and analysis that was completed in 2005. The analysis identified no restoration needs. The FRCRM submitted recommendations to the landowner to help them maintain the functionality of the site and accommodate access for fishing and recreation. Trout Unlimited is helping with these recommendations and will continue to work with the landowner. The FRCRM will not be seeking any implementation funding for this project.

**Last Chance-Ferris Fields-** This project is part of a larger project that was constructed in 2004, which eliminated approximately 2,200 feet of gullied channel on Last Chance Creek at the downstream end of Ferris Fields, and another 2,500 feet on Ferris Creek above the confluence with Last Chance Creek utilizing the pond and plug technique. The supplemental project proposes to obliterate an additional 4,500 feet of gully on Last Chance Creek using the same technique and includes 2 1/2 miles of fence repair/replacement around the Ferris Fields pasture. Project construction is proposed for completion in the fall of 2007. Total project costs are estimated at \$141,000. Funding proposals were submitted to the Watershed Forum for \$86,000 and the RAC for \$49,000, with a \$6,000 match from Plumas National Forest for fence materials and re-vegetation.

**Coordination:**

The FRCRM program has been growing steadily with increasing demand from landowners and agencies for assistance in stream channel/meadow restoration. The program only works with willing landowners. Direct project funding from state and federal entities has been a reliable source to secure project funding; however, local and federal sources and state propositions that have funded many past projects are finishing their final funding cycles in 2006 (i.e. Propositions 40 and 50, the Water Forum, and PL 106-393 Secure Schools Title II). In early 2006, the FRCRM submitted proposals to all of these sources to continue funding proposed projects and as a program 'bridge' through 2009. The number of current project requests is exceeding the staff's ability to respond to the community. There are plans to add an additional project manager to the staff in 2007, if project funding is realized.

More problematic is coordination and program capacity-building funds needed to meet the increasing project requests. The program does not charge for its services for initial contacts, conceptual project development, and subsequent grant writing. Strategically, the FRCRM secured sufficient funding in 2005 to maintain coordination activities for current staff efforts, and added an 80%-100% time program coordinator to fulfill current and expected landowner requests through 2006. In addition, they were able to secure another \$75,000 from the Water Forum in 2005 for planning/coordination, monitoring, and project implementation.

Current FRCRM staff consists of (4) full-time positions. These positions are as follows:

1- Project/Program Manager- Wilcox	80% Project funded/20% Coordination
1- Monitoring Coordinator- Mink	75% Project funded/25% Coordination
1- Project Manager- Benoit	90% Project funded/10% Coordination
1-Program Coordinator- Martynn	80% Coordination/20% Project funded

Proposed positions for 2006:

1--Project Manager- Vacant	90% Project funded/10% Coordination
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**Unfunded Project Requests (potential funding sources):**

Poplar Creek, Phase II- landowner, Soper-Wheeler	(unknown)
Willow Creek- single landowner	(landowner; unknown)
Sulphur Creek @ Barry	(landowners; unknown)
Sulphur Creek @ Whitehawk Ranch	(landowners; unknown)
Spanish Creek Restoration (American Valley, multiple landowners)	(Urban Streams)
Spanish Creek Vortex Sampler (relocation and continued operation)	(unknown)
Last Chance Charles-North (The Nature Conservancy and Landowner, Matley)	(unknown)
Indian Creek @ Garr Ranch	“



Wolf IV	“
Red Clover @ Chase Bridge (USFS)	“
Red Clover @ Noble's	“
Dotta Canyon Creek	“
Humbug Creek @ Markwell's	“
Sulphur Creek Complex- McKenzie Creek, McNair Meadow, Sulphur Creek Roads/Plumas County Rd 114, Yarrington Meadow, Wash Creek, Sulphur below Whitehawk, Calfpasture Creek, Mowhawk/Chapman Road Closure	“