Feather River
Coordinated Resource Management

PLUMAS CORPORATION
550 Crescent St., P.O. Box 3880 Quincy, CA 95971 (530) 283-3739

2011 Annual Report to Signatory Agencies

Spring Steering Committee Tour in Last Chance Creek Watershed.
Overlooking Rowland Creek Meadow, June 2011.

February 2012

•California Department of Conservation •California Department of Fish and Game •California Department of Forestry and Fire Protection •California Department of Parks and Recreation •California Department of Transportation •California Regional Water Quality Control Board •California Department of Water Resources •Feather River College •Feather River Resource Conservation District •Natural Resource Conservation Service, USDA •Pacific Gas & Electric •Plumas Audubon •Plumas Corporation •Plumas County •Plumas County Community Development Commission •Plumas National Forest USFS, USDA •Plumas Unified School District •University of California Cooperative Extension •Salmonid Restoration Federation •Sierra Valley Resource Conservation District •Trout Unlimited •U.S. Army Corps of Engineers •USDA Farm Services Agency •U.S. Fish & Wildlife Service•

Introduction

This report summarizes the Feather River Coordinated Resource Management (CRM) group's 2011 accomplishments, program activities, projects, and plans for 2012-2014. Over the last 26 years the CRM has implemented a total of 118 projects. Of this total, 68 projects have been on-the-ground restoration, 13 studies/strategies, 19 planning/coordination projects, and 18 education projects. On-the-ground projects have treated approximately 47 miles of stream, directly restoring approximately 4,100 acres of meadow/floodplain and riparian habitat within the Feather River watershed. Restored acres have been treated through a variety of techniques. Of the 68 on-the-ground projects the following restoration methodologies have been utilized:

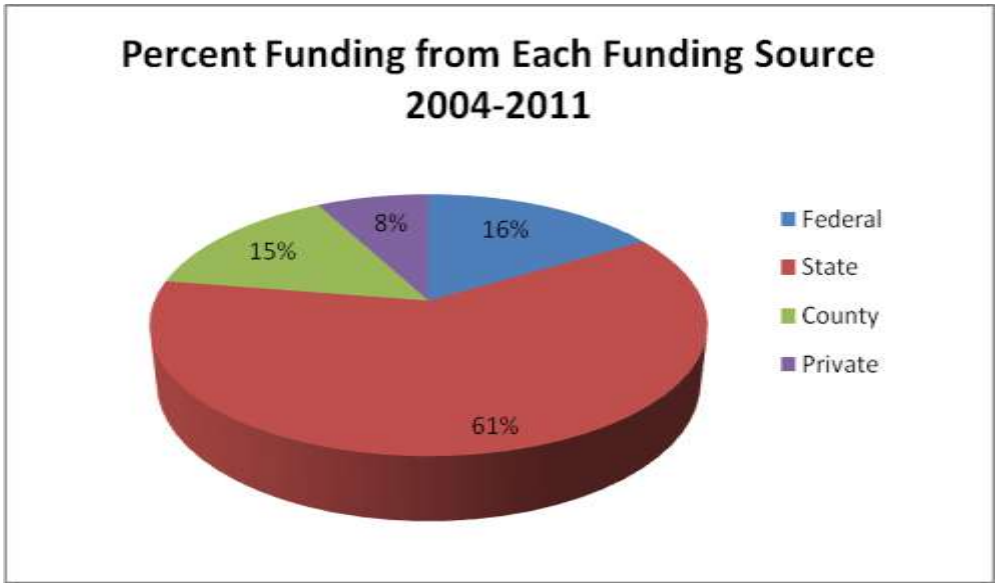
Number of Projects	Restoration Technique/Methodology	Acres Restored	Channel Miles Treated
25	Pond and Plug	2871	26.46
12	Rock/Boulder Vanes and/or Weirs	23.2	2.58
11	Inset Channel and/or Bank Reconstruction	83	6.22
4	Rock Dams	165	2.01
4	Headcut or Inset Step Pools	28	0.63
2	Fish Ladders	NA	NA
2	Riffle Augmentation	750	4.57
6	Other[1]	175	4.07

[1]Other methods include bank stabilization, vegetative stabilization (biotechnical), tailings stabilization, channel structure, headcut treatment, sediment traps, and woody debris jams.

Although participation and levels of involvement of the CRM's twenty-five signatory partners have varied over the years, without them we would not be successful in implementing watershed restoration in the upper Feather River Watershed. All restoration efforts are possible only with the participation of partners and willing landowners. In these difficult economic times we acknowledge the difficulty for partners to be involved, but it is during such times that we must continue working together to protect, restore, and enhance ecosystems and community stability in the upper Feather River Watershed through collaborative landowner participation.

This is the seventh annual report prepared for our signatory agencies and participating partners of the Feather River CRM. This report summarizes the accomplishments made in 2011 and serves as an accountability of public funds (local, state, and federal grants) used for project work to all our funders and interested stakeholders. The continued support of all partners has made these collaborative achievements possible. These are not solely CRM undertakings but partner accomplishments, as well, contributing to and advancing partner agencies goals and missions. Participating organizations should include CRM project accomplishments in their progress reports. The Feather River CRM exemplifies what can be achieved by public and private entities supporting local communities to achieve mutual goals. For more detailed information, please visit our website at **www.feather-river-crm.org**.

All projects, as well as general program outreach and coordination, have been funded from a variety of federal, state, local and private sources. Current state and federal budgets affect these funding sources in different ways. Secured funding for projects, program coordination, monitoring and education through 2012 to 2014 includes funding from the following sources: CA Department of Conservation-Proposition 84, CA Department of Water Resources-Proposition 50 Integrated Regional Water Management contract with Plumas County, National Fish and Wildlife Foundation, CA State Water Resources Control Board-Prop 13 & Prop 50, Sierra Nevada Conservancy – Prop 84, U.S. Army Corps of Engineers-Sacramento District Wetland Conservation Fund, Secure Rural Schools PL106-393 Title II USDA Forest Service Pacific Southwest Region Plumas County Resource Advisory Committee, Pacific Gas & Electric Company, and Intermountain West Joint Venture-Ducks Unlimited. In these fiscally challenging and changing times, we will continue to explore and diversify our funding opportunities. The following pie chart depicts the average percentage of budget funding sources over the last eight years.



Over 60% of funding for the CRM program in the last decade has been through grants with the state of California authorized through voter approved bond funded propositions for water quality improvements, flood control, and riparian habitat enhancements (Propositions 204, 13, 40, 50, and 84). Federal funding has mostly consisted of funds allocated through Public Law 106-393 Secure Rural Schools Act. These Title II funds are awarded to Plumas County via the Forest Service supported by a local Resource Advisory Committee that reviews submitted projects and recommends projects for funding to the Forest Supervisor. Plumas County funding has been through two sources, Secure Rural Schools Act Title III funds and Monterey Settlement Watershed Forum funds. The federal Title III monies are awarded directly to the County with specific federal criteria for what the money can be used for. The Board of Supervors has sole discretion for selecting local projects to be funded with Title III funds. The Monterey Settlement Agreement funds came from a legal settlement between Plumas County and the California State Water Contractors. These funds also had certain criteria established for how they were to be spent. Projects were selected at the discretion of the Board of Supervisors and an advisory review committee made of up county, state, and State Water Contractor representatives. Private funds consist of landowner contributions, foundation funding, and private organizations, such as Pacific Gas & Electric and others.

Changes in 2011 and 2012 to the organizational structure of Plumas Corporation, the non-profit fiscal agent for the CRM, has and will continue to impact current and future CRM program budgets and funding. In December 2011, John Sheehan, Executive Director of Plumas Corporation retired after 19 years of service. In January 2012, the Plumas County Visitor's Bureau was closed. The Plumas Corporation governing board hired Greg O'Sullivan as the new executive director in January. Greg has extensive experience in economic development and comes from a ranching and farming background. His goal as Plumas Corporation's Executive Director was to build a sustainable economic development program in 2012, though given the difficult economic environment this has proven to be currently un-supportable. The Plumas Corporation board and the Feather River CRM are presently working on restructuring the Plumas Corporation board and the Corporation's mission.

The following table outlines the total Feather River CRM budget allocations over the last eight years. On average, 38% of total program expenditures have been allocated to staff salaries, 56% has been contracted out locally for environmental and construction related work, and 6% has been used to purchase supplies and equipment needed for project and monitoring efforts.

CRM Budget Allocations (2004-2011):

Year	Total Program Expenditures[1]	Staff Costs[2]	Contractor Payments	Other Purchases
2004	$590,846	$220,660	$335,974	$32,212
2005	$685,730	$267,887	$357,844	$59,999
2006	$1,206,142	$266,908	$916,484	$22,750
2007	$1,154,399	$323,110	$732,616	$98,673
2008	$1,190,745	$364,848	$740,335	$85,562
2009	$428,976	$244,630	$158,069	$26,277
2010	$1,276,229	$441,226	$786,792	$48,211
2011	$727,126	$385,042	$295,532	$46,552
8 Yr. Total	**$7,259,757**	**$2,515,884**	**$4,323,646**	**$420,227**

[1]Based on QuickBooks financial reports. [2]Staff costs include salaries, benefits, taxes, and insurance.

Summary of Accomplishments in 2011:

Integrated Greenhorn Creek Restoration Project

Reid/PNF Bank- This project, located on private land and Plumas National Forest (PNF), was funded through Plumas County Resource Advisory Committee (RAC) Title II monies for $70,360. The overall project includes fish passage and bank stabilization in seven discrete reaches. RAC funds were used for environmental analysis and permitting for all seven reaches, and project construction for the Reid/PNF Bank reach. Project design for the Reid/PNF Bank Stabilization consisted of laying back the eroding bank, installing four boulder vanes, building a floodplain bench, and taking the opposing gravel bar down to floodplain elevation. Construction was completed in October 2011. Implementation funding is still being sought for the remaining six reaches.

Reid/PNF Bank Stabilization Construction. October 2011

Sierra Nevada Range-wide Meadow Restoration Coordination- In 2009 CRM staff, as well as others throughout the Sierra Nevada, were requested to provide input to the National Fish and Wildlife Foundation's (NFWF) Sierra Nevada Meadow Restoration Initiative Business Plan. The Foundation's Plan is to contribute $10 to $15 million over the next decade to meadow restoration projects, with a goal of improving watershed function and wildlife habitat in Sierra Nevada meadows at a rate of 20,000 acres per year by 2014. Ultimately, the foundation hopes to leverage $200 million for meadow restoration, which is an element in the State Water Plan. In helping to spread the technology of meadow restoration up and down the Sierras, NFWF approved $51,000 for CRM staff to assist in coordinating their efforts range-wide.

Fall Steering Tour at Lower Rose Cr Restoration Project, Pit River Watershed. Nov 15, 2011

In 2011, outreach consisted of participating in regional and statewide forums on meadow restoration, water rights concerns, hosting meadow restoration tours, and providing technical assistance for efforts in the Pit River Watershed. The CRM provided input to the Pit River Resource Conservation District's (RCD) grant application to the State Flood Corridor Grant Program for their Ash Creek Restoration Project. CRM staff attended and participated in an informational meeting held by Plumas/Sierra County University of CA Cooperative Extension on water rights and understanding stakeholder concerns in

regards to meadow enhancement projects. CRM staff was also involved with the second annual Sierra Nevada Alliance and National Fish and Wildlife Foundation Meadow Forum. CRM staff hosted the Forum field trip in the Feather River Watershed, visiting three projects in varying phases of completion and planning in Red Clover Valley. At the Forum, staff members gave presentations on meadow restoration project development, analysis, permitting, implementation, and monitoring. Lastly, the CRM collaborated with the Pit River RCD and organized a fall tour of completed and planned meadow restoration projects in the Pit River Watershed.

Another $15,000 was awarded to the CRM in 2011 from Ducks Unlimited through the Intermountain West Joint Venture to focus similar efforts in the larger northeastern California region. This region includes Siskiyou, Shasta, Modoc, Lassen, Plumas and Sierra counties. The CRM has also subcontracted with the Pit River RCD to facilitate meadow restoration outreach in this region.

Water Rights & Meadow Restoration- As the scale of meadow restoration projects implemented in the upper Feather River Watershed increases and more projects are done in other watersheds throughout the Sierra Nevada, downstream water users have expressed concerns regarding effects to stream flows. In February 2011 an informational meeting held by Plumas/Sierra County University of CA Cooperative Extension on water rights and understanding stakeholder concerns in regards to meadow enhancement projects was attended by over 70 landowners and agency personnel from Sierra and Plumas counties. In response to Sierra County Board of Supervisor actions and Plumas County water right holders' requests, the Plumas County Board of Supervisors passed Resolution 2011-7685 in April 2011 to affirm the commitment of Plumas County to water rights holders in the course of watershed restoration and management projects. The resolution states that all potentially affected water users needed to be coordinated with and notified of any upcoming restoration projects. It also states that the CEQA environmental document needs to include an assessment of any short-term and long-term water supply impacts, and that the restoration project planning should include contingency plans and mitigation measures to offset a range of foreseeable impacts to water supplies. Complying with the County Resolution in 2011, all CRM projects include the above requirements for project planning and environmental documentation. Many water rights holders felt that pond and plug meadow restoration required a water rights permit to construct a project. A formal complaint was filed with the Sate Water Resource Control Board Division of Water Rights on May 18 and May 27, 2011. The Division of Water Rights staff visited pond and plug projects in the upper Feather River Watershed in June and October, as well as downstream water users and the Department of Water Resources Indian Valley Watermaster. CRM staff provided requested project information and monitoring data, as well as accompanying them on their tours of several meadow restoration projects. On December 27, 2011, the Division of Water Rights issued a formal determination to the complaints, finding that pond and plug restoration did not constitute a diversion and beneficial use of surface water, and therefore, did not require a water right permit from the State Water Board. The CRM has taken the concerns of downstream water users very seriously and will continue to address their concerns through collaboration on all proposed restoration projects and monitoring.

Red Clover Valley Seepage Run Study- This study was undertaken by the US Forest Service Region 5 Regional Hydrologist to help address downstream water users' concerns about pond and plug projects affecting streamflow. The study involved taking a series of streamflow measurements along a channel reach for the purpose of identifying and quantifying gains and losses in streamflow due to groundwater seepage. The streamflow measurements were taken in conjunction with groundwater levels, conductivity, water and air temperature, and stream stage. Measurements were taken in June, September, and October at five locations in Red Clover Valley, two restored and three un-restored.

Seepage Run Streamflow Measurement, September 2011
Red Clover McReynolds Project, constructed in 2006

The study showed that downstream restored meadow reaches had higher rates of groundwater discharge than upstream un-restored reaches early in the summer. Later in the summer un-restored reaches continued to gain flow from groundwater discharge as the meadows continued to drain out, while the restored reaches continued to maintain higher groundwater elevations and connectivity to surface water flows. The Forest Service plans to conduct these same measurements more frequently at the same locations again during Summer/Fall of 2012. Project partners are the CRM, Plumas National Forest, and CA State University Sacramento.

Statistical Analysis of Selected CRM Stream Flow Data- This analysis was initiated in response to concerns from downstream water users. In seeking answers to stakeholder questions, CRM staff wanted to see if the watershed continuous recording station data might shed some light on affects of meadow restoration on streamflows. In 2011 the CRM had 11 years of streamflow data at various recording stations throughout the watershed. Five stations: Red Clover Creek at Notson Bridge, Last Chance Creek at Doyle Crossing, Cottonwood Creed above and below Big Flat, and Indian Creek at Flournoy Bridge, were analyzed for apparent trends in the hydrologic effect of meadow restoration. The analysis was undertaken by Ken Cawley, a consulting hydrologist. Cottonwood Creek, with the longest continuous record of flow above and below Big Flat showed a statistically significant increase in base flow at the downstream station from pre- to post-project. Data from flow stations at Flournoy Bridge, Notson Bridge, and Doyle Crossing showed no apparent trends or relation to stream restoration. Data analysis was funded by the US Forest Service. The CRM hopes to continue this effort as more data is collected, pending available funding.

On-going Feather River CRM Programs and Projects:

Watershed Monitoring Program- A watershed-wide continuous monitoring program to examine effects of watershed restoration efforts at varying watershed scales was started by the Feather River CRM during the 2000 water year, collecting twelve years of data to date.

Measuring high flows with a bridge crane on Indian Creek at Taylorsville Br, March 31, 2011

Ten continuous recording monitoring stations (CRS) located in the eastern two-thirds of the Feather River Watershed on public and private lands collect streamflow and temperatures. One site (Indian Creek at the Taylorsville Bridge) also collects turbidity measurements. Data from the CRS are reviewed annually, and appear to show some potential increase in base flows and decrease in summer water temperature at some sites. The data underwent preliminary statistical review in 2011. Data at the Flournoy Bridge, Notson Bridge, Doyle Crossing, and Big Flat stations were analyzed. The Flournoy Bridge, Notson Bridge, and Doyle Crossing stations did not show a statistically significant difference in base flow from pre- to post-meadow restoration. The stations on Cottonwood Creek at Big Flat did show a positive shift in the amount of base flow at the downstream station from pre- to post-restoration. The cause-and-effect relationship between restoration and increased base flow is difficult to make, but we continue to monitor to determine if any trends can be seen.

Three other continuous recordings stations were installed in 2011 in partnership with the Plumas National Forest: Spanish Creek in Meadow Valley, Sulphur Creek below confluence with McKenzie Creek and Rowland Creek above confluence with Little Last Chance Creek.

The CRM monitoring program also monitors twenty-two stream condition inventory (SCI) sites that have been established throughout the watershed. Data collection on these reaches is targeted every five years pending available funding. Reaches were last surveyed in 2003. A Plumas County RAC grant provided funding to re-survey 14 of the 22 SCI sites in 2011.

In addition to the watershed-wide monitoring program, project specific data are collected on numerous project sites throughout the watershed. The CRM monitoring program is funded through the Plumas County Resource Advisory Committee, Proposition 50 Integrated Regional Water Management

grant via Plumas County and administered by the Dept. of Water Resources, and other project specific funding sources. Securing monitoring funds has always been problematic, but the CRM has managed to keep the monitoring program afloat through a variety of sources over the years, including in-kind contributions from partners and citizen volunteers.

The Citizen Monitoring component of the program works with community residents and student volunteers to collect data in Indian, Spanish, and Sulphur Creek watersheds. All program and project monitoring results can be found on the Feather River CRM website www.feather-river-crm.org.

CRM Education Program- Established in 2004, the Feather River CRM Watershed Education Program focuses on two components: public outreach and school-based education. Seed money for the program was provided by the Department of Water Resources from 2004 through 2006. Subsequent funding has come from a variety of sources. Current funding support for the education program (2011-2013) is from Plumas County RAC and the Sierra Nevada Conservancy. Similar to monitoring efforts, sustaining education funding has been especially difficult in these challenging economic times. The CRM continues to seek and develop sustainable sources of funding through collaboration with partners. "WATERS" (Watershed Awareness through Education, Recreation, and Stewardship) is the committee that oversees the regional and collaborative educational efforts in the Upper Feather River Watershed. Participant organizations in WATERS includes: University of California Cooperative Extension, Plumas Audubon, Feather River Resource Conservation District, Feather River College, Sierra Institute, Plumas Unified School District, Plumas County 4H, and the Feather River CRM.

The 2011 school-based CRM Watershed Education Program has been supported by collaborative partnerships with Feather River College (FRC) programs, Educational Talent Search and Outdoor Recreation Leadership, and the Feather River Land Trust's (FRLT) Learning Landscapes Program. FRC programs have provided matching funds for transportation and other in-kind support for the 6th and 7th grade Watershed Program field trips, while the Learning Landscapes Program has provided outdoor sites within walking distance of each school campus for K-12 students to implement hands-on projects. This was the seventh school year that the 6th grade Watershed Program was successfully implemented with 157 students. The program included seventeen "backyard" field trip days in the winter and spring and four Plumas to the Pacific field trips in May/June totaling 17 additional days. Building on the 6th grade program, the Service Learning Restoration Program, saw its first year of full implementation with all 7th grade students (151 students) in Plumas Unified School District (PUSD). After participating in a two-day program at Grizzly Creek Ranch, students came back and implemented riparian restoration projects on their local Learning Landscape properties. Teacher training and support was provided through a collaborative partnership between the CRM and FRLT. Nine local secondary school instructors attended a three-day restoration training workshop and were provided with essential tools and resources for their schools to equip students for restoration activities. Other supporting tours and restoration work opportunities in the watershed were provided, as well, including 56 Portola 8th grade students visiting the Red Clover Creek watershed and participating in re-vegetation efforts on a meadow restoration project. Seventy-three Chester High 7-9th grade students participated in habitat restoration activities on Stover Creek and the North Fork Feather River, including weed removal, revegetation with native plants and willow stakes, and construction/installation of bird-nesting boxes.

Feather River College students testing water turbidity on World Wide Monitoring Day 2011.

On the public outreach front, the CRM organized the 3rd annual Great Sierra River Cleanup, drawing 98 people who worked to improve water quality at sites in Quincy, Greenville, Portola, Graeagle, and Lake Almanor. Included as part of the 2011 cleanup effort, local sponsors funded a stewardship project that installed two pet waste stations in popular dog walking areas along waterways in Quincy. The

CRM also led a World Water Monitoring Day effort for the sixth year with Feather River College Environmental Studies students as well as hosted the fourth annual Wild & Scenic Environmental Film Festival in partnership with Plumas Arts and Feather River Trout Unlimited. Additional public outreach activities included a Creek Walk on Spanish Creek, as well as, a booth at the Plumas-Sierra County Fair (in partnership with Plumas National Forest) demonstrating floodplain function that reached over 300 attendees. Other educational events included booths and/or presentations at the Pioneer Quincy Elementary School Family Science Night, Chester Middle School Field Study Day, and Pioneer Elementary School's Creekside Field Trip for second graders.

Update of Completed Projects:

Red Clover Cr above Chase Br. Post-project April 6, 2011

Red Clover Cr above Chase Br. Post-project May 5, 2011

Red Clover/Poco Creek Restoration Project (USFS) – This project, located on Plumas National Forest, was constructed in Summer/Fall 2010. Implementation funding was provided through the State Water Resources Control Board by Proposition 13 and Proposition 50 CalFed Watershed Protection Grant Program.
Due to a number of factors including weather (extended high flows throughout the spring before vegetation could root), an implementation error, and a design flaw, the project sustained damage to 18 of the 31 plugs in early 2011. CRM staff held numerous Technical Advisory Committee meetings to assess the damage and discuss how to fix the damaged plugs. Repair work started in early September and was completed at the end of October. The headcut initiated by the high flow lowered the stream base level by 3 to 5 feet. By early September the plugs were dry enough to allow heavy equipment access, and more repairs were possible than originally expected. Repairs included use of on-site material to correct plug and floodplain elevations; adjacent rip-rap from a 1997 bank stabilization project to armor some downstream plug edges; extensive willow pruning to reduce short term roughness; and a rock and vegetation intermediate valley grade structure at Chase Bridge. Another plug received rock armor for additional intermediate protection. Beaver were working in the project area during 2011 and that activity was incorporated into final repair efforts. The California Conservation Crew worked on the project for a week at the end of October cutting and staking willows. Repaired plugs were re-seeded with native seed. Sufficient funds remained in the grant contract to conduct these repairs. Project repairs cost $58,452 to bring total construction costs to $1,033,340.

Above Chase Br. Post-repair October 13, 2011

Middle Fork Complex Technical Challenges: The three projects below were funded via a Proposition 40 grant and shared some characteristics that posed technical challenges during the design and construction process. This suite of projects were undertaken in meadow systems with both overall higher gradients and more complex floodplain topography. While these projects overall are performing well, there are persistent locations in each that have necessitated frequent maintenance or modification since construction.

The primary issue is that with the steeper gradients, the height of the upstream sides of ponds is higher. Where this coincides with frequent overland flood flows over these higher sides there is an increased incidence of small headcuts forming. In most instances these headcuts or 'nicks' have stabilized with the re-invigorated vegetation. However, where these locations also coincide with a constricted, or narrow, floodplain and attendant increased energy they have required repairs, sometimes more than once. It is recongized that these areas will also require a longer time to develop the natural resistance that will offset the stresses of floods. Future projects in these types of meadows will incorporate the lessons learned in these projects. All of these areas will continue to monitored by CRM staff.

Haskell Creek: Rapp/Guidici Restoration Project- The Haskell Creek project, a tributary to Sulphur Creek within the Whitehawk Ranch development, was constructed in 2007. This was a pond and plug project that restored 0.4 miles of channel and 13 acres of meadow. In 2011 CRM staff noticed a small 12-18" cut in the second to last pond. As the project was designed, the second to last pond drained into the last pond. This area developed a slight cut, which lowered the elevation in the second to last pond and put strain on the plug above. In July 2011 the landowner donated his time and equipment to patch this small cut.

Long Valley Restoration Project- The Long Valley project was constructed in 2008. Long Valley Creek is a direct tributary to the Middle Fork Feather River. Project monitoring over several years determined that some project modifications were needed at the confluence of Long Valley Creek and Little Long Valley Creek. The landowner installed five head gates to pass winter flows from Little Long Valley Creek through the ranch ditch system, the release elevation of the lower pond on Little Long Valley Creek was adjusted to allow flood flows to release in a different location, and a small repair was made to the plug at the confluence of Little Long Valley Creek and Long Valley Creek. These modifications are intended to allow the project to function better during high flows in the future.

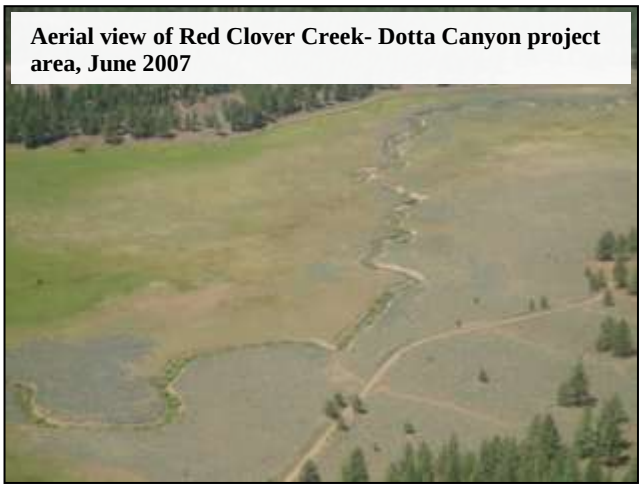
Smith Creek Restoration Project- The Smith Creek Restoration Project was a pond and plug project constructed in 2008. Smith Creek is a tributary to Sulphur Creek. In 2011 it was noted that a beaver dam was putting stress on a plug in the middle of the project area. The beaver dam was causing water to run over the plug in an area that was not designed to receive stream flow. There were some concerns that higher winter flows over the plug could compromise the plug. In the fall of 2011 project partners volunteered to assist CRM staff in lowering the elevation of the beaver dam and redirecting flow from the beaver dam around the plug with sandbags.

Humbug Creek Restoration Project - CRM staff was notified during the summer of 2011 about a problem with several small raised riffle structures on Humbug Creek, east of Portola, by the landowner, Bill and Judy Michelson. The CRM constructed a stream restoration project on the ranch in 2004 and a second project in 2006. The landowner noticed damage to several sod riffle structures by cattle. The structures were repaired using locally available rock and sod material. The landowner paid for repairing the riffles, including oversight by the CRM. The landowner has made the appropriate management changes to protect the structures and recognizes the need to continue monitoring project features.

Planned and Proposed Projects:

Much of 2011 was spent on project development, completion of environmental analyses and review, and obtaining required permits so projects would be eligible for available implementation funding. Some projects originally planned for construction in 2012 have been pushed back to 2013 or 2014 due to lack of funds for increased and additional permit fees, increased time for environmental analysis and review, and decline in viable funding sources, especially state funding sources.

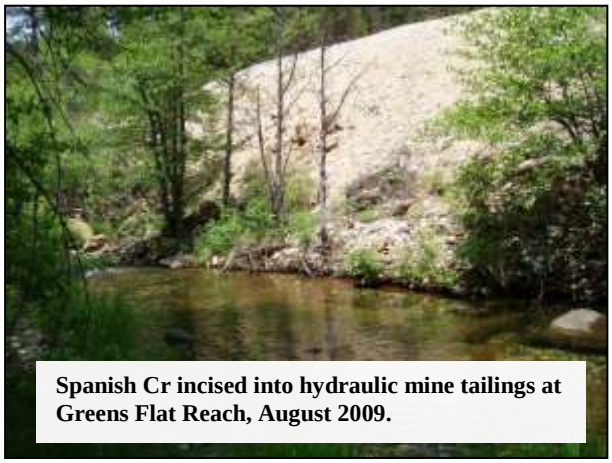
Upper Dotta Canyon- This 253-acre headwater meadow of Red Clover Creek encompasses the ranchlands of the Goodwin Ranch and public lands managed by the Plumas National Forest. The Goodwin Ranch worked with the CRM in 2006 to implement the Red Clover-McReynolds project about 5 miles downstream of Dotta Canyon. The increase in forage production and re-establishment of water on the surface of the meadow prompted the Goodwin Ranch to seek further assistance in restoring their property in Dotta Canyon. The existing channel is six to fourteen feet below the meadow floodplain surface. The project proposes to reconnect the channel to the floodplain using the "plug-and-pond" technique. In 2009/2010, the CRM received $109,700 for design development, environmental surveys, CEQA/NEPA analysis, and permit application work on Dotta Canyon and Meadowview/Rowland Creek projects from the Plumas County RAC (called the Eastside Meadows Project). Additional RAC funding ($10,230) was requested in 2011 to finish up NEPA/CEQA documents and project permitting. NEPA documents have been reviewed by the PNF-Beckwourth Ranger District and the CEQA document has been reviewed by Plumas County Planning Department. The CEQA Notice of Decision was signed in January 2012, and the NEPA Notice of Decision was signed in March 2012. All permits have been acquired and implementation funding has been awarded. The project is scheduled to begin in late June 2012. The primary source of funding is the Army Corps of Engineers Sacramento Wetland Conservation Fund ($441,184). We have also asked for approval to use left-over Red Clover Poco implementation funding ($120,000) from the State Water Resources Control Board. Natural Resource Conservation Service and the landowner are contributing funds for grazing management.



Aerial view of Red Clover Creek- Dotta Canyon project area, June 2007

Yellow Creek in Humbug Valley- The Feather River CRM has been assisting PG&E and the Humbug Valley Subcommittee of the Ecological Resources Committee (ERC) in development of a potential restoration project on Yellow Creek in Humbug Valley since 2006. The area upstream (north) of the county road is currently subjected to gully widening and active head-cutting on both the main stem of Yellow Creek and irrigation ditches that have captured perennial stream flow. PG&E provided $20,000 to complete initial field surveys and monitoring in 2006, and funded an additional $77,000 in 2008 to develop conceptual project design alternatives, complete resource surveys, continue site monitoring, facilitate stakeholder meetings and seek implementation funding. In 2010, the conceptual design alternatives were presented to the ERC. A consensus decision could not be reached due to concerns from California Dept. of Fish & Game (CDFG) over the potential spread of whirling disease via ponds within the design. In late 2010, PG&E provided another $14,000 to resolve the project design issues and complete the CEQA and permitting processes. To address concerns about whirling disease, the new channel design does not pass through any ponds, and a whirling disease study, funded through the U.S. Forest Service and PG&E with in-kind contributions from CDFG and UC Davis, is now underway. Implementation funding was secured through the Army Corps of Engineers Sacramento Wetland Conservation Fund for $297,400. Implementation is scheduled to start late summer 2012.

Spanish Creek in Meadow Valley- Following the completion of the Spanish Creek Assessment and Rehabilitation Strategy in 2006 (funded by Proposition 13 via State Water Resources Control Board), proposed sites identified for rehabilitation have been packaged into two project proposals. This project is primarily targeted on passive gravel management techniques to deal with excess



Spanish Cr incised into hydraulic mine tailings at Greens Flat Reach, August 2009.

bedload that impacts channel function and stability downstream. In 2009, Plumas Watershed Forum funding provided $44,300 for the project design and environmental analysis. Environmental surveys and reports were completed in 2010 using Plumas County Resource Advisory Committee Title II funds ($22,000). CEQA analysis and permit applications are currently being completed. Implementation funding has been secured through the Army Corps of Engineers Sacramento Wetlands Conservation Fund for $464,750. The Meadow Valley project consists of four distinct project reaches, and project implementation will be phased over three years starting Summer/Fall 2012.

Spanish Creek in American Valley- The Spanish Creek project in American Valley concentrates on gravel management, but has a greater emphasis on floodplain restoration and vegetation to stabilize eroding banks, than the Meadow Valley Project. Plumas Watershed Forum funding in 2009 provided $38,100 for the project design and environmental analysis work. Worked has halted on the American Valley proposal after the Watershed Forum contract ended. A proposal for implementation funding was submitted in 2008 to Urban Streams Proposition 84 grants, but was not selected. The American Valley proposal currently has a draft project design that needs Technical Advisory Committee Review. Environmental analysis and review needs to be completed, as well as permit applications. No project implementation funding has been secured. Potential project implementation is scheduled for 2014.

McMorrow's Reach: Gravel Management Area, May 2008.

Integrated Greenhorn Creek Restoration Project- Restoration work along Greenhorn Creek by the Feather River CRM began in 1991. Two subsequent projects were implemented in the early 2000's. Responding again to multiple landowner requests, current efforts were initially funded in 2007 through the Plumas County Board of Supervisors Title III funds. A total of $19,550 was awarded for project development and preliminary data collection and analysis for a stream bank stabilization project within American Valley. This effort included contacting other landowners (including the Forest Service), field data collection, data analysis, development of conceptual designs, and coordinating with stakeholders. Due to multiple landowners along the channel, and the inter-connected irrigation systems, coordination with all landowners is a critical element in the development and conceptualization of this project. In 2009, RAC funding for CEQA/NEPA analysis, permits, and construction was awarded. Analysis work began in 2010 and was completed in early 2011. Permits have been acquired for all project reaches. One of the seven project reaches, Reid/PNF Bank Stabilization, was constructed in 2011(reported under the 2011 accomplishments above). A collaborative partnership between the CRM, Plumas County, and CC Myers (contractor for the Spanish Bridge replacement project on Hwy. 70) resulted in a donation of approximately 7,000 yards of fill and rock material, valued at $98,000, for two fish passage structures. The material is currently being stored on County property near the Gansner Airport. Additional implementation funds will be sought for the remaining six project reaches. Proposed implementation is 2013.

Hansen's Bank during high flow, May 2009.

Sulphur Creek at Barry Creek - Ranked as the highest priority site in the Sulphur Creek Watershed Assessment, Sulphur at the Barry Creek confluence has been on the CRM's list of priority projects since 2006. In 2007 the CRM received $10,000 from the Highlands Management Group of Whitehawk to complete field surveys and develop project design proposals necessary to begin the environmental

Barry Creek @ Hwy. 89 culvert, December 31, 2005

analysis process for Barry Creek and Whitehawk Ranch project areas. One year later, the CRM secured $19,530 to complete the environmental surveys, CEQA and NEPA analyses, and permits for the Barry Creek project through a Sierra Nevada Conservancy (SNC) Proposition 84 Strategic Opportunity Grant (SOG). The CEQA and NEPA work and permit applications were started the winter of 2008/2009, but the state bond freeze stopped all work from December 2008 through September 2009. Completion of the environmental analysis was further delayed due to concerns with the project design by the Forest Service. In 2010 and 2011, CRM staff worked with PNF hydrologists to develop a project design that satisfied everyone's concerns. SNC planning money for this project ended in March 2012. Additional funds were secured through Plumas County Resource Advisory Committee ($20,000) to complete the environmental analysis and permitting. The NEPA process is planned to begin the fall of 2012. Potential implementation is scheduled for 2013. No implementation funding has been secured to date.

Red Clover Confluence Project- Clover Valley Ranch was purchased by Beartooth Capital in 2009. It is one of the largest tracts of private land in Red Clover Valley and takes in portions of Red Clover Creek, Dixie Creek, Horton Canyon, and Crocker Creeks. It is located between two parcels of Goodwin Ranch property, and if restored, would create 12 contiguous miles of restored channel with 2,600 acres of floodplain meadow in Red Clover Valley. In January 2010, Beartooth requested CRM assistance to develop a restoration plan on their property, providing $75,000 to complete resource surveys and reconnaissance cross-sections. Neighboring landowners were asked if they wished to participate. All agreed, and surveys and cross sections were completed in 2010 on approximately 2,400 acres. A successful application for $50,000 to the Plumas County Resource Advisory Committee was used in 2011 to fund project design. An application for $500,000 for partial implementation was submitted to the National Fish and Wildlife Foundation in 2011, and an application to fund environmental analysis and permitting was submitted to Sierra Nevada Conservancy in January 2012 for $75,000. Neither application has been selected for funding.

Red Clover Creek on Clover Valley Ranch, July 2010

Last Chance Phase II-

Aerial view of Coyote Flat, Last Chance II project area, June 2009

Headquarters Flat, Last Chance II project area, November 2010

This proposal involves meadow restoration to eliminate channel incision and stabilize tributary meadows. In 2010, the private landowner chose to opt out of the restoration project. The modified Phase II project proposal

would restore 402 acres of relic meadow and 7.8 miles of channel along Last Chance Creek on Plumas National Forest lands only. The project, with a budget of $3,700,000 was submitted as part of Plumas County's Proposition 50 IRWM application. The County was awarded 66% of the funding in 2007, but did not receive a final signed contract from the Department of Water Resources until 2008. Project surveys, environmental analysis, design development, technical reviews, and permit applications began in 2008, but were suspended in 2009 due to the state bond freeze and lack of reimbursement for work completed to date. In 2010, $400,000 was awarded by the National Fish and Wildlife Foundation (NFWF) to assist in completing the CEQA and NEPA processes, design development, permits, and pre-project monitoring. To date the CRM has completed all environmental surveys, design and layout, two technical reviews of the proposed design, archaeological and botanical reports, and on-going monitoring in the Last Chance watershed. An additional $349,000 will be available from NFWF for implementation, tentatively scheduled to begin the summer of 2013 pending completion of the NEPA process and permitting requirements. Construction would span two seasons, with completion planned for the fall of 2014.

Rowland/Meadowview- Located in a contiguous meadow system that straddles the watershed divide between Last Chance Creek, tributary to the North Fork Feather River (NFFR) and Rowland Creek, tributary to the Middle Fork Feather River (MFFR), these two projects cover both private and public lands. Rowland Creek has historically been a tributary to both watersheds through natural channel migration, and currently contributes the majority of its flow to the MFFR drainage, with flood flows contributing discharge to the NFFR. Meadowview is the uppermost meadow on Last Chance Creek. Both channels, including tributaries, are currently down-cut six to eight feet below the surface of the floodplain. The proposed projects are to reconnect the channel to the floodplain using the "plug-and-pond" technique, restoring functionality to 256 acres of montane meadow floodplain and improving 2.9 miles of channel stability along Last Chance Creek, Rowland Creek and tributaries. The CRM received $109,700 for design development, environmental surveys, CEQA/NEPA analysis, and permit application work on these projects and Red Clover Dotta (Eastside Meadows) in 2009/2010. Preliminary design work was completed in 2009, and environmental surveys and reports were done in 2010. Additional planning funds were secured in 2011 from the Plumas County Resource Advisory Committee to assist with final project design, NEPA & CEQA, and permit costs. More planning and implementation funding will be needed to continue moving this project forward.

Main Rowland Creek gully, October 2009

Typical gully in Fitch Canyon,

Fitch Canyon- Fitch Canyon is a tributary to Cottonwood Creek above Big Flat. The project area encompasses 0.56 miles of stream channel and 30 acres of meadow at the top of the Last Chance watershed. The landowner asked the CRM for assistance in 2010. The CRM worked with Ducks Unlimited and Intermountain West Joint Venture funding ($2,000) to conduct preliminary surveys for the landowner and partners. In 2011 the landowner applied to the Natural Resource Conservation Service (NRCS) Wetland Reserve Program and was selected for 2012 funding. The final restoration plan will be developed by NRCS engineers.

Mountain Meadows Restoration Project- These projects were brought to the CRM in 2010 by W.M. Beaty and Associates, the land manager for the Walker Family/Red River Lumber Company. The projects are located on private lands in the Mountain Meadows watershed. There are three separate proposed project areas: upper Goodrich Creek, Mountain Meadows Creek, and Stroing Ranch/Greenville Creek. $14,700 from Ducks Unlimited and Intermountain West Joint Venture was used to conduct preliminary project surveys in two of the three project areas in 2010 and 2011. Currently the CRM is developing a conceptual design proposal for the Stroing Ranch/Greenville Creek project area.

Typical gully on the Stroing Ranch, Aug 2011

Coordination:

Program coordination is vital to the CRM's ability to carry out restoration projects. With the assistance and contributions of our partners, CRM staff have coordinated and implemented over 80 stream restoration projects and watershed studies in the upper Feather River Watershed, sharing this experience with other restoration practitioners. Every project requires coordination and collaboration between private landowners, regulatory and funding agencies, as well as other stakeholders. Project development typically involves up to two years of outreach, data collection, and analysis to develop goals, objectives, and design concepts. The majority of current funding sources available for project implementation require a project to be "shovel ready" before monetary support for construction will be awarded; meaning all state and federal environmental requirements must be met (i.e. CEQA- California Environmental Quality Act; NEPA- National Environmental Quality Act, and numerous permits) before the CRM can apply for implementation funding. Due to the inadequate financial resources available for completion of these regulatory environmental processes, the CRM's ability to efficiently complete a project from the planning phase through implementation has been substantially impacted over the last few years. Duplication of processes to satisfy both state and federal regulators, as well as increased permit fees and requirements have all amassed into considerably higher costs and staff time to complete project planning and development. To this end, the Feather River CRM began inquiring on the possibility of developing Programmatic Agreements with regulatory agencies to streamline the environmental and permitting practices in relation to restoration activities; however, inquiries to date have been non-responsive.

Acknowledging that expanding outreach and restoration efforts increases visibility of watershed issues and helps build watershed understanding both locally and regionally, the need for effective and efficient coordination is essential. Landowner requests for assistance demand significant resources to provide quality service. All members of the staff, as well as agency partners, have responded to assistance requests as available; however, limited monetary support for these services strains existing budgets. Watershed monitoring of restoration efforts also continues to expand, as the breadth of understanding restoration effects grows and more projects are implemented. This is particularly relevant given recently expressed concerns from local water users regarding potential project effects to downstream water rights.

Coordination funding for the last three years has been limited to Proposition 84 Watershed Coordinator grant funds administered by the Department of Conservation, which only provides direct support to the Watershed Coordinator position. Proposition 50 IRWMP grant funds for the Last Chance II project has provided some coordination dollars in 2011, but the state's delay of reimbursement for work completed and the County's lack of contract management has made this an unreliable funding source.

Direct project funding from state and federal entities has historically been a reliable source to secure project funding; however, given the on-going state budget crisis, and current federal funding woes, we

have learned that maintaining a diverse funding pool is critical to sustaining program work. Several local/federal sources that have funded past projects have, or are completing their final funding cycles (i.e. Plumas Watershed Forum and PL 106-393 Secure Rural Schools Title II). Feather River CRM is continually in search of potential funding sources for coordination, monitoring, and project resources. The successful acquisition of funding from the National Fish and Wildlife Foundation (NFWF) in 2010 has been the main source of reliable support for staff coordination in 2011.

Current staffing is projected to remain the same through 2012. FRCRM staff consists of (4) full-time positions and (1) three-quarter time position. These positions are as follows:

1- Project/Program Manager- Wilcox	80% Project funded/20% Coordination
1- Program Coordinator- Martynn	95% Coordination/5% Project funded
1- Project Manager - Mink	90% Project funded/10% Coordination
1- Project Manager- Benoit	90% Project funded/10% Coordination
1- Monitoring Coord.- Rockett	90% Project funded/10% Coordination