

Sierra Nevada Conservancy-Progress Report

**Sierra Nevada Conservancy Grant Program
Safe Drinking Water, Water Quality and Supply, Flood Control
River and Coastal Protection Act of 2008 (Proposition 84)**

Grantee Name: Inyo National Forest

Project title: Kern Plateau Stream and Riparian Restoration

SNC Reference Number: SNC 070294 **Submittal Date:** January 26, 2011

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Check one:

6-Month Progress Report

Final Report

<p>6-Month Progress Reports should reflect the previous six months. Final Reports should reflect the entire grant period.</p>

A. Progress Report Summary: (Please provide a general description of work completed during this reporting period.)

The project was completed in fall, 2011. Work occurred in Horshoe/Round, Olivas, Dutch, Bullfrog, Ash and Casa Vieja Meadows.

Work completed during the project included:

36 headcuts treated with new structures.

21 existing headcut structures rebuilt/repared.

- Existing structure maintenance -Linear feet of barricades added or enhanced: 2,900 feet (At about 34 different sites – acts as rehabilitation of existing sites)

All sites were visited by the project leader immediately after implementation, to determine that implementation was effective and to specifications. All sites, except Olivas Meadow, were monitored in 2011, after at least one winter. Olivas Meadow was visited to monitor implementation in Fall 2010, but due to road and weather conditions, we were not able to visit it to monitor effectiveness in 2011 after it went through one winter. We will visit the site in 2012 and will continue to maintain the site in the future. At all of the other sites, work was monitored to determine whether it was effective in reducing erosion, aggrading channels, and stopping headcuts, after one winter of high flows. At the few structures where the structures were not fully effective, light repairs were made to the structures.

B. Deliverables or Outcomes completed during this Reporting Period or Milestones Achieved: (Include specific information, such as public meetings held, agency participation, partnerships developed, or acres mapped, treated or restored.)

The project was completed in fall, 2011. A summary is provided here, with a more thorough description, including maps and photos, in Attachment A. Final work completed included:

1. Horseshoe/Round Meadow –
 - a. 2 completely new headcut control structures
 - b. 2 rebuilt headcut control structures
 - c. 690 linear feet of new barricades to prevent cattle trampling (maintenance of existing structures to reduce cattle trampling)
 - d. 425 linear feet of rebuilt barricades (sticks, logs, brush) to prevent cattle trampling (about 10 different sites - maintenance of existing structures to extend their life)
2. Olivas Meadow
 - a. 7 new headcut control structures
 - b. 3 rebuilt headcut control structures
 - c. 60 linear feet of new barricades to prevent cattle trampling (At 2 different sites)
3. Dutch Meadow
 - a. 8 new headcut control structures
 - b. 3 rebuilt headcut control structures
 - c. 360 linear feet of new barricades to prevent cattle trampling (At 6 different sites)
4. Bullfrog Meadow
 - a. 2 new headcut control structuresAlso surveyed for presence of Mountain yellow-legged frogs before work began to ensure none were on site during implementation.
5. Ash Meadow
 - a. 6 new headcut control structures
 - b. 1 rebuilt headcut control structure
 - c. 750 linear feet of barricades to prevent cattle trampling (At about 10 different sites)
6. Casa Vieja Meadow
 - a. 9 rebuilt or repaired headcut control structures
 - b. Remove 60 linear feet of logs from the creek that were obstructing water flow
 - c. Added rock armor to 3 existing log grade control structures.
 - d. Constructed 8 new grade control structures with spillways.
 - e. Constructed 3 new rocked chutes at raw headcuts.
 - f. Placed log and branch barriers around structures to prevent cattle trampling.

Total implementation work completed:

New headcuts treated: 36

Existing headcut structures rebuilt/repared: 21

Existing structure maintenance -Linear feet of barricades added or enhanced:
2,900 feet (At about 34 different sites – acts as rehabilitation of existing sites)

Monitoring

All sites except Olivas Meadow were monitored in 2011, after at least one winter. Olivas Meadow was visited to monitor implementation in Fall 2010, but due to road and weather conditions, we were not able to visit it to monitor effectiveness in 2011 after it went through one winter. We will visit the site in 2012 and will continue to maintain the site in the future.

C. Challenges or Opportunities Encountered: (Please describe what has worked and what hasn't; include any solutions you initiated to resolve problems. If your project is not on schedule, please explain why here.)

There were unexpected budget reductions across the Forest Service that were announced late in 2011 due to the delay in passing a Federal budget. Because of this, we were unable to hire crews to focus on watershed work, and had to share crews with other disciplines on the Inyo National Forest.

However, we were able to use a Youth Conservation Corps crew, who were supervised by staff from a local non-profit, Friends of the Inyo. They were able to work on the project for 6 days, with 6 crew members, and therefore we were able to complete much of the planned work.

Through monitoring of work completed in 2010 and 2011, we found that it is difficult for crews not experienced with watershed rock work to effectively complete work without constant supervision by an experienced person. The second year, we had some returning crew members, and they were able to work more independently

While most of the structures were successful during their first year of runoff, those that were not constructed as well appear to be more vulnerable to high flows. This points out a need for well trained crews in the Southern Sierra area.

It would be helpful to have some sort of region-wide 'watershed restoration implementation' workshop for hand crews. Much watershed restoration is done by heavy equipment, but in our Wilderness areas, or some non-wilderness but wet or fragile meadows, heavy equipment is not an option. There is a need to exchange information about techniques for this hand work, and it would be

helpful to organize such a training in early summer of 2012 for future, similar work throughout the Sierra Nevada.

D. Unanticipated Successes Achieved: (Please describe any additional successes beyond completing scheduled tasks or meeting scheduled milestones.)

Almost all of the structures completed in 2010 withstood the high flows of spring/summer 2011. In the Kern Plateau area, runoff was about 160% of normal, and with structures constructed in fall 2010, we were worried that they would not withstand these high flows. However, despite some of the structures not being built exactly to design (rocks not keyed in well enough, too large gaps between rocks), very few actually had any negative effects during high flows. We consider this a great success.

Further, two crew members were on the work crew both in 2010 and 2011, and we were able to train them to carry out this type of watershed work somewhat independently. This work is specialized, requires a knowledge of hydrology and soil properties, and not commonly completed because most meadow restoration work is done with heavy equipment. We consider it a success that we now have two people capable of leading a crew and passing on the knowledge garnered in this project to other workers throughout the Sierra Nevada. We hope to recruit these two workers for future, similar work on the Inyo National Forest, so that future meadow restoration work can occur more quickly, efficiently, and successfully.

E. Compare Actual Costs to Budgeted Costs: (Please refer to your grant agreement to list your deliverables/budget categories and budgeted costs compared to actual costs incurred during this reporting period in the table below.)

PROJECT BUDGET CATEGORIES	Budgeted SNC Dollars	Total dollars	Remaining dollars
Crew leader and hand crew	73,500	\$77,767.54	\$732.36
Monitoring	2,500	\$2,500.00	\$0
Pack Stock for Wilderness trips	9,300	\$9,300	\$0
Administrative fees	6,000	\$6,000	\$0
GRAND TOTAL	\$91,300	\$90,567.64	\$732.36

Matching Funds Used:

Total matching funds used are as follows:

Category	Match
Administration - Salaries	\$9,700
Volunteer in-kind	\$8,300
Per diem – food and incidentals	\$3,760
Implementation – crew salaries	\$2,900
Monitoring – salaries	\$2,250
Vehicles	\$1,340
Materials	\$5,500
Stock Packing	\$3,400
Total	\$37,150

A detailed breakdown of previous matches were included in previous reports. The total match previously reported was \$31,200. In addition, since the last report in we spent an additional \$4,100 on administration, including reporting, invoicing, and internal Forest Service contract administration. We also invoiced all materials purchased for this project with Forest Service funds, which came to a total of \$2,900. This included work equipment such as gloves, camping equipment for work crews, cameras used by work crews, and replacement tools.

F. Do you have information to report on the project-specific Performance Measures for your project? (If so, please list the Performance Measures below and describe your progress.)

Performance measures included:

1. Whether the structures could withstand high flows and successfully protect banks. About 95% of the structures were found to be successful and remained stable over the 2010/2011 winter season.
2. Acres of meadow protected: 130 (estimated based on areas that were previously susceptible to dewatering or were already dewatered and expected to be re-watered – original estimate in application was 180 acres).
3. Miles of stream channel protected from current or future incision: 3.6 miles (original estimate in application was 6.2 miles)

G. Were there any other relevant materials produced under the terms of this Agreement that are not a part of the budgeted deliverables? If so, please attach copies. (Include digital photos, maps, media coverage of project, or other work products.)

None attached.

H. Next Steps: (Work anticipated in the next 6 months, including location and timing of any scheduled events related to the project.)

This work for this grant has been complete and this is the final report. The Forest is now requesting the 10% retention, which is \$9,056.76.

The Forest obtained two grants for similar work on the Kern Plateau, to be completed in 2012 and 2013. The work would occur in all of the same meadows that were treated under this grant. The grants are from the Army Corps of Engineers permit funds and the National Fish and Wildlife Federation, for a total of about \$152,000 in grant funds and another \$110,000 pledged for matching funds. Work will include repairing any new or old structures damaged during high flows, treating remaining unstable banks and headcuts, and working to allow incised channels to aggrade. This work will continue the work completed under this SNC grant and will ensure that gains are not lost through lack of maintenance. It is expected that similar work will continue throughout the Kern Plateau for the indefinite future.