

**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:** Sierra Resource Conservation District

**Project title:** Grand Bluffs 2011 - 2012

**SNC Reference Number:** SNC 348.1

**Submittal Date:** 5-29-2013

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**Check one:**

**6-Month Progress Report**

**Final Report**

<p><b>6-Month Progress Reports</b> should reflect the previous six months. <b>Final Reports</b> should reflect the entire grant period.</p>
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**A. Final Report Summary:** (Please provide a general description of work completed during this reporting period.)

The work funded by this grant was primarily used for fuels reduction prescriptions using a modified Bobcat 341C Excavator to masticate brush and congested areas of small trees. The prescription here was to reduce the vulnerability of the land to catastrophic wildfire and thus protect the watershed soils from damaging sun, wind and water erosion.

The same machine was used to prepare ground for the planting of site-specific conifers. Planting of trees was done to increase succession of brush (highly flammable fuels) to mixed conifer forest.

Machine and hand piling of brush and excess woody debris into covered piles for subsequent burning was also done to reduce fuel loads.

Exotic weed control of salsify, mullein and cheat grass was accomplished with hand pulling, grubbing with forestry hoes and weed eating to reduce weed populations and fuel loads.

Hand pruning of retained conifers after machine thinning was accomplished using hand held loppers, hand pole saws and power-head pole saws. This was done to reduce fuel ladders in the conifer forest.

**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.)

<b>DETAILED PROJECT DELIVERABLES - Goals</b>	<b>Actual acres treated</b>
Masticate brush & suppressed trees on 20 acres	38.9 acres
Prune retained conifers on 20 acres	10 acres
Lift roots of masticated brush & pile excess woody debris on 43 acres	3 acres
Submit six month report to SNC	Jan 2012
Treat brush in existing plantations on 13 acres	14.3 acres
Plant site specific mixed conifer species on 12 acres	12 acres + 5 acres replanted
Submit twelve month report to SNC	July 2012
Eradicate exotic weeds on 6 acres	5 acres
Submit eighteen month report to SNC	February 2013
Cover piles w/ Kraft paper & burn piles on 43 acres	6.3 acres
Submit Final Report to SNC	May 2013

**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.)

The team of Joe Middleton, equipment operator, Chris Welter, forest work consultant and Grand Bluff property owners Ray Laclergue and Bonnie Bladen have worked well together since 2003 in forest management field decisions on the Grand Bluffs property. On every aspect of work on the SNC 348.1 grant project, our team thoroughly discussed what best management practice was to be implemented to achieve the SNC grant goals. As more efficient operation of the modified Bobcat excavator was realized, the need for piling and burning was reduced. After modification, the machine could work on steeper ground and the team decided to treat the more 'extreme' steep ground located to the far east of the property. 'Crop circles' were also created for planting sites. These are all examples of work prescription modifications that worked well on this project and were in line with the project goals.

The biggest challenge for this project was dealing with the crop failure of the initial planting of trees. Drought, the lack of any rain after the 2012 spring planting, and ground squirrel depredation pretty much wiped out the crop. The spring 2013 replacement and newly planted areas were protected with Vexar tubing which prevents animal predation. Supplemental water will also be supplied to the trees throughout the growing season.

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

When work commenced in Summer 2011, we did not anticipate that the modifications made to the bobcat 341C excavator would increase the efficiency of the brush and small tree mastication process to the extent that steeper and previously thought untreatable land could be treated.

**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.)

<b>PROJECT BUDGET CATEGORIES</b>	<b>Budgeted SNC Dollars</b>	<b>Actual Dollars</b>
Staff/Personnel Expenses-project related Wages/benefits	\$24,174.00	\$25,071.36
Travel & Meetings	3,352.00	2390.31
Materials & Supplies	1,262.00	1,001.87
Equipment Use Expenses-project related	56,000.00	55,890.00
Administrative Expenses	4,174.00	2322.01
<b>GRAND TOTAL</b>	<b>\$88,962.00</b>	<b>\$86,675.55</b>

**Explanation:** (if needed)

There has been some shifting of funds and the actual costs and budgeted costs are in line. In July 2012, \$5000 was shifted in the project budget categories from Staff/Personnel expenses to Equipment Use Expenses. This was done to facilitate the completion, as a unit, of the 16.5 acres of extreme slopes treated by the Bobcat excavator with mastication head. We were at the end of the contract and the \$5000 shift to Equipment Use Expenses prioritized the machine work over the Staff/Personnel hand work. In December 2012, \$4000 was shifted back to Staff /Personnel from Administrative Expenses. This was done because we were informed by the Sierra Resource Conservation District staff that they were not going to use all the Administrative Expenses originally designated to them. With SRCD approval, we shifted the funds to facilitate the planting of conifers in spring of 2013 on the 16.5 acre unit.

**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.)

**A. Natural Disaster Risk Reduction - Fire**

61 acres of ground with Cal Fire severity rating of ‘Very High’ was treated for wildfire risk reduction.

22.4 acres of previously untreated steep ground was treated by pre-commercially thinning suppressed stands of small trees and masticating brush with a modified 341C Bobcat excavator fitted with a mastication head (Aug – Sept. 2011).

16.5 acres of previously untreated very steep (slopes up to 50%) brush dominated ground was treated (brush mastication, Aug – Sept. 2012).

3 acres that was already masticated in summer ’09 had roots of re-sprouting brush species lifted and excess woody debris was piled for burning in August 2012.

14 acres of plantation had brush masticated, reducing the fire hazard in an area where young conifers are actively growing. (Sept – Oct. 2011)

5 acres (approximately) were treated for exotic weed removal including Salsify, Mullein and Cheat Grass using hand pulling, hoeing and weed eating. Cheat grass control especially reduces fire hazard.( 2011, 2012, 2013). This was very hard to determine acres treated as exotics are scattered and were treated throughout the project site.

**B. Resource Management**

Management was done on 78 acres. 61 acres were treated to open up, reduce critical fuel loads, remove exotic weeds and release plantation acres. Trees released in the forest will

be able to grow faster with less competition and sequester more carbon. Site-specific conifers were planted on 17 acres to start the conversion from brush dominated ground to tree growing.

### C. Natural Resource Protection

The work that was accomplished with funding from SNC 348.1 protects the water quality of Summit Creek, a class I watercourse, and four class II watercourses on the Grand Bluff property. All machine work done, left the soil covered with consistent distribution of wood chip mulch that protects the land from erosion, and the resultant sediment loading in the water courses. Wood chip mulch covering the soil increases water infiltration, helping to re-charge this part of the Summit Creek watershed. Valuable soils are retained on site to grow trees and support wildlife.

The air quality of the area will now improve by the significant amount of fire hazard reduction taken place on 61 acres. Air quality is improved by the released conifers being able to grow faster, exchanging carbon dioxide for oxygen. This is an extraordinary site, already some of the released trees are growing up to 3 ft. in one growing season.

The integrity of native plant communities are protected by exotic weed removal, allowing more areas for native species to survive. Cheat Grass has been a particularly troublesome species to control.

Wildlife habitat has been improved by removing decadent brush stands, the mastication of which results in succulent browse growth. Wildlife habitat is protected by removal of exotic weed species. Acres are opened up for more traveling corridors for wildlife.

Raptors are making a significant increase as more ground and rodent prey is exposed after brush removal.

Catastrophic wildfire risk has been significantly reduced which in turn protects soils from scarification and erosion. Wildfire intensity risk reduction protects wildlife habitat, conifer trees as a resource, the soil from degradation by maintaining healthy soil microbes, and air quality.

**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.)

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

June 4<sup>th</sup>, 2013

We are now mobilizing to supplemental water all the conifer plantings from the spring of 2013. The ground is drying fast, there has been no significant rain or snow events since the trees have been planted. Measurable winter rain is about half of normal for the second year in a row. We have purchased two 550 gallon water tanks and are placing each on the highest eastern property boundary approximately 6400 ft. elevation, directly above acreage that was planted this spring. We have a fire pumping unit (220 gallons) on a 1971 ¾ ton P.U. and are drafting loads from a pond adjacent to the Grand Bluff project, driving up into National Forest land, pumping water to fill the tanks, and installing gravity feeding lines to

hand water trees. This is all on our own dime, but we feel strongly that these trees, planted with SNC funds, will survive and thrive with this added effort. We will water the trees through July 2013.

**Please Complete this Section for FINAL Report ONLY**

**Resources Leveraged:** (What kind and amount of resources – funding or in-kind – outside of the SNC were you able to leverage, and how?)

In-kind contributions for this project were exclusively from the property land owners mostly in the form of management, labor and materials. Trees, tools, materials were valued at \$11,200.

**Capacity-Building Results and Collaboration and Cooperation with Stakeholders:**

(What partnerships did you initiate or strengthen as a result of this project? How did they affect the project outcome? If applicable, how did this grant increase your organization's capacity? What is your plan to sustain this increase?)

We were able to demonstrate results of the work on the ground with educational tours with Society of American Foresters, Southern California Edison and the public through Intermountain Nursery forestry tours. The tours provided forestry education to about 40 participants. This grant was for direct work on the ground. Partnerships with Sierra Resource Conservation District, Southern California Edison Forestry and the Society of American Foresters have been strengthened.

**Description of Project Accomplishments:**

**1. How did the Project succeed in accomplishing its intent?**

All work done on this project directly succeeded in reducing dangerous fuel loads that increase the risk of catastrophic fire. Watershed values of protective mulch cover, increased percolation and decreased erosion potential. All work succeeded in accomplishing its intent.

**2. Describe any follow-on or indirect benefits resulting from the Project.**

Not only did this work decrease the risk of catastrophic fire for the Grand Bluffs property, neighboring private properties in the Wildland-Urban interface and National Forest lands benefited from this fuels reduction work.

**3. Describe any significant experiences, unanticipated results or noteworthy events that create a 'wow' factor.**

Any visiting tour group, whether it is Society of American Foresters, Southern California Edison, Sierra Resource Conservation District, Sierra Nevada Conservancy, or the public at large comes away with a 'wow' feeling after touring this extraordinary site and viewing work accomplished with the SNC grant. The Grand Bluffs property had been heavily logged in 1912, then impacted by wildfire in 1947 and had been neglected since then

allowing thick stands of decadent brush to take over 100 acres. The deep rich soils that exist on this site (site 1A) and the amount of water that is in the soil here provides a fertile area to re-establish forest trees. The growth rate on trees planted has been high.

#### **4. Describe any Lessons Learned.**

Being stewards of this land in the Southern Sierra Nevada, we are realizing the difficulties and challenges of land restoration in relation to climate change. These lands are experiencing unprecedented temperature extremes and low snow and rain years that make proper resource management decisions more critical.

#### **5. How do you intent to share the results of your work on this project?**

The Grand Bluffs Forest project has always had an educational out-reach component to it. We are learning so much about forest and wildlife management through this project, and we will continue to have educational tours with the groups previously mentioned as well as Sierra High School, the local Indian tribes, Reedley College Forestry school and others.