



United States Department of Agriculture  
Forest Service

PACIFIC SOUTHWEST REGION

*Restoring, Enhancing, and Sustaining Forests in California, Hawaii & the Pacific Islands*

# Storrie Fire Restoration: FY 2013 Annual Report

November, 2013



High School students repair trails



Fuel treatments in fire restoration area

*This report documents the accomplishments the Plumas National Forest either completed or initiated in the last fiscal year.*

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# PLUMAS NATIONAL FOREST FISCAL YEAR 2013 ACCOMPLISHMENTS

## INTRODUCTION

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### **Background:**

In August, 2000, the Storrie Fire burned 52,000 acres of National Forest System lands on the Mt. Hough Ranger District of the Plumas National Forest, and the Almanor Ranger District of the Lassen National Forest (Figure 1, Pg. 22). The Plumas and Lassen National Forests received approximately \$80 million from a lawsuit settlement to restore the damage done on National Forest System lands during the fire. The settlement funding will support restoration of the landscape and the ecological balance on these lands so that the public can again experience the full enjoyment and benefit of our resources. A 10-Year Storrie Fire Restoration Plan was approved in 2008 to address the majority of these restoration needs.

The Storrie Fire Restoration Team was formed in 2010 to coordinate the restoration efforts for the PNF. The team consists of natural resource specialists who work collaboratively with multiple partners, including the US Forest Service Pacific Southwest Research groups, Plumas County, Plumas County Fire Safe Council, Plumas Unified School District, California Department of Fish and Game, Pacific Gas and Electric, California State University-Humboldt, University of California, Sierra Buttes Trail Stewardship, Pacific Crest Trail Association, and Pt. Reyes Bird Observatory.

### **Our Mission:**

The mission of the Storrie Fire Restoration Project is to work collaboratively to restore publicly valued resources affected by the Storrie Fire while partnering with, educating, and maintaining transparency with our local communities.

### **Our Vision:**

Our vision is to work with stakeholders to develop and implement strategies that integrate and coordinate restoration, protection, and evaluation measures to achieve restoration objectives for the Storrie Fire area.

## Key Accomplishments

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FY13 accomplishments included doing on-the-ground restoration work such as noxious weed treatment, trails improvement, tree planting, and certifying natural regeneration. Planning progressed for future restoration projects: campground enhancements, Bucks Lake Wilderness Fire Plan, prescribed fire, fuels reduction, and reforestation. The unique partnership with Plumas Unified School District to develop citizen involvement in fire restoration continues to increase student participation and fire restoration curriculum development.

### *Hydrology/Transportation:*

Project objectives are to make roads damaged by the fire more resilient to large storm events in order to protect water quality.

- ✓ Restored six acres of land in conjunction with PG&E to access road “storm-proofing.” In overlapping Chips/Mosquito areas, improved twenty acres of integrated targets for road maintenance and stream miles.
- ✓ Continued coordination with PG&E for future work in the Storrie/Rich/Chips areas.
- ✓ Eighteen acres of road improvement in stream miles enhanced via head cut stabilization.
- ✓ Assisted with the implementation of suppression repair and Burned Area Emergency Response work in the overlapping Chips Fire.

### *Noxious Weed Management:*

Noxious weeds such as Yellow star-thistle and Canadian thistle are found within and directly adjacent to the Storrie Fire area. Weeds are brought in and spread during fire suppression efforts when engines and dozers pull off of roads and during ground-disturbance while firefighting. The weed management strategy is focused on keeping weeds from spreading, those that occurred during fire depression and those discovered after the fire.

- ✓ Completed seven acres of weed treatment (Yellow star thistle and Canadian thistle)
- ✓ Continued work on the Storrie/Rich Integrated Weed Management Project National Environmental Policy Act (NEPA) document.

## *Recreation:*

Efforts for restoration of recreation opportunities continue, as identified in the Pacific Southwest Region 5 approved Storrie Fire Restoration Strategy. Recreation areas such as campgrounds, trails, the Pacific Crest Trail (PCT), and the Bucks Lake Wilderness Area were directly affected by the Storrie Fire. Improvements have been made to provide added value to the recreation opportunities within and adjacent to the fire area. Planning and restoration efforts utilize partnership opportunities as much as possible.

### Developed Recreation:

- ✓ A contract was awarded for reconstruction at North Fork Campground; reconstruction to be completed in FY14.
- ✓ Continued restoration and improvements Queen Lily and Gansner Bar Campgrounds within Storrie Fire Restoration boundary.
- ✓ Toilet vault doors were sealed with rubber at Three Lakes in an attempt to keep snow melt from filling the vault every spring.
- ✓ Processed and administered five recreation event permits within the Storrie Fire boundary to help re-establish public use in the area.
- ✓ Removed six hazard trees at North Fork Campground adjacent to the fire area.

### Trails:

- ✓ Completed Pacific Crest Trail (PCT) Belden North Hazard tree contract removing approximately three-hundred hazard trees from Storrie and Chips Fires on four miles of trail along the PCT Belden North.
- ✓ Maintained approximately twenty-five miles of trail to FS standards including but not limited to:
  - Maintenance and restoration of twelve miles of Pacific Crest Trail.
  - Restoration and maintenance along two miles of PCT Belden South with student crew.
  - Maintenance and restoration of ¼ mile of Yellow Creek Trail.
- ✓ Repaired the horse corral at Belden South.

Wilderness: one-third of the wilderness was affected by the Storrie Fire.

- ✓ Maintained the Bucks Lake Wilderness to standard under ten-year Wilderness Stewardship Challenge (YWSC) using the Storrie Fire Restoration Project as 20% matching funds for a wilderness grant from the Washington Office (25% of the wilderness is within the Storrie Fire footprint)
  - Solitude monitoring was conducted in the Bucks Lake Wilderness, improving ten YWSC points by four points.
- ✓ Improved Bucks Lake Wilderness signage.

## *Fire and Fuels :*

Treatments to reduce the amount of fuels created by the Storrie Fire and to prevent future fires on the forest and near adjacent private land in the Wildland Urban Interface (WUI).

- ✓ Storrie/Chips Fire Restoration Reforestation Project (Categorical Exclusion) in progress, 136 acres.
- ✓ Storrie/Chips Fire Restoration Thinning Project (Categorical Exclusion) in progress, 736 acres.
- ✓ Initiated Storrie/Rich Fire Restoration Strategy (using the Moonlight Fire Restoration Strategy model).

## *Wildlife :*

Wildlife restoration projects are coordinated with research to answer key uncertainties about restoration and to ensure appropriate restoration techniques are utilized.

- ✓ The construction, installation, and monitoring of nineteen bird nest boxes was completed by Greenville High School students. The project spanned thirteen acres in the Storrie Fire area.
- ✓ Terrestrial habitat was monitored to complete carnivore surveys in the outyear project area and to determine presence of target species (American Marten, Fisher, and Wolverine); a summary report is found at <http://apps.fs.fed.us/wfrp/faces/projectsummary.jsp?id=46363>.
- ✓ Students assisted in project implementation such as wildlife and avian monitoring. Ten conservation education days were provided by wildlife biologists to include school groups, teacher groups teaching about wildlife conservation and completing surveys (carnivore surveys with camera stations). A summary report about bird nesting boxes is found at <http://apps.fs.fed.us/wfrp/faces/projectsummary.jsp?id=46350>.



Nesting box to benefit birds returning to the fire area



Student placing bait to attract carnivores to determine wildlife utilization near burn area

## *Cultural Resources:*

Archeologists provided fire restoration project assistance to help protect cultural and historical resources impacted by the fire:

- ✓ Stabilization of an historic site at Deer Creek.

## *PSW Research/Administrative Studies: Sierra Cascade Province Ecology Program*

- ✓ Development of restoration projects and strategies:
  - Coordination with Mt. Hough Ranger District staff and Pt. Reyes Bird Observatory to develop a project to improve remnant conifer stands for late-seral bird species in the Storrie/Chips fire; this will be included in the currently planned Border Project.
- ✓ Coordination with researchers:
  - Humboldt State University completed a GIS map of serpentine soils within the Storrie fire area using remote sensing and field data:  
[Serpentine Soils Map](#)

## *Outreach:*

The goal of Storrie Fire Restoration outreach is to engage communities, schools, and the public in the Storrie Fire Restoration process. This encourages stewardship of NFS lands and resources within the Storrie Fire area, thereby protecting NFS lands from future catastrophic wildfire, and also promotes conservation and protection of natural resources. Additionally, outreach allows us to engage partnerships to expand restoration accomplishments and incorporate public learning about fire-dependent ecosystems where possible. FY13 projects included:

- ✓ The Plumas NF continues to grow and establish new partnerships with Sierra Buttes Trail Stewardship, Oakland Camp/Camps in Common, the Oakland Unified School District, Sierra Institute, Plumas Unified School District, and the California Conservation Corps to include local and urban youth in future forest restoration and stewardship projects.
- ✓ On-going maintenance of the Storrie Fire Restoration website [www.fs.usda.gov/plumas](http://www.fs.usda.gov/plumas); go to “Features,” then “View more features,” then scroll to “Storrie Fire Restoration Project.”
- ✓ Continuation of Storrie Fire Restoration Project Success Stories to educate both internal and external audiences. See all under PUSD section below.
- ✓ Storrie Fire Restoration continues to be an important theme to interpret at the Plumas-Sierra County Fair. The venue provides the Plumas NF the opportunity to educate our community and those beyond about fire effects and restoration. This year’s display highlighted a high school greenhouse project to propagate the rare and endemic Webber’s milkvetch (*Astragalus webberii*) found in the fire area (see PUSD section below). The booth theme was **“Our Future Flies on the Wings of Pollinators.”** Biologists were on hand to discuss the importance of pollinators and the critical role they play in our daily lives: the food we eat, the plants we grow. Over ten thousand people attended the fair, many of whom stopped by our booth.



Visitors at the Plumas-Sierra County Fair learn about student participation in fire restoration projects and about pollinators

- ✓ Coordinated cost share agreement with Sierra Buttes Trail Stewardship (SBTS) to create, recruit, hire, and train a high school trail crew to work in the fire area. This second year of partnership with SBTS was considered highly successful as recruitment was expanded to include students from more urban communities of Oroville and Marysville. Students completed two miles of trail brushing and benching on the PCT south of Belden, and one-half mile on the North Fork Fishing Trail, cleared three miles of fallen trees and cut and removed twenty trees on the Indian Springs Trail. They also assisted the district fire ecologist by gathering field data related to seed regeneration in twenty test plots following the overlapping Chips Fire of 2012 (Indian Springs Trail).

Follow the link to student trail crew recruitment: [StudentRecruitmentFlyer2013](#)

Follow the links to student trail crew reports: [StudentTrailCrewReport1](#), [StudentTrailCrewReport2](#), [StudentTrailCrewReport3](#)

- ✓ Plumas National Forest Storrie Fire Restoration project website is maintained with current information:  
<http://www.fs.usda.gov/detail/plumas/home/?cid=STELPRDB5299495>

### *Plumas Unified School District (PUSD):*

- ✓ The unique partnership between the Plumas Unified School District (PUSD) and the Forest Service continues to be successful. Curriculum development, teacher workshops and support, science sections, and student fieldtrips help to restore and sustain natural and cultural resources of the Storrie Fire area while enhancing student learning and stewardship through effective collaboration. This partnership allows us to expand restoration accomplishments and incorporate public learning about fire-dependent ecosystems where possible. More

participation from student school restoration projects are planned which will benefit NFS lands affected by the Storrie Fire. Link to general information about the [PUSD/Storrie Partnership](#).

- ✓ Success stories about all student restoration projects:

[HallstedCampground](#), [BirdNestingBoxes](#), Bird Nesting Project Summary: <http://apps.fs.fed.us/wfrp/faces/projectssummary.jsp?id=46350>,

[CarnivoreMonitoring](#), Carnivore Survey Project Summary: <http://apps.fs.fed.us/wfrp/faces/projectssummary.jsp?id=46363>,

[HallstedCampgroundFence](#), [HallstedCampgroundFuelsReduction](#), [SoilsStreamMonitoring](#), [TreePlanting](#), [TrailsDay](#), [TrailsErosionSoilsDay](#)

[FireScience](#), [WebbersMilkvetch](#)

- ✓ Permission to share partnership agreement quarterly reports has been granted by the PUSD/Storrie Fire Project Coordinator:

[1Q13Report](#), [2Q13Report](#), [3Q13Report](#), [4Q13Report](#)

Link to [PartnershipAgreement](#)

- ✓ A PUSD/Storrie Fire pilot teacher workshop was conducted in August. The workshop focused on field monitoring methods and data collection for wildlife, hydrology, and timber stand exams. These topics will be incorporated into the 2013-2014 academic curricula.
- ✓ Pilot teachers completed additional pacing guides and continue to incorporate fire ecology and fire restoration into core curricula.

## *Expenditures:*

Table 1. Expenditures for Fiscal Years 2008 through 2013

<b>Fiscal Year</b>	<b>Total</b>
<b>2008</b>	\$65,200
<b>2009</b>	\$2,913,000
<b>2010</b>	\$4,090,600
<b>2011</b>	\$2,051,236
<b>2012</b>	\$1,213,274
<b>2013</b>	<i>Pending National Finance Center release of information</i>
<b>Total (rounded)</b>	\$10,333,310

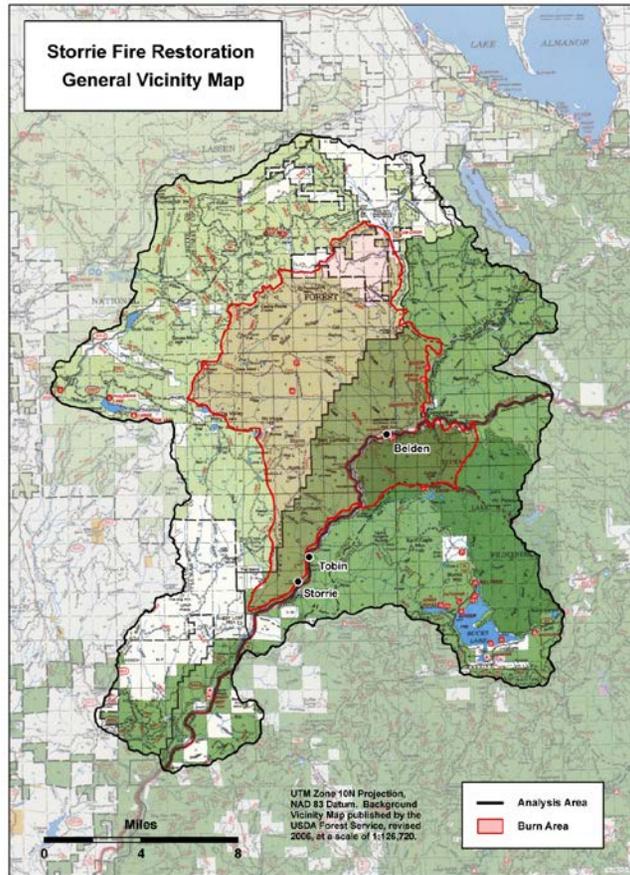


Figure 1. Location map of the 2011 Storrie Fire Rapid Landscape Assessment area

## Future Directions

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Restoration efforts and plans were hampered by the Chips Fire, which began on July 29, 2012. The Chips Fire re-burned 24,289 acres within the Storrie Fire. A fire restoration strategy is being developed to include forest areas impacted by the Storrie and Rich Fires taking the Chips Fire into account. Vegetation restoration treatments such as forest stand structure restoration and fuels reduction have been a challenge, given the steep slopes (up to 89%) and rugged terrain within the Storrie Fire area, so innovative approaches to restoration are emphasized. See the [StorrieFireSlopeMap](#). Evaluating vegetation restoration activities will be important in developing future productive and viable projects. A special or temporal connection to values lost in the fire remains an emphasis for fire restoration. The loss of forest resources within the Storrie Fire area necessitates the protection of forest communities that are currently intact, but at risk to loss from future fires.

The Storrie/Rich Fire Restoration Strategy Plan will be written per regional direction. The plan will create goals and direction for restoration activities for the next five to ten years, as funding allows. It will prescribe management practices for specified times to meet the desired conditions, establish monitoring and evaluation requirements that measure implementation success, yield resource inventory data, and provide information for the development of programs and proposals. The Restoration Plan and the Rapid Landscape Assessment (RLA) established the management goals and directions as set forth in the Plumas National Forest Land Resource Management Plan for the Storrie Fire area. The Storrie Fire Restoration Team is developing the NEPA strategies for larger identified restoration opportunities, as many of the projects falling under the Categorical Exclusion category are being implemented or nearing completion. The team is also investing efforts in the Rich Fire, Moonlight Fire, and Chips Fire Restoration endeavors, as appropriate.