

2015

Cascade-Siskiyou

National Monument

Manager's Annual Report
FY 2015



NATIONAL
CONSERVATION
LANDS

Medford



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1 Cascade-Siskiyou Profile

Designating Authority

Designating Authority: Presidential Proclamation 7318 – Establishment of the Cascade-Siskiyou National Monument

Date of Designation: June 9, 2000

The Omnibus Public Lands Management Act of 2009 (Public Law 111-11) designated approximately 24,155 acres in the southern portion of the Monument as the Soda Mountain Wilderness (SMW). The Bureau of Land Management (BLM) acquired two privately-owned inholdings in the wilderness in 2012 (552 acres). The SMW is now entirely in BLM-administered federal ownership.

Location and Acreage

The Cascade-Siskiyou National Monument (CSNM) is located in southwestern Oregon. The presidential proclamation reserved the CSNM in recognition of its remarkable ecology and to protect a diverse range of biological, geological, aquatic, archeological, and historic objects. The resources found in the Monument, both individually and collectively, comprise a unique and diverse ecosystem.

The richness of the plant community is due to the Monument's geographical location at the meeting of the Cascade, Klamath and Eastern Cascade Slopes Ecoregions. Evolution, long-term climatic change, and geological processes (volcanism, mass wasting, erosion, etc.) operating across geological time contribute to the high ecological richness of the area.

The Monument incorporates other overlapping ecological designations including: Scotch Creek Research Natural Area (RNA), Oregon Gulch RNA, Mariposa Lily Botanical Area, Jenny Creek Tier 1 Key Watershed (in Oregon), and the Soda Mountain Wilderness.

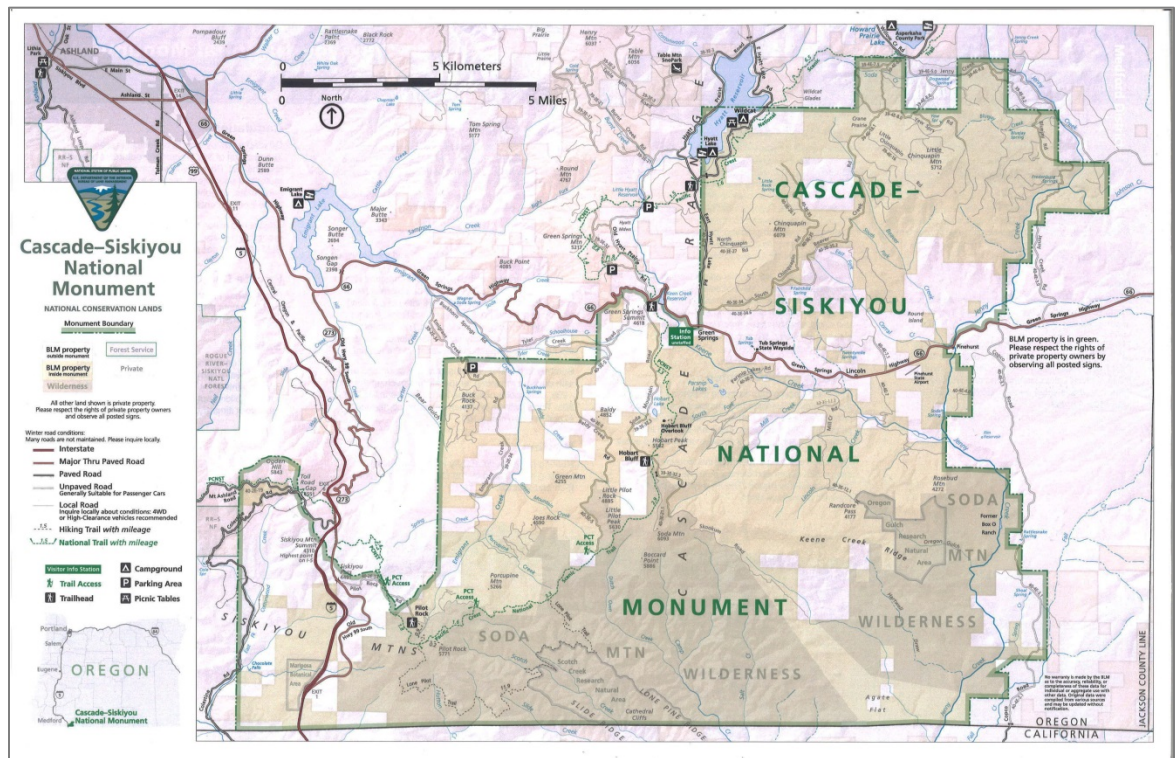
Located in the northwest corner of the Cascade-Siskiyou National Monument, the 745-acre Hyatt Lake Recreation Area provides opportunities for camping, hiking, fishing, and boating. It is the only developed recreation area within the CSNM. The recreation area includes three developed campgrounds, one primitive campground, and several day use areas.

There are approximately 85,141 acres within the greater CSNM boundary. Approximately 65,341 acres are managed by the BLM. There are approximately 19,752 acres of privately owned land within the greater CSNM boundary. The entirety of the Monument is in Jackson County, and is surrounded by public and private land. The Oregon-California state line serves as

the Monument’s southern boundary.

Contact Information

Unit Managers	Phone	E-Mail	Mailing Address
John Gerritsma – Field Manager/Monument Manager	541.618.2438	jjerrits@blm.gov	Bureau of Land Management 3040 Biddle Road Medford, OR 97504
Joel Brumm – Assistant Monument Manager	541.618.2256	jbrumm@blm.gov	
Field Office	District Office	State Office	
Ashland Resource Area	Medford BLM	OR/WA BLM	



Cascade-Siskiyou National Monument Map



Parsnips Lakes

Visitation

The CSNM had approximately 133,100 visitors in FY 2015.

Budget

The CSNM received the following budget allocation for Fiscal Year 2015:

1210 - \$67,312
1711 - \$118,212
6711 - \$499,351

Total CSNM FY 2015 funding was \$684,875.

Staffing

The CSNM is administratively located within the Ashland Resource Area of the Medford District. Staffing for the Monument is accomplished in an ad hoc manner, using existing resource area staff with other competing priorities. Many of the staff positions that assist the Monument are Ashland Resource Area resource specialists whose primary duties are located outside of the Monument.

There is no dedicated Monument manager position. The Ashland Resource Area Field Manager, John Gerritsma, is the Monument Manager and Joel Brumm, the Assistant Monument Manager, is assigned the operational leadership duties along with other resource area functions. The Ashland Field Manager reports to the Medford District Manager and is the line officer responsible for decision-making in the CSNM.

The CSNM has only two dedicated full-time staff positions: a Planning and Environmental Coordinator and an Interpretive Specialist. The Assistant Monument Manager and Outdoor Recreation Planner spend the majority of their time on the Monument, but have other competing duties. The relevant sub-activities (1210, 1711, 6711) fund portions of the resource area and support staff that contribute to accomplishing the work in the CSNM. In FY 2015, there was a shared Ecologist that was funded 50% by the Monument; this position has been vacant since May, when the incumbent retired. In FY 2015, the GS-7 Park Ranger was vacant all year. The Interpretive Specialist and Ecologist positions were vacant from May-September 2015 and the Monument/Eastside GS-11 Outdoor Recreation Planner position was vacant all year until mid-September. Some of the Monument outdoor recreation planning needs during FY 2015 were met by the other Ashland Resource Area Outdoor Recreation Planner working to cover Monument needs in addition to his other duties on the west side of the Resource Area.

The following table summarizes the positions and funded percentage of time allotted to duties in the CSNM:

Position	Series/Grade	Full Time/Seasonal	% Time Dedicated
Monument Manager (Field Manager)	GS-0340-13	Full Time	10
Assistant Monument Manager (AFM)	GS-0301-12	Full Time	75
Natural Resource Specialist (Planner)	GS-0401-11	Full Time	100
Interpretive Specialist	GS-0025-11	Full Time	100
Outdoor Recreation Planner	GS-0401-11	Full Time	75
Park Ranger (Hyatt Lake)	GS-0025-07	Full Time	75
Ecologist	GS-0401-11	Full Time	50
Botanist	GS-0401-11	Full Time	10
Administrative Technician	GS-0303-07	Full Time	10
Hydrologic Technician	GS-1316-09	Full Time	20
Recreation Technicians (2)	GS-0189-03	Seasonal	100
Human Resources Assistant	GS-0203-09	Full Time	10

Significant Natural Events

Severe Drought

The winter of 2014-2015 saw very little snowfall in the Oregon. Fire danger reached historic levels in Oregon and Washington. Overall snowpack in the Southern Cascades was around 20% of normal. Mirroring 2014 conditions, Hyatt Lake again reached dead pool level over in the summer. The ski resort on Mount Ashland (adjacent to the Monument, elevation 7533') opened for only a few weekends due to lack of snow. In 2015, Oregon experienced the warmest year on record.

February Windstorm

A significant windstorm moved through the Southern Cascades and the Monument in February. Numerous trees were down as a result, including many in Hyatt Lake Campground. One tree damaged the roof of a bathroom and cracked the adjacent concrete. Clearing the trees was a significant challenge, with initial work being accomplished by BLM staff and final clearing by a contractor. Work was completed in time for the campground to open as originally planned in May.



Downed trees in Hyatt Campground

2 Planning and NEPA

Status of RMP

The Cascade-Siskiyou National Monument Resource Management Plan and Record of Decision (CSNM RMP/ROD) was approved in August 2008. It provides guidance and direction for a strategy aimed at protecting and enhancing the public lands and associated resources within the CSNM. The planning process for the CSNM addressed issues of public interest including vegetation management, transportation and access, livestock grazing, and recreation.

The Omnibus Public Lands Management Act of 2009, Public Law No. 111-11, provided for two land exchanges “for the purpose of protecting and consolidating Federal land within the Monument,” where the public land involved in these two exchanges is located within the CSNM. These congressionally-directed land exchanges brought to light differences between the CSNM RMP and the Presidential Proclamation in regard to land exchanges.

Presidential Proclamation 7318, which designated the CSNM, allows for “exchange that furthers the protective purposes of the Monument.” Land tenure decisions in the CSNM RMP limited land exchanges in the Monument by requiring that the public land involved in the exchange be located outside the CSNM. The RMP was more restrictive than the proclamation by precluding exchanges that further “the protective purposes of the Monument” where the public land involved is located within the CSNM.

The RMP was amended in 2013 to allow the BLM to consider, in subsequent NEPA analysis, land exchanges where the federal land to be exchanged is located within the CSNM, including the two exchanges authorized by the Omnibus Public Land Management Act of 2009. Lands may now be acquired by exchange where the public land involved in the exchange is located outside the CSNM or where the public land involved is located within the boundaries of the CSNM, as long as in either case the exchange “furthers the protective purposes of the Monument.”

Status of Activity Plans

Soda Mountain Wilderness Final Stewardship Plan

The *Soda Mountain Wilderness Final Stewardship Plan* was approved in April 2012. The plan focused on enhancing wilderness character through a combination of actions that includes active and passive restoration as well as providing opportunities for solitude and primitive recreation including some roads to trails conversions.

Cascade-Siskiyou National Monument Transportation Management

As part of a 2008 settlement agreement on an appeal of the CSNM ROD/RMP, the BLM initiated transportation management planning in 2009. Agency staff developed a road inventory protocol, a database, and a photo directory for the project. In 2010, the former transportation system for the Soda Mountain Wilderness was inventoried (approximately 80 miles). In 2011, Monument



Legacy Transportation Route

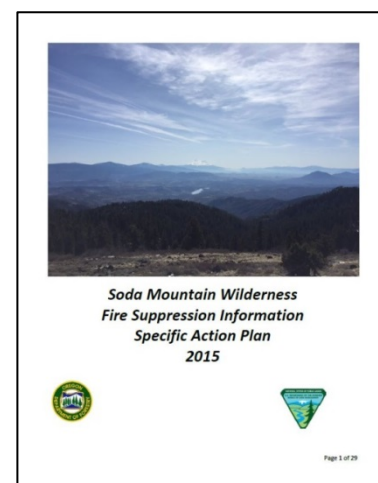
roads and routes outside of the wilderness were inventoried. In addition, roads and routes on lands to be acquired were also documented. Inventories included information on road condition, drainage features (e.g., culverts, ditches, and drain dips), and any potential erosion concerns. A total of 295 linear miles were surveyed on Monument lands outside the Soda Mountain Wilderness. The interdisciplinary team completed additional field reconnaissance over the summer of 2012 and developed a preliminary proposed action in September 2012.

In 2014, the team continued to work with stakeholders to refine recreation access issues and survey newly acquired lands. The fire situation in Southwest Oregon during the summer of 2014 was significant to the degree that special bulletins were issued describing the unprecedented dryness of the forest fuels. All of the key staff involved in completing the CSNM transportation plan were supporting the local fire suppression efforts due to heavy fire activity. Staffing changes following fire season further hampered progress on the transportation plan.

Late in 2015, BLM worked with the appellants to adjust the schedule for completion of the transportation management plan. The interdisciplinary team is continuing to work on preparing the Draft EA with a targeted release date of March 2016.

Soda Mountain Wilderness Fire Suppression and Specific Action Plan 2015

The BLM contracts with the Oregon Department of Forestry (ODF) to provide fire prevention, detection, and suppression services. ODF is required to be consistent with BLM resource management objectives in selecting suppression action alternatives. Overall guidance for suppressing wildfires within the SMW is provided in the SMW *Final Stewardship Plan*. Each year since wilderness designation, BLM, in coordination with



ODF, has developed a fire suppression plan for managing fire suppression actions in the SMW. The 2015 plan addresses firefighter safety, access, dispatch procedures, use of BLM resource advisors, prohibited uses under the Wilderness Act (Section 4(c)), and the process for requesting tools, equipment and suppression actions that would normally be prohibited. The BLM meets with ODF and their firefighters pre-season to review the annual fire suppression plan. This process helps to ensure that fires in the SMW are suppressed using the minimum tool and tactics necessary with the long-term goal of protecting wilderness character.

Status of RMP Implementation Strategy

Although the CSNM has not yet completed a formal RMP implementation strategy, BLM has been implementing RMP decisions including land acquisitions, road restoration/decommissioning, environmental education, transportation management planning, inventorying and monitoring of Monument resources, noxious weed treatments, native seed collection, planning for pine plantation restoration, developing partnerships, and recreation projects.

Key NEPA Actions and/or Authorizations

Box R Ranch Land Exchange

In response to Congressional action which gave the Secretary of the Interior the authority to offer to convey two BLM parcels located within the CSNM in exchange for parcels also within the CSNM owned by private individuals (Omnibus Public Land Management Act of 2009, Pub. L. No. 111-11, § 1403 and 1404, 123 Stat. 991, 1028 (2009), Subtitle E – Cascade-Siskiyou National Monument, March 30, 2009), the environmental assessment (EA) to complete the land exchange for one of the parcels was completed in July 2014. The EA evaluated the proposal to exchange a 46-acre tract of federal land for an approximate 40-acre parcel of non-federal land. The CSNM stands to gain significant resource values as a result of the land exchange.

- The exchange would consolidate federal ownership within the CSNM by transferring adjacent private land (non-federal parcel) and consolidating it with a large block of public land.
- The exchange would resolve a long-standing inadvertent trespass on public lands within the boundary of the CSNM.
- Acquisition of the non-federal parcel would transfer into public ownership 0.3 miles of Lincoln Creek and between 0.2 miles and 0.3 miles of Keene Creek (depending on which configuration is ultimately transferred after the final parcel-size adjustment based on the appraisal). Both of these creeks contain valuable riparian and fisheries habitat that would be protected as part of the CSNM.
- The exchange will facilitate both the expansion and enhancement of recreation opportunities by consolidating federal ownership with public access. The non-federal

parcel is surrounded on three sides by adjacent federal ownership that is unencumbered by improvements.

A revised EA was completed in June 2015 to address new information from cultural resource surveys and concurrence the State Historic Preservation Office. The land exchange is expected to be completed in 2016.

GLI Enterprises, LLC (formerly Deerfield) Land Exchange

In response to Congressional action which gave the Secretary of the Interior the authority to offer to convey two BLM parcels located within the CSNM in exchange for parcels also within the CSNM owned by private individuals (Omnibus Public Land Management Act of 2009, Pub. L. No. 111-11, § 1403 and 1404, 123 Stat. 991, 1028 (2009), Subtitle E – Cascade-Siskiyou National Monument, March 30, 2009), the environmental assessment (EA) to complete the land exchange for one of the parcels was completed in April 2015. The EA evaluated the proposal to exchange a 0.65-acre parcel of federal land for an approximate 0.82-acre parcel of non-federal land. The CSNM stands to gain important resource values as a result of the land exchange.

- The exchange would resolve an inadvertent trespass on public lands within the boundary of the CSNM. Partially on the federal parcel there exists two cabins (believed to be part of the original town of Lincoln) and a residential trailer.
- The exchange would allow for the cabins to be protected through retention in private ownership. Removal of the cabins if they were retained in federal ownership could pose the risk of exposing hazardous materials (due to the age of the structures), while completing the exchange and leaving the buildings in place would not pose this risk.
- The non-federal land that the BLM would acquire is an intact, mature forest stand which is immediately adjacent to CSNM lands. Acquiring this stand would help maintain and protect the late-successional and old-growth forest ecosystems in the area. Acquisition of the non-federal land would also provide additional habitat and connectivity for wildlife.
- Since the non-federal land is mostly undisturbed, it is more suited to being managed as part of the CSNM than the developed and disturbed federal parcel.

New Cingular Wireless PCS, LLC (AT&T) Right-Of-Way Grant Renewal (OR 48563)

The BLM completed an Environmental Assessment (EA) in August 2015 to evaluate the renewal of an existing right-of-way (ROW) grant (OR 48563) for New Cingular Wireless PCS, LLC's

communication facility located at the top of Soda Mountain in the Cascade-Siskiyou National Monument.

The Soda Mountain Communications Site is located on public land in the Monument. It is a long-standing, established site that serves a large and varied population over a broad geographic region encompassing southwest Oregon and northern California. Soda Mountain functions as a vital link in the communications industry. The various authorized holders who currently operate at the site provide an array of services, including emergency 911 service; fire detection/reporting; commercial and public radio and television broadcasting; microwave and internet data links; telephone transmissions; and other uses. There are currently eight communications facilities at Soda Mountain. The existing New Cingular Wireless PCS, LLC (AT&T) communication site authorization at Soda Mountain was recognized as a valid existing right in the CSNM RMP.



The BLM authorized renewal of their right-of-way for a period of 10 years. The right-of-way grant would authorize New Cingular Wireless PCS, LLC (AT&T) to operate and maintain their existing communication facility, a 100 foot x 100 foot compound containing an operational 80-foot cell tower, equipment shelter, a propane tank and to use and maintain BLM roads 39-3E-32.3 (Soda Mountain Road), 40-3E-21.1 and 40-3E-21.2 (Soda Mountain Lookout Road). Modifications to the existing lease were also approved: replacing an existing 4-foot diameter microwave dish located 50 feet high on the tower with a 2.5-foot diameter microwave dish at 80 feet on the tower; installing a new 6-foot diameter microwave dish with an ice shield to be placed at 70 feet on the existing tower; painting the equipment shelter, coax cable bridge, propane tank, and all microwave dishes and ice shields with shadow gray paint (from the BLM Standard Environmental Color Chart (2008)); and allowing the two existing subleases (AT&T and the State of Oregon) to continue per their existing agreement with the right-of-way holder (New Cingular Wireless PCS, LLC (AT&T)), however, if either sublease agreement is terminated, no new subleases would be allowed.

The ROW renewal with the identified changes above responds to BLM Manual 6220 direction by continuing to authorize a recognized valid existing right and mitigating the impacts to objects and values associated with the CSNM and adjacent SMW. The features of the new ROW grant

allow for potential reduction in infrastructure over time and reduced visual impacts from within the SMW.

3 Year's Projects and Accomplishments

General Accomplishments

Hyatt Lake Campground Repositioning

Hyatt Lake campground is continuing to reposition to be more fully included as part of the overall Monument experience. Several projects have been completed to enhance the visitor experience and provide a more visually appealing environment to the visitor. A new entrance station was constructed in 2013 and became fully staffed and operational in 2014. In 2015, Monument staff continued to work on organizing and streamlining the administrative area and campground facilities at Hyatt Lake.



Views of Cascade-Siskiyou National Monument's Hyatt Lake Campground

Campground Reservation System

The Recreation team spent much of 2013 and 2014 putting in place the technology and infrastructure to support the campground's first-ever reservation system. Hyatt Lake Recreation Area became part of the Recreation.gov system on February 16, 2014. In 2015, the entire campground was put on the reservation system, with the exception of the walk-in campsites. Two of the three developed campgrounds as well as the primitive Wildcat



Campground are available through the system, as well as all three of the group use areas. User conflicts for sought-after sites and visitors attempting to stay longer than the 14 day limit were greatly diminished through use of the new system. Visitor data used in the reservation system reveals a wider range of geographic locations for recreationists visiting Hyatt Lake. Visitors from all over the US, as well as international individuals, are now better able to plan trips to Hyatt Lake and the Monument.

In 2015, Hyatt's lake levels plummeted due to the severe drought affecting much of California and southern Oregon. Hyatt Reservoir was at 48% capacity in early June, with the launch ramps having restrictions on the size of watercraft able to launch. By early July the launch ramps were no longer usable, and by early August Hyatt Lake was at dead pool level. While the lower lake level does not impact the camping experience directly, it continues to have a direct impact on the water-based recreator's visit.



Launch ramp in drought conditions



Hyatt Reservoir at dead pool level

Soda Mountain Wilderness Restoration and Road Decommissioning

The Soda Mountain Wilderness Stewardship Plan calls for restoring and “re-wilding” about 23 miles of wilderness roads and removing 81 culverts. The most significant accomplishment for the year was completing the third phase of road restoration in the Soda Mountain Wilderness. The SMW Final Stewardship Plan (2012) approved restoration work on approximately 23 miles of former roads within the SMW. The legacy road system in the SMW was surveyed and restoration was grouped into eight priority treatment areas based on the risk to the aquatic system, culvert density, and logistically feasible treatment areas. The BLM was able to amass funding from various sources to complete restoration work on a number of roads located near the Pacific Crest Trail and Pilot Rock, in some of the most scenic areas of the Soda Mountain Wilderness.



Road-to-trail conversion – Pilot Rock Trailhead

In the summer of 2015, restoration activities in the Soda Mountain Wilderness Area included removing legacy roads and removing water diversions, restoring the flow path of a perennial watercourse, and improving aquatic habitat. One of the most visible projects was a road-to-trail conversion from Pilot Rock Trailhead to the Pacific Crest Trail. This project removed a road, recontoured the roadbed to match the surrounding landscape, and installed a new single-track trail. Mechanical excavation equipment was used to obliterate roads in the Soda Mountain Wilderness to restore hydrologic features (including streams, springs, and wetlands), reduce sources of sediment, and to meet the objectives of the Soda Mountain



New road-to-trail conversion at Pilot Rock

Wilderness Stewardship Plan. General restoration work included mechanically decommissioning roads with stream crossings, full and partial re-contouring of the road surfaces, out-sloping fill material, removing all culverts including cross drains, blocking vehicular and motorized access with natural materials (logs, boulders, and earthen berms), and seeding and mulching of excavation areas with native seed. In 2015, just over 8 miles of legacy road were fully or partially re-contoured. On those legacy roads, culverts at 25 stream crossings were removed and the fill material was re-contoured to match the stream channel profile above and below the crossings.

In addition to the mechanical decommissioning work, restoration activities included the removal of abandoned livestock fencing and grazing infrastructure. This fencing was no longer in use after the cessation of grazing within the Soda Mountain Wilderness Area. This year, Worksource Oregon assisted in removing the grazing infrastructure. Worksource Oregon is a field-based paid training program where out-of-school youth age 16-24 get hands-on experience in natural resource restoration activities. Under the direction of BLM staff, the Worksource Oregon crew removed a mile of barbed wire and high-tensile fencing. Additionally, one corral, 5 gates, and a water trough were removed from the SMW. This short-term intrusion into the wilderness will provide for long-term improvements in wilderness character. There are eight priority restoration areas identified in the SMW Final Stewardship Plan. Work will continue on them, one by one, as funding allows.



Road removal on Soda Mountain

National Public Lands Day

As part of National Public Lands Day (NLPD), an energetic group met at the Pilot Rock Trailhead parking lot. Much needed work on the Pilot Rock Trailhead parking lot as well as the Pilot Rock Trail was accomplished including, sign installation, area parking lot cleanup, gravel placement around the new bathroom facility, road rehabilitation on a previously illegal two-track route, and erosion protection maintenance performed on the newly created Pilot Rock Trail, entrance to the Soda Mountain Wilderness.



NLPD workers and new vault toilet at Pilot Rock



Members of NPLD crew

Current Areas of Focus

In 2015, work continued in the Monument focused on implementing activities approved in the SMW Stewardship Plan (2012), land exchanges, land acquisition, developing the transportation management plan, and developing and enhancing partnerships. Improvements to the visitor experience were accomplished across the Monument and wilderness through interpretation, education, improvements in recreation facilities, and enhanced recreation opportunities.

Plan Implementation and Restoration

Implementation of the CSNM RMP (2008) and the SMW Stewardship Plan (2012) will require substantial funds and decades to complete. Work includes road closures and decommissioning, maintenance of existing roads, trail construction and maintenance, noxious weed treatments, removal of human effects from the SMW, removal of old range facilities, fences to be maintained to keep livestock and feral horses out of the wilderness/Monument, acquired lands to be restored, and fuels to be reduced in the urban interface. Title II money was used to continue to utilize the Siskiyou Mountain Club to implement wilderness restoration. Money was also obtained to rebuild and strengthen fencing around the Soda Mountain Wilderness to keep the cattle out. The funds for this project were awarded in September 2015, and the contractor will begin work in the spring of 2016. Funding for the remaining priority restoration areas

identified in the SMW Final Stewardship Plan is uncertain as there are no dedicated funds for this ecologically significant work. Additionally, the CSNM Transportation Management Plan will identify many more miles of roads outside of the SMW that need restoration work. The Monument staff continues to explore possible ways to accomplish the remaining restoration within the CSNM/SMW.

Improvements to Pacific Crest Trailheads

In 2015, the BLM was able to creatively acquire grant funding to make significant improvements to the two parking areas at the Hobart Bluff and Pilot Rock Pacific Crest trailheads. Additionally, increased visitation highlighted a need for vault toilets at these popular trailheads, and in the summer of 2015 new precast concrete toilets were installed as part of parking improvements at both sites.



Before/after parking area at Hobart Bluff Pacific Crest Trailhead

Commercial Recreation Permits

The Monument RMP does allow for limited commercial use for activities determined to be consistent with CSNM objectives. A Special Recreation Permit (SRP) Evaluation Criteria was established in 2014, identifying potential permit availability, thresholds, and adherence to existing Monument management plans and missions. For 2015, The Monument re-issued an SRP permit to an organization conducting guided bird watching activities for profit. Once again, the activity was determined to be scientific in nature and it furthers the Monument's mission of biological diversity and scientific exploration. The activity required a permit due to the fact that the organization was conducting this activity in pursuit of a fund-raising endeavor.

Permits for Collection

Requests from researchers and scientists to collect flora and fauna in the Monument for research purposes increased in 2015. Monument staff carefully evaluated each request and

ensured sampling was appropriate and accomplished in such a manner so as to protect objects of biological interest.

Education, Outreach, and Interpretation

The Monument has an interpretive specialist that administers its Education, Outreach, and Interpretation program as well as provides assistance to the Ashland Resource Area and the Medford District.

Environmental Education – *“Fall in the Field” Program*

The cornerstone of the Monument’s environmental education program is its partnership with Southern Oregon University’s (SOU) Environmental Education Graduate School, which delivers the annual **“Fall in the Field”** program. SOU graduate students develop and deliver field based environmental education programming for community schools on behalf of the BLM’s Cascade-Siskiyou National Monument.



“Fall in the Field” class headed into the Monument

In the program’s 6th successful year, “Fall in the Field” runs from mid-September to late October. During the 2015 field season the program hosted **569 students**. With widespread community support for outdoor education on the Monument, our programs are generally filled in advance of the season beginning.

About the “Fall in the Field” Program:

The project has an existing agreement in place between the BLM State Office and SOU, streamlining funding and project implementation.

Day programs are offered on the Monument and adjacent BLM lands. Through hands-on, experiential learning, SOU Environmental Education Master's students provide science education that is updated yearly and aligned to state standards in science, English, math, and social sciences. Programming follows the Monument’s Interpretive Themes and Significance Statements and utilizes the latest in environmental education techniques and teaching theory, with a strong emphasis on field biology.

Carrying capacity (number of students) and education settings are closely coordinated with the

BLM in order to protect Monument resources. The “Fall in the Field” program length and student capacity is ideally suited to the weather variables, site availability, and resource protection issues of the Monument.

The partnership is also supported by the Friends of Cascade-Siskiyou National Monument. The Friends offer a bus transportation stipend to facilitate classes that might not otherwise be able to visit.



“Fall in the Field” on the Pacific Crest National Scenic Trail near Hobart Bluff

Outreach:

Cascade-Siskiyou National Monument leads and participates in multiple outreach events throughout the year, ranging from “Take it Outside” events like Free Fishing Day to hosting an interactive booth for Earth Day.

Youth Events:

- Free Fishing Day was moved from Hyatt Lake due to low water conditions. In 2015, this event was co-hosted with the USFS at Fish Lake.
- Bear Creek Watershed Symposium – students and teachers participated from several Rogue Valley schools.



Swearing in Junior Explorers at the Bear Creek Watershed Symposium, using newly minted CSNM Junior Explorer Badges

Public Events and Fairs:

In partnership with the Friends of Cascade-Siskiyou National Monument and the BLM, interactive booths and children's activities were hosted at various community events. The events were strategically selected to provide an opportunity to highlight the Monument's role in the regional community as well as leverage the capacity of our partner to enlist volunteers and help on behalf of the Monument.

- Earth Day Festival – Ashland, Oregon
- Bear Creek Salmon Festival – Ashland, Oregon
- 4th annual July Butterfly Count with the North American Butterfly Association
- Friends of CSNM and BLM sponsored CSNM Science Symposium featuring the latest research and project work being done in the Monument.
- Butterfly Bioblitz with the Friends of Cascade-Siskiyou National Monument





Volunteers search for and identify butterflies during the BioBlitz

Butterfly BioBlitz

On Saturday, June 6th, the Friends of Cascade-Siskiyou National Monument worked with the BLM to host a Butterfly BioBlitz in the Monument. A total of 50-60 people split into small citizen scientist teams to survey seven locations around the Monument for butterflies. Each team was led by a biologist or academic expert. The event was an opportunity to engage the public in citizen science within the monument and to catalog important scientific information regarding the types of butterflies in the monument. Preliminary findings show that 70 species of butterflies were found during the BioBlitz.

Interpretation:

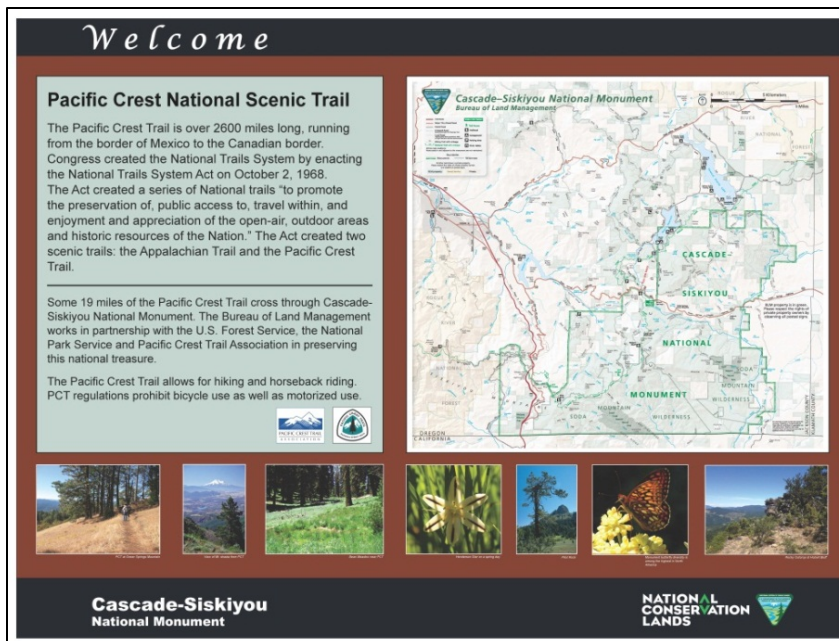
Interpretive services for Cascade- Siskiyou National Monument are delivered via non-personal services and personal services.

Non-Personal Media:

Non-personal Interpretation is delivered in the form of brochures, websites, site bulletins and exhibits.



Outreach media is refined and updated to align with national graphic standards



Recreation and Interpretive staff continues to update trailhead and wayside exhibits to assist visitors with their trip planning.

Personal Services:

Fulfilling the Monument’s commitment to adult learners, one of the most well received personal services programs are our Friends of Cascade-Siskiyou National Monument “Hike and Learn” series. In its fifth successful year, the Friends invite local university professors and scientists to provide guided hikes to special features in the Monument such as Pilot Rock and Hobart Bluff. For those who do not wish to hike, the friends added an evening lecture series at local libraries in both Ashland and Medford.

The lectures provided an opportunity to gain pre-knowledge before the hike and also opened up the Monument to audiences that would prefer not to hike but were otherwise interested in the Monument. Lectures included PowerPoint programs and demonstrations by local university professors and scientists.

The adult learner “Hike and Learn” series is well suited to our local demographics as well as our regional audience expectations. The program supports the Monument’s interpretive themes and the National Conservation Lands theme of science and research. Six lectures and six guided hikes were conducted serving 116 participants in 2015.

Partnerships

The Monument’s partnerships fall into four categories: Science research done by academia, non-profit science based research, recreation groups, and general land advocacy partnerships. Many of our partners generously volunteered their time on behalf of the Monument.

Summary of Primary Partners	
Academia	
Southern Oregon University	Scientific research and environmental education
Recreation Groups	
United Sportsmen and Hunters Association	Youth recreation and outreach
CAST Foundation	Youth recreation and outreach
Southern Oregon Nordic Club	Nordic trails maintenance
Pacific Crest Trail Association	Trails construction / maintenance
Siskiyou Mountain Club	Trails construction / maintenance
Non-Profit and Federal	
National Park Service / U.S. Geological Survey	Scientific research
Klamath Bird Observatory	Monitoring and research
Land Advocacy	
Pacific Forest Trust	Land acquisition
Conservation Land Fund	Land acquisition
Friends of Cascade-Siskiyou NM	Monument advocacy, education and outreach

Friends of CSNM

An assistance agreement that has been in place for more than a year will enhance the Friends' capacity to help the BLM with more complex projects. The Friends are part of the Conservation Lands Foundation and have embarked on extensive board and fundraising training over the past several years. The Friends utilize their website as a clearinghouse for all the activities that occur on the Monument. The Friends enhance and support the BLM's mission through staffing public outreach events and festivals, conducting adult learner programs, and assisting with SOU's Environmental Education program through supplying transportation stipends for area schools.



Friends of CSNM booth at Ashland, OR outreach event

Pacific Crest Trail Association

The centerpiece to this vital partnership is the **Big Bend Trail Skills College** hosted by the PCTA and the BLM. In its fifth successful year, the three day college features certifications in crosscut saw and chainsaw use and conducts classes on tread construction techniques and hydrology management. The class is a hands-on projects-based course aimed at on-the-job training focused on real trail and maintenance issues. In 2015, 55 volunteer students were enrolled in the class, drawing participants from many federal agencies and partner groups. PCTA assisted the BLM in coordination of trail volunteers and projects contributing over 900 hours to PCT trail maintenance.



Waterbar demo



PCNST Trail Markers



Tread construction

Siskiyou Mountain Club

The mission of the Siskiyou Mountain Club (SMC) is to restore, maintain and promote primitive back country trails within the local region, and to provide service-based outdoor experiences for the public. The SMC coordinates stewardship projects with youth, volunteers and staff members. In 2015, SMC used crosscut saws or “misery whips” to remove dead and hazardous trees in the Soda Mountain Wilderness where the fence line will be built this coming spring. They continue to maintain the Lone Pilot and Pilot Rock trails and worked with the BLM to improve two stone walls completed in 2014.

Volunteers

The Monument is grateful to have partnerships and individuals who volunteer their precious time on behalf of the many activities that occur within and adjacent to the Monument. Many of our Partners accomplish their work though attracting volunteers who are passionate about the Monument’s mission and the work that needs to be done on its behalf.



Removing old fencing in the Soda Mountain Wilderness

Volunteer and Partner Highlight

Southern Oregon Nordic Club (SONC) –

SONC is the cornerstone partner of the winter recreation program. SONC is a cross country skier based user group with a mission to promote Nordic skiing and non-motorized winter sports through education, trail maintenance and development, and the organization of group activities. SONC volunteers provided over 80 hours of work through the operation of BLM's tracked Polaris ATV to pull a track-setter and trail re-conditioner to groom trails within the Nordic Ski Area System. SONC also assisted the BLM in organizing volunteer trail work groups to install signs, kiosks, and maintain winter trails.

Other Volunteer Activities

Other volunteer activities include individuals who donate their time for trail maintenance, species monitoring, and outreach activities. Through a partnership with Job Council, a local youth hire organization, BLM was able to re-route approximately 175 feet of the Pacific Crest Trail (PCT) to avoid some very sensitive areas. Recreation staff also had several volunteer events in the spring to repair sections of the PCT. In 2015, BLM partnered with USFS and hosted a free fishing event, drawing nearly 100 people.



Volunteers working on trail log out



4 Science

Cascade-Siskiyou National Monument serves as an outdoor laboratory that attracts a variety of scientists, university researchers and their students.

The BLM sponsors and collaborates with numerous scientists, academic researchers, universities and other partners that fulfill CSNM research needs. Monument staff are guided by a draft Science Strategy in order to gain a better understanding of Monument resources and natural processes, and apply science to management, environmental education and public outreach. For a complete list of science projects occurring in the CSNM, refer to Appendix A: 2015 Science, Monitoring and Inventory Programs.

2015 Science Highlight – Cascade-Siskiyou NM Science Symposium

In collaboration with the BLM, the Friends of Cascade-Siskiyou hosted a Monument Science Symposium on March 26th. The event featured summary presentations from university researchers, non-profits, and agency personnel from around the region of current research projects. The 2015 event was attended by 70 people. Researchers who presented reports on recently conducted fieldwork within the Monument included: botanists Henry Whitridge and Mason Landon; geologist Jad D’Allura; ecologist Dennis Odion; biologist Michael Parker and environmental education student Peter Kleinhenz. Research topics include interpreting geological field notes, grazing impacts on the natural landscape, native plant seed collecting, wildfire regimes, endangered status-update of Oregon Spotted Frog, and teaching K-12 environmental education. The event not only sought to update the public on recent science on the Monument, but also reinforce the NLCS national science strategy and the reason for the Monument’s proclamation.

Collaborative Research Development with SOU Faculty

Monument staff met with Southern OR University staff and students multiple times to improve cooperative research relationship focused on the CSNM and share research interests and opportunities.

Klamath Cooperative of Applied Sciences

A regional research cooperative organizational meeting was held in April 2014 with multiple federal, nonprofits and universities designed to collaborate and share research interests and results. This initial, exploratory meeting with broad interest of nearly 30 organizations was intended as a catalyst to motivate collaboration, leadership and involvement.

Research Projects

- On August 28, 2014 the USFWS listed the Oregon Spotted Frog as a threatened species under the Endangered Species Act and proposed critical habitat within the study area. As a result, the importance of this project has elevated. A comprehensive aquatic, riparian, and water quality survey of ten streams in the Cascade-Siskiyou National Monument aimed at increasing understanding and providing detailed descriptions of the baseline physical habitat characteristics and structure of biotic communities. Status: awaiting final report (*Southern Oregon University, Dr. Michael Parker, Biology*).



Dr. Michael Parker points out an Oregon Spotted Frog at Parsnips Lakes to a group of researchers

- Dr. Meinke received funding from NLCS to research pollination and fecundity of *Fritillaria gentneri*, a USFWS federally endangered species. Individuals will be selected and cross pollination controlled and evaluated, and any seed used in population augmentation and monitoring in the CSNM. Selected plants will be caged and flowers bagged and pollinated with pollen from plants in other recovery units to evaluate fecundity. Status: initiating project in 2014 (*Plant Division Oregon Department of Agriculture, Dr. Bob Meinke*)

- Few entomology studies are funded regarding meadow associated insect species. This study is designed to sample a number of meadows to improve our knowledge of various Bureau sensitive species' range, population abundance, and habitat and to assist in the management for persistence of these species. The target species list and ranks include:
 - *Chloealtis aspasma* (Siskiyou short-horned grasshopper) G1 S1, ORNHIC List1
 - *Bombus franklini* (Franklin's Bumblebee) G1 S1 ORNHIC List 1
 - *Bombus occidentalis* (Western Bumblebee) GU S1S2 ORNHIC List 2
 - *Polites mardon* (Mardon Skipper Butterfly) G2G3 S2 ORNHIC List 1

Status: field data collected in 2014, awaiting report (*UC Davis, Dr. Robbin W. Thorp, Professor Emeritus, Entomology*)

- CSNM science strategy calls for “continued monitoring at suitable time intervals” in order to determine if objects of biological interest are being protected and if management goals are being met. Twelve years have elapsed since the first readings of vegetative transects placed in diverse plant communities and habitats and five years since livestock grazing ceased, a suitable time interval for repeat measurements. This project resurveys 65 transects and analyzes the data to gain an understanding of changes in plant communities in various habitats over the intervening years in the context of different grazing regimes, land use histories and particularly in light of removal of grazing in 2009.

Status: Analysis completed in 2015, draft manuscript for publication prepared. (*Southern Oregon University, Dr. Darlene Southworth, Professor Emeritus and Henry Whitridge*)

- The BLM Seeds of Success program provided funding for two Chicago Botanical Garden interns in 2015. The project locates native plant populations, photographs, vouchers, and collects seeds of native plants from southwest Oregon for long-term germplasm storage at national repositories and also for local restoration needs. The project targets the collection of diverse bio-types of native grasses, forbs, hardwood and shrub species from diverse eco-regions and elevations.

Status: field results were presented at the 2015 BLM National Native Seed Conference in Santa Fe, NM. (*Medford BLM, Douglas Kendig, Botanist*)

- Jenny Creek suckers were collected and tagged at multiple locations in mainstem Jenny Creek during base flow conditions. Approximately 500 adult Jenny Creek suckers were captured and passive integrated transponders (PIT tags) inserted into the body cavity. PIT antenna arrays were installed at location in the mainstem and at the mouths of three tributary streams to document seasonal movement of tagged individuals. Fish movement and direction will be assessed at two spatial scales: the stream reach-scale; and at the scale of a meter or less by walking along the bank.

Status: 2nd year field data collected. (*Medford BLM, Chris Volpe, Fish Biologist*)



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Waterfall on Jenny Creek

- The CSNM is collaborating in a regional long-term research project lead by Phillip van Mantgem, Research Ecologist, USGS of natural forest stands in the NPS Klamath Network (Crater Lake National Park, Lassen Volcanic National Park, Lava Beds National Monument, Oregon Caves National Monument, Redwood National and State Parks, and Whiskeytown National Recreation Area), and the CSNM. The study installed 17 large one hectare forest plots to gather detailed forest structure data that will place forest patterns and dynamics within the context of the abiotic factors and biotic processes. An interim report was completed in 2013. The study measured and mapped over 8000 trees. The data is intended to understand forest dynamics on biodiversity patterns, with a particular emphasis on land bird communities. Future analyses will include change of species composition, geographic location and climate (as estimated from the PRISM model).

Status: study plots established, field data collected, revisits every 5 years. (*USGS, Phillip van Mantgem, Research Ecologist,; Southern Oregon University, Dennis Odion; USGS Joan Hagar, Research Wildlife Biologist; National Park Service, Daniel Sarr.*)

- Historic Franklin's bumble bee sites are surveyed annually in an attempt to determine presence or absence of the species and critical parameters that affect this declining population and its persistence and viability.

Status: Annual – Ongoing. (*UC Davis, Dr. Robbin W. Thorp, Professor Emeritus, Entomology*).

- Strategic survey and inventory of rare and little-known hypogeous fungi in under-surveyed hardwood and mixed conifer habitats in southwest Oregon. Eleven of 34 macro-plots are located in the CSNM. Plots are visited twice in the fall and twice in the spring for three years following a standardized "scuffling" protocol developed by the BLM for hypogeous fungi. Collections are vouchered and identified via morphology or DNA. DNA is extracted, sequenced and validated in GenBank. Additional project proposal funded in 2014 to: clarify characteristics that distinguish rare species from common ones; correlate morphological and molecular data from recent collections; identify the fungal associates of rare sequestrate species.

Status: expect 4 to 5 publications, awaiting final manuscripts (*Southern Oregon University, Dr. Darlene Southworth, Professor Emeritus*).

Annual Inventory and Monitoring

Monitoring of water resources, wilderness values, and specific species continues both by agency personnel and through contracts and university research agreements.



Bureau Sensitive Species Update:

Peregrine Falcons - Agency biologists continue annual monitoring of nesting peregrine falcons (*Falco peregrinus anatum*) on Pilot Rock. Peregrine falcons were removed from the U.S. Fish and Wildlife Threatened and Endangered Species List in 1999 and are now in Recovery Status.

These surveys are part of a national post-delisting monitoring plan to ensure that peregrine falcon populations are remaining stable.

Mardon Skipper - BLM wildlife biologists continue to serve on the ISSSSP working groups for the Mardon skipper and the Oregon spotted frog, helping design projects and monitoring efforts.

Oregon Spotted Frog - Dr. Michael Parker of Southern Oregon University is assisting with the study of the Federally threatened Oregon spotted frog. Through Challenge Cost Share projects and his own efforts, he is assisting the BLM to study the effects of landscape heterogeneity and wetland succession on spatial distribution, seasonal movements and long-term viability of the Oregon spotted frog (*Rana pretiosa*) population within the CSNM.

Northern Spotted Owls - Northern Spotted Owls (NSOs) have historically established many breeding territories within the CSNM. Very little monitoring of these sites has taken place in recent years. The habitat that historically supported breeding Northern Spotted Owls remains essentially unchanged, thus it is assumed that NSOs continue to inhabit this area. However, Barred Owls have been documented in areas within a few miles of the CSNM and are assumed to also be present within the Monument itself. Barred Owls are known to compete with NSOs for breeding habitat and for prey. Across the range of the NSO, populations of NSOs are continuing to decline. It is likely this is the case within the Monument as well.

Gray Wolf - Gray wolves have re-colonized Southwestern Oregon in recent years. No confirmed sightings of Gray Wolves have been documented within the CSNM (except GPS locations gathered from the collar worn by male wolf OR-7). However, breeding pairs of Gray Wolves have been documented both north of the CSNM in Oregon and south of the CSNM in California. It is likely that Gray Wolves are beginning to pass through the CSNM as they hunt or as they move from one area to another. Given that suitable habitat and prey species exist within the CSNM it is possible that at some point wolves may become established as residents of the CSNM.

Fisher - Fishers are a member of the weasel family and are known to be present within the CSNM. Little is known of numbers of individuals or their use of habitat in the Monument. Fishers may be listed for protection under the Endangered Species Act by the USFWS in April of 2016.

Northwestern Pond Turtle - BLM continues to monitor the known pond turtle sites. Data collection on population size and age structure continues.



Dr. Michael Parker holding a spotted frog



Mardon skipper



Northwestern pond turtle

Aquatic Ecosystems: Hydrology and Habitat

Objectives for water resources include compliance with State water quality standards to restore and maintain water quality necessary to protect beneficial uses and to follow the Aquatic Conservation Strategy which is to restore and maintain the ecological health of watersheds and aquatic ecosystems contained within them on public lands. The following summarizes monitoring efforts of hydrological processes within the Monument.

- **Precipitation Measurement** - Monthly and annual summary of rainfall is collected near the stream gauging station on Jenny Creek.
- **Stream Gauging Station** - Water levels (stream stage) are recorded at the stream gauging station on Jenny Creek. Long-term stream flow regimes are determined based on monthly and annual summary information for each water year.
- **Summer Stream Temperature Monitoring Program** - Summer stream temperatures are recorded at 13 locations in the CSNM. This information is used to determine the long-term recovery of Clean Water Act, Section 303(d) Water Quality Limited Streams.
- **Storm Event Grab Sampling** - Turbidity, conductivity, pH, water temperature, air temperature, snowpack and discharge are sampled during high stream flow events at 15 sites within the CSNM as opportunities arise.

Rare Plants

Gentner's Fritillary - Selected populations of Gentner's fritillary (*Fritillaria gentneri*) in the CSNM are monitored annually to track the long-term demographic trends of this Federally Endangered Species. As part of the Fish and Wildlife Service's Recovery Plan (FWS 2003), the BLM is collecting and growing Gentner's fritillary bulbets in greenhouses, out-planting them to increase population sizes in specific recovery zones, and monitoring for survival. As resources allow, BLM continues to treat weeds around some Gentner's fritillaria locations and in the Mariposa Preserve (Greene's Mariposa Lily) which results in improved habitat for these species.



Gentner's fritillary

In general, weeds are declining in the CSNM due to continued treatments. As new properties are acquired, inventories are conducted and populations treated, which sometimes include extensive weed infestations. Noxious weed treatments continue in the Monument, primarily in these areas:

- Box O: 350 acres, mostly starthistle, some Dyers woad and sulphur cinquefoil.
- Soda Mountain area: 425 acres mostly Canada thistle.
- I-5/Old Highway 99: 150 acres starthistle and Dyer's woad, some spotted knapweed.
- Mariposa Preserve: 85 acres starthistle.
- Scattered small infestations north of Highway 66: 35 acres - all weeds listed above, plus Diffuse knapweed, Dalmation toadflax, and Hound's tongue.



Starthistle covered hillside

5 Resource, Objects, Values, and Stressors

Rare and Endemic Plants

A number of rare plant species are documented within the Monument, and surveys have focused mainly in areas where recent BLM activities have occurred. There are 579 listed plant sites within the CSNM. Species are prioritized below based on rarity and perceived threats. Specific information is given when indicated.

- 1) Gentner’s fritillary (*Fritillaria gentneri*).
- 2) Greene’s mariposa lily (*Calochortus greenei*).
- 3) California milk-vetch (*Astragalus californicus*); one population in the Monument in the Scotch Creek Research Natural Area (RNA).
- 4) Tracy’s peavine (*Lathyrus lanszwertii* var. *tracyi*); one population documented, also in the Scotch Creek RNA.
- 5) Bellinger’s meadowfoam (*Limnanthes floccosa* ssp. *bellingiana*); populations near Lincoln and one small occurrence in the Oregon Gulch RNA.
- 6) Clustered ladies slipper (*Cypripedium fasciculatum*); one existing monitoring plot.
- 7) Coral seeded allocarya (*Plagiobothrys figuratus* ssp. *corallicarpus*); vernal pool species.

Rare and Endemic Plants: Status and Trends

Status of Resource, Object, or Value	Trend
Fair	Variable, depending on species; overall stable, however, noxious weed component is declining as a result of BLM’s noxious weed/invasive species eradication program.

Rare and Endemic Plants: Inventory, Assessment, and Monitoring

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored
65,341	37,055	6,000	4,000

Stressors Affecting this Resource, Object, or Value

Invasive species/noxious weeds and climate change are suspected to be the principal stressors affecting rare and endemic plants in the Monument. Illegal recreation (unauthorized OHV use, mud bogging, etc.) within the Monument is also a stressor on rare and endemic plants.

Range of Fauna - Freshwater Snails, Fish, Reptiles, Amphibians, Butterflies, Ungulates, Birds, and Small Mammals

The Monument occurs at a biological crossroads, at the interface of the Cascade, Klamath, and Siskiyou ecoregions and supports an exceptional range of fauna from all three ecoregions, including one of the highest diversities of butterfly species in the United States. The Jenny Creek portion of the Monument is a significant center of fresh water snail diversity and also includes a long isolated stock of redband trout. The CSNM contains important populations of small mammals, reptile and amphibian species, and ungulates, including important winter habitat for deer.

Range of Fauna: Status and Trends

Status of Resource, Object, or Value	Trend
Good	Improving as a result of land acquisitions, grazing lease retirements, restoration, and noxious weed treatments.

Range of Fauna: Inventory, Assessment, and Monitoring

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored
65,341	37,055	65,341	25,000

Stressors Affecting this Resource, Object, or Value

Climate change, altered hydrology from impoundments and the road system, invasive species, and illegal recreation are all stressors on a range of fauna within the Monument. Fire suppression for the last hundred years has altered the natural fire regime, stand structure, and species composition increasing the risk for catastrophic fires and modifying habitats. The existing transportation system within the Monument also impacts fauna by facilitating human

access and disturbance to wildlife; affecting hydrologic function and water quality; fragmenting habitat; and reducing connectivity.



Jenny Creek at former Box O Ranch

Old Growth Habitat

Old-growth forests are generally over 180 years old and have the following special characteristics: a multi-layered, multi-species canopy dominated by large overstory trees; a high incidence of large trees, some with broken tops; numerous large snags; and heavy accumulations of wood, including large logs on the ground. In addition to old growth, the Monument RMP also refers to late-successional forests. Late-successional forests are considered mature forests that exhibit some or all of the old-growth characteristics identified above. The RMP delineated lands possessing old growth forest and late-successional habitat, or capable of becoming so within the Monument as the Old Growth Emphasis Area (OGEA). Late-successional and old-growth forests provide important habitat for species such as the northern spotted owl, western bluebird, western meadowlark, pileated woodpecker, flammulated owl and pygmy nuthatch. Mixed conifer forests are the dominant forest community in the OGEA and support a variety of trees including Douglas-fir, white fir, ponderosa pine, sugar pine, incense-cedar, and Pacific yew. Predominately white fir forests are found at higher elevations in the northern part of the Monument.

Old Growth Habitat: Status and Trends

Status of Resource, Object, or Value	Trend
Good	Improving as a result of land acquisitions, grazing lease retirements, restoration, and noxious weed treatments. Some decline in resiliency due to fire exclusion resulting in unnaturally dense understory, and risk of catastrophic wildfire.

Old Growth Habitat: Inventory, Assessment, and Monitoring

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored
65,341	52,935	24,340	10,000



Old growth mixed-conifer stand

Stressors Affecting this Resource, Object, or Value

Loss of habitat connectivity is one of the primary threats to the ability of the OGEA to function as habitat for late-successional species. Habitat fragmentation resulting from past timber harvests, road building, and other activities has limited connectivity by creating gaps in the mature forest larger than some wildlife species can successfully cross without being subject to predation or other mortality factors. Fire suppression for the last hundred years has altered the natural fire regime, changed stand dynamics and structure, reduced resiliency, and increased the risk for

catastrophic fires. The loss of fire as a natural process has also resulted in a shift toward dense stands of white fir and Douglas-fir at the expense of sugar pine, ponderosa pine, and incense-cedar. Climate change and illegal recreation are stressors on old growth habitat within the

Monument.

Special Plant Communities - Rosaceous Chapparral, Oak-Juniper Woodlands

These are special plant communities that are found at lower elevations, particularly in and around the Soda Mountain Wilderness in the southern half of the Monument.

Special Plant Communities: Status and Trends

Status of Resource, Object, or Value	Trend
Fair	Some decline in resiliency due to fire exclusion and noxious weeds/invasive species.

Special Plant Communities: Inventory, Assessment, and Monitoring

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored
65,341	52,935	4,000	2,000

Stressors Affecting this Resource, Object, or Value

Fire suppression for the last hundred years has altered the natural fire regime, affected fire-dependent plant communities, proliferation of younger age classes, increased cover, and increased the risk for catastrophic fires. Invasive species, climate change, and illegal recreation are all stressors on special plant communities within the Monument.

Rich Mosaic of Grass Shrublands, Oak Woodlands, Juniper Scablands, Mixed Conifer, White Fir Forests, and Wet Meadows

The mixed conifer and white fir forests are predominately located in the in the northern portion of the Monument classified as the Old Growth Emphasis Area (OGEA) in the RMP. Mixed conifer forests are the dominant forest community in the OGEA and support a variety of trees including Douglas-fir, white fir, ponderosa pine, sugar pine, incense-cedar, and Pacific yew.

Predominately white fir forests are found at higher elevations in the northern part of the Monument. South of Keene Ridge, mixed conifer forests occur in isolated stands as opposed to the more contiguous stands in the north. These stands are often surrounded by the grassland

and shrubland plant communities of the Diversity Emphasis Area (DEA). Conifer stands south of Keene Ridge are distinctive biologically diverse islands and unique isolated communities that reflect the discontinuity between the southern Cascades and Sierra Nevada.

The DEA is comprised of hardwood, shrub, grass, semi-wet meadow, and wet meadow plant communities. Unlike the conifer communities in the OGEA, the plant communities in the DEA are characterized by large changes in species abundance over relatively short periods of time in



View from Boccard Point

response to fire. This is because many plant species have short life spans, and are dependent on fire for reproduction. Herbaceous plants may thrive for only a few years before conditions change enough to prevent growth. Shrub species may become decadent after a few decades, and need to be renewed through activation of their seed bank by fire. Furthermore, many hardwood species are dependent on fire for creating conditions favoring their persistence on the landscape. Other plant communities associated with rocky meadows and rock outcrops are resistant to fire and may remain unchanged for long periods of time.

Mosaic of Plant Communities: Status and Trends

Status of Resource, Object, or Value	Trend
Good	Improving as a result of land acquisitions, grazing lease retirements, restoration, and noxious weed treatments. Some decline in resiliency due to fire exclusion resulting in

unnaturally dense understory, and risk of catastrophic wildfire.

Mosaic of Plant Communities: Inventory, Assessment, and Monitoring

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored
65,341	52,935	65,341	15,000

Stressors Affecting this Resource, Object, or Value

The primary stressors in the coniferous plant communities of the OGEA are habitat fragmentation from past harvest, road construction and other activities that created gaps; fire exclusion that has caused changes in structure, tree size, and habitat for different species; the wildland urban interface increasing the risk of catastrophic fire; high road densities that impair hydrologic function, create ecological edges, reduce snags, and limit connectivity for some species; noxious weeds/invasive species; climate change; and illegal recreation.

The primary stressors on plant communities in the DEA are noxious weeds/invasive species; altered hydrologic function from past management activities; and removal of fire as an ecological process for fire-dependent plant communities.

Broad-leaf Deciduous Riparian Trees and Shrubs

Riparian areas consist of plants that grow adjacent to streams or lakes, as well as the aquatic ecosystem and the adjacent upland areas that directly affect this ecosystem. Riparian area habitat is critically important to the maintenance of ecological integrity at the landscape and local scales. Riparian areas and associated wetland habitats are some of the most productive, ecologically valuable, and utilized resources in the Monument.

Broad-leaf Deciduous Riparian Trees and Shrubs: Status and Trends

Status of Resource, Object, or Value	Trend
Good	Improving as a result of grazing lease retirements, land acquisitions, restoration, and noxious weed treatments.

Mosaic of Plant Communities: Inventory, Assessment, and Monitoring

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored
65,341	21,000	18,000	6,000

Stressors Affecting this Resource, Object, or Value

Past management activities (timber harvest, road construction, and grazing) have resulted in the fragmentation of the Monument’s aquatic ecosystem, changed the plant community structure, composition, and function of riparian areas, and reduced the value of these areas for aquatic and terrestrial species. Throughout the Monument, fragmentation of the aquatic network has resulted in the disruption and loss of functions and processes necessary to create and maintain habitat required by fish, amphibians, and other riparian and aquatic-dependent plants and animals. The existing transportation system, invasive species, climate change, and illegal recreation are all stressors on broad-leaved riparian trees and shrubs within the Monument.

Ecological Integrity

Ecological integrity describes the structure, composition, and function of an ecosystem operating within the bounds of natural or historic range of variation. This includes healthy, productive and diverse plant and animal populations and communities appropriate to soil, climate, and landforms.

Ecological Processes: Status and Trends

Status of Resource, Object, or Value	Trend
Good	Improving as a result of grazing lease retirements, land acquisitions, restoration, and noxious weed treatments.

Ecological Processes: Inventory, Assessment, and Monitoring

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored
65,341	52,935	52,935	10,000

Stressors Affecting this Resource, Object, or Value

Fire suppression for the last hundred years has altered the natural fire regime, altering stand structure and species dynamics and increasing the risk for catastrophic fires. The existing transportation system continues to affect ecological processes by altering habitat connectivity and hydrologic processes. Invasive species, climate change, and illegal recreation are all stressors on ecological integrity within the Monument.



Example of altered hydrology on legacy road in SMW

Natural Processes

Natural processes within the Monument include nutrient cycling, energy flows, and the hydrologic cycle.

Natural Processes: Status and Trends

Status of Resource, Object, or Value	Trend
Fair	Improving as a result of grazing lease retirements, land acquisitions, restoration, and noxious weed treatments.

Natural Processes: Inventory, Assessment, and Monitoring

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored
65,341	52,935	52,935	20,000

Stressors Affecting this Resource, Object, or Value

Fire suppression for the last hundred years has altered the natural fire regime, altering stand structure and species dynamics and increasing the risk for catastrophic fires. Aquatic impacts from the existing transportation system are a stressor due to sediment input into streams and alteration of hydrologic function. Invasive species, climate change, and illegal recreation are all stressors on natural processes within the Monument.

Diverse Vegetative and Biological Richness

The Monument was created to capture the biological diversity extant in the meeting of the Klamath, Cascade, and Siskiyou mountain ranges. Evolution, long-term climatic change, and geological processes (volcanism, mass wasting, erosion, etc.) operating across geological time continue to contribute to the high ecological richness of the area.

Diversity and Richness: Status and Trends

Status of Resource, Object, or Value	Trend
Good	Improving as a result of grazing lease retirements, land acquisitions, restoration, and noxious weed treatments.

Diversity and Richness: Inventory, Assessment, and Monitoring

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored
65,341	52,935	52,935	18,000



Stressors Affecting this Resource, Object, or Value

The Monument's continued diversity depends upon the degree to which landscape-level ecological processes can continue to function. For example, plant communities in the Monument evolved with fire as a

natural process. The lack of fire due to fire exclusion has resulted in ecological changes for many plant communities throughout the Monument. Wildland fire has played an important role in influencing historical ecological processes and continues to be recognized as a needed component in the development and maintenance of vegetative diversity in fire-adapted ecosystems found throughout the Monument. Fire suppression for the last hundred years has altered the natural fire regime, increasing the risk for catastrophic fires. Aquatic impacts from the existing transportation system are a stressor due to sediment inputs into streams and disruption of hydrologic function. Invasive species, climate change, and illegal recreation are all stressors on diverse vegetative and biological richness within the Monument.

Natural Ecosystem Dynamics

Ecosystem dynamics reflect the effects of a range of forces (e.g., fire, succession, weed invasion, herbivory) that interact with the physical environment of the landscape to maintain objects of biological interest on the CSNM.

Natural Ecosystem Dynamics: Status and Trends

Status of Resource, Object, or Value	Trend
Good	Improving as a result of grazing lease retirements, land acquisitions, restoration, and noxious weed treatments.

Natural Ecosystem Dynamics: Inventory, Assessment, and Monitoring

Acres in Unit	Acres Inventoried	Acres Possessing Object	Acres Monitored
65,341	52,935	52,935	37,055

Stressors Affecting this Resource, Object, or Value

Fire exclusion, invasive species/noxious weeds, and climate change are suspected to be the principal stressors affecting natural ecosystem dynamics in the Monument.

6 Summary of Performance Measures

The Monument's overall natural resource trends are improving. Current management practices are directed at maintaining and accelerating the upward trend of improving wildlife habitat and plant populations. In 2015, several key sections in the northern part of the Monument were acquired totalling 2,643 acres. To date, 12,288 acres have been acquired since designation. These recent acquisitions set the stage for natural resource trends to improve by providing opportunities to enhance habitat restoration and landscape scale connectivity.



Pine plantation near Chinquapin Mountain

The Monument team is working to restore pine plantations through thinning and fuels treatments aimed at significantly shortening (20 years or more) the plantation's time to reach late-seral structural and compositional characteristics. More work is needed to address the fire and fuel issues, particularly in the wildland urban interface.

Proactive management has reduced the potential for both recreation-related impacts (off-road vehicle use, resource damage at access point parking areas) and existing transportation system impacts (sedimentation, drainage feature failures) on Monument resources. Proactive treatment of noxious weed infestations has helped restore native habitat.

The removal of cattle grazing from roughly 93 percent of the Monument in 2009 allowed for recovery of Monument lands that had been grazed for decades. The removal and restoration of approximately 8 miles of roads in the Soda Mountain Wilderness in 2015 assisted in the restoration of natural processes and aquatic integrity. Removal of interior legacy fences has improved habitat connectivity, as well as enhanced wilderness character.

Summary of Performance Measures

Resource, Object, or Value	Status	Trend
Rare and Endemic Plants	Fair	Variable, species dependent
Range of Fauna	Good	Improving
Old Growth Habitat	Good	Improving
Special Plant Communities	Fair	Declining
Rich Mosaic of Plant Communities	Good	Improving
Broad-leaf Riparian Trees and Shrubs	Good	Improving
Ecological Integrity	Good	Improving
Natural Processes	Fair	Improving
Diverse Vegetative and Biological Richness	Good	Improving
Natural Ecosystem Dynamics	Good	Improving



View of Mt Shasta from the CSNM

7 Manager's Letter

Successes

Soda Mountain Wilderness Restoration of the Legacy Transportation System

The most significant accomplishment for the year continues to be the restoration work in the Soda Mountain Wilderness. In 2015, the Monument was able to complete the third phase of former road restoration in the Soda Mountain Wilderness. The *SMW Final Stewardship Plan* (2012) approved restoration work on approximately 23 miles of former roads within the SMW. The legacy road system in the SMW was surveyed and restoration was grouped into eight priority treatment areas based on the risk to the aquatic system, culvert density, and logistically feasible treatment areas. The BLM was able to amass funding from various sources to complete restoration work on a number of roads in priority areas of the Soda Mountain Wilderness. In the summer of 2015, restoration activities in the Soda Mountain Wilderness Area included removing legacy roads and removing water diversions, restoring the flow path of a perennial watercourse, and improving aquatic habitat. One of the most visible projects was a road to trail conversion from Pilot Rock Trailhead to the Pacific Crest Trail. This project removed a road, recontoured the roadbed to match the surrounding landscape, and installed a new single-track trail.



Before/After photos – road removal in the SMW

Mechanical excavation equipment was used to obliterate roads in the Soda Mountain Wilderness to restore hydrologic features (including streams, springs, and wetlands), reduce sources of sediment, and to meet the objectives of the Soda Mountain Wilderness Stewardship Plan. General restoration work included mechanically decommissioning roads with stream crossings, full and partial re-contouring of the road surfaces, out-sloping fill material, removing

all culverts including cross drains, blocking vehicular and motorized access with natural materials (logs, boulders, and earthen berms), and seeding and mulching of excavation areas with native seed. In 2015, just over 8 miles of legacy road were fully or partially re-contoured. On those legacy roads, culverts at 25 stream crossings were removed and the fill material was re-contoured to match the stream channel profile above and below the crossings.



Culvert removal and restoration

Butterfly BioBlitz with the Friends of Cascade-Siskiyou National Monument

On Saturday, June 6th, the Friends of Cascade-Siskiyou National Monument worked with the BLM to host a Butterfly BioBlitz in the Monument. A total of 50-60 people split into small citizen scientist teams to survey seven locations around the Monument for butterflies. Each team was led by a biologist or academic expert. The event was an opportunity to engage the public in citizen science within the monument and to catalog important scientific information regarding the types of butterflies in the monument. Preliminary findings show that 70 species of butterflies were identified during the BioBlitz.

Trailhead Improvements at Hobart Bluff and Pilot Rock

Parking and infrastructure improvements were implemented at both the Hobart Bluff and Pilot Rock PCT trailheads. The Pilot Rock parking area was better defined, and illegal OHV access routes were removed from the landscape and restored. Improved signage was installed, and the road from the parking area to the PCT was removed and replaced with a single track trail.

Hobart Bluff had little dedicated parking for access to the PCT, leading to congestion and resource degradation as people parked on the adjacent meadow. In 2015 this area was expanded into a dedicated gravel parking area, with a defined edge to preclude parking in the meadow. Additionally, increased visitation at both sites highlighted the need for vault toilet facilities. New precast concrete toilets were installed at both trailheads in 2015.



Improved parking area at Hobart Bluff trailhead with new vault toilet

Environmental Education, Interpretation, and Outreach

Environmental education, interpretation, and outreach continue to grow, successfully showcasing the unique diversity within the CSNM. BLM's partnership with Southern Oregon University completed its fifth successful year of delivering the "Fall in the Field" Environmental Education program. The program operated for six weeks from mid-September to the end of October and hosted 569 students during its 2015 field season.

With BLM support, the Friends of the Cascade-Siskiyou National Monument deliver a "Hike and Learn" series targeted to adult learners. The Friends invite local university professors and scientists to provide guided hikes to special features in the Monument. The series offers evening lectures at local libraries for the non-hiker as well as field based lectures and hikes on the Monument. The Friends sponsored six Hike and Learn activities in 2015, and 116 people participated in these programs. Topics and leaders included:

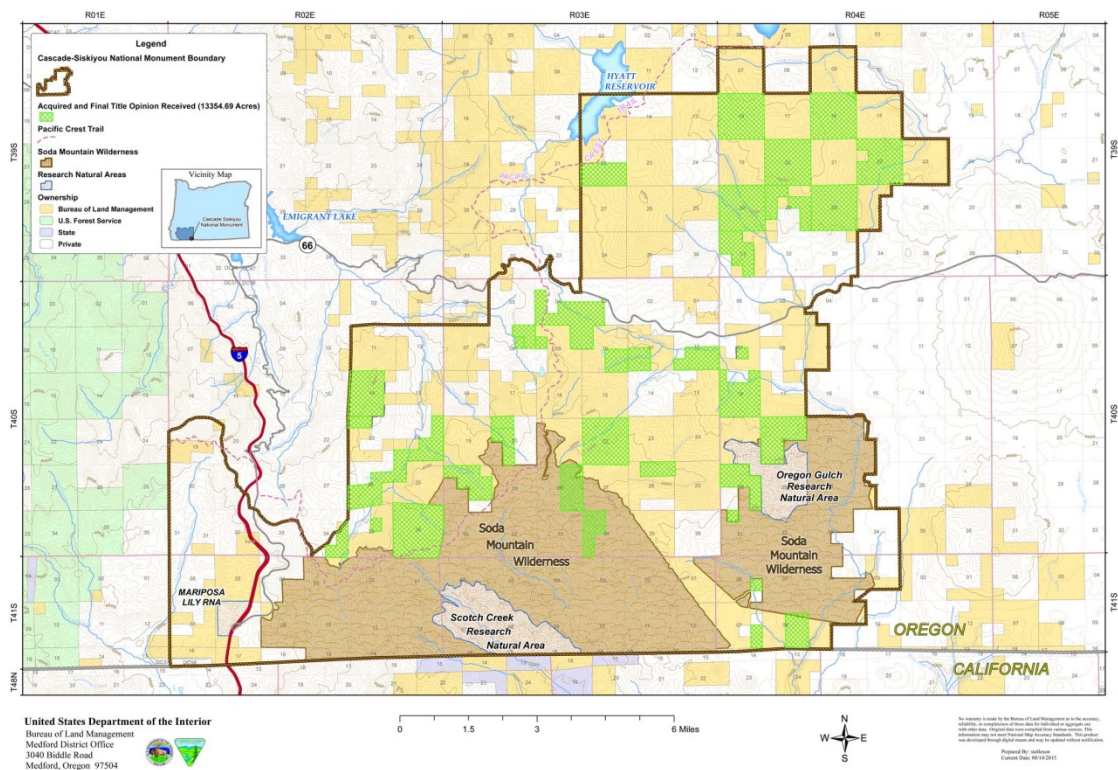
- Geology of Hobart Bluff --Jad D'Allura
- Rare Plants and Local Stewardship at Mariposa Botanical Preserve -- Jeanine Moy, Julie Spelletich, and Armand Rebischke.
- Rewilding Trails and Conservation -- Doug Kendig
- Field Sketching -- Sarah Burns
- Current Status of the Oregon Spotted From -- Michael Parker
- Fungi Hunting -- Scot Loring

The BLM is grateful to our many partners who help fulfill our outreach and education efforts on behalf of the Monument.

Land Acquisition

The land acquisition program in the CSNM has made terrific strides in acquiring and protecting private lands from willing sellers. To date, approximately 12,288 acres have been added to the CSNM with Land and Water Conservation Funds. In 2015, several key sections were purchased north of Highway 66, adding a total of 2,643 acres to the Monument. Acquisition of key lands from willing sellers allows the BLM to better manage the diverse landscape that was formerly dissected into the “checkerboard” ownership that characterizes BLM land in western Oregon. The success of this program is a direct result of dedication of District, State, and Washington Office BLM staff and many partners including Pacific Forest Trust, The Conservation Fund, Meriwether Southern Oregon Land & Timber LLC, Brian and Kathleen Dossey, Ed Cottrell, Ada Rivera and many others.

Cascade-Siskiyou National Monument Acquisitions as of Sept. 2015



Friends of Cascade-Siskiyou National Monument

The Friends of Cascade-Siskiyou National Monument (FCSNM) worked closely with Monument staff in 2015 to build capacity and position themselves to be a robust partner in accomplishing the Monument’s mission. In 2015 the Friends worked on educational, outreach, and interpretive activities, and continued to expand their role into assistance with restoration and

land acquisition projects to enhance ecological integrity and habitat connectivity within the Monument. The Friends also hosted the June Butterfly BioBlitz in the Monument. The Monument looks forward to working together with the FCSNM on a number of future projects.

Challenges/Opportunities

CSNM RMP, SMW Stewardship Plan, and CSNM Transportation Plan Implementation

There is very minimal funding for implementing the RMP, SMW plan, and the transportation management plan. This includes forest restoration (pine plantations/fuels reductions), road restoration (decommissioning /obliteration), trailhead development, noxious weed treatments, removal of range infrastructure that is no longer needed (e.g., fences, stock tanks, cattle guards), restoration of unnecessary water developments, and removal of human effects from the wilderness (e.g., refuse dumps, irrigation pipe, structures). Additional funding assistance is critical in implementing this priority ecological restoration work.

Road Maintenance

Monument roads providing access to popular visitor sites and to private land within the CSNM continue to deteriorate. In the past, road maintenance was funded through road use fees from the extraction of timber from private land and by funds from BLM timber sales. The BLM has had some success in recent years in obtaining Secure Rural Schools and Community Self-Determination Act funds for road grading and brushing on selected high use roads within the Monument. However, this resource pool appears to be rapidly disappearing due to decreased funding levels. In the future, Monument funding will be needed to maintain the CSNM road systems now being used primarily for recreation and for inholder ingress and egress.

Hyatt Lake Recreation Complex

The majority of Monument facilities and infrastructure reside in the Hyatt Lake Recreation Area and Campground which was established in 1969. Many of the facilities were built in the early 1970s. While some of the facilities are showing their age, regular maintenance and larger rehabilitation projects are attempting to keep the facilities functioning. Several projects have recently been completed to enhance the visitor experience at Hyatt and provide a more visually appealing environment to the visitor. A newly constructed and staffed entrance station was built in 2013. A new sign package was designed and all signage was replaced throughout the campground in 2014. A new vault toilet was also installed near the entrance booth in 2014.

However, there is a substantial gap in what we receive in funding from Recreation Fees and from the Medford District for operations and maintenance for recreation sites, and what we require to adequately maintain the site. Increased funding in the Monument sub-activity code for Hyatt Lake Recreation Complex maintenance and operations would improve the facilities as

well as provide for improved aesthetics and overall function of facilities to enhance the users' experience. The recreation complex is the only campground within the Monument and is where the majority of Monument visitors are introduced to the Monument. It is important to fund the facility at adequate levels to represent national Monument (NLCS) status.

Recreation Permits

The number of hikes, tours, and commercial use that is occurring, without permits or authorization, is increasing in the CSNM/SMW. Monument staff frequently discovers announcements regarding commercial and non-profit groups leading hikes and other events without prior notification or authorization. While there are a number of schools that visit on non-agency led hikes, the exact number is not known. Based on interviews with locals and finding journal caches, about a dozen schools probably visit the Monument annually. In the future, Monument staff will identify opportunities to better address this issue.

Law Enforcement

In 2015, Monument staff received increasing reports of poaching, vandalism, and motorized incursions into the wilderness. A steady funding source is needed to continue the positive trends in protecting the CSNM/SMW resources from trash dumping, illegal OHV travel, mud bogging, vandalism, and campground-related issues. There is no dedicated law enforcement presence in the CSNM/SMW. Law enforcement coverage and visibility is essential to provide user education, encourage compliance with rules and regulation, and foster stewardship and awareness of the Monument and wilderness and their unique features.

Staffing

Staffing for the Monument continues to be a challenge. In 2015, there were only two full time positions dedicated entirely to the Monument, and one position was vacant for almost half the year (Interpretive Specialist). The Monument Ecologist position has been vacant since May of 2015, and lack of funding has kept this position from being refilled. There is no dedicated Monument Manager. A number of Ashland Resource Area specialists assist with special projects, but competing priorities complicate scheduling. For most of 2015, there was only one Ashland Resource Area Outdoor Recreation Planner who provided assistance to the Monument, but had numerous other duties and responsibilities. Progress on planning and implementing projects within the Monument/Wilderness continues to be hindered by limited staffing.

Appendix A: 2015 CSNM Science, Monitoring and Inventory Program

Resource	Project Title	Partner	Description/Objective	Summary Results	Status
Presentations, Symposia and Collaboration	Presentation: Science in the Cascade-Siskiyou National Monument	Friends of Cascade-Siskiyou NM	Research and education occurring in the Cascade-Siskiyou National Monument. North Mountain Park Nature Center Ashland, OR	5 Research associates presented synopsis of studies. Approximately 70 attendees	March 2015
	Research collaboration with SOU Faculty	SOU and Friends of Cascade-Siskiyou NM	Develop a cooperative research relationship focused on CSNM	Multiple meetings to explore interest and opportunities.	Initiated: 2014, ongoing
	Klamath Cooperative of Applied Sciences	Multiple federal agencies and nonprofits, SOU.	Regional research cooperative with multiple federal, nonprofits and universities.	Organizational meeting on April 15, 2014	Initiated: 2014, ongoing
	Butterfly BioBlitz	Friends of Cascade-Siskiyou NM	An all-day event to count and name Butterfly species sites within the Cascade-Siskiyou National Monument	70 butterfly species identified	June 6, 2015
	Post-grazing Vegetation Change	SOU professors	Revisit vegetation transects post-grazing removal and identify changes taking place	Draft report received, final publication pending	September 2015

Resource	Project Title	Partner	Description/Objective	Summary Results	Status
Anthropogenic	Soda Mt Wilderness - Existing Structure Inventory	None	Locate, inventory and assess existing anthropogenic structures (stock watering ponds, abandoned roads, culverts, water diversions, trash piles, ect)	Completed binder with locations mapped, description and photos.	Initiated: 2009 Complete Final Report 2010
	Cultural Resource Survey of the Box O Ranch Complex	None	The Box O Ranch Complex covers over 400 acres in southeastern Jackson County, on the northeastern boundary of the Soda Mountain Wilderness. Update to the Box O Ranch Complex. Contains discussion of the context and condition of 6 structures in various conditions of integrity, 4 collapsed structures, 2 linear features, 1 gravesite, and 28 other isolated items	BLM recommends that the Box O Ranch Complex (BLM site #OR110-1584), as not eligible for listing on the National Register of Historic Places. Various structures	Initiated: 2009 Completed Final Report 2010

			or concentrations. Brief discussions about features of the ranch that were recorded in surveys in the 1990s, but are no longer located on the Box O Ranch Complex.	and features found within the Box O Ranch Complex, can still portray a semblance of the ranching experience in southwest Oregon.	
Plant Communities	BLM Seeds of Success Program Native Plant Collection	Chicago Botanical Garden Conservation Land Management Interns	Project locates native plant populations, photographs, vouchers, and collects seeds of native plants from southwest OR under the Seeds of Success project for long-term germplasm storage and expand the number of species from different eco-regions needed to revegetate disturbed areas in southern Oregon. The proposal targets the collection of diverse bio-types of native grasses, forbs, hardwood and shrub species from diverse eco-regions and elevations.	In 2014 completed 104 wild-land seed collections of over 96 species; collections made in 7 separate NLCS areas Collection categories: Bureau Sensitive Species – 5 NLCS areas – 33 Interns digitized 3,300 vascular plant vouchers from the Medford BLM herbarium into an online, searchable database as a member of the Consortium of Pacific Northwest Herbaria and the Oregon Flora Project.	Initiated: 2009 On-going
	Vegetation Change Following Grazing Removal on the Cascade-Siskiyou National Monument (NLCS Research Support Program 2013)	Darlene Southworth Ph.D. emeritus SOU and Henry Whitridge, M.Sc., SOU	The CSNM science strategy calls for “continued monitoring at suitable time intervals” in order to determine if objects of biological interest are being protected and if management goals are being met. Twelve years have elapsed since the first transect readings and five years since livestock grazing ceased, a suitable time interval for repeat measurements. This project will resurvey 65 transects and analyze the data to gain an understanding of changes in plant communities in various habitats over the intervening years in the context of different grazing regimes, land use histories and particularly in light of removal of grazing in 2009.	Field data collected in 2014 Draft manuscript in 2015	Initiated: 2013 On-going
	Forest Dynamics Across The Klamath Region: Pattern, Pace And Mechanisms Of Change	Phillip van Mantgem, Research Ecologist, USGS; Dennis Odion,	Install 1 ha forest plots to gather detailed information that will place forest patterns and dynamics within the context of the abiotic factors and biotic processes. Long-term research plots of natural forest stands in the parks of the NPS Klamath Network (Crater Lake	Interim report in 2013. 17 large plots installed in the Klamath region including, Crater Lake NP, Cascade-Siskiyou NM,	Initiated: 2011 On-going Interim Report:

		<p>Southern Oregon University;</p> <p>Joan Hagar, Research Wildlife Biologist, USGS;</p> <p>Daniel Sarr, National Park Service;</p>	<p>National Park, Lassen Volcanic National Park, Lava Beds National Monument, Oregon Caves National Monument, Redwood National and State Parks, and Whiskeytown National Recreation Area), and the BLM's Cascade-Siskiyou National Monument.</p>	<p>Lassen Volcanic NP, Lava Beds NM, Oregon Caves NM, Redwood NP and Whiskeytown NRA. Measured and mapped over 8000 trees. Data intended to understand forest dynamics on biodiversity patterns, particular emphasis on land bird communities. Future analyses of change of species composition, geographic location and climate (as estimated from the PRISM model) (Daly et al. 2002).</p>	2013
	USFS Forest Health Protection Aerial Surveys	Cooperative Agreement between USFS/BLM/O DF	Yearly Forest Health Surveys 1947 to present. Includes CSNM	Yearly Report: 2012 Forest Health Highlights in Oregon, published in 2013	<p>Initiated: 1947</p> <p>On-going</p>
	ISSSP: Distribution and abundance of rare sequestrate fungi in southwest Oregon (ISSSP)	Darlene Southworth Ph.D. emeritus SOU	<p>Three year strategic survey of rare and little-known hypogeous fungi in hardwood and mixed conifer habitats in southwest Oregon from Cascades to the Coastal Range. The project includes; collecting field data, statistical analysis, DNA sequencing, and a research paper.</p> <p>Additional project proposal funded in 2014 to:</p> <ul style="list-style-type: none"> To clarify characteristics that distinguish rare species from common ones. To correlate morphological and molecular data from recent collections of sequestrate fungi, particularly collections in lower elevation conifer-hardwood habitats. To identify the fungal associates of rare sequestrate species. 	<p>Initial project/paper completed:</p> <p>Field data and molecular analyses provide a more complete list of species abundance and diversity, habitat associations, and host species</p> <p>Additional DNA testing and paper:</p> <p>Stable isotope evidence for the saprotrophic status of the truffle <i>Schenella pityophilus</i> 2013</p>	<p>Initiated: 2010</p> <p>On-going</p> <p>Final: 2015</p>
	Oak woodland, shrubland and grassland composition and structural surveys.	Darlene Southworth Ph.D. emeritus SOU	Forest stand surveys including plant composition, hardwood structure (branching and diameter-at-breast-height, and stand age) will facilitate understanding of past fire behavior on	Analysis using multivariate techniques within the statistical package called	<p>Initiated: 2008</p> <p>On-going</p>

		Kelly McDonald and Jason Pennell (CBG)	hardwood-dominated ecosystems of the monument. Create geo-spatial database in GIS.	PCORD. Data gathering complete; working on analysis. Submitted journal publication in 2011.	Final: 2011
	Oregon Gulch and Old Baldy RNA Permanent Forest Plots	Reid Schuller, Western Stewardship Science Inst. Pacific Northwest Research Station, USDA Forest Service	Oregon Gulch RNA meets OR Natural Heritage cell for rare veg community in Oregon. Designed to detect forest community changes in respect to climate change. The project establishes 4 permanent quantitative baseline monitoring transects within RNAs as part of a nation-wide effort to measure climate change on BLM lands. Designated for research, education, and conservation. The data will become part of an interagency databank for RNAs maintained by the Pacific Northwest Research Station, USDA Forest Service, Corvallis, Oregon. The data will be re-collected every 10 years.	Baseline data recorded in 2010/2013.	Initiated: 2010 On-going
	Current Vegetation Survey Permanent Forest Plots	BLM/USFS	Permanent, long-term, forest stand plots. Macro-plot with 5 micro-plot design on 1.6 mile grid. Part of BLM/USFS inter-agency forest data set used to describe forest stands, model forest growth, species and demographic composition, fuels, forest legacy, disturbance/changes over time. Install new plots in acquired lands. Remeasured every 5 years.	Plots characterize existing forest stands, forest health, stand composition, tree growth, change in fuels composition.	Initiated: 1996 On-going
	Joint Fire Science Program Fuels Reduction in oak woodlands, shrub lands and grasslands of SW Oregon. Consequences for native plants and invasion by non-native species.	Pat Muir, Ph.D. OSU Dept of Botany and Plant pathology	1) Consequences of fuel reduction techniques and wildfire for native plant communities and species of concern. 2) Relationship of fuels reduction methods to invasion of non-native plants. 3) Consequences of seeding treated areas with native grass seed and invasion of non-native species. 4) Similarities and differences in response among the various vegetation types. 5) Fuel models that result from various treatments 6) Spatial description of historic veg communities based on General Land Office surveys		Initiated: June 2003. Final: 2010

wildfire	FIREMON Plots	Steve Bridges ODF Retired and Pinehurst School	Established 8 FIREMON plots. The FIREMON field data and protocols include: a) Fuel Loading (FL surface fuel load, fuel bed depth, duff and litter), b) Tree Data (TD for calculation of canopy base height and bulk density), c) Fire Behavior (FB to monitor observed fire behavior within the plots) d) Species Composition (SC point-intercept, nested frequency quadrats and shrub density belt) e) burn severity (Composite Burn Index).		Initiated: 2007 On-going
	Meeting Bird Conservation Objectives in the Klamath Siskiyou Bioregion	John D. Alexander, MS, PhD Candidate Klamath Bird Observatory	Klamath Bird Observatory (KBO) will use existing bird monitoring data, biotic, abiotic, and climatic variables to model the presence, absence, and distribution of birds within the Monument. develop a bird distribution model that will provide a baseline understanding of the status of birds in the Monument		Initiated: 2010 On-going Final: 2013 Draft Manuscript in Preparation
Wildlife	Peregrine Falcon Monitoring	None	Assess breeding/occupancy status of one known Peregrine Falcon site.	Falcons present for several years—breeding about every other year.	Initiated: 2004
	USF&W Bird of Conservation Concern		Informal monitoring – data collected as time permits.	Results submitted for statewide compilation	On-going
	Bureau Sensitive Species				
	Fisher Surveys	Sam Wasser, University of Washington	Document presence/absence, distribution and occupancy of Fisher. Utilized hair snares, scat sniffing dogs, and motion sensitive cameras at bait stations. Analyze DNA to identify individuals, population demographics and create database of individuals	Fishers and fisher habitat confirmed in CSNM.	Initiated: 2006
	Federal Candidate Species	USFS Rocky Mt Research Station Genetic Lab			Ongoing
	Bureau Sensitive Species				
Northwestern Pond Turtle Monitoring		Monitor 3 known sites for population size and age structure.	Results showed a good distribution of age classes within the populations.	Initiated: 2008 ISSSSP Completed 2009	
Bureau Sensitive Species					
Spotted Frog Monitoring	Micheal Parker Ph.D.,SOU	Yearly monitoring of egg counts, population abundance, and viability. Most easterly population	Update with April report.	Initiated: 2003	
Federally Threatened Species			Number of egg masses consistently 20 or less.	On-going	
Bureau Sensitive Species					
Spotted Frog	USF&W	Oregon Spotted Frog	Listed as a	Initiated: 2013	

			On August 28, 2014, the USFWS listed the frog as a threatened species under the Endangered Species Act. Proposed Critical Habitat Designation: Awaiting a final rule designating critical habitat.	threatened species under ESA Proposed Critical habitat designation with map available.	On-going
	Franklin's Bumble Bee population and Persistence Monitoring.	Robbin W. Thorp Ph.D., Emeritus Entomology UC Davis Department of Entomology and Nematology	Continuing effort to discover biological characteristics of bee habitat requirements, potential threats to its existence, and other critical parameters that affect population persistence and viability. A Candidate Notice of Review for <i>Bombus franklini</i> has been prepared by Brendan White, USFWS	Populations declining precipitously since 1998. In 2006, one worker was observed after not having found the species the previous two years. <i>No B. franklini</i> were observed since 2007	Initiated: 1998 On-going
	Bureau Sensitive Species				
	Northern Spotted Owl known site monitoring	Doug Barrett, Westside Ecological Jenniffer Bakke, Hancock Partners	Monitor known spotted owl sites on BLM-managed land that could affect operations on industry land. Approximately 15 sites monitored by industry personnel. Spotted owl sites monitored in timber sales at purchaser request – contract obligation. Other sites monitored as time permits – informal monitoring	Spotted Owl survey forms are entered into the BLM database annually.	Initiated: Various On-going
	Federally Threatened Species	None			
	Bald Eagle nest surveys	Jim Harper Volunteer	Monitor known Bald Eagle sites for occupancy, breeding status, and reproduction.	Data submitted to Oregon Eagle Foundation for statewide compilation	On-going
	Bureau Sensitive Species				
	Great Gray Owl monitoring	None	Monitor known Great Gray Owl locations as time/\$ permit – informal monitoring	Data is entered into GeoBOB. Results vary. No recent surveys conducted.	Initiated: 1995 On-going
	Bureau Sensitive Species				
	Meadow Dwelling Insects	Robbin W. Thorp Ph.D. emeritus Entomology UC Davis Department of Entomology and Nematology	Improve knowledge of various species range, population, and site specific information regarding meadow associated species to assist in management for the persistence of these species. Target Species List and Ranks: <i>Chloealtis aspasma</i> (Siskiyou short-horned grasshopper) G1 S1, ORNHIC List1	Field data collected in 2014. Three species were found in meadows. <i>Bombus occidentalis</i> , <i>Speyeria coronis</i> nr. <i>coronis fritillary</i> , and <i>Chloealtis aspasma</i>	Initiated: 2014 On-going Final report in 2015

			<p>Bombus franklini (Franklin's Bumblebee) G1 S1 ORNHIC List 1 Bombus occidentalis (Western Bumblebee) GU S1S2 ORNHIC List 2 Polites mardon (Mardon Skipper Butterfly) G2G3 S2 ORNHIC List 1</p>	<p>were all found at various locations.</p> <p><i>Chloealtis aspasma</i> (Siskiyou short-horned) was identified at twelve of the thirty-one sites visited.</p> <p><i>Speyeria coronis nr. coronis fritillary</i> were found at Keno Access, Shale Divide, and O'Brien Creek.</p> <p><i>Bombus occidentalis</i> was found in the eastern half of the bioregion, at Buck Divide, Keno Access and Hoxie Creek meadows visiting <i>Solidago</i>.</p>	
	NABA Butterfly Counts	<p>North American Butterfly Assoc. (NABA)</p> <p>Compiler: David Hagen, NABA Eugene-Springfield</p>	<p>Yearly monitoring of butterfly species and populations.</p> <p>NABA Butterfly Counts is a compilation of all butterflies observed at sites within a 15-mile diameter count circle in a one-day period. The annually published reports provide information about the geographical distribution and relative population sizes of the species counted. Comparisons of the results across years monitor changes in butterfly populations and study the effects of weather and habitat change on North American butterflies.</p>	<p>53 species found at 2 sites and 947 individuals</p> <p>15 mile diameter circle is centered at the junction of Highway 66 and East Hyatt Lake Road</p> <p>Latitude: 42.1230 Long: 122.4644</p> <p>July 4, 2013; 2nd year</p>	<p>Initiated: 2012</p> <p>On-going</p>
Botany	<p>Limnanthes flocosa ssp. bellingeriana</p> <p>Population Monitoring</p> <p>Bureau Sensitive Species</p>	<p>Kerry Byrne, OR Inst. Of Technology,</p>	<p>Estimated population size (map polygon) and number of plants at two populations; established two 50m transects and randomly selected 10 1m2 plots to count # of plants in each; randomly select 10 plants from population and count flowers, then later count seeds per plant; possible germination study later.</p>	<p>Populations mapped, counted and will be entered into GeoBOB. Data and analysis due by end of calendar year 2015.</p>	<p>Initiated: 2012</p> <p>On-going</p>

	<p>Greene's mariposa lily (<i>Calochortus greenei</i>)</p> <p>Population Monitoring and effects of grazing on Greene's mariposa lily (<i>Calochortus greenei</i>) over 10 Years</p> <p>Bureau Sensitive Species</p>	<p>Tom Kaye, Ph.D,</p> <p>Inst. for Applied Ecology</p>	<p>Permanent fenced/unfenced paired plots established. Three study areas that span the range of cattle utilization.</p> <p>In 2003, fifteen pairs of 2 m x 2 m large-mammal exclosures and controls were established in <i>C. greenei</i> populations, five in each of the three study areas:</p> <p>In 2007, established a total of 14 1 m x 1 m all-mammal exclosures, with seven in Colestine and seven in Agate Flat.</p> <p>Each individual <i>C. greenei</i> plant was mapped, the length and width of each <i>C. greenei</i> leaf in all plots was measured, plant height and flower/bud number were also recorded.</p>	<p>Herbivores negatively affected plant size and population viability. Fencing improved conditions. Removing herbivores from plots generally did not result in improvements in native plant abundance, even after 10 years. Grassland vegetation on CSNM that has been degraded due to long-term grazing by livestock is unlikely to improve without additional restoration practices, such as removal of non-native plants and seeding with native vegetation.</p> <p>Climate change may improve conditions.</p> <p>Further research to better measure seed germination and seedling establishment would improve <i>C. greenei</i> population modeling.</p>	<p>Initiated: 2003</p> <p>On-going</p> <p>Final: 2012</p> <p>Report located at: Medford BLM and http://appliedecology.org/reports</p>
	<p>Gentner's fritillaria (<i>Fritillaria gentneri</i>)</p> <p>Population Monitoring</p> <p>Federally Endangered Species</p>	<p>Richard Callagen and Richard Brock Siskiyou BioSurvey</p>	<p>Yearly monitoring of selected populations in Recovery Unit, 4. Annual revisits of 12 selected populations.</p> <p>Tracks long-term change (abundance and phenology) over time by population.</p> <p>Presence/absence and demographic data over time.</p>	<p>Annual Medford Dist. monitoring report. Data updated yearly in GeoBob.</p> <p>Annual Review of Fritillaria Gentneri on BLM Lands 2014 Report</p> <p>Individuals do not flower every year.</p> <p>Populations can only be detected with mature, flowering</p>	<p>Initiated: 1999</p> <p>On-going</p>

				individuals.	
	<p>Gentner's frillaria (<i>Fritillaria gentneri</i>)</p> <p>Population Augmentation and Monitoring</p> <p>Federally Endangered Species</p>	<p>Bob Meinke, Plant Division Oregon Department of Agriculture</p>	<p>Bulblets grown in greenhouse are out-planted at existing populations to increase population size.</p> <p>Objective is to meet recovery criteria and contribute to recovery of species.</p> <p>Track change (demographic data - abundance and phenology) over time by population.</p>	<p>Reported in semi-annual monitoring report by ODA. Data updated yearly in GeoBob. %50 of individuals out-planted do not survive.</p> <p>Refining suitable habitat characteristics and timing of out-planting to increase survival.</p>	<p>Initiated: 2008</p> <p>On-going</p>
	<p>Gentner's frillaria (<i>Fritillaria gentneri</i>)</p> <p>Population Augmentation and Monitoring</p> <p>Federally Endangered Species</p>	<p>Bob Meinke, Plant Division Oregon Department of Agriculture</p>	<p>Twenty plants of <i>Fritillaria gentneri</i> in the CSNM will be selected for inclusion in the study, selected plants will be caged in wire cages, prior to the development of stigma receptivity, flowers will be bagged with mesh pollination bags, pollen used for pollinations will be collected from plants in Recovery Units 1-3, data on number of capsules produced, number of seeds per capsule, and number of apparently viable seeds per capsule will be collected.</p>		<p>Initiated: 2014</p> <p>On-going</p>
	<p>Ectomycorrhizae associated with <i>Cercocarpus ledifolius</i> and <i>Quercus garryana</i> var. <i>brewerii</i> in southern Oregon.</p>	<p>Darlene Southworth, Ph.D. emeritus SOU</p>	<p>Survey the diversity and abundance of ectomycorrhizae associated with <i>Cercocarpus ledifolius</i> and <i>Quercus garryana</i> var. <i>brewerii</i>.</p>	<p>Final results: 18 species of ectomycorrhizal fungi have been identified on roots of <i>Cercocarpus</i>, the first such information anywhere. 5 of these are shared with <i>Q. garryana</i> var. <i>brewerii</i> suggesting a mycorrhizal network linking the shrubs. New species described in journal.</p>	<p>Initiated 2007</p> <p>Final 2011.</p> <p>Data gathering complete; analysis complete; manuscript submitted, accepted in 2011. Poster presented at Botanical Society of America meeting 2008.</p>

	<p>Movement, Seasonal Habitat Use, and Spawning Locations of the Jenny Creek Sucker (Catostomus rimiculus sp.).</p> <p>BLM Strategic Species</p>	David Hering, Fishery Biologist, Crater Lake National Park	<p>Jenny Creek suckers will be collected and tagged at multiple locations in mainstem Jenny Creek during base flow conditions. We will tag approximately 350 adult Jenny Creek suckers ($\geq 120\text{mm}$) with 12mm half-duplex (HDX) passive integrated transponders (PIT tags) into the body cavity.</p> <p>Install stationary stream-width PIT antenna arrays at one location in the mainstem and at the mouths of three tributary streams (Johnson, Beaver, and Corral Creeks) to document seasonal movement of tagged individuals.</p> <p>Fish movement assessed at two spatial scales: stationary antenna arrays will record fish movements and direction at the stream reach-scale; walking surveys using mobile backpack mounted PIT antennas will identify locations of spawning activity at the scale of a meter or less.</p>	Detected very few fish during the 2013/2014 season (winter and spring). SW Oregon was beset with a record breaking drought, resulting in no significant peak flow events all season. Area reservoirs remain at record lows. The solar panels at several sites did not receive enough light to function continuously resulting in long periods when the antennas were not active.	Initiated: 2013 ongoing
Hydrology	CSNM/Wilderness Area - Existing Water Structure Inventory	None	Locate, inventory and assess existing anthropogenic structures (stock watering ponds, roads, diversions, ect). Comprehensive inventory of features in CSNM.	Completed binder with location, description and photos. Data stored at Medford BLM	Initiated: 2009 Complete
	Precipitation Measurement	None	Document rainfall at or near stream gaging stations for use in NEPA planning documents and calibrate streamflow and other monitoring parameters sampled in vicinity. Lower Jenny Cr.	Monthly and annual summary information for each water year. Data stored at Medford BLM	Initiated: March 1999 Ongoing
	Stream Gaging Station	None	Determine long-term streamflow regimes in order to document effects of BLM actions on watersheds. Lower Jenny Cr.	Monthly and annual summary information for each water year. Data stored at Medford BLM	Initiated: Nov. 2003 and March 1998 Ongoing
	Summer - Stream temperature monitoring program	None	Document stream temperatures and long-term recovery of 303(d) listed streams at approximately 13 locations in the CSNM.	Annual summary reports for each site. Data stored at Medford BLM	Initiated: June 1998 Ongoing
	Storm event grab sampling	None	Document turbidity, conductivity, pH, water temperature, air temperature, snowpack and discharge at 26 sites	Monthly and annual summary information for	Initiated: June 1998

			during high streamflow events. Sampling is infrequent as opportunities arise. (15 sites in CSNM)	each water year. Data stored at Medford BLM	Ongoing
Recreation	PCT Trail Condition	Pacific Crest Trail Ass. (PCTA) and Siskiyou Mountain Club	Monitor trail condition, erosion, hazards, condition of previous projects. Monitor portions of trail 2-3 times/year Photo monitoring of restoration projects and selected areas	Pacific Crest Trail Association contributes approximately 80% of monitoring	On-going
	PCT Visitor Use	PCTA	Determine trends over time. Visitor counters placed to detect yearly use.	2002-2006 6,000 yearly 2006-2008 7,500 yearly	Initiated: 2002 Ongoing
	Hyatte lake Recreation Area Visitor Use	none	Monitor Campground, visitor use and activities		Initiated: 2002 Ongoing
Invasive Plants	CSNM Weed Control	JR Forestry, OR Dept of Trans, Carrie Pirosko, OR Dept of Agri., Kristi Mergenthaler, Southern OR Land Conservancy, Jonathan Paul Lomakatsi	Conduct weed control on Yellow starthistle, Canada thistle, Dyers woad, Spotted knapweed, Jointed goatgrass, Russian thistle and Teasel using an Integrated Weed Management approach: a combination of hand-pulling and herbicide applications. Treatments primarily located along I-5 corridor, Soda Mt., and Box O historic ranch.	Approximately 500 acres were treated. Infestations mapped and treated. Treatment data shall be entered into NISIMS. Follow-up mapping and treatments in 2015.	Initiated: 2014 Ongoing
	South Cascades Lakes Noxious Weed Inventory, Mapping and Control Project	Mike Meredith, MSM Forestry LLC	Conduct a comprehensive inventory of listed noxious weeds found within the 80,000 acre project area, map them and eradicate them if possible. The focus within the area is along existing passable roads and lakeshores. Inventory, treat and monitor noxious weed sites. Determine presence/absence, extent, and treatment effectiveness	11 noxious weed species were found and mapped. Weeds were found and treated on 142 of the original weed centers. Over 200 miles of road were covered during the search. 161 of the total 339 weed centers had no weeds in 2013. 8 new weed centers were mapped and treated in 2013.	Initiated: 2009 Completed 2014
Grazing	Lease Compliance checks	None	Season of use, number and location of cows, sensitive areas. Visit selected range improvement structures (fences, troughs, ponds) to monitor condition.	Repeat non-compliance. Data stored at Medford BLM	Initiated: Early 1970s Ongoing-Annual



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2015