

Soquel Demonstration State Forest

2013 Annual Report



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State of California
DEPARTMENT OF FORESTRY AND FIRE PROTECTION
Northern Region
San Mateo-Santa Cruz Unit

Santa Cruz County



SUMMARY

Some highlights from 2013 included the completion of the Large Woody Debris (LWD) and Habitat Complexity Project, as depicted on the cover, with multiple field trips for groups from several agencies and organizations, the approval of the updated General Forest Management Plan (GFMP) by the Soquel Demonstration State Forest (SDSF) Advisory Committee, the approval of the Comstock Mill Timber Harvesting Plan (THP), and the completion of the first phase of a shaded fuel break along Hihn's Mill Road. Recreation highlights included a second year for the Super Enduro mountain biking race and planning for a new trail.

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ADMINISTRATION

Angela Bernheisel remained Forest Manager along with Assistant Forest Manager Ed Orre, half-time Office Technician Anna Cameron, returning Forestry Aides Julie Dufresne and Elizabeth Lucas, and new Forestry Aide Trevor Seck, also a Cal Poly San Luis Obispo forestry alumnus. Dufresne and Lucas worked until January 15. Dufresne was rehired April 16 for her fourth season with the forest and worked until January 14, 2014. Seck began work on May 21 and worked until February 10, 2014.

Ed Orre accepted a position in the Santa Clara Unit and promoted to Forester II, Division Chief to fill the new position of SRA Forester on January 6, 2014. Orre began working at the forest on December 12, 2000 and dedicated 13 years of his career to SDSF.

Unit Chief John Ferreira retired in 2012, and Scotty Jalbert became the new Unit Chief in February 2013. Jalbert and new Deputy Chief of Operations Ian Larkin were sworn in on March 11 at Unit Headquarters in Felton. The Unit Management Team, under Chief Jalbert's leadership, began meeting regularly and Bernheisel remained an active and engaged member of the team. The Unit Management Team determined goals for 2013 and met for one or two meetings per month as well as Unit Operations Team meetings to manage Unit business and guide the Unit to accomplish 2013 goals. Bernheisel also continued duties as the Unit Public Information Officer and produced news releases relating to the early and extended fire season. She provided the new Unit Chief with an orientation and field tour of the forest in late summer including stops at the LWD and road repair sites, active fuelwood operations and the new Comstock Mill THP area.

During the extended fire season of 2013 Orre was assigned to several wildfire incidents where he served as a Field Observer, Situation Unit Leader, and Suppression Repair Specialist as well as in Unit assignments as a C Faller. Orre and Dufresne took the Forester II and Forester I exams, respectively.

The Soquel Forest Advisory Committee continued to provide comments chapter by chapter on the General Forest Management Plan (GFMP) to CAL FIRE staff for revision. They held two meetings (in June and September) and one field tour of the forest in October. Region HQ Forester Jill Butler continued to assist Bernheisel to incorporate comments from the Committee into the Plan. Bernheisel coordinated with a professional biological consultant for assistance on the fisheries chapter. With the passing of longtime Chairperson Steve Staub in November 2012, the committee took a break from meetings for the first part of the year. A memorial service was held for Staub in April, and Bernheisel and Orre attended.

At the June 18 Advisory Committee meeting, several new members were welcomed to the committee: Matt Dias, representing the Board of Forestry, Matt Johnston for the County of Santa Cruz, and Geoffrey Holmes representing local Registered Professional Foresters. New officers were elected and a subcommittee was established to create a memorial for Steve Staub in the forest. A September meeting was held to continue the review of updates to the GFMP.

On October 29, the Committee attended a field tour to review the LWD sites in Soquel Creek, the road repair site on Hihn's Mill Road, the Rim THP fuelwood operations, the area for the new Flow Trail, and the weather station. Five of the nine members attended, along with two members of the public, five CAL FIRE staff and CGS Geologists, Steve Reynolds and Cheryl Hayhurst.

The Advisory Committee Members in 2013 were:
Vice Chair Steve Butler - Resource Conservation District of Santa Cruz County (RCD)
Chairperson Patty Ciesla - Stewards of Soquel Forest
Matt Dias - Board of Forestry and Fire Protection
Geoff Holmes- Registered Professional Forester
Tim Hyland and Chris Spohrer - California Department of Parks and Recreation
Matt Johnston - Santa Cruz County Planning Department
Terris Kasteen - California Department of Fish and Wildlife (DFW)
Patricia Marland - Neighbor Representative
Larry Serpa – The Nature Conservancy

Minutes from committee meetings, along with updates on the GFMP were posted on the website: http://calfire.ca.gov/resource_mgt/resource_mgt_stateforests_soquel.php.

The title deed for SDSF that had been held on a 25-year lease, was transferred in 2013. Bernheisel attended a meeting in Sacramento with the State Controller's Office and the Nature Conservancy regarding the permanent transfer of management of SDSF to CAL FIRE.

The Forest Stewardship Advisory Committee, a CAL FIRE advisory board that acts as a liaison with the Forest Service to advise their grant programs, visited the forest on September 26 for an all-day field tour. This same group was instrumental in helping CAL FIRE acquire the Noren properties several years ago, as part of the vision for a new and more easily accessible entrance to the forest on Soquel-San Jose Road. Forest staff led the field trip which included stops at the LWD project sites and the Rim timber harvest area. During the field trip, attended by members of the committee, eight CAL FIRE staff (including two CAL FIRE Legislative Analysts from Sacramento who work on legislation for the state forests), and one member of the Stewards of Soquel Forest, forest projects, operations and future access needs were discussed.



Orre and Dufresne in Rim timber harvest area with the Forest Stewardship Advisory Committee

State Forest Program Manager Helge Eng attended a meeting of the Northern California Society of American Foresters at Swanton Pacific Ranch in August, with a focus on “The Challenges of Working Forests in the Santa Cruz Mountains” and gave a brief presentation on SDSF and the State Forest Program.

Bernheisel continued to serve as a member of the Jasper Ridge Coordinating Committee for Standford University’s Jasper Ridge Biological Preserve. During one of the meetings the group toured the new energy-efficient house at the preserve that was designed and built as part of the Solar Decathlon competition in Irvine (<http://solardecathlon.stanford.edu/>) and was awarded top honors.

Bernheisel served on the interview panel for Forestry Aide hiring in Berkeley and San Luis Obispo, and for Forester I examinations in Sacramento. Bernheisel attended a special California Licensed Foresters Association (CLFA) breakfast meeting at Swanton Ranch in April. New representatives from the California Department of Fish and Wildlife (CDFW) who review timber harvesting plans attended and were presented with information about forestry in Santa Cruz County and also hiked harvest areas on the Little Creek watershed that burned in the Lockheed Fire. Bernheisel attended a reception for colleague Karen Christensen, Resource Conservation District of Santa Cruz Executive Director, who was honored with a James Irvine Foundation Leadership Award.

Fire Crews from the Ben Lomond Conservation Camp worked with SDSF staff on several projects in 2013 including: clearing fallen trees off of trails, abandoning the old section of trails and roads, eradicating French broom, digging trenches, and laying pipe for plumbing the water tanks near the lower helipad and Badger Spring.

Crews worked for 43 days starting in October on a shaded fuel break project which was part of CAL FIRE’s SFA Grant project along the main access road through the forest, Hihn’s Mill Road. A total of 18.5 acres and 2.3 miles of road were completed in 2013. Forest staff supervised crews and managed the prescription for implementation. Several scheduled crew days had to be cancelled due to Ben Lomond crew fire assignments including the Pfeiffer Fire in December, and other issues with crew availability. Pile burning that was scheduled to finish the project at the end of December was postponed due to hazardous burning conditions and the reinstatement of a burn ban in the Unit due to dry weather.

Plans continued to be coordinated with CAL FIRE engineers from Technical Services in Sacramento for the demolition of the vacant house on the Noren property. CAL FIRE Surveyors from Technical Services in Sacramento, Jeff Gawronski and Jason Gasser, completed surveying the western and northern boundaries of SDSF. A new gate was completed at the bridge at the public entrance on Highland Way in January, as part of the Fern Gulch THP contract. Another new gate on Comstock Mill Road was installed in February at the forest boundary.

All gates in the forest were maintained and labeled with new ID numbers. Gate ID and location information was updated in the Emergency Command Center Computer Aided Dispatch to assist in emergency response. Caltrans Engineer Rick Jorgensen met with Bernheisel in June to inspect the Hihn Bridge in the forest that was installed in 1999. Jorgensen was able to observe the performance of the bridge as several fire engines crossed over as part of a drill. The bridge was found to be in very good condition.



Hihn's Mill Road Shaded Fuelbreak BEFORE



Hihn's Mill Road Shaded Fuelbreak AFTER



Caltrans bridge inspector at Hihn Bridge

Unit IT Coordinator Sandra Chang worked on problems with the office network and printers. An outdated computer was replaced with a laptop that runs GIS. Forest staff prepared for the new email switch over to California Email System (CES) in the spring by clearing out archive folders. The new email system had several delays in service when the servers were down causing staff work to be interrupted. Chang also helped set up a new back-up system for forest files.

Forest vehicles included: a 2008 Chevy 1500 (D1707 Bernheisel), a 2001 Ford F150 (F1793 Orre), a 1998 Chevy 1500 (F1796 Forestry Aides), a 1992 Suzuki LT250 ATV, a 1992 Built Rite utility trailer, and another utility trailer that was added this year. The Ford F150 (F1793) is dual-fuel (gasoline and propane) and had ongoing issues with its propane system which does not function. There are no certified propane mechanics in the region who can repair the truck. Vehicle maintenance was performed on the three main vehicles. F1796 experienced an apparent hit-and-run accident at the Santa Cruz County Fair parking lot on September 11; repairs were made at the Felton Shop, and a report was filed on September 12. The 1987 Eager Beaver chipper was not in service for the year and is planned for retirement in hopes that a new chipper will be acquired. A new air quality compliant chipper is needed and was planned to be added to the forest and local unit but never materialized as it was instead provided to another unit.

Another area of SDSF administration is the continued need for repairs and improvements to the office and the Soquel Forest Fire Station site. A stinging insect expert came out to remove honey bees from the siding of the SDSF office trailer in July. Seck installed required safety signs

and smoke detectors in the SDSF office and replaced a cracked gas hose for the facility fuel tank. Upgrades, maintenance and vapor testing were completed on the fuel tanks at the forest office and fire station in order to comply with new air quality regulations. At the office grounds, AT&T moved the phone lines over to a new power pole that PG& E installed earlier in the year. The old pole was removed due to instability from woodpecker granary activities. A three-year contract for a portable toilet to be used for crew projects and field trips was completed with the Business Services Office.

The street address for the public entrance to the forest at 29400 Highland Way helped visitors locate the correct entrance. The main county road used by the public to access the forest, Highland Way, was blocked for almost two weeks at the beginning of January.

The total precipitation recorded at the Longridge rain gauge for the 2013 calendar year was 5.98 inches. This was much lower than the annual rainfall average for the last 17 years (from the seasons 1996-2013) of 41.2 inches in the forest. The two months in 2013 with the most rainfall at Longridge were March with 2.02 inches and December with 1.05 inches. The extremely low rainfall for the entire year meant no further slides on the Highland Way.

TRAINING

Bernheisel, Orre, Dufresne, Dr. Marianne Elliott from Washington State University, and forest volunteer George Smith completed the annual sponsor training at the Ben Lomond Conservation Camp in March. Seck completed the training in July. This training is required by Ben Lomond Camp and the California Department of Corrections and Rehabilitation for all personnel who work as sponsors with Ben Lomond Crews on projects.

Orre instructed as part of a cadre for the Unit S-212 chainsaw training in February. Bernheisel and Dufresne were students in the class. Orre also provided small group S-212 training to Fire Captains at Ben Lomond Camp in February. Orre attended Incident Management Team training in March in Sacramento. In April, he attended FOBS training as a new member of the cadre in Magalia, and also attended Tribal Relations training in Fresno.

Bernheisel attended the CZU Forest Practice Agency Review Team workshop in March, EMS Skills recertification in April in Felton, and in May she completed the California red-legged frog training provided by the Elkhorn Slough Coastal Training Program. This included a night field session for identifying and capturing frogs. She attended Duty Chief training at North Ops in Redding in May. She also attended CNDDDB, BIOS and RareFind training with CDFW instructors in December in Sacramento.

Seck completed online defensive driver training. Bernheisel reviewed radio procedures and completed the CZU Driver Authorization Checklist with Dufresne, Seck and Cameron. Bernheisel, Dufresne, Seck and Cameron attended the Expanded ECC Orientation in July in Felton. Ben Lomond Fire Crews conducted training in the forest during the first week of July. Forest staff participated in an agency-wide earthquake shakedown drill on October 17. Dufresne completed recertification for CPR AED/ EEO in November in Belmont.

Annual fire season readiness movement drills, organized by CAL FIRE Training Captain Jed Wilson and BC Jake Hess, were conducted over three days in the spring on the forest for Santa Cruz County Fire Agencies.



Short haul training in May at the lower helipad

Monterey Bay Search Dogs (MBSD) conducted several search-dog training activities in the forest. MBSD is affiliated with the Santa Cruz Sheriff's Department Search and Rescue Team and the California Task Force 3 Urban Search and Rescue team.

TIMBER MANAGEMENT

Upon completion of the conifer harvesting operations in the Rim timber sale area, the Rim THP was amended to change the Licensed Timber Operator (LTO) to remove Kenny Pelphrey and add Jeff Mead as an additional LTO for fuelwood operations (thinning and salvaging hardwoods) along with Lee Locatelli. Mead closed operations and completed erosion control work for the Rim THP on October 15. Locatelli continued with non-mechanized fuelwood operations throughout the winter in a separate area. A total of 442.5 cords of fuel wood was removed from the Rim THP area in 2013 with a portion of this sold for \$20 per cord through a Class I Timber Sale. Orre and CAL FIRE Archaeologist Chuck Whatford examined sites in the Rim timber harvesting area in August and were assisted by Dufresne and Seck. Orre completed an amendment to the Rim THP for additional archeological sites that had been discovered during operations.

The Fern Gulch THP was amended by Orre to include additional archaeological sites. Partial work completion reports for Fern Gulch and Rim THPs were submitted in May. Forest Practice Inspectors Scott Bullock and Andy Hubbs accompanied by Seck, conducted forest practice inspections in both Rim and Fern Gulch THP areas. Corrective measures to ensure proper erosion control practices, including water bars, were completed in Fern Gulch THP area in the fall.

Timber harvesting and hauling on adjacent property owned by the CHY Company continued in August. An easement allows for the haul route to go through the state forest on Hihn's Mill Road.



Rim fuelwood harvesting



Temporary bridge over Soquel Creek on the CHY easement

In January over 2,000 redwood seedlings were planted in Fern Gulch timber sale area. More seedlings will be planted next winter (January or February 2014) in the Fern Gulch and Rim areas. Dufresne coordinated an order with LA Moran Reforestation Center to provide seed to Green Diamond Resource Company's nursery to grow 8,000 redwood seedlings for January 2015.

The Comstock Mill THP in the Amaya area on the western side of the forest was completed by CAL FIRE Forester Scott Bullock and sent in for review in April. It was returned for minor issues to be addressed, was resubmitted in May, reviewed, opened for public comment period until November, and was signed for approval in December. The THP focused on the area outside the previous Amaya THP from 1998. CGS Geologist Don Braun completed a pre-consultation and region Archaeologist Chuck Whatford reviewed the archaeological addendum completed by Orre. Several volunteers including graduate students in archaeology assisted Orre with the surveys. Visiting Forestry Assistant II Shannon Johnson assisted Bernheisel with timber marking on the Comstock Mill THP for a week in February, and Dufresne volunteered for several days while she was laid off. Bernheisel, Dufresne, and Seck, along with local consulting RPF Steve Butler, marked a large portion of the THP area in December.

A botanical survey was conducted in the Comstock Mill THP area by Dylan Neubauer on May 14. Orre and Dufresne assisted and a complete report was incorporated into the Comstock Mill THP. One special status species plant, Brewer's redmaids (*Calandrinia breweri*) was located along a ridge near the property boundary. This species is on the CNPS List 4. Neubauer also made several recommendations about the control of invasive exotics that exist in the forest.

Eleven firewood permits (Class 1 Timber Sales) were issued in 2013 at \$20 per cord for a total of \$1950 in revenue. All firewood permits terminated on October 15, 2013.

RESEARCH

The Large Woody Debris (LWD) and Habitat Complexity Project resumed in 2013 for three additional sites after one site was completed in 2012. The purpose of the project was to contribute to the survival and recovery of Federally and State listed Endangered Central California Coast Evolutionarily Significant Unit Coho Salmon (*Oncorhynchus kisutch*) and Federally listed Threatened Central California Coast Distinct Population Segment Steelhead (*Oncorhynchus mykiss*) in the watershed, by increasing habitat complexity and pool frequency.

The 2013 project areas were advertised for a contract bid in May, and Bob Pinkard was the successful bidder. CGS geologists Stephen Reynolds and Cheryl Hayhurst returned to the forest to guide implementation of the project, collect data for the As-Built Report, and continue to monitor Site 1. Findings after one year of monitoring at Site 1 showed that there was an 18% increase in sinuosity, a doubling of the number of pools from 3 to 6 and a 260% increase in pool volume over the 300 foot reach at Site 1.

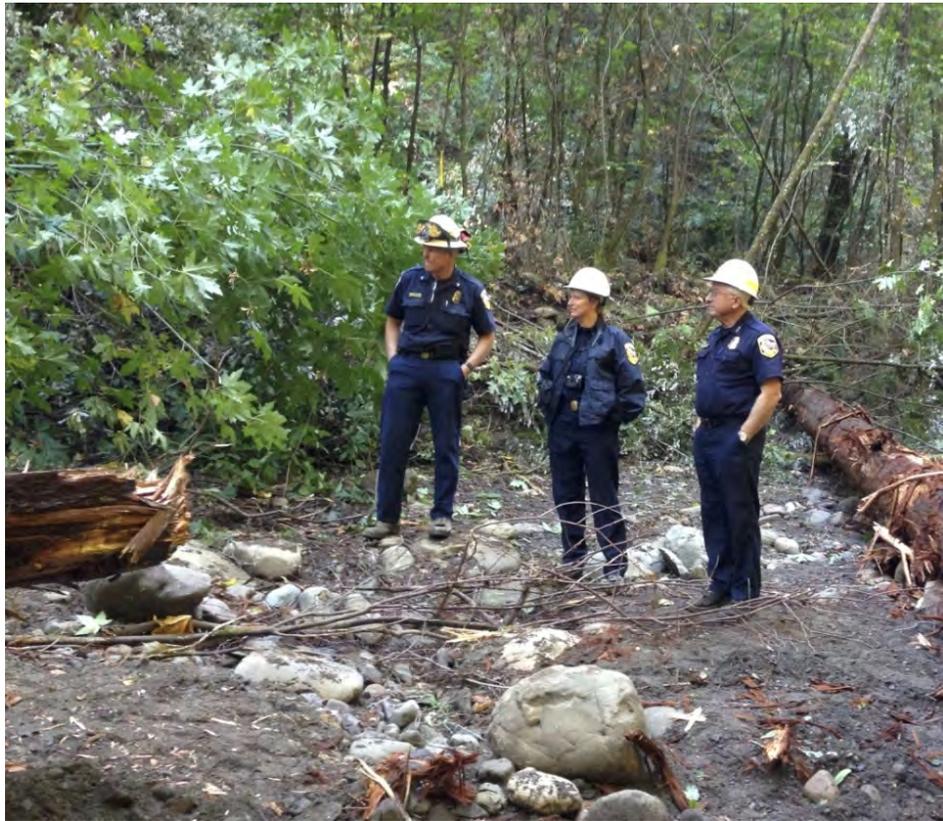
Local biologists also worked on the LWD Project to relocate fish prior for dewatering and to monitor biological resources during construction. Several field trips to view the project sites were provided in 2013 to a variety of groups and agency representatives. The Board of Directors for the Resource Conservation District of Santa Cruz County (RCD) and several of their cooperators met in November for a field trip to view the LWD sites where Bernheisel, Reynolds, and Hayhurst presented the finished project.



Rootwad placement as part of the LWD Project at Site 4



CGS Geologist Steve Reynolds guiding a field tour of LWD sites for RCD Board of Directors



Orre, Bernheisel and Resource Management Deputy Director Bill Snyder touring LWD project



CAL FIRE State Forest Program Manager Helge Eng on field trip to LWD project at the location of stored rootwads for use at the Streambank Repair Site

Hayhurst and Reynolds made several trips to the forest throughout the year to survey the LWD sites, provide information to groups and to perform monitoring. The LWD sites were completed from August to September. Dufresne and Seck designed and organized photo monitoring points for the project, and assisted NOAA Fisheries in pre-project stream habitat typing. Deputy Chief Bill Snyder and CAL FIRE Hydrologist Pete Cafferata visited the forest on September 23 to tour the LWD project areas. Steve Reynolds also provided a report for the forest on the Soquel Creek LWD Project and background LWD loading rates. The findings of the study were that the LWD loading rates post-project were roughly half of what would be expected in an undisturbed watershed and were essentially matching LWD loading rates in comparison to other recovering watersheds.

The Streambank Repair Project utilizing large rootwads and logs also went to bid and the contract was approved. Operations are scheduled to begin in the summer of 2014 with contractor Monte West of Algerine West Construction.

The biocontrol study of bay laurel trees in areas with Sudden Oak Death (SOD) was led by Dr. Marianne Elliott from Washington State University and researchers from the Canadian Forest Service. Orre and Bernheisel assisted in the selection of sites and trees that were included in the study. The areas in the study had very heavy stocking with bay laurel trees due to the high mortality of tanoak and madrone within the stands. These bay laurel trees were known to have spread SOD through the forest but were not killed by the pathogen. Finding a treatment to reduce the occupancy of bay laurel in stands such as these will increase species diversity and overall forest health. Dufresne and Seck installed an interpretive sign designed and provided by Elliott at the research site. The sign has provided forestry and research information to forest visitors. Follow up surveys will be conducted in 2014 to determine the more effectiveness of the different treatments used.



Bay laurel trees treated and identified for research study with Dr. Marianne Elliott



Ben Lomond Conservation Camp Crews working on the bay laurel study

NOAA Fisheries staff and volunteers conducted annual electro-fishing surveys for three days in late September to sample steelhead at five stream sites.



Electrofishing volunteers

On May 21 and 22, Dufresne and Seck launched HOBO temperature gauges (instream water temperature monitoring devices) at seven in-stream locations plus one air temperature location in the forest. The loggers were retrieved on November 22. The data were analyzed and an annual report of the results was prepared by Seck. This year's work continues the ongoing stream temperature monitoring which began in 1997.

Dr. Brook Kraeger, a local hydrologist, civil engineer and neighbor of the forest, continued collecting data from a pair of rain and stream gauges located in a small watershed in the forest. The purpose is to model the effects of forest management on runoff. Seck collaborated with Kraeger to define watershed boundaries for a study on harvest effects on watersheds in the Rim THP area. Kraeger finalized the installation of the weather station at the lower helipad area and installed fencing around it. He installed a leaf wetness sensor that was provided by researchers from Washington State University who are studying Sudden Oak Death. Kraeger also provided an orientation and training for forest staff on programming and downloading data from the weather station.

Orre met with Dr. Doug Schmidt of UC Berkeley to review the ongoing research sites for Sudden Oak Death (*Phytophthora ramorum*) in the forest. One study involves treating tanoak to resist infection from Sudden Oak Death while the other investigates *P. ramorum* spore production from bay trees in an overstory canopy.

The herpetological study, led by CAL FIRE Captain Lawrence Erickson and sanctioned by the North American Field Herping Association (NAFHA), continued with a one survey in April with 12 volunteers. The planned fall survey was canceled due to dry weather. Signs were posted to mark research sites so that forest visitors were warned not to disturb the study sites containing cover boards. Two more species of snakes were confirmed to be inhabitants of the forest. Data collected from these surveys are being stored in NAFHA's Herpetological Education and Research Project database. Whenever a Species of Special Concern is found during a survey, CDFW is notified and the species is registered in their database. A completed list of encounters (whenever a species is handled) was submitted to CDFW during the permit renewal process which occurred two years previously. The permit for 2014 covers a three year period.



San Francisco Alligator Lizard (*Elgaria coerulea coerulea*) on cover board (photo by J. Maughn)

Doctor Janet Foley of the University of California Davis returned to the forest throughout the year to continue researching blood-borne disease in small mammals, with a focus on finding chipmunks in the upper helipad area. A new study was planned with her graduate student, Benjamin Plourde, to assess small mammal populations within the Comstock Mill THP area pre- and post-harvest.

Dr. Chris Wilmers and Paul Houghtaling of UC Santa Cruz continued the Santa Cruz Mountain Puma Project to monitor the distribution and behavior of local mountain lions using

GPS telemetry collars. In June they tracked a new male lion in the eastern area of the forest along Soquel Creek. Bait stations and game cameras were employed to locate un-collared lions in the area and to relocate collared lions for evaluation. SDSF provided storage of bait near the office for the Puma Project.

Results are pending from the 2012 atmospheric deposition study by Dr. Alexandra Ponette-Gonzalez from the University of North Texas, Department of Geography to monitor the transfer of nutrients and pollutants in precipitation or from the atmosphere to the land surface. Ponette-Gonzalez and her graduate students returned to SDSF in May for a short-term study to measure solar radiation. A graduate student also in the geography department, Alicia Gray, completed her Master of Science thesis on the spatial distribution of SOD in the forest.

In July, Bernheisel forwarded a list of possible projects solicited by the Resource Conservation District of Santa Cruz for potential inclusion in the Integrated Watershed Restoration Program. Projects proposed included culvert replacements, additional stream habitat enhancement projects, invasive species eradication, an additional bridge and bridge upgrades. In November, Bernheisel finalized a project list for submission to the program for Santa Cruz County including crossing upgrades and habitat projects at SDSF.

A bird survey was conducted in April along Amaya, Hihn's Mill and Sulphur Springs Roads by CDFW Scientific Aide Russ Landers. A total of 33 species of birds were heard and/or sighted, and a list was provided to forest staff.

The annual visual cone crop survey was completed for the CAL FIRE Seed Bank at the LA Moran Reforestation Center. It was decided that cones would not be collected this year at the forest.

RECREATION

Mountain bikers continued to be the most numerous visitors to the forest, and with the extended dry weather in 2013 usage was consistently high especially on weekends. Trail counters that were installed in 2012 on all major trails in the forest gathered data to more accurately estimate recreation user numbers. Although signage indicates that the counters are not cameras and are solely used for the purpose of collection visitor crossing, two counters were stolen along Longridge Road and Ridge Trail.

Bernheisel and Orre worked with the Stewards of Soquel Forest (Stewards), a non-profit organization supporting SDSF educational and recreational goals, and Mountain Bikers of Santa Cruz (MBoSC), a non-profit local mountain biking advocacy club, to plan for a new trail near Tractor Trail called the Flow Trail. Several meetings were held with Stewards President Patty Ciesla and MBoSC trail builder Drew Perkins to consider all planning aspects of the trail, including environmental review and reporting requirements and construction. The Stewards and MBoSC held five class workshops for new trail crew leadership volunteers and trained 40 people to lead trail work days that will be planned to build the Flow Trail in 2014. A Flow Trail Committee was established with volunteers, representatives of MBoSC, and CAL FIRE staff. Bernheisel met with Perkins to review CEQA documentation for the development of the Flow Trail, and a CEQA Negative Declaration was submitted to Chris Browder, CAL FIRE Environmental Protection, for review. Geologists from CGS attended a pre-consultation for the proposed trail and will review finalized segments of the trail to determine their readiness for opening to public use. Bernheisel conducted an archaeological survey for the proposed Flow Trail. One new historic site in the area was discovered and recorded and the survey report was approved by CAL FIRE Archaeologist Chuck Whatford.

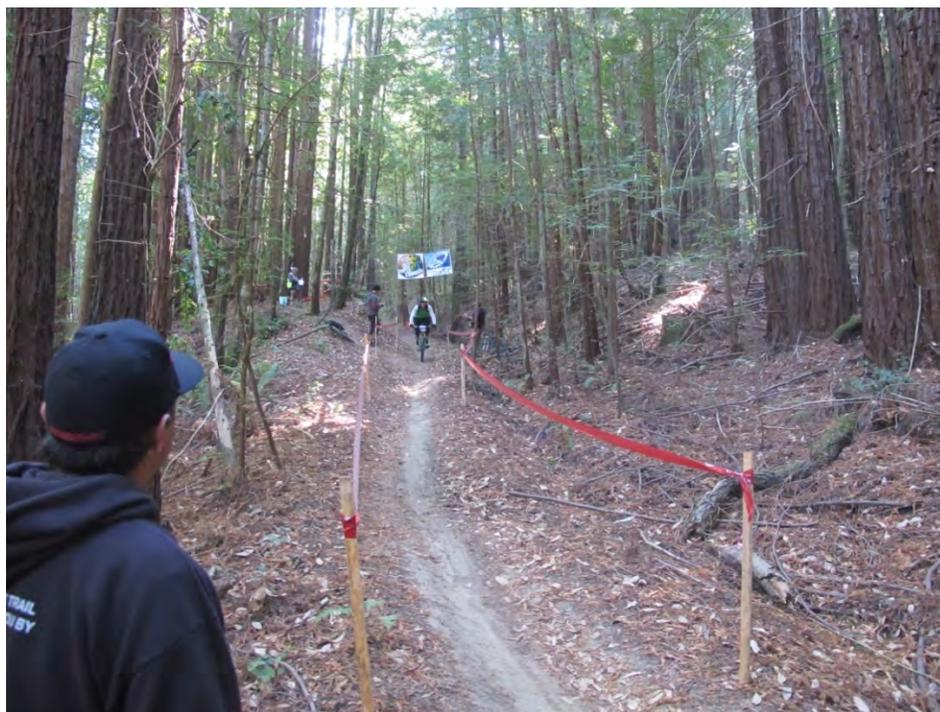
Many fundraising activities supported the Flow Trail. Ibis Bikes donated a mountain bike to MBoSC to be raffled in order to raise money to fund the new trail. Fund raising efforts were promoted through the MBoSC mountain bike festival in Aptos and the Sea Otter Classic, held in April, as well as through various websites and social media. MBoSC had previously sponsored a very successful new trail project in the Pogonip of Santa Cruz named the Emma McCrary Trail which inspired new volunteers for SDSF.

The Stewards conducted three regular trail work maintenance days in 2013. MBoSC sponsored two days which included 16 volunteers working on Braille Trail on January 26, and 22 volunteers working on Sawpit Trail on February 16. The website www.trailworkers.com helped with volunteer sign-ups, notifications and work day reports. The schedule of trail work days was also posted on signboards in the forest. An additional work day on Corral Trail with volunteers made up of Google employees was led by Orre and Perkins in June.

Tractor Trail, which had been closed to public use through 2012 due to timber operations, was reopened in January 2013. Forestry Aides Dufresne and Lucas performed reconnaissance surveys for any illegal bike trails in the forest. An illegal trail was discovered that started in the state forest and continued into the Forest of Nisene Marks State Park. The trail was removed in coordination with neighboring land owners.

A description of Forest trails was provided to a reporter for an article on a new Santa Cruz-based website www.hilltromper.com.

SDSF issued four Special Use Permits for activities on SDSF and revenue to the California Forest Resources Improvement Fund (FRIF) for the permits totaled \$6,700, including the Super Enduro race fees. Fox Racing Shox conducted several days of product testing in the winter and spring under their special use permit. Bernheisel attended the Fox Racing Museum open house in Scotts Valley at their headquarters in April. A new application form was created for special use permits in order to streamline the process for granting permits and to collect information from an increasing number of requests for special access.



Santa Cruz Super Enduro

The Santa Cruz Super Enduro mountain bike race, sponsored by MBoSC, was held for the second year in a row on the forest on October 12. Many MBoSC volunteers helped make the event run smoothly. There were 215 riders for the race on Saturday. On Sunday, a trail work day was held with nine volunteers working in two groups to clean out drainage structures on Braille and Sawpit Trails. Other Special Use Permit holders for 2013 included the Dirt Series Women's Mountain Biking Clinic for three Sundays in the spring and ShuttleSmith Adventure's Demo Daze in October with 54 riders over two days. The rate SDSF charged for issuing a Special Use Permit for these types of events allowing for shuttle vehicle access was \$20 per person. A special camping permit was issued to forest volunteer Patty Ciesla in November so that she could assist with security and trail work.

In October, Dufresne and Cameron attended a Fungus Federation of Santa Cruz meeting to update members on SDSF activities and to issue mushroom gathering permits. A total of 91 personal-use mushroom gathering permits were issued for the year to 105 people (some permits were issued for couples and families). Requests for permits increased after the annual Fungus Fair event in early January 2013, although the shortage of rain made the group postpone their planned foray to the forest in March.

EDUCATION

Orre assisted the Advocates for Nisene Marks State Park with a living history demonstration for the celebration of the 50th anniversary of the Park on May 19. Seck assisted CAL FIRE engine crews with public outreach at the Santa Cruz County Fair Education Day in September.

Orre and Dufresne represented CAL FIRE for Earth Day/Arbor Day and Santa Cruz City's Tree City USA recognition at Bay View Elementary School in April, along with the Santa Cruz City Mayor and Arborist. A student had an award winning video about trees called "Trees Rock", available for viewing at www.youtube.com.



Orre planting a tree on Arbor Day at Bay View Elementary School in Santa Cruz

Dufresne and Seck guided a field trip to the forest for 25 students from two local alternative high schools and provided them with study materials for the California Forestry Challenge, a competitive event for high school students in technical forestry and current forestry issues. Dufresne and Seck also gave presentations on forestry to four Environmental Agriculture classes at Soquel High School in preparation for the competition. The California Forestry Challenge was held at Redwood Christian Park in Boulder Creek in November, and Dufresne and Seck assisted for four days with 47 students from eight schools. Orre participated in the “Ask a Forester” information night of the challenge.



Students on field trip in preparation for the California Forestry Challenge

LAW ENFORCEMENT

To help address issues of security for CAL FIRE facilities in the Unit, the gate to the forest office and Soquel Forest Fire Station was locked periodically during the fall on weekends when no personnel were on site. The gate at Highland Way to the parking area was closed during parts of the summer due to litter, illegal camping and high fire danger, and was unlocked for special events by request. Forestry Aides provided weekend patrols of the parking area starting in September, and no illegal activities were discovered or reported during that time.

CAL FIRE engines and forest staff responded to six requests for medical aid by injured mountain bikers on the forest. Four injuries occurred on Braille Trail and two on Sawpit. The Loma Prieta Volunteers also responded to several of these incidents.

Other incidents included the theft of a bicycle and vandalism of a storage container in the forest in August, illegal campfires, a suspicious vehicle illegally parked on Soquel-San Jose Road on State property (Noren parcel), and vandalism at the uninhabitable structure on the Noren parcel.

In late summer, the Santa Cruz County Narcotics Task Force used the lower helipad for an air operation to eradicate illegal marijuana gardens on adjacent state parks property.

Evidence of illegal firewood cutting was discovered near Robinwood Lane and Comstock Mill Road. Monitoring and investigating by forest staff and LE prevention officers resulted in the arrest of a neighbor of the forest for illegally cutting firewood in the Fern Gulch THP area. During the investigation it was discovered that he was in possession of a stolen ATV. He was arrested by CAL FIRE law enforcement for the stolen vehicle and a case was filed with the Santa Cruz District Attorney for the illegal wood cutting. The DA complaint was accepted for charges of stolen property and four counts of violating the PRC for illegally conducting timber operations on SDSF. Bernheisel worked with CZU HFEO Aaron Flourney to close out the illegal trails created by the neighbor and treat for erosion control.

2013 CALENDAR YEAR FINANCIAL SUMMARY FOR
SOQUEL DEMONSTRATION STATE FOREST

Expense Summary

1.	Capital investment in land, timber, buildings, and roads		\$0
2.	Operating expenses	Labor	\$368,952.38*
		Material	\$56,113.18**
		<u>Property Tax</u>	<u>\$5,804.75</u>
		Total	\$ 430,870.31

Revenue Summary

3.	Gross revenues	(Class I Timber Sales)	\$1,950.00
		(Special Use Permits)	<u>\$6,700.00</u>
		Total	\$8,650.00

Net Operating Costs

	Total	\$430,870.31
		<u>- \$8,650.00</u>
		\$422,220.31

* Other CAL FIRE personnel who contributed work to SDSF in 2013 included: Rich Sampson (CZU Unit Forester), John Martinez (CZU PreFire Planner), Scott Bullock (CZU Forester), Jake Dellamonica (CZU Prevention Battalion Chief), Jim Galassi (CZU Prevention Captain), Pete Cafferata (State Hydrologist), Jill Butler (Region HQ Forester), Chuck Whatford (State Archaeologist) and Surveyors Jeff Gawronski and Jason Gasser (Technical Services). California Geological Survey Certified Engineering Geologists Stephen Reynolds and Cheryl Hayhurst also spent several weeks on the forest overseeing the implementation and monitoring of the Large Woody Debris project.

** Additional funding for forest supplies and improvements was provided by Sacramento FRIF funds totaling \$8,163.57 not included in the total above. Other expenses covered by FRIF or other programs included the LWD project in the amount of \$221,287.

ANNUAL REPORT OF TIMBER CUT

Soquel Demonstration State Forest

From January 1, 2013 to December 31, 2013

COMMERCIAL SALES

FOREST PRODUCTS CONVERTIBLE TO BOARD FEET

Product (give dimensions)	Conversion Factor	# of Pieces, Cords, Lineal Feet, Etc	MBF	Value
MBF				0
Cords				0
Christmas Trees				0
Posts (size)				0
Shingle Bolts				0
Poles (size)				0
Grape Stakes				0
Shakes				0
TOTALS				0

Miscellaneous Forest Products - Not Convertible to Board Feet

Kind	Unit	Quantity	Value
Firewood	cord	21	\$420.00
Hardwood	Tens-cords	75.5	\$1510.00
Rootwads	each	1	\$20.00
TOTALS			\$1950.00

No Forest Products were cut for Department Use.

Approved by Angela Bernheisel Signature Angela Bernheisel
 Title Forest Manager Date Submitted 5/12/14

**ANNUAL STATE FOREST REPORT
STATISTICAL DATA** (attach to annual Narrative Report)

**SOQUEL STATE FOREST
Calendar Year 2013**

<u>ADMINISTRATION</u>	<u>Processed</u>	(number)	<u>Pending</u>
Rights-of-Way	0		0
Leases	0		0
Trespass Cases	0		1

PROTECTION

Fires: Number of Fires: **0** Acres Burned: **0** Person-days Fire Patrol: 40
State Forest Campfire Permits Issued (number): **0**

Insects: Number of Trees Treated: 0 Number of Acres Covered: 0
Control Methods Used: none

		<u>Disease Involved</u>
<u>Disease</u> : Number of Acres Treated (Contract):	0	none
(State):	0	none

Number of Pest Detection Reports Submitted: 0

Hazard Reduction:

Snags Felled or Removed: 0 Acres: 0
Roadsides Treated (miles): 2.3
Slash Abated or Cleanup (acres treated): 18.5
Salvaged (board feet): 0

TIMBER STAND MANAGEMENT

Number of Timber Sales Class I: 11 Class III: 0

Timber Stand Improvements

Trees Pruned:	Number of Trees: 0	Acres: 0
Thinning (acres):		Acres: 0
Release (acres):		Acres: 0
Planting	Number of Trees: 2000	Acres: 15
Seeding	Number of Spots: 0	Acres: 0

Site Preparation for

Natural Seedfall (acres): 0 Planting (acres): 0 Seeding (acres): 0

State Method of Site Preparation: none

EXPERIMENTS & DEMONSTRATIONS

Approved Studies Worked on (list by titles or topics):

2013 Steelhead Trout Population Report- Report pending
Instream Temperature Monitoring 2013- Report submitted
SDSF Herpetology Survey 12/2010-12/2013- Ongoing
Santa Cruz Mountain Puma Project- Ongoing
Sudden Oak Death Studies (various)- Ongoing
Stream Flow Modeling Study - Ongoing
Blood-borne Disease Study - Ongoing
Atmospheric Deposition Research 2013 – Report pending
Large Woody Debris Stream Habitat Restoration Project Site #1 – Reports submitted

PERMANENT PLOTS

	<u>Size</u>	<u>Number</u>
Inventory Plots Established	1/5 acre	0
Other Plots Established	none	0
Plots Remeasured	none	0
Timber Cruised (acres):		

ENGINEERING

Corners Recovered or Set: 64 monuments recovered, additional 7 found; 4 monuments set in 2012.

Miles of Line Run: 0

Boundary Surveyed and/or posted: 2 miles

Boundary Surveyed and Posted to Date: 35%

CAPITAL IMPROVEMENTS

	New Construction	Total System (miles & tenths)	Amount Maintained
Main Timber Access Roads	0	8.8	8.8
Secondary (Spur) Timber Access Roads	0	5.0	5.0
Fire Protection Roads- (included above)	0	0	0
Firebreaks	0	3	3
Christmas Tree Roads/(included above)	0	0	0
Trails	0	8.6	8.6
Powerlines	0	0	0
Telephone Lines	0	0	0
Bridges	0	2	2
Water Development	0	0	0
Campgrounds	0	1	1
Camping Units	0	1	1
Picnic Grounds	0	4	4
Picnic Units- tables	0	9	9
Toilets	0	0	0
Storage Containers	0	2	2

Buildings Constructed (describe each): none

RECREATION

Primary Use	Day Use	Overnight Use	
	(Visitor Days)	Campers	Camper Days
	ESTIMATED		
Camping ¹	0	0	0
Fishing ²	0	0	0
Hunting ³	0	0	0
Picnicking (see hiking)	0	0	0
Sightseeing (driving)	0	0	0
Hiking	2,700	0	0
Horseback Riding	0	0	0
Nature Walks (see hiking)	0	0	0
Swimming	0	0	0
Wintersports ⁴	0	0	0
Other (specify):	-	-	-
Mushroom Collecting	300	0	0
Mountain Biking	17,000	0	0
Estimated TOTAL	20,000	0	0

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1 No campgrounds exist on SDSF. Camping is only allowed by special use agreement.

2 No fishing is allowed on SDSF by California Department of Fish and Wildlife regulations.

3 Hunting and/or firearm use is only allowed on SDSF by special use agreement.

4 SDSF is not located in an area that normally receives snowfall.

