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The Newsletter of South Slough  
National Estuarine  
Research  
Reserve  
and the  
Friends of  
South Slough  
Reserve, Inc.  
Charleston, Oregon

# Forest Management Plan in Process

By John Bragg

Ever since the South Slough was dedicated as a national estuarine research reserve in 1974, the policy for managing the forests that surround Oregon's only national estuarine research reserve has been "hands off." That is about to change. This year scientists at the South Slough National Estuarine Research Reserve, who have long focused their attention on the life that is found in the brackish water, on the salt marshes or under the estuary mud, are turning began to turn their attention to the reserve's approximately 3500 acres of forest. Jake Robinson, a restoration forester who hails from the Rogue River Valley, began work at South Slough NERR May 12. His job is to craft an upland forest management plan for the reserve.

"I'm the first person to come in and try to create an adaptive plan for managing the South Slough woods," Robinson said. The task keeps Robinson in the forest for much of his time each day. He travels through the brush to set up and calibrate a series of forest monitoring sites scattered throughout the reserve. Some of the sites are used to estimate "stem density," or the number of trees in a given area. Other sites include more intensive studies to characterize the kinds, numbers and sizes of trees and shrubs on each site.

Restoration scientists, recognizing that their science is imperfect, rely on thoughtful planning and monitoring to understand what to expect when attempting to restore a natural habitat. They develop adaptive alternatives to account for unforeseen or unforeseeable circumstances. In the forest, Robinson said, "adaptive management means using all treatments as a study, and then changing or adapting later prescriptions based on the results."

Traditional foresters would recognize Robinson's daily routine as timber cruising, or surveying a forest to estimate how much timber is available to cut. As a restoration forester, however, Robinson is cataloguing

more resources than just the merchantable timber. He's just as interested, or more interested, in the number, size, location, condition and availability of fallen trees, snags, or other features that benefit fish and wildlife.

Timber cruising has taken him east of Winchester Creek – a remote, seldom entered portion of the reserve dominated by dense stands of conifers, old



logging roads and many tributary streams. He contacts landowners, commercial forest operators, and others concerned about the environment at South Slough, and he finds support for the new management direction. He's formed a five-member advisory group to assist in developing the forest management plan, including Frank Price and Chris Sheridan, forest ecologists with the Bureau of Land Management; Chris Schumacher, BLM forester; Bob Laport, Coos County forester, and Norma Kline, forest ecologist with the Oregon Department of Forestry.

"Everybody is very enthusiastic and supportive of some type of active management," he said, especially

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## MARSHFIELD STUDENTS MONITOR GEESE MIGRATION

By John Bragg

South Slough Education Coordinator Tom Gaskill conducted a training session earlier this spring to teach Marshfield High School ornithology students techniques used to monitor populations of American brant that migrate through Coos Bay each spring, enroute from the Gulf of California to Alaska.

The brant is a small, ocean-going goose. It nests in the Arctic and flies each fall, non-stop for 4000 miles to winter ground in Mexican waters. The following spring it returns to the Arctic, but on this trip it takes a more leisurely route, hopscotching from estuary to estuary throughout California, Oregon and Washington, to take advantage of vast beds of eelgrass, a nutritious seaweed that grows in estuaries.

“The workshop covered locations and protocols for goose-monitoring,” Gaskill said. “Students also learned identification techniques” to distinguish brant

from other, similar sea-going species.

Participating students attend Marshfield teacher Russ Namitz’s



ornithology class, which has participated in the brant monitoring project for several seasons and has compiled a record of successful field experiences and posted multiple observation records. The information they collect is submitted to the International Brant Monitoring Project website,

[www.padillabay.gov/brant/index.html](http://www.padillabay.gov/brant/index.html).

Gaskill said that this past spring has yielded many more observations than in previous years, but whether the increase in observations translates into population growth is less clear. Brant move quickly through Coos Bay, although the entire migration season lasts several weeks. While birders might observe many flocks of feeding brant, it is harder to say for sure whether the groups represent new daily migrants or geese that just want to hang around a few days.

Several other National Estuarine Research Reserves, including Padilla Bay in Washington and Elkhorn Slough in California, participate in the project. Students from Canada and Mexico also take part in monitoring the migrations.

Members of South Slough’s staff are developing a short video to tell people more about the brant monitoring project.

When ready the video will be posted on the South Slough website, [www.southsloughestuary.org](http://www.southsloughestuary.org).

## STUDENTS SEE MORE THAN THE TREES AT SUMMER SCIENCE INSTITUTE

By Thomas Gaskill

How do you measure the health of a watershed from ridgetop to estuary? Eight middle and high school students came together for one week this summer to discover how science can be used to craft such a study.

The Slough Slough NERR’s annual Summer Science Institute, building on the success of previous summer science camps for younger students, provides an opportunity for 12- to 15-year-olds to engage in hands-on, inquiry-based scientific study and to present their findings

publicly at the conclusion of the camp. While it may have seemed like work at times, the conclusion of the campers was that doing science of this sort was “very cool!”

The week began with a planning session led by Forest Science Coordinator Jake Robinson, and Stewardship Coordinator Hans Klausner. Robinson introduced the students to techniques for assessing forest health through species identification, stand structure, and various measurements of the living and decaying trees in small sample plots. Klausner provided aerial photos of the study areas of the North and Hidden Creek drainages and discussed the scale of the study.

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# RESEARCH AND STEWARDSHIP NEWS

## CLIMATE STATION CONSTRUCTION

By Ali Helms

The National Oceanic and Atmospheric Administrations (NOAA) has selected the South Slough National Estuarine Research Reserve as a site host for a climate monitoring station that will be part of a new climate reference network. When completed, the network – which will record and analyze long-term trends in climate, particularly air temperature and precipitation – will include more than 100 climate stations, each located in a relatively unmodified environment.

In 2007, South Slough NERR was contacted by Michael Changery of the NOAA National Climatic Data Center (NCDC) in Asheville, N. C., who was searching for sites to include in the network. After examining five potential sites in the South Slough NERR, the selection team chose Fredrickson Marsh as most suitable because of its distance from trees and infrastructure, accessibility for installation and maintenance, proximity to electrical power. It is a location that will likely remain undeveloped and under stable ownership for many decades.

Fredrickson Marsh is a tidally-influenced, brackish-to-freshwater high marsh. The marsh elevation is about 2.7 meters above mean lower low water, which means it is only inundated during the highest of tides. The dominant vegetation is Pacific silverweed and Baltic rush. It is located at the southwest end of the reserve, near the Wasson Creek trailhead.

Project engineer Michael Black and three technicians begin installing the equipment on August 5th. The work proved to be tricky, despite the team's experience with installing over 100 similar stations in 43 states, because this was their

first experience working in a tidally-influenced marsh. The terrain required strategic planning for maneuvering equipment down slopes, through blackberries and among fruit trees, and over the rough, uneven, marsh surface to the construction site. After walking through the site to determine the path of the equipment and trenches for the power line, a path was chosen to minimize the impact on the marsh but still allow the equipment to pass. Plywood was used to cover natural clumps and pockets in the vegetation as well as small tidal channels in the marsh.

To begin, the crew dug three holes and poured concrete pads to support the equipment. They also dug utility

broke under the heavy loads of concrete, leaving the crew wondering how to get the concrete out of the delivery truck and into the holes before it hardened. Reserve staff members Mike Graybill, Hans Klausner, Craig Cornu, and Nate Damewood came to the rescue, knowing that the concrete would wait for nothing. They rounded up wheel barrows and five-gallon buckets and helped the climate station crew move 2 ¼ cubic yards of concrete across the marsh, bucket by bucket, until the holes were filled.

The following day the crew assembled and mounted the climate instruments, mounted a data recorder and satellite transmitter on the tower, and mounted the battery



*Climate tower construction*

trenches to connect the various components to electrical power. Filling the holes with concrete presented some difficulties. Originally the crew intended to run the hose of a concrete pumping truck down the slope to the edge of the marsh. From there the crew planned to use a small trailer to haul the concrete the rest of the way to the construction site, towed by an all-terrain vehicle. The trailer quickly

box on a separate post. The station uses three identical temperature sensors that include sun shields and fans to increase the performance of the sensors. Three temperature measurements provide greater accuracy and reduce the incidence of failure, eliminating gaps in the data. Additional sensors measure wind speed, solar radiation, and ground surface temperature.

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*Climate continued from page 3*

The station also records precipitation. The rain gauges and surrounding shields are located 15 meters from the instrument tower. The main precipitation gauge consists of a bucket attached to three wires that vibrate, or sing. As rain collects in the bucket, the tension on the wires change. The number of vibrations per unit of time, or frequency, increases as the amount of precipitation collected increases. This frequency measurement provides a highly accurate method for estimating the accumulation of rainwater in the bucket. The rain gauge is surrounded by a swinging leaf wind shield. The supporting rain gauge operates like a teeter-totter that tips back and forth as one side fills with rain and then the other side.

After trenching and burying a power line, the crews replaced soil and rooted plants that had been removed or disturbed during excavation. The climate station was completed on August 9.

Hosting the climate station is an important partnership between the South Slough reserve, the NCDC, and NOAA's National Environmental Satellite Data and Information Service. The reserve will contribute to the collection of temperature and precipitation data that will be used to detect, monitor, research, and predict present and future changes in climate patterns.

## SLOUGH TO GROW

*By John Bragg*

At its regular triannual meeting July 24, the South Slough Management Commission told staff to begin negotiating the purchase of two parcels of land bordering the reserve on Seven Devils Road and Salal Lane.

Last November the Commission told staff to investigate purchasing the parcels, including 1.6 acres on

*Forest Mgmt continued from page 1*  
neighboring woodlot owners, who are concerned about the possibility of a catastrophic fire spreading out of the South Slough.

After completing his initial surveys, Robinson predicted the South Slough staff would begin hiring professional loggers to begin thinning its forestlands – “either precommercial or commercial thinning” – followed by a thoughtful planting program to stimulate greater variety in the age, size, species mixture and habitat values of the forest stands that will remain. The ultimate goal is to reestablish old growth stands – along with their associated benefits for fish and wildlife – within the South Slough. There's also a need for more large woody debris on the forest floor, Robinson said, and threatened or endangered species like the marbled murrelet or northern spotted owl would benefit from thinning, in the long run,

Seven Devils Road, 2.4 acres on Salal Lane, and another three-quarters of an acre offered for sale adjacent to the first parcel.

South Slough has obtained funding from NOAA to pay a portion of the cost of acquiring the parcels. This fall the South Slough will seek approval from the Oregon Legislature to spend the federal funds, as well as a portion of money from the Gustafson Estate, to complete the purchases. Any purchase must also be approved by the State Land Board.

“We expect to request this approval at the October 2008 Land Board meeting,” said Manager Mike Graybill. The 2.4 acre lot on Salal Lane includes the headwaters of North Creek.

“The seller wishes to enter into a Life Estate agreement with the Reserve,” Graybill said. “This type

especially as the remaining trees began to develop longer, larger limbs that could be used for nesting or roosting.

Robinson is also working with the U.S. Forest Service to extend a survey of Port Orford cedar root disease through the South Slough watershed.

Robinson graduated from Southern Oregon University in 2000 with a degree in environmental studies, and specialized in wildlife and botany. He began developing an interest in technical forest surveys and fuels reduction, and eventually settled into restoration forestry. Prior to coming to South Slough he worked on the Lomakatsi Restoration Project, near Ashland, and as a forest management consultant.

Robinson's wife, Stephanie (Messerle) Robinson, is a fifth generation Coos Bay native. The couple lives east of Coos Bay with their two dogs.

of agreement allows the seller to continue to reside on the property for the remainder of his or her life, at which time the property would be transferred in its entirety to the Reserve.”

Staff are working with the Oregon Department of Justice to review a number of issues arising from such an agreement, and draft a sale contract.

The second parcel includes 1.6 acres at the headwaters of Hidden Creek. It is located on Seven Devils Road just south of the Interpretive Center. The property includes an uninhabitable mobile home and a shop building. The seller did not include the value of the structures when the property was appraised last May. In the event of a sale the shop would be left alone, but the mobile home would be removed.

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# FOSS NEWS

## RUDD NAMED FRIEND OF THE YEAR

By John Bragg

The Friends of South Slough (FOSS) have named Public Involvement Coordinator Deborah Rudd Friend of the Year for her work with South Slough's volunteer program.

Volunteers assist with a wide array of tasks. Rudd reported that in 2007 volunteers contributed more than 4700 hours of their personal time to education, research and land stewardship projects, and also assisted with administrative, maintenance and groundskeeping tasks. For administrative purposes, volunteer labor in 2007 was valued at an wage equivalence of about \$17.44 per hour. (The current rate is \$18.77 per hour.) At that rate the work done at South Slough by the volunteers was worth about \$82,000 last year.

Besides providing extra hands to do on-the-ground work such as weed-pulling and trail maintenance, assisting with trail hikes and school programs, or assisting visitors in the interpretive center, volunteers provide a important, intangible resource: the monetary value of the work that they do.

"Properly accounted for, the value of labor performed by South Slough's volunteers helps the reserve qualify for grants," said Rudd. "South Slough depends on grants to accomplish many projects, but qualifying for an award often requires an applicant to pay a portion of the cost of the grant-supported project, either directly or through in-kind contributions such as materials or volunteer labor. The value of our volunteers' labor give us that extra edge needed at times to receive an award."

About 30 individuals regularly volunteer their time at South Slough.

Some volunteers contribute many hours to wide ranging activities, such as serving as directors of the FOSS, to occasional or periodic specialty tasks, like composing the South Slough newsletter.

"Volunteers not only help the reserve with administration, education, biological monitoring, landscaping, trail construction, fundraising, and collecting research data," Rudd said, but they also take on projects that benefit the wider Coos Bay area community. "For example, last December our volunteers hosted a holiday benefit for the Belloni Ranch Inc., a local youth support organization that has contributed many hours to developing and maintaining trails at the reserve."

For more information about volunteering at South Slough, contact Rudd at (541) 888-5558, ext. 58.

## FOSS RECEIVES FIRST TIME AWARD

By Deborah Rudd

In April 2008, the Friends of South Slough, Inc. received an award from the State Land Board for outstanding support of the South Slough National Estuarine Research Reserve. FOSS is the first organization to receive a partnership

award from the Land Board. A delegation of FOSS board members and SSNERR staff traveled to Salem to receive the award. As part of the trip to Salem, SSNERR staff planned a tour of the West Eugene Wetlands. The Friends enjoyed the whole trip and were honored to be the first organization to have received the award.

*Camp Fire continued from page 7* ship" through Mingus Park and narrates the adventure as though guests were touring a site of monumental proportions. At one point, the party boat rescued a stray balloon animal and returned it to its rightful owner.

At the end of the day, my arms were sore but I was grateful to have participated in this fun family event.

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Sale negotiations are in their final stages for this parcel. The owner put the additional three-quarter-acre lot up for sale earlier this year. It includes a 20-25 year old single family house in average condition and is assessed at a market value of \$179,000. The \$1.6 million Gustafson Estate includes a bequest from Chalmer Gustafson, a Coos Bay resident and long-time

supporter of South Slough, for the sole purpose of acquiring additional land to be added to the South Slough NERR. Although they are small parcels, their locations on the headwaters of important tributaries give these lands a strategic value beyond their size, Graybill told the commissioners.

By completing the purchases, South Slough NERR has a chance to completely protect the watersheds

of these important freshwater streams.

### *Tip for the environment*

Help South Slough  
reduce the use of paper  
and save forest resources.

Change your newsletter  
subscription to email only.  
Contact Deborah Rudd at  
(541) 888-5558, or  
deborah.rudd@state.or.us

# UP FROM THE MUD

*Students continued from page 2*

Limits of time and distance quickly reduced the scope of the effort to the Hidden Creek watershed.



The students learned how measurements of stream width, depth, and temperature, are used to help scientists understand the various contributions of the forest to the watershed. After some training in the use of various sampling equipment and assignment of specific roles, the team headed into the field to begin data collection.

Over the next several days the students gradually shifted their attention from forests to creeks, and eventually to the shores of the estuary, where they sampled the diverse plant communities that have adapted to the salty tides. Finally, they explored the transition from marsh to mudflats and channels, where they discovered how forest sediments help to determine what plants and animals will thrive in the tide flats of the South Slough.

As a parting gift for South Slough staff and their parents, grandparents and families, the science institute students presented a multi-media revue of their work and field experiences.

Next year's summer science institute may unlock the mysteries of the North Creek drainage!

## NEW STAFF

New full-time and temporary workers have swelled South Slough's staff this summer:

**Suzan Brawnlyn** began working this summer as a science camp assistant. A newcomer to Coos Bay (here about a year), she was a Massachusetts native, who came to western Oregon via Alaska. "I lived there 11 years," she said.

Her duties as science camp assistant include teaching middle- and high-school students about the wide variety of habitats and species that comprise the South Slough ecosystem. She said she enjoys working with the junior and senior science camp programs, which are week-long activities designed to encourage interest in environmental science among youth.

"It gets me outdoors, gets me working with kids, and giving them the deep appreciation of nature that I have."

She is an entomologist by training, has a bachelor's degree in entomology, "I've gone through 13 different career changes – retail, chef, Japanese gardening – are just some examples," she said.

**Hans Klausner** joined the South Slough staff on April 26 as Stewardship Program coordinator. In his first few weeks of work he has been assisting with land-purchases, native oyster restoration and permit compliance monitoring. He's also been leading a crew of workers from the Northwest Youth Conservation Corps on several projects to clear away brush, remove invasive weeds, and help with trail maintenance. He stated that he enjoys working with the research, education, outreach and monitoring programs and appreciates "getting to bounce all over the page." This grant-supported position continues through 2009.

His previously work was on a

number of land and water stewardship projects in Alaska.

Klausner replaces Craig Cornu as stewardship coordinator. Over the last decade Cornu has overseen the restoration of natural functions to intertidal habitats including salt marshes, tidal channels and freshwater streams. Cornu has accepted a temporary job assignment overseeing a wide range of biological monitoring activities that are designed to evaluate the progress and effectiveness of South Slough's restoration strategies.

He was recently joined by the rest of his family, his partner Judy Hamilton, their 4-year old son Oskar, Shakes the black dog, Vitus the white dog, and 26 newly-acquired chickens. In his spare time, Hans enjoys gardening, fishing, wild foods gathering, kayaking, and reviving 20-year old surfing skills.

**Kevin Cellura**, a science teacher at Marshfield High School, has joined the South Slough staff on a temporary, eight-week assignment to study potential differences in the survival, growth, susceptibility to predation, and overgrowth competition, of native Olympia oysters from Coos Bay and Willapa Bay, Washington.

"I hope to determine whether the local populations of native oysters are better-adapted to the ecological conditions in the Coos estuary," he said.

His work is funded by a grant from the Murdock Charitable Trust.

**Jake Robinson** joined the South Slough staff on April 14 as forest science coordinator. He is working to develop a management plan for the forested portions of the watershed. Originally he was from Rochester, New York, and has been an Oregon resident for 13 years.

He attended the University of Connecticut in the late 1980s, and

# UP FROM THE MUD CONTINUED

early 1990s. In 2001, he received a bachelor's degree in environmental studies from Southern Oregon University. His professional experience includes work as a botany and wildlife technician, a workforce manager and forestry technician with an ecological restoration company and he conducted forest surveys as well as owning of a small restoration forestry company.

"My favorite aspect of the job is getting out and exploring the forests of the reserve," he said. "There is a great mix of upland forest types here, and there is always something new to learn about them. I am excited about the direction in which these forests may be headed, and I look forward to helping guide them into a healthy, mature state. I also enjoy working in a research environment with other research staff. I am amazed at all of the projects that are going on here and like helping out

with projects in areas that I have never really looked into before."

He and his wife Stephanie live just outside of Coos Bay with their dogs, Seamus and Jasper. His hobbies include fishing, hiking, and working on his 100-year old home. Robinson prides himself with, "an ability to get the most miles out of junker automobiles with out really knowing how to fix them."

**Rheannon Arvidson**, a student at Portland Community College, is also working this summer at South Slough to study native oysters. Arvidson wants to understand more about how clusters of oysters in the bay affect hydrodynamic flow and turbulence.

**Jill Alexander**, a student at Oregon State University, began working at South Slough in June as a research intern. She is working with water quality and nutrient data to develop new maps illustrating seasonal and tidal changes in the

South Slough estuary.

**Yvonne Gekas** began working at the front desk of the Interpretive Center in July. She is participating in Experience Works, a program designed to assist adults who are re-entering the workforce develop new skills and acclimate to contemporary workplaces. Her assignment provides 20 hours of additional assistance each week. Her duties include meeting and greeting visitors, answering telephones and questions, providing driving directions, and helping visitors in a dozen other ways as well.

**Melissa Barr** joined the seasonal staff of the Friends of South Slough, part-time on June 1. She works at the front desk meeting and greeting visitors, and also helps out in the Friends of South Slough Bookstore & More, here in the interpretive center. She also attends North Bend High School.

## CAMP FIRE CANOE RIDES IN MINGUS PARK

By Deborah Rudd

About mid-June I received an email from the FOSS Volunteer of the year, Joe Neill asking for assistance with their annual Camp Fire canoe paddle rides in Mingus Park on July 4<sup>th</sup>. Joe has helped the Reserve many times in the past with paddle trips, guided hikes, fundraisers and other activities. When he asked for help, I was glad I was available.

When I arrived at the park that morning, Joe already had two other volunteers, all the canoes, life jackets, paddles and a registration table set up. I said, "Joe, I am rather new at kayaking and have never canoed before, will I be of any help to you?" He said, "Don't worry you'll get the hang of it." Soon, the

rest of Joe's family and other Camp Fire volunteers appeared and we went to work sorting life jackets and paddles by size, tying tow ropes to canoes (which required a special knot tying skill that I wasn't able to master) and organizing the sign in and registration forms for Camp Fire Camp.

As participants began lining up at the various stations set up around the park, we became inundated with interested parties wanting to take a canoe ride. The next thing I knew, I was in a canoe with another Camp Fire volunteer paddling a little guest



around Mingus Park, which is very much like trying to paddle in a swimming pool, only the water is murkier. Even children received a paddle, which acted more as a brake or rudder requiring the steering paddler to use a little more effort. Of course there were several families and individuals who did a great job paddling without any assistance.

The favorite boat of the day was what Joe referred to as, "The Party Boat." This boat is made up of two canoes connected with PVC pipe and seats about 12. Joe magnificently paddles this "cruise

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