

SOUTH SLOUGH RESERVE MANAGEMENT COMMISSION

DRAFT AGENDA

South Slough National Estuarine Research Reserve
South Slough Interpretive Center
61907 Seven Devils Road - Charleston, Oregon

March 17, 2011

130th REGULAR MEETING 1:00-4:00 P.M.

- I. Call-to-Order
- II. Introductions
Introduction of Commissioner Nicole Jackson: Governor's appointee to the public at large position.
- III. Approval of the 129th regular meeting minutes
- IV. Public Input*
- V. Old Business
 - A. Unauthorized trespass progress report (verbal progress report H. Klausner)
 - B. Comment and possible adoption of climate and energy plan for the Reserve (M. Graybill)
 - C. NOAA FY 2010 Coastal & Estuarine Land Protection Program (verbal update H. Klausner)
 - D. Other
- VI. New Business
 - A. 2010 Volunteer recognition awards (L. Solliday, D. Rudd)
 - B. FY 2011 NOAA Construction and Acquisition requests (R. Elledge, M. Graybill)
 - C. Other
- VII. Informational presentation: Trends in water chemistry in the South Slough watershed. Alicia Helms, SSNERR estuarine monitoring coordinator.
- VIII. Informational Items
 - A. Administration updates including: FY 2011-2013 Oregon budget; FY 2011 Federal budget; Agreement with Port of Coos Bay; NERRS climate initiative; Relocation of administrative offices to Charleston; Frederickson house progress report
 - B. Education programs update including NOAA Bay Watershed Education and Training (BWET) grant
 - C. Science programs updates including: Forest Management Proposal; Marine Reserve Evaluation Committee; and Partnership for Coastal Watersheds
 - D. Other
- IX. Adjourn

* This meeting is being held in a facility that is accessible for persons with disabilities. If you need some form of assistance to participate in this meeting due to a disability, please notify Robin Elledge at 541-888-5558 ext. 23 at least two working days prior to the meeting.

*Limited to 5 minutes each unless arranged in advance of the meeting.

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**SOUTH SLOUGH NATIONAL ESTUARINE RESEARCH RESERVE
MANAGEMENT COMMISSION**

South Slough Reserve Interpretive Center
Charleston, Oregon

DRAFT Minutes of the 129th Regular Meeting
November 18, 2010

Commission members present:

Richard Hamel

Louise Solliday, Chair

Craig Young

James Fereday

Ron Stuntzner

Mark Ingersoll

George Boehlert-via phone

Commission members not present:

Kevin Stufflebean

Robert Emmett

South Slough NERR staff present:

Mike Graybill

Kathy Andreasen

Pam Wilson

Steve Rumrill

Craig Cornu

Tom Elledge

Don Smith

Hans Klausner

Tom Gaskill

Robin Elledge

Joy Tally

Others present:

Nicole Jackson, FOSS

Jody Hamel, public

The meeting was called to order at 1:00 p.m. by the Chair of the Commission, Louise Solliday.

INTRODUCTIONS

Everyone present at the meeting introduced themselves.

APPROVAL OF THE MINUTES OF THE PREVIOUS MEETING

Chair Solliday asked if there was a motion to approve the minutes of the previous meeting. **Commissioner Young moved to approve the minutes of the previous meeting and Commissioner Stuntzner seconded the motion. The minutes were approved.**

PUBLIC INPUT

There was no public input.

OLD BUSINESS

Unauthorized Activities

Stewardship Coordinator, Hans Klausner discussed the trespass issue. He said that his report was predicated on his preliminary work with the property boundaries in question, and that the work was not done by a licensed surveyor. Commissioner Stuntzner said that he would not recommend the Commission send the letter to the landowner in question until a professional survey of the area was completed; and he indicated that he may donate some survey work to the Reserve to help settle the issue. Commissioner Fereday thought it would be advisable to send the letter immediately as an initial step. Others agreed with Commissioner Stuntzner.

Commissioner Stuntzner motioned to send a letter to the landowner in question based on the results of a professional survey, identifying the nature of the trespass and outlining the steps required to address the damage associated with the trespassing activities. Commissioner Hamel seconded the motion. The motion passed with all in favor.

Relocation of Administrative Offices

Mike Graybill discussed the progress on the plan to relocate the administrative offices of the Reserve to Charleston.

Frederickson House Progress Report

The Commission discussed the possible uses of the Frederickson House if it were to be preserved. Chair Solliday asked Robin Elledge if there were funds available to put a roof on the house. Ms. Elledge replied that there were funds available in the Trails grant. Commissioner Stuntzner commented that it might not be advisable to have rodents or birds inside the Frederickson House if the roof is replaced.

Commissioner Hamel motioned to replace the roof on the Frederickson house to preserve the building per Aron Faegre's recommendation. Commissioner Young seconded the motion. The motion passed with all in favor.

Barview Property

Commissioner Ingersoll said that he met with the Tribal Council and they were interested in acquiring the parcel from the Charleston Sanitary District. He added that the CLUSI wants to work with the South Slough Reserve to develop the property into an interpretive area. Commissioner Ingersoll said he would give an update at the next Commission meeting in March 2011. Mike Graybill thanked Commissioner Ingersoll and said staff would explore the prospects of developing the property through a task order in the Cooperative Agreement that exists between the Reserve and the Tribes.

Given that the Tribes expressed interested in acquiring the shoreline parcel, Chair Solliday recommended sending a letter to the Charleston Sanitary District in support of the Tribes' acquisition of the parcel. The Commission agreed with the recommendation.

NEW BUSINESS

FY2011 NOAA Construction and Acquisition Requests

Mike Graybill said the Estuarine Reserves Division is putting a priority on climate and energy related proposals for the NERRS; and current proposals need to show a commitment to energy conservation per NOAA's recommendation.

Commissioner Stuntzner moved to adopt the staff recommendation to develop full proposals for competition in NOAA's FY 2011 construction and acquisition grant proposal cycle. Commissioner Hamel seconded the motion. The motion passed with all in favor.

2011 Commission Meeting Schedule

Commissioner Ingersoll suggested that Commission meetings be held from 3:00 to 6:00 pm to better accommodate the public if they wished to attend. The pros and cons of various meeting times were discussed and the Commission decided to keep the time as it is scheduled for the present and to attempt to get the meeting out to the public via public access TV or video conferencing.

Recognition of Commissioner Rich Hamel

Chair Solliday presented Commissioner Rich Hamel with a certificate of appreciation for his eight years of service on the South Slough NERR Management Commission. The staff of the Reserve also thanked Commissioner Hamel, and gave him a signed, framed poster of the South Slough Reserve.

INFORMATIONAL PRESENTATION

Pam Wilson gave an overview of the energy-related facilities improvements at the South Slough NERR.

ADJOURNMENT

Chair Solliday adjourned the meeting at 3:00 p.m. The Management Commission then participated in a tour of the facilities to view the new energy saving improvements.

Old Business

Unauthorized Trespass

Subject:

Possible trespass by adjoining property owner onto property managed by the SSNERR

Issue:

This is a staff progress report. No additional Commission action is requested at this time.

Background:

At the direction of the commission, SSNERR staff members are working with a professional licensed surveyor to confirm a suspected trespass at the northeastern boundary of the Reserve. Stuntzner Engineering has offered to donate eight hours of staff time toward identifying property lines and monuments in the subject area. Additional costs for the development of drawings, exhibits or reports will be paid for by the Reserve.

Old Business

Subject:

A climate and energy plan for the South Slough Reserve

Issue:

Commission review and comment on a revised draft version of the plan. Possible adoption of the plan by the Commission as an amendment to the SSNERR management plan.

Background:

The SSNERR Management Commission directed staff to develop a plan to address energy use and climate. The Commission reviewed and commented on a first draft version of a plan at their July 2010 meeting.

The staff has worked to revise the plan and incorporate the comments of the Commission. A revised draft energy and climate plan is attached as a separate document to this briefing packet.

Staff Recommendations:

1. The Commission should read and provide comments and further direction to the staff on the revised draft plan.

2. If the Commission finds the current version of the plan to be acceptable, the Commission should formally adopt the plan as an addendum to the management plan governing the operation of the Reserve.

Old Business

Subject:

NOAA FY 2010 Coastal and Estuarine Land Protection Program project selection process.

Issue:

This is a progress report on the status of SSNERR's application for federal funding. No additional Commission action is requested at this time.

Background:

The Reserve's proposal to NOAA's Coastal and Estuarine Land Conservation Program (CELCP) that was submitted in the fall of 2009 has been ranked 5th in the nation for FY 2011 funding. Funding from this source and match from the estate of Chalmer Gustafson will be applied to the purchase of approximately 1,100 acres of forest habitat in the Wasson and Hayward watersheds. With NOAA's favorable ranking of SSNERR's proposal, the Reserve is in line to complete the two highest priority acquisitions identified in its Cooperative Plan for Watershed Conservation (a.k.a. Acquisition Plan) provided that the federal government appropriates sufficient funds for the program and the state legislature approves the use of these federal funds.

The Reserve's proposal to purchase the surface rights for all Common School Fund (CSF) trust lands in the South Slough watershed is also dependent on federal FY 2011 appropriations and approval by the state legislature. With half of the funds for this purchase secured, the remaining funds will come from the CELCP proposal described above. After several CELCP staff agreed that half of the CFS purchase can be included in the proposal to purchase forest habitats in the Wasson and Hayward watersheds.

While NOAA has reviewed and ranked proposals for FY 2011 funding, Congress has not finalized the 2011 appropriation for NOAA, including the CELCP program. NOAA programs are operating under a continuing resolution and it is not clear how funding for the CELCP program will be allocated under the current continuing resolution. No decisions on CELCP projects are expected until an appropriation is finalized for FY 2011.

Staff Recommendations

No new formal action by the Commission is requested at this time.

Staff will provide a verbal update on the most recent status of this project at the Commission meeting.

SUBJECT:

Contributions of Volunteers

ISSUE:

Annual SSNERR Management Commission recognition of South Slough Volunteers

BACKGROUND:

At their 114th regularly scheduled meeting held in November 2005, the SSNERR Management Commission initiated a process to formally recognize the service of volunteers. The Commission agreed to recognize the contributions of volunteers by taking the following actions:

- Each person who has contributed more than 10 hours during the previous year shall receive a thank you letter signed by the Chair of the Commission.
- People who have volunteered at the Reserve for one year or more will be given certificates marking their ongoing contribution of time measured in three-year increments. In addition, the names of volunteers with three or more years of service should be added to a volunteer recognition plaque displayed in the Reserve's Interpretive Center.
- Volunteers who have made unique and significant contributions as recommended by Reserve staff should also receive special recognition.

Listed below are the names of individuals meeting one or more of the above criteria for volunteer recognition. Though every effort was made to be as inclusive as possible in compiling the following list we recognize that the voluntary contributions of some may have been omitted. South Slough Reserve is grateful for all who have donated their time and care for this special place over the years whose name(s) may not be noted in this report.

Volunteer Service Award Nominees for 2010

* = SSNERR Commission member

** = FOSS Board member

Each person who has contributed more than 10 hours during the previous year will receive a thank you letter signed by the Chair of the SSNERR Commission.

*Laura Adams, Nina Bargas, Max Beekham, Evan Blom, Mark Burnap, Harriet Egby, Greg Gavelis, Steve Larsen, Soane Letisi, Jen Litteral, Anne Matthews, Phillip Matthews, Lindy McMorrان, Michelle Miranda, Al Pancoast, Laila Rodler, Jeanne Sanpier, John See, Kevin Stufflebean**

The following people have volunteered at the Reserve for one year or more and will be given certificates marking their ongoing contribution of time measured in three year increments.

*Sue Cameron**, Lois Christensen**, Nina Gee, Ralph Helske, Nicole Jackson***, Andrea Knutsen, Laura Mays, Lonne Mays***

The following individuals have volunteered for three or more years. Their names will be added to the volunteer recognition plaque displayed in the Reserve's Interpretive Center:

Anterra, Susan Brawnlyn, Judy Brown, George Boehlert, Sharon Cawley, Kevin Cellura, Curt Clay, Valerie Cooley, Robert Emmet*, James Fereday*, Richard Hamel***, Terry Huffman, Mark Ingersoll*, Dan Krossman*, Jan Long, David Lunde**, Patricia McKillip**, Joe Neill, Dennis Phillips, Heather Randolph** Brenda Rioux, Dixie Sheldon, Mary Ann Sherlock, Bob Sleeth, Karen Sparks, Janet Stoffel Ron Stuntzner*, Sarita Southgate, Lora Wehner, Dick Vigue, Louise Whitehead, Craig Young*, Tom Younker***

Volunteers who have made unique and significant contributions in 2010 as recommended by the Reserve staff:

Dixie Sheldon- *In memory of: Dixie passed away in July 2010 at 87 yrs. of age. She helped on Saturdays at the front desk and was always joyous and cheerful as she greeted visitors and worked on education projects. Her family wrote us a nice note stating how well she spoke of South Slough and how much she enjoyed volunteering here.*

Steve Larsen- *For diligent surveying efforts with the SSNERR Stewardship staff.*

John See – *For helping trail staff on Tuesdays & Thursdays with maintenance and other outdoor projects.*

Subject:

NOAA FY 2011 Construction and Acquisition Program requests

Issue:

At the Commission's direction, staff submitted two proposals to NOAA's construction and acquisition program in November of 2010. This is a staff update on the content and status of those proposals.

Background:

Following the November 2010 commission meeting, SSNERR staff submitted two construction project proposals to NOAA's FY 2011 Construction and Acquisition grant program for the NERRS. The proposals requested NOAA funds to develop sustainable facility upgrades, and to construct wildlife habitat and monitoring facilities at public access points on the Reserve. Details regarding each of the two proposals follow:

Proposal #1

Project Title: "Clearing the way to sustainability at the South Slough"

NOAA funds requested: \$180,000

Project overview.

This project will protect and enhance the integrity of South Slough NERR habitats by addressing erosion and water pollution caused by runoff from the primary public access road in the Reserve. The project will also construct two "invite nature home" exhibits at two of the most highly frequented public access points in the Reserve. The exhibits will demonstrate actions that homeowners can take to encourage native species in typical suburban and residential settings. Both projects will continue the efforts of the Reserve to function as an experimental demonstration area and will reinforce South Slough's operating principle of teaching and learning by doing.

All the construction work in this proposal will take place in outdoor habitats in core areas of the Reserve.

Task one: Retrofit Hinch road to control erosion and stop sediment pollution from contaminating Winchester Creek.

Task two: “Welcome Nature Home” exhibits: Construct outdoor exhibits to test and demonstrate how to reduce the environmental impacts linked to conversion of land to residential and suburban habitats.

We will construct two “how-to” demonstration exhibits at highly visited locations along the trail network at the Reserve to provide examples of how owners of residential properties can adapt their homes and their gardens to support a richer mix of native species and to control the spread of non-native, invasive species. The exhibits will be constructed at two existing disturbed/developed sites along the South Slough trail network. The sites will be dedicated as experimental residential scale “naturescaping” areas to test and demonstrate optimal designs for native landscaping and wildlife nesting and roosting structures.

This project will use an existing, unoccupied residential structure on the Reserve to support and test the efficacy of artificial nesting and roosting structures designed to attract and sustain native wildlife. The exhibits will also be used to monitor the population dynamics, breeding success, and behavior of the birds and mammals that occupy the exhibit areas. We will also construct experimental “backyard habitats” for amphibians, reptiles, and mammals in the landscaping surrounding the structure. These artificial habitats will enable professional staff and trained volunteers to efficiently and consistently monitor the populations and behavior of yet to be studied species that frequent the Reserve. The residential structure will become a laboratory to test the attractiveness and efficacy of created wildlife habitats that can be incorporated into the typical residential suburban structures that increasingly dominate coastal areas in the Northwest.

The sloping southern exposure at the Cox Canyon overlook site is a previously disturbed homestead site that sits well above and overlooks the floodplain at

the confluence of Winchester and Cox Canyon Creeks. Construction of the outdoor demonstration exhibit will involve removal and replacement of the highly invasive species that currently dominate the site with low-to-no maintenance native plant species that thrive in sunny and partially shaded areas. A central theme of the exhibit in this area will demonstrate how disturbed, residential-scale lots can be managed to control these common invaders.

Interpretive center demonstration woodlot. The area in the vicinity the South Slough NERR Interpretive Center (including the amphitheater) was formerly used as a log landing site. The site was selected as a location for the Interpretive Center in 1982 because it was highly disturbed by logging activity that took place there prior to being designated as a NERR. The outdoor “Welcome Nature Home” demonstration exhibit at this location will showcase native species suited for poor, compacted soils, shady locations and partially shaded woodland margins.

The exhibits will become a focal point for citizen involvement, vertebrate monitoring and invasive species control. The outcomes of the project will be restorative and will illustrate and test sustainable design solutions applicable to common situations found in coastal regions of the Pacific Northwest.

Specific work to be performed:

Retrofit the Cox canyon overlook structure:

- Make the exterior shell of structure weather tight by installing a new roof, repairing, and repainting the wooden clapboard siding and exterior trim work;
- Secure the interior of the structure with a lockable entry door;
- Make the interior safe for authorized personnel Work on the interior of the structure will be limited to the minimum necessary to stabilize floors and make passage to the second floor safe for trained authorized personnel.
- Minimal utilities. A pole-mounted, grid-tied meter base and electric service panel, installed in 2008 to operate a NOAA climate research station, is located within 100 feet of the structure. We will bring AC power from the service panel to the interior of the structure. Power will be used to low amperage monitoring equipment, wildlife sensors and

cameras, and interior work lights. We do not intend to install any heating, air conditioning or active ventilation equipment.

- The structure does not have functional plumbing. We do not plan to equip the structure with any water supply, or waste water systems.

Access to the unfinished interior of the structure will be restricted to authorized personnel involved in monitoring and exhibit management activities.

Wildlife, - particularly bats, birds, and small mammals, currently use the interior and exterior of the Cox Canyon overlook structure. In addition, Elk, deer, bobcats, coyotes, and numerous species small mammals, birds and herptiles frequent the orchard area in the vicinity of the structure. Birds and bats nest and roost on and in the structure. The work to enclose the building envelope will block wildlife from entering and using the interior of the structure. Purpose-built nest enclosures to encourage wildlife nesting and roosting will be affixed to the exterior of the building. These structures will be designed to provide convenient, controlled access from the interior of the structure facilitating study of these experimental populations.

Proposal #2

Project title: “Reducing the climate footprint of the South Slough NERR education, science, and administration programs”

NOAA funds requested - \$127,000

Project overview

This construction project will enable the South Slough Reserve to reduce fossil fuel-sourced greenhouse gas emissions linked to the operation of the Reserve operation in three ways:

1. The Reserve will retrofit an existing fireplace; converting it to a high efficiency wood fuel masonry heater. This will enable the Reserve to switch the source of energy used to heat a portion of the Interpretive Center from coal-based electric power to locally sourced woody debris produced in the course of routine trail and roadway maintenance at the Reserve. The wood heat conversion will become centerpiece demonstration exhibit at the Reserve, introducing a series of energy-oriented demonstration exhibits already in place at the Interpretive Center.

2. The Reserve will implement a suite of energy efficiency-oriented retrofits at the facility that presently supports the research, monitoring and stewardship programs at the South Slough NERR. The energy retrofits involve proven efficiency technologies such as installation of insulation in uninsulated exterior spaces, replacement of single-glazed windows with high performance glazing, and installation of ultra-high efficiency lighting as well as efficiency-oriented lighting and heating control systems.

3. This project will reduce greenhouse gas emissions linked to the operation of the Reserve by moving the base of the South Slough NERR's administrative functions to a less remote location. The construction work to support this move will take place at the same facility and in conjunction with the energy-oriented retrofits referenced above. The move will be accomplished by remodeling a garage and storage space attached to the SSNERR science laboratory and by retrofitting an existing room in the structure that was previously used for non-NERR purposes. The greenhouse gas emission reductions linked to moving the administrative program to Charleston and co-locating it with SSNERR science team personnel will be principally be tied to reductions in the ongoing amount of vehicle miles traveled to support the operation and administration of the Reserve, by efficient reuse of existing space, and by minimizing the physical under-roof footprint of the spaces required to support SSNERR personnel.

Staff Recommendation:

No additional Commission action is requested at this time.

Staff will provide a verbal update on the status of federal funding these proposals at the meeting.

Administrative report

Agreement with Port of Coos Bay

The Reserve has finalized an intergovernmental agreement with the Oregon International Port of Coos Bay. The initial partnership project will improve an access location for paddle craft on property managed by the Port. The Reserve has transferred \$27,500 to the Port from a NOAA construction grant and a private donation in support of the project. SSNERR and Port staff worked with the Port's engineering consultant to develop specifications for the paddle access site in Charleston. The improvements will be built on property managed by the Port near the Charleston shipyard. Bids were opened in early March. Construction should be complete before the start of the summer season.

Relocation of Administrative Offices to Charleston

SSNERR staff have been meeting regularly with OIMB Director Craig Young and OIMB staff to transition South Slough's administrative headquarters to the OIMB campus. We plan to undertake the transition in two phases. The initial phase involves the renovation of a 400 sq. ft. room in the same building that also houses SSNERR science and technical staff. \$16,000 has been transferred to OIMB to support the cost of the renovation work. SSNERR staff are working with contractors to get cost estimates for the minor renovations associated with the move. Temporary office space for two people has been set up in the room. Mike Graybill and Robin Elledge have been working at OIMB on an intermittent basis since mid February. As part of the transition, SSNERR has installed a separate 16 line telephone network that will handle calls for all SSNERR personnel stationed on the OIMB campus. This will eliminate the need to route calls for SSNERR personnel through the University of Oregon telephone network.

The second phase of the transition involves renovation of the Estuarine and Coastal Science Laboratory on the OIMB campus. The existing garage will be expanded slightly and a second story office module will be added over the top of the garage. Funding to support the design work of the second phase of this work was requested as part of SSNERR's FY 2011 request for NOAA Construction funding.

NERRS Climate Initiative

At the October 2010 meeting of the National Estuarine Research Reserve Program in Shepardstown, West Virginia, NOAA Division Chief Laurie McGillvray appointed a 12 person team to assist her in the articulation of a plan to guide the actions of the NERR system related to climate change. SSNERR manager Mike Graybill served as a member of the team. Over a period of three months the team created and revised two draft versions of the NERRS Climate Change Initiative. A final version of the document is included as an appendix to the SSNERR climate and energy plan that is included as a separate attachment to this briefing document.

SSNERR Education Program update

October 30, 2010 through February 28th, 2011

Winter program activity at South Slough includes weekend interpretive programs, and occasional use of classroom and field sites by various school groups and other audiences. Difficult seasonal weather conditions tend to reduce public visitation at this time of year, although indoor program participation remains strong.

Education staff meet monthly to work on activity planning and coordination and to develop visitor services staffing schedules. This practice will be essential to maintain consistent operations of the interpretive center as some staff relocate offices to the OIMB campus.

Education Program Totals

A total of 44 educational activities were conducted during this period for 937 participants. 107 contact hours and 79 hours of preparation were recorded. These totals include all types of education, interpretation, training, and outreach. A more detailed explanation of each sub-category is included in subsequent sections of this report. Including visitors to the South Slough Interpretive Center, a combined total of 1,430 people learned about estuaries and coastal watersheds through South Slough educational programs during this period.

Visitation and Visitor Services

During this period, 493 visitors to the interpretive center were recorded for an average of 6 visitors per day. The South Slough Interpretive Center remains open to the public 10am – 4:30pm, Tuesday through Saturday throughout the year.

Two mandatory statewide furlough day closures occurred on Fridays during this period. The interpretive center was closed to the public on these days. The building was also closed on the Saturday immediately following furlough days.

Additionally, holiday closures of the interpretive center occurred on Saturdays for Thanksgiving, Christmas, and New Year's Day.

Formal Education & Training

During the period from October 30th, 16 formal education programs were offered for 633 participants. A total of 84.5 contact hours and 111 hours of preparation time were recorded.

Several trainings were conducted for volunteers during this period as a part of a water safety skills development program for staff and volunteers who assist staff with paddle tours. The training provides participants with important skills as the reserve prepares to offer paddle trips using the 8 passenger canoe donated to the Reserve by the Friends of South Slough.

Training was also provided for teachers from the Elkton Charter High School to prepare for a program being offered in April at South Slough. Teachers were briefed on the resources available through South Slough and toured field sites while discussing possible curriculum approaches and choosing topics for emphasis. This level of involvement is possible because the faculty of the charter school has selected natural resources as the emphasis for their charter and use frequent field-based experiences in support of classroom activities.

NERRS K-12 Estuary Education Program

South Slough continued work on an educational market analysis and needs assessment study as part of a national effort to identify opportunities for the NERR program to contribute to K-12 estuary education. SSNERR staff met in early February with environmental educators from southern Oregon to introduce and solicit involvement in the project. The group was supportive of the idea of the study and will participate in the market analysis.

Staff also met with OSU Professor John Falk and PhD student Dan Calvert of to discuss possible technical assistance with study design and data analysis. Initial discussions were positive and the OSU team may be able to provide the services requested if a mutually agreed upon contract can be negotiated. Funds for this work have been provided to the Coos Watershed Association from the Coos Bay Bureau of Land Management. The study will take place during the remainder of 2011.

Oregon Coast Education Program

South Slough staff are working with partner institutions to develop a state-wide education program focused on the Oregon Coast. Oregon Coast Education Program partners include the Oregon Institute of Marine Biology, Oregon Sea Grant, the Oregon Coast Aquarium, and the Northwest Aquatic and Marine Educators.

Two new partners have joined the project; the High Desert Museum in Bend, Oregon and Tryon Creek State Park, in Portland. These partners will help recruit teachers to participate in a leadership team of educators. The leadership team is meeting in early March to begin development of two new education modules focused on 1) Impacts to Coastal Environments; and 2) Coastal Conservation Actions and Solutions.

Teacher professional development workshops are being offered in April, June, and August to provide educators with training in best practices related to field-based education and use of the coastal education modules.

Community Education, Interpretive & Outreach Activities

Interpretive programs continue to be offered for a diverse public audience of children, adults, and families. A total of 24 interpretive programs were offered and 242 people attended activities ranging from guided walks and paddle trips to workshops. 56 hours of contact and 38 hours of preparation were recorded.

Public Involvement

Training

South Slough Public Involvement program coordinator Deborah Rudd is working to develop a formal volunteer orientation and training program to be offered on a regular basis at the Reserve. Deborah has developed a logic model and needs assessment for the training and has established an advisory committee made up of staff and FOSS board members for implementing the training program. We expect to hold the first training in October of 2011.

Friends of South Slough, Inc. (FOSS)

Since November, the Friends of South Slough, Inc. (FOSS) have completed several projects in support of the South Slough NERR. December 2010 began with FOSS purchase a multi-passenger Clipper canoe, passenger paddles, two-locally crafted steering paddles and life vests. Upon receipt of these materials the Friends formally transferred them to the Reserve. FOSS also provided funds to honor SSNERR volunteers at an end of the year holiday gathering at a local bowling alley. The Friends, through the Coquille Tribal Community Fund grant will help to the life support system for new aquarium displays being developed for the Reserve. The Friends also plan to support an intern's to help operate the aquaria in the exhibits.

In January, FOSS paid for a year's worth of advertisements that will run in the local newspaper insert "Drift" to promote SSNERR programs and FOSS fundraising activities.

In February, FOSS held their Annual meeting and elected the following to the board: Nicole Jackson, Sue Cameron, Pat McKillip, David Lunde, Valerie

Cooley, Lois Christensen, Tom Younker, Heather Randolph and Lonnie Mays. FOSS awarded Nicole Jackson with “Friend of the Year” and Steve Larsen as “Volunteer of the Year”. The gathering was well attended and the group hosted a local West-African style dance and drumming group for the entertainment. FOSS revealed their 2011 work plan and announced projects for the upcoming year. (See attached)

In early March, FOSS submitted two grant applications. One for the Pacific Coast Joint Venture discretionary funds as a match for the proposed NOAA project entitled “Welcome Nature Home”, the other via SSNERR for an Americorp VISTA volunteer to develop an internship paid work experience program that provides assistance with aquaria maintenance, and book store services.

Volunteers

From September 2010-February 2011 SSNERR volunteers logged in 738 hours valued at \$15,380.00. The breakdown included approximately 30 education, 30 research/stewardship, 604 administration and 74 trails/other hours.

Outreach

The Bay Area Chamber of Commerce Tourism committee continues to explore tourism opportunities in the Bay area. Their 2011 projects include promoting tourism related industry and highlighting local area visitor service providers who stand out in the community.

The Charleston Community Enhancement Corporation is planning their 6th annual Oyster feed fundraiser at OIMB. CCEC uses these funds to preserve, promote and enhance the quality of life for the citizens of and visitors to Charleston, Oregon.

The Charleston Merchants Association continues to meet on the third Tuesday of each month at 6:00pm at the Charleston Fire Department. They recently purchased an electronic reader board that members can use to promote their program or business.

Coastal Training Program

Estuaries 101 Training for DSL Staff

On 26-27 Jan. South Slough NERR's Coastal Training Program, in cooperation with the Department of State Lands Wetlands and Waterways Division, presented training in estuary ecology, hydrology, biology and tide gate management. The audience for this two-day workshop included DSL Wetlands and Waterways Conservation Division staff, and staff of the Oregon Department of Fish and Wildlife, Oregon Department of Transportation, NOAA, and the U.S. Army Corps of Engineers. DSL staff members Anna Buckley and Carrie Landrom assisted SSNERR staff in developing the training. Approximately 40 people attended.

Day One included lectures and presentations on principles of estuarine ecology, functions and processes. On Day Two, the group toured estuarine fill and removal projects in Yaquina Bay and Toledo, including the South Beach site of the new NOAA Fleet Facility under construction in Newport.

As a result of the workshop, DSL staff members responsible for permitting wetland fill-removal activities have a better understanding of how to apply Oregon's Fill-Removal Law in estuaries.

Coastal Training Sector Meeting, Mar. 7-11

SSNERR coastal training program coordinator John Bragg is coordinating the 2011 annual Coastal Training Program winter sector meeting at OIMB in Charleston Mar. 7-11. CTP coordinators from 27 national estuarine research reserves will participate in this meeting, which is funded by a grant to SSNERR from NOAA. The coordinators will undergo professional development training, review national coastal training strategies and initiatives, finalize techniques that are used to evaluate the effectiveness of coastal training, and gain a first-hand look at the concepts and principles of habitat restoration as it is conducted at SSNERR.

Coastal training coordinators at South Slough and other NERRS work with coastal managers to ensure that decisions that affect natural coastal resources are made using the best available scientific knowledge. At South Slough NERR, coastal training emphasizes developing tools and skills for professionals involved in watershed habitat restoration.

Staff Training and meetings

SSNERR Education Program Coordinator Tom Gaskill traveled to Fairhope, Alabama in February to participate in a meeting of the National Estuarine Research Reserve education sector. Topics discussed during the meeting included the development of a middle school level Estuaries 101 curriculum, performance measures, best practices for teacher training, and planning for climate change education activities. A training “Water Words That Work” focusing on improving communication skills was also provided to participants.

Stewardship Program Update

I. Habitat Restoration

- A. Restoration from Ridge-Top to Estuary: SSNERR Stewardship Program Coordinator Hans Klausner met with staff from the Land Management Division of the Oregon Department of State Lands (DSL) to discuss how they might support the implementation of the Reserve's *Upper Watershed Restoration Action Plan* that was adopted by the Commission in 2010. This plan encourages a whole watershed restoration approach focused on improving interrelated habitats from the ridge-tops to estuary. Implementation of projects outlined in this plan will inevitably produce a significant volume of logs (from forest thinning and gap creation) that are not incorporated into the restoration treatments. We are looking into having the wood produced as a result of plan implementation certified by the Forest Stewardship Council (FSC). FSC certified material has the potential to be sold as a premium product and can bring a higher than average price. It is hoped that the sale of this material would compensate for the up-front costs of implementing the plan and provide seed money for future restoration projects. DSL staff were particularly interested in how SSNERR's plan could be used as a demonstration for how FSC certified wood produced from habitat improvements might be an economically, ecologically and socially desirable tactic for managing other state owned forest lands. One immediate issue linked to testing this concept at the Reserve is securing the funds to pay for the pre-project implementation costs. SSNERR staff are working with DSL staff to explore and identify potential funding sources for this work.
- B. Tracey Home-site Restoration: Karel Tracey grew up on a homestead in the Winchester Creek lowlands. This homestead is now part of the Reserve and most of the structures have been demolished and removed. As a frequent visitor to the site, Karel became interested in restoring the former garden area (now over-run by non-native invasive plants) to natural and native vegetation. He approached Reserve staff with a proposal to re-plant the site with native seedlings that would eventually crowd and shade out the invasives. With the help of maintenance staff and several volunteers Karel and the SC site-prepped and planted

approximately 50 native tree seedlings at the site. These seedlings will be maintained until they are free to grow above the current vegetation.

- C. Port Orford Cedar Restoration: Port Orford cedar (*Chamaecyparis lawsoniana*) is being devastated as a result of the introduction of a fatal non-native root rot pathogen. Coos and Curry Counties have been particularly impacted and the Reserve is in a position to function as a refuge for this endemic species. In partnership with the Dorena Genetic Resources Center operated by the U.S. Forest Service, the Reserve is installing research and monitoring plots to test the performance of root rot-resistant strains of *C. lawsoniana*. An AmeriCorps team is currently living on-site to provide assistance with the on the ground aspects of this project. The research plots at the reserve are designed to determine the disease resistance attributes of Port Orford cedar genotypes collected and produced by the Center. Information collected from this planting will help inform the future restoration of this species on Reserve lands and throughout the limited range of this distinctive tree.

II. Watershed Monitoring

- A. Partnership for Coastal Watersheds Project: Implementation of the \$ 216K, two-year Cooperative Institute for Coastal and Estuarine Environmental Technologies (CICEET)-supported project made the following progress over the past several months (in partnership with the Coos Watershed Assn.):
1. The leadership team convened two meetings of the Partnership for Coastal Watersheds Steering Committee. Both meetings were well attended with over 25 committee members participating at each meeting. The Partnership Steering Committee is the operational core of the project. The project is designed so the South Slough NERR and Coos Watershed Association staff devoted to the project ultimately become the Partnership Steering Committee's technical facilitators. The Partnership Steering Committee is a locally-formed community group representing the diverse community interests in the project area.

The committee is using a Collaborative Learning process pioneered at Oregon State University to develop a common understanding of the status of the project area (South Slough watershed and adjacent watersheds to the west- the Coastal Frontal Watersheds), develop a community vision of what the project area should look like in 20 years, and develop plans articulating management actions and policy recommendations focused on helping the community attain its vision. The group will also help South Slough NERR and Coos Watershed Association staff and technical advisors develop a long-term, indicators-based monitoring program to track watershed conditions.

The first Partnership Steering Committee meeting was an introductory session during which South Slough NERR and Coos Watershed Association staff described our proposed community approach for addressing current and future change in the project area and presented the Collaborative Learning method as an operating principle for the committee. The project's two underlying premises were introduced:

Project Premise 1 – The local effects of climate change and changes in land use have the potential to affect our community's quality of life and long-term economic viability. How can our community plan ahead to address these potential changes?

Project Premise 2 - Our Community does not have an effective way to collaborate or make decisions about the opportunities and issues we need to address now and in the future. How can our community effectively address opportunities and issues?

The meeting included a description of a county wide planning effort that took place in Coos County last summer: the three day community visioning charrette led by the American Institute of Architects' Sustainable Design Assessment Team (SDAT). The recommendations from that group were made available this past fall and made clear that the Partnership for Coastal Watersheds project provides an opportunity to put

some of the SDAT's recommendations into practice, which may serve as a model for the entire county.

The next Partnership for Coastal Watersheds Steering Committee meeting will be convened at the end of March and will be focused on developing a common understanding of the ecological status of the project area.

2. The watershed assessment data we've collected and compiled are currently being summarized in preparation for the third Partnership for Coastal Watersheds Steering Committee meeting. We hope to develop an initial, albeit incomplete picture of activities and conditions in the project area and identify information gaps needed to develop a long-term ecological indicators monitoring program. We anticipate the development of a full characterization of the project area will involve a relatively serious effort including the need for additional technical support in the form of a technical subcommittee of the Partnership Steering Committee.
3. As part of the watershed assessment, South Slough NERR and Coos Watershed Association staff have installed permanent forest monitoring plots on Reserve lands. These plots are based on Forest Inventory Analysis (FIA) protocols developed by the U.S. Forest Service. These plots will be incorporated into the U.S. Forest Service's FIA National Program and will provide the Reserve with status and trends information regarding forest health, growth rates, species composition, understory vegetation and fire risk. The data collected from FIA plots is being reviewed by analysis professionals at the USFS to guide the Reserve in monitoring these plots over time.
4. We have launched the Partnership for Coastal Watersheds web site: <http://www.partnershipforcoastalwatersheds.org/>. The site describes project elements, goals and objectives of the Partnership Steering Committee (the operational core of the project), orients web site visitors to the location and scope of the project area and provides information about various concepts associated with the project such as collaborative learning, resilience, sustainability etc. Partnership Steering Committee members and others use the web site to access meeting notes,

agendas, copies of presentations etc. The site also provides Steering Committee members with a link to a limited-access Wiki page where documents can be posted and worked on by staff and committee members. This function will likely become most useful when the group starts developing products such as a community vision for the project area, and a project area action plan and recommendations. The site will also serve as the place people can go to read about the state of the watersheds associated with the project area. We plan to post summaries of the data South Slough NERR, the Coos Watershed Association and others collect in the project area including water quality information, tide level trends, fish use, stream discharge etc.

B. Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET)-funded tidal wetland reference site monitoring project: This project helped to identify and characterize an Oregon coast wide network of natural tidal wetlands that will be used as reference sites in the coming year. The CICEET funded portion of the project ended on Dec 31, 2010. The final report will be completed the second week of March and submitted to the CICEET.

Draft findings from the project include:

Temperature sensor method for determining tidal inundation period in tidal marshes

- The temperature sensor method is broadly applicable to studies of coastal inundation in a variety of habitats and climates.
- With the use of iButton temperature loggers, the temperature sensor method is very inexpensive, costing less than \$20 for each iButton. Software to launch and download iButtons is free, and required hardware (probes and connectors) is inexpensive.
- iButtons do not measure depth of inundation. However, inundation depth can be estimated using a vertical array of iButtons; accuracy depends on vertical spacing of sensors.

- Ease of use: Ease of use for iButtons is comparable to commercially-available water level loggers. Application-specific software would make the method more user-friendly.

Reference Conditions Database and Web Portal

- The pilot reference conditions database is available online at no cost to users at <http://oregonexplorer.info/wetlands/DataCollections/ReferenceSiteData> .
- The pilot reference conditions database, disseminated via the web portal, offers a powerful tool for design, evaluation and management of tidal wetland restoration sites.
- The reference conditions database is user-friendly compared to previous methods. Information is presented in broad categories, but users can drill down to specifics and raw data are available to users.
- These are “living” datasets that will be added to each year to help make the tool increasingly robust.

Carbon content in Oregon tidal wetland soils

- The average concentration of soil organic carbon in reference site soils was higher than in impacted sites
- A significant difference was also found between the percent of soil carbon in unrestored vs. reference sites.
- Results suggest that restoring tidal hydrology to previously drained sites can increase soil carbon storage and associated ecological functions.

Restoration Practitioner Survey

- The restoration practitioner survey determined data gaps, monitoring practices and restoration priorities as perceived by active restoration practitioners. These results offer important guidance for research, outreach and education.

C. NOAA Restoration Center-funded reference site monitoring project (in partnership with Wells NERR (Maine), Narragansett NERR (Rhode Island), North Carolina NERR, and the Chesapeake (VA) NERR): This project is nearing scheduled completion but we have submitted a nine month no-cost extension request to ensure we are able to deliver a complete product to the Reference Center. During this reporting period, Heidi Harris continued to compile project data and helped to complete field tasks associated with the reference sites project. Heidi has organized all the project data into the templates the team developed for the project including; groundwater level, vegetation percent cover, stem density, shoot length, pore water salinity, and soil bulk density and organic content. Heidi has submitted those templates to the NERRS intranet site to be accessible to Chris Peter at Wells NERR who is conducting the data analyses for the 5 NERRS that are participating in the pilot project. We continue to respond to various requests from Chris Peter as he conducts the analyses including replacing well depth estimates with field measurements that helped to correct some errors Heidi discovered in the data. Heidi will continue to manage the data, make additional field measurements as needed to assist in the analyses of the data. We will also deliver additional information as part of SSNERR's contribution to the project final report that is due in May 2011. We may also be tasked with transforming the final grant report into a NOAA technical document to be made available by the end of 2011.

Heidi continues also to develop the ECOS Lab database and ECOS lab projects catalog and is working with Judy Hamilton, Biomonitoring Coordinator and Ali Helms, Estuarine Monitoring Coordinator to help create a consistent set of Access templates for lab data and to ensure a reasonably "seamless" integration between those Access databases, GIS maps and the ECOS Lab project catalog.

D. System Wide Monitoring Program Biomonitoring project: The SWMP biomonitoring project for 2010 continues with Judy Hamilton as the SWMP biomonitoring coordinator supported by funding from NOAA/NERRS. The central project goal is to establish long-term biological monitoring sites to document changes in eelgrass beds and emergent salt marshes in the South Slough estuary and assess the local effects of climate variability

and change using these biological communities as indicators. Judy has established a permanent network of paired eelgrass and salt marsh monitoring sites in different hydrographic regions of the South Slough estuary (10 sites total) and has just finished characterizing the salt marsh and eelgrass communities at those sites (based on plant species percent cover, shoot density, etc.). Most recently, Judy established surface elevation table (SET) stations at all salt marsh sites where we don't already have SET stations established. SETs are instruments that attach to permanently established reference posts in the field, allowing us to measure the elevation of the soil surface in salt marsh habitats and ultimately to characterize the change in sediment elevation over time. In mudflat and eelgrass habitats, Judy established sediment dynamics stakes, a simple technique used for measuring sediment changes in minimally vegetated, low intertidal habitats. Two stakes placed three or four feet apart are driven into the substrate as deep as possible leaving about 3 feet above ground. A long level is placed on top of the stakes (which are then made level) and multiple measurements are made from the level to the mudflat surface and repeated yearly or seasonally to quantify changes in mudflat surface elevation.

Judy has also been working with Ali Helms, Estuarine Monitoring Coordinator and Heidi Harris, ECOS Lab Research Assistant, to help organize datasets from various Reserve projects including SWMP, SeagrassNet, Biomonitoring and the Restoration Center Reference Sites project into a consistent format in Microsoft Access to make the data more secure, easier to find (e.g., through the ECOS lab project catalog) and easier to analyze.

III. Watershed Activities

- A. Proposed Mining In South Slough Watershed: The mineral sands mining project proposed by Oregon Resources Corporation (ORC) for the coastal frontal watershed (west of the South Slough watershed) has been fully permitted and is currently in a construction phase. A processing plant being erected near Bunker Hill in Coos Bay and roads to the mining site are being developed.

In addition to the currently permitted mining operation (due to occur solely on privately owned land), ORC has proposed to mine adjacent portions of the Coos County Forest that are also in the coastal frontal watershed. Complicating the proposal is an unresolved legal issue regarding ownership of mineral rights. Coos ORC contends that mineral sands mining constitutes an execution of mineral rights on the property and that those rights are held by the Kimberly Clark Corporation not Coos County. Coos County contends that since the sands occur at a relatively shallow depth they are included as part of the surface ownership rights to the property held by the county. Despite this unresolved legal issue, ORC and the Coos County Board of Commissioners are in the process of negotiating a lease for these properties. It is likely that the conditions of a mining lease agreement developed for the County owned land with unresolved mineral rights could be applied to other Coos County property including portions of the Coos County Forest in the South Slough watershed.

IV. Land Management

- A. Boots on the Ground: The Reserve will be hosting an AmeriCorps team from the National Civilian Community Corps program from March 8 through May 6. This team will be assisting with stewardship and maintenance activities associated with restoration and monitoring projects as well as improvements to the trail system and Interpretive Center grounds. The primary focus of this team will be the installation of experimental root-rot resistant Port Orford cedar test plots described in Item I.C. above.
- B. The Charleston Sanitary District (CSD) has agreed to transfer a .06 acre parcel on Care Arago Hwy to the Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians (Tribes). This parcel was originally offered to the Reserve, but staff recognized that the Tribes would be the most logical recipient of the land and deferred to their interest in the land. Reserve staff will continue to work with the Tribe to restore, improve and develop the site as an interpretive wayside.

V. Meetings / Presentations

South Slough NERR Stewardship Program Coordinator, Hans Klausner:

- January 20: Partnership for Coastal Watersheds
- January 27 – February 24: Assisted with the instruction of GIS courses for the OIMB seminar series.
- January 28: NERRS Strategic Committee
- February 24: Partnership for Coastal Watersheds
- February 27 – March 2: NERRS Stewardship Coordinators

South Slough NERR Coordinator of Monitoring Programs, Craig Cornu:

- February 2011- Delivered two presentations to DSL, USACE and other wetland regulatory staff about estuarine wetlands and invasive species as part of an estuarine wetland training organized by Anna Buckley, Carrie Landrum (both DSL) and John Bragg (South Slough NERR).
- February 2011- Presented the Partnership for Coastal Watersheds concept to the first meeting of the Partnership for Coastal Watersheds Steering Committee, with Bessie Joyce and Jon Souder (both with the Coos Watershed Association) as well as Partnership Steering Committee goals, objectives and proposed meeting schedule.
- March 2011- Presented the Partnership for Coastal Watersheds concept to the Stewardship Coordinators at the Stewardship and GIS Coordinator sector meeting at the Padilla Bay NERR in La Conner, WA.
- March 2011- Presented South Slough NERR's work establishing elevation benchmarks and calculating tidal datums at NERRS SWMP stations to the Stewardship and GIS Coordinators at the Stewardship and GIS Coordinator sector meeting at the Padilla Bay NERR in La Conner, WA.
- March 2011- Presented the Partnership for Coastal Watersheds concept to the Coastal Training Program Coordinators at the Coastal Training Coordinator sector meeting at the South Slough NERR.
- March 2011- Presented the Reserve's Winchester Tidelands Restoration Project and opportunities for ridgetop to estuary restoration concepts to the Coastal Training Program Coordinators at the Coastal Training Coordinator sector meeting at the South Slough NERR.

INPUT ON STAFF ACTIVITIES

RESEARCH AND MONITORING PROGRAM UPDATE

During the period from 1 Nov 2010 to 1 March 2011 South Slough NERR staff members continued work associated with several ongoing research and monitoring projects. Progress is described below:

I. NERRS System-Wide Monitoring Program (SWMP):

During the winter and spring, Steve Rumrill, Ali Helms and Adam DeMarzo continued to operate the three existing programmatic elements of the South Slough NERR SWMP: (A) Ambient Estuarine Water Quality; (B) Local Weather Conditions; and (C) Tidal Forcing of Estuarine Nutrients (see A-C below for summaries).

A. Ambient Estuarine Water Quality: Ali and Adam worked to retrieve, download, calibrate, and deploy the YSI-6600 Extended Deployment System (EDS) dataloggers at the four long-term estuarine monitoring stations on Dec. 2 & 6; Dec 21, 22, 2010 & Jan. 4, 2011; Jan. 24 & Feb. 1; and Mar. 1, 2011. Fouling organisms (primarily barnacles and mussels) were dislodged on a monthly basis from the SWMP stations. The datasets, for Oct-Dec, 2010 were submitted on Feb. 1, 2011 & the datasets for Jan-Mar 2011, will be submitted by May 1, 2011. The yearly water quality datasets, monthly calibration/field sheets and metadata for 2010 have begun initial processing for submission by March 15, 2011.

The Satlink programs at the Charleston Bridge, Valino Island, and Winchester Creek telemetered stations were reprogrammed in order to record but not transmit additional diagnostic parameters, including Dissolved Oxygen Charge and pH millivolts, for enhancement of the

quality assurance/quality control procedures. The program for the Charleston Bridge station will be updated to accommodate the deployment of a new type of datalogger (6600 V2-4), which uses an optical Dissolved Oxygen sensor (ROX), rather than the rapid pulse Dissolved Oxygen sensor, where oxygen diffuses through a thin teflon membrane. We will be working toward replacing/upgrading all of the 6600 EDS/V2-2 sondes (2 optical ports) with the V2-4 sondes (4 optical ports) in the near future. The advantage is that the new logger has enough optical sensor ports to collect Turbidity, Chlorophyll, and Optical Dissolved Oxygen data simultaneously. The membrane style dissolved oxygen probes are easily scratched/punctured by small invertebrates and fish, which can result in suspect or, more typically, rejected dissolved oxygen data, depending on when the puncture occurred during the deployment.

A new type of satellite antenna has been installed at the Charleston Bridge station and will be installed at the three other telemetered stations. The new Stevens V4TH antenna has a helix design that encloses the antenna to help increase performance in severe weather and minimize corrosion problems we have experienced with other antenna configurations.

South Slough NERR is a participant in the NOAA/NERRS effort to install and operate real-time telemetry equipment as part of the national backbone of the US Integrated Coastal Ocean Observing System. The electronic satellite telemetry equipment at the Winchester Creek station is currently transmitting measurements of estuarine water parameters recorded by the YSI 6600 EDS datasonde. In October, we mounted telemetry equipment on the tower for the new Elliot Creek station. The Elliot creek station will replace the Sengstacken site due to sediment build up at Sengstacken. We are working to install the protective casing at Elliot before we move the sonde to the new station. The Charleston Bridge and Valino Island stations transmit data intermittently and during Nov-Dec, telemetry problems were diagnosed; new Satlink 2 transmitters will be installed at these two stations.

B. Local Weather Conditions: The South Slough NERR SWMP Weather Station has operated continuously with recordings of air temperature, relative humidity, barometric pressure, wind speed and direction, precipitation, and solar radiation every 15 minutes. Ali Helms & Adam DeMarzo completed monthly maintenance on all the meteorological station sensors/ and solar panels. Data were retrieved from the CR1000 datalogger on 11/29/10, 1/4/11, 2/2/11, & 2/25/11. Ali and Adam installed a GOES satellite transmission system on the meteorological station that automatically sends South Slough data from the CR1000 datalogger to the NERR Centralized Data Management Office receiver station in Columbia, South Carolina.

The near real-time measurements and historical datasets generated by our meteorological station are now available on the NERR CDMO website (<http://cdmo.baruch.sc.edu>). The quarterly July-Sept 2010 datasets were submitted on November 1, 2010; the Oct-Dec 2010 were submitted on Feb. 1, 2011, and the Jan-Mar 2011 datasets will be submitted by May 1, 2011. The meteorological datasets, monthly log sheets and metadata for 2010 are currently being processed for submission to the CDMO for final review by April 15, 2011.

C. Estuarine Nutrients: Monthly waterborne nutrient sampling was conducted during the reporting period (Nov. 18/19; Dec. 16/17, 2010; Feb. 3/4; Mar. 3/4; and Mar 28/29, 2011). Water samples were collected from each of four SWMP nutrient sampling locations in South Slough. Subsamples were sent to the University of Washington's Marine Chemistry Laboratory for the analysis of dissolved inorganic nutrients. Adam DeMarzo analyzes subsamples for Chl-a and Phaeopigment content at the South Slough laboratory. The SWMP Team now prepares and analyzes monthly nutrient, bacteria, and chlorophyll blanks to further ensure data quality. The nutrient & chlorophyll datasets, monthly field sheets and metadata for 2010 are currently being processed for submission to the CDMO for final review by May 15, 2011.

D. Availability of SWMP Real-Time Data / Data Products for Shellfish Growers: South Slough NERR is a participant in a project to make estuarine water quality datasets available on a real-time basis. The measurements of estuarine water parameters are now available on several websites (http://nerrs.noaa.gov/ioos/realtime_map.html; <http://cdmo.baruch.sc.edu>; <http://www.weather.gov/oh/hads/>; <http://www.nws.noaa.gov/oh/hads/>; <http://www.nanoos.org>). The website that is specifically designed to deliver real-time water quality data and data products to local and regional shellfish growers has been operating since 3 July 2007 (<http://www.nanoos-shellfish.org>). The website continues to provide information about estuarine water quality conditions for commercial shellfish growers in Oregon, Washington, and Alaska. The project was developed in cooperation between the South Slough, Padilla Bay, and Kachemak Bay NERRS and Mindfly Web Development as a data delivery element of the US Integrated Ocean Observing System. The website functions to pull datasets from the NERRS Centralized Data Management Office and then reconfigures the data and develops new data products that meet the specific needs of local and regional user-groups.

SWMP Guidance Committee (SGC)

Several staff including, Steve Rumrill, Ali Helms, Hans Klausner, John Bragg, and Tom Elledge have been serving or are now serving on the NERRS System Wide Monitoring Program Guidance Committee (SGC), which was established in 2009 to guide the future directions of SWMP in concert with research and in full alignment with NERRS strategic planning. The SGC is the multi-sectoral NERRS body that functions as the highest-level planning and guidance team for the overall design, coordination, implementation, and integration of SWMP into the portfolio of NERRS activities. The major task for the committee has been to rewrite the SWMP Plan, which will be finalized by March 31, 2011. (The original SWMP plan was developed over 1995-2000, finalized in 2002, and revised in 2007.)

TTW 2011 (Technician Training Workshop)

Ali Helms and Adam DeMarzo attended the annual NERRS Technician Training Workshop in Myrtle Beach, SC from Feb 8-10, 2011, which is hosted by the CDMO (Centralized Data Management Office). The workshop provides beginner and advanced training sessions on all aspects related to the Water Quality, Nutrient, and Weather Monitoring of SWMP. Highlights of this workshop included presentations by technicians on methods for correcting salinity using the MatLab program (John Haskins, Elkhorn), a tool to help with quality assurance/quality control of pH data (Justin Hart, Ace Basin), and an overview of research and monitoring projects at the Jacques Cousteau NERR as well as discussion of the telemetry repository program (Gregg Sakowicz, Jacques Cousteau). The CDMO programmer, Brooks Folk, presented the advanced query system for the CDMO database, which houses all of the SWMP data for the 28 reserves. Still in the testing phase, the system enables users to pull, up to 5 years of data from 2-3 reserves, all stations (4), and all parameters (Water Quality-9 parameters available, Nutrient-6 parameters avail., Weather-8 parameters avail.) at *one* time. This is a huge development especially for data analysis and synthesis projects. Everyone is encouraged to test it out (<http://cdmo.baruch.sc.edu/aqs>) and provide feedback to the CDMO.

SeagrassNet Monitoring On Jan 20, 2011, Ali Helms, Adam DeMarzo, and Judy Hamilton completed the quarterly eelgrass field sampling at Valino Island using the SeagrassNet sampling protocol. SeagrassNet is an international monitoring program established in 2001 to document the worldwide status and health of seagrasses; the program has grown to include over 115 sites in 32 countries. Quarterly field sampling includes data collection from three permanent transects (lower/deep; lower/middle; upper/shallow) near Valino Island, each with 12 samples of spatial cover, shoot density, canopy height, biomass, and flowering shoots. South Slough began submitting eelgrass monitoring data as part of this program in 2004; since that time the Day Creek channel has migrated south and is influencing the edge dynamics of South Slough's

SeagrassNet eelgrass bed. As a result of this channel migration, a few of the quadrats at the North end of the transects are now bare. However, preliminary analysis of data shows that the overall average eelgrass spatial cover and density at this site are increasing slightly (lower/deep and lower/middle transects) or staying the same (upper/shallow transect).