

SOUTH SLOUGH RESERVE MANAGEMENT COMMISSION

AGENDA

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

18 March, 2010

127th REGULAR MEETING – 1:00-4:00 P.M.

I. Call-to-Order

II. Introductions

Introduction of new SSNERR Management Commissioner, Coos County Commissioner Kevin Stufflebean.

III. Approval of the 126th regular meeting minutes

IV. Public Input*

V. Old Business

- A. Recognition of volunteers
- B. Clarification of public meeting laws

VI. New Business

- A. Other

VII. Informational Presentations

- A. Bay Watershed Estuary Training (BWET) program (T Gaskill, J Kulluson)
- B. Partnership for Coastal Watersheds. (C Cornu, B Joyce)
- C. Oregon Solutions project update and budget strategy discussion (M Graybill)

VIII. Input on Staff Activities

- A. **Administration updates** including: Personnel; grant applications; cooperative agreements with other organizations including Bureau of Land Management, OIMB, Coos Watershed Association, BWET partners
- B. **Education program updates** including: Special programs; Outreach, and Training
- C. **Science program updates** including: Climate Trust carbon sequestration forest management proposal; NOAA FY 2010 Coastal and Estuarine Land Protection Program; Native oyster restoration; Biological monitoring
- 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 126th Regular Meeting
November 19, 2009

Commission members present:

Richard Hamel
Craig Young
James Fereday

Ron Stuntzner
George Boehlert
Louise Solliday, Chair

Commission members not present:

Mark Ingersoll

Robert Emmett

South Slough NERR staff present:

Mike Graybill
Pam Wilson
Steve Rumrill
Alicia Helms
Robin Elledge
Tom Gaskill
Adam DeMarzo
Joy Tally
Deborah Rudd

Kathy Andreasen
Tom Elledge
Craig Cornu
Don Smith
Hans Klausner
John Bragg
Nate Damewood
Alix Laferriere

Others present:

John Schaefer, Confederated Tribes of Coos Lower Umpqua and
Siuslaw Indians

Howard Crombie, representing the Confederated Tribes of Coos
Lower Umpqua and Siuslaw Indians for Commissioner Ingersoll

Nora Terwilliger, SSNERR Advisory

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 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 Hamel seconded the motion. The minutes were approved.**

PUBLIC INPUT

There was no public input.

OLD BUSINESS

Transplant of Native Olympia Oysters

Dr. Steve Rumrill showed a power point presentation titled *Restoration & Recovery of Ostrea lurida Populations in the South Slough Estuary, Oregon*. Staff asked for guidance from the Commission in the matter of transplanting native Olympia oysters into the South Slough inlet at the risk of introducing additional non-native species to the South Slough. Commissioner Boehlert commented that oysters are commonly quarantined when they are transferred. After some discussion, Chair Solliday requested that Commissioner Boehlert define the motion.

Commissioner Boehlert moved that staff investigate alternative approaches to transplant the oysters, that the process to transplant move forward based upon the best kind of information available, and for the Reserve to adopt the standard operating procedures as defined in the staff recommendation if necessary. Commissioner Hamel seconded the motion. The motion carried.

Proposed Marine Terminal

Mike Graybill introduced the agenda item at the request of Commissioner Stuntzner. Commissioner Stuntzner cited a letter dated September 10 which was sent to the U.S. Army Corps of Engineers by Reserve staff which included comments on behalf of the members of the South Slough NERR Management Commission regarding proposed dredging in the Coos Estuary.

Commissioner Stuntzner said that he would like the opportunity to vote on controversial issues and projects such as the proposed dredging, and

he requested that the Commission's process to comment on proposed activities be clarified. Commissioners Boehlert and Young agreed with Commissioner Stuntzner that the process to provide public comments should include a more collaborative effort with the members of the Commission. Chair Solliday said that correspondence sent on behalf of the Commission, such as the letter in question, is not intended to take a position on an issue, but only states the management objectives of the Commission and asks that the existence and mission of the Reserve be considered. After some discussion, it was proposed that future correspondence be circulated in draft form to the Commission for their review prior to being sent. Mike Graybill noted that public meeting law may preclude such action. Chair Solliday said she would inquire to determine if the public meeting law applies for just the purpose of soliciting comments. Chair Solliday asked if there were any recommendations.

Commissioner Young moved that the Commission take a retroactive vote on the letter to the U.S. Army Corps of Engineers. Commissioner Hamel seconded the motion. The motion carried.

Commissioner Hamel moved to approve the letter to the U.S. Army Corps of Engineers. Commissioner Fereday seconded the motion. Commissioners Hamel, Fereday, Boehlert and Young voted to approve. Commissioner Stuntzner opposed the motion to approve the letter.

Oregon Solutions Project

SSNERR staff have continued to work as a member of a project leadership team focused on implementing the Declaration of Cooperation for the Charleston Coast and Ocean facility signed in February 2009 by members of the Oregon Solutions project team. The project has come to a decision point that will benefit from additional SSNERR financial and staff commitment. Mike Graybill asked for direction from the Management Commission on a course of action.

Various options and scenarios were discussed by the Commission. Negotiating a lease and relocating the SSNERR administrative offices to interim quarters in Charleston, as well as remodeling the ECOS lab offices for administration and moving the Reserve's research staff to another location on the OIMB campus were mentioned. Chair Solliday said the state budget forecast for the next biennium looks much worse considering there will be a lack of federal stimulus funds. She asked Robin Elledge for an estimate on what a lease would cost per month. Ms. Elledge gave an estimate of \$450 to \$600/month. Some of the cost could be potentially offset by savings and cuts in the Reserve's services and supplies budget. Commissioner Fereday asked Robin Elledge if she

would like to see the administrative offices moved to Charleston. Ms. Elledge said she thought it would be a positive change and she would approve of the move from the Interpretive Center.

Commissioner Young expressed concern that the team effort involved in the Oregon Solutions project not be lost considering the time and energy many individuals, legislators, and the Governor have contributed towards the project.

A letter was recently received from NOAA that stipulated no further extensions would be available on the \$330K available for SSNERR construction. The funds would need to be spent before December 31, 2010. The Commission discussed the possibility of the Reserve using the \$330K to contribute to the purchase of a parcel of property in Charleston. Commissioner Young commented that the University of Oregon was interested in acquiring a parcel adjacent to the OIMB campus, and an agreement could be written between the Reserve and the University. The lot is approximately 2 acres in size and has a house and other structures located on it. It is currently listed for sale via a realty service. The appraised value is yet to be determined but will likely be greater than the amount in the NOAA award. Robin Elledge explained that the \$330K NOAA funds were obtained through a non-competitive process and that SSNERR would need to petition NOAA if they wished to use the money for an acquisition project. Commissioner Stuntzner asked if the Reserve could purchase property north of Valino Island. Chair Solliday replied that property could be purchased in Charleston for the administrative offices as long as the current boundary of the Reserve did not change.

Commissioner Boehlert moved that the South Slough Reserve, in the interest of moving their administrative staff to Charleston, investigate the feasibility of a joint purchase with the University of Oregon of a house, other structures, and land that is located adjacent to the OIMB campus. Commissioner Stuntzner seconded the motion and the motion passed with all in favor.

Chair Solliday and Commissioner Young asked Mike Graybill if he was comfortable with the motion. Mr. Graybill replied that he was comfortable with the motion; but he still regarded as a favorable idea the concept of SSNERR administrative staff occupying the upstairs office area in the ECOS lab and relocating the research staff to the proposed Oregon Solutions Coast and Ocean facility to be built on the OIMB campus.

NEW BUSINESS

Charleston Sanitary District Proposal

The Charleston Sanitary District owns a .06 acre gravel surfaced parcel of land that adjoins Cape Arago Highway and has rip-rap protected bay-frontage that affords views and physical access to the Coos Bay estuary in the vicinity of Fossil Point and Pigeon Point. The Sanitary District plans to relocate the pump station that is currently located on the parcel and vacate the property which supports a 2-3 vehicle gravel parking area and is in a location that is particularly rich for wildlife viewing. The Sanitary District is currently searching for funds to move the pump station to the other side of the highway. All lines and pumping equipment will be removed from the bay side site upon completion. The District has expressed an interest in donating the property to another entity when the project is complete and has approached the Reserve to determine if this parcel would be of interest to them. The Reserve believes the acquisition would benefit SSNERR and support the interpretive and educational programs sponsored by the Reserve. Commissioner Boehlert commented on the cost of upkeep and maintenance for the lot. Chair Solliday and Mike Graybill assured there will be due diligence.

Commissioner Young moved that the Commission express interest via a letter to the Manager of the Charleston Sanitary District in the District's proposal to donate a .06 acre parcel of property to the South Slough Reserve. Commissioners Hamel and Fereday seconded the motion and all approved.

Chair Solliday said the Land Board would need to approve acceptance of the parcel.

NOAA FY 2010 Construction and Acquisition

NOAA's Estuarine Reserves Division will soon issue a call for competitive proposals for construction and acquisition related activities at NERR sites. There is a decrease in federal funding for these projects from prior years. Staff believe these projects, if accepted for funding, will benefit the management and operation of the South Slough Reserve and the security of its visitors.

The project concepts include: 1) \$95K Federal Funds for Hinch Road Access and Security Improvements; 2) \$35K Federal Funds for Interpretive Center Exterior Lighting and Security Improvements; and 3) \$600K Federal Funds for Surface Rights of Common School Fund Land in South Slough. Chair Solliday asked Mike Graybill if Coos County

would approve of the proposal regarding Hinch Road. Mr. Graybill replied that he has been in contact with the county and they are still willing to consider the Hinch Road right of way vacation transaction.

Commissioner Hamel moved and Commissioner Stuntzner seconded to direct staff to develop full construction and acquisition proposals for competition in NOAA's FY 2010 proposal cycle. The motion passed with all in favor.

NOAA FY 2010 Coastal and Estuarine Land Protection Program

NOAA will announce a competitive Federal Funding Opportunity for the Coastal and Estuarine Land Protection Program (CELCP) in December 2009. The CELCP is a competitive national program that provides federal matching grants for the acquisition of coastal and estuarine lands that have significant conservation, recreation, ecological, historical, or aesthetic values, or that are threatened by conversion from their natural or recreational state to other uses. In Oregon, the Oregon Coastal Management Program (OCMP) is the lead agency for CELCP, and it will solicit proposals from eligible applicants. Staff have been working closely with the Coastal Conservation Coordinator at the OCMP to develop a proposal for this opportunity and ask the Commission for approval to proceed.

Commissioner Fereday moved and Commissioner Boehlert seconded the motion to direct staff to proceed with the development and submission of a proposal to the NOAA FY 2010 Coastal and Estuarine Land Protection Program. The motion passed with all in favor.

Bureau of Land Management Cooperative Agreement

Mr. Graybill asked if the Reserve should enter into a cooperative agreement with the Bureau of Land Management to share technical expertise. A draft of the agreement was included in the briefing packet.

Commissioner Boehlert moved that the Commission authorize signature of the cooperative agreement with the Bureau of Land Management upon completion of a review by the Department of State Lands. Commissioner Fereday seconded the motion. The motion passed.

Climate Trust Carbon Sequestration Forest Management

Mr. Graybill asked if the Reserve should develop and submit a carbon sequestration proposal to the Climate Trust for increasing the carbon sequestration potential of SSNERR forest lands. Staff are working with Finite Carbon, a forest carbon development company specializing in carbon offsets, on a reforestation/carbon sequestration proposal for the Climate Trust's Oregon Program. The program funds new projects that avoid, sequester or displace carbon dioxide. The Climate Trust is particularly interested in reforestation and improved forest management projects. Staff believe this project will initiate the implementation of the Upper Watershed Restoration Action Plan, allow the Reserve to further reduce its carbon footprint and support each of SSNERR's programs.

Commissioner Young moved that Reserve staff should develop and submit the Carbon Sequestration Proposal to the Climate Trust to increase the carbon sequestration potential of SSNERR forest lands. Commissioner Stuntzner seconded the motion. The motion carried with all in favor.

State Budget

Chair Solliday provided handouts to the Commission, and she discussed the agency's preparation for the 2011 legislative session and the 2011-2113 biennial budget for the state. Mike Graybill asked for guidance and suggestions from the Commission for development of the state program option packages (POPS) for the Reserve for the 2011-2113 biennium. He added that staff feedback and recommendations for the POPS would be solicited the first week in December.

PRESENTATION

Project leader Alix Laferriere gave a report and presentation on the investigation: *Early Detection and Determination of the Breeding Population Size for the Non-indigenous Estuarine Snails in Pacific Northwest Estuaries*. The project was conducted in cooperation with investigators employed by the Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians via an intergovernmental agreement between the South Slough NERR and the Confederated Tribes. Heidi Harris, John Schaefer, Howard Crombie, Mike Graybill and Jeff Stump assisted Alix Laferriere in the research. The study was designed to provide an initial assessment of the spatial extent of colonization, examine potential species interactions and to observe habitat use of

Assiminea parasitologica (AP), a small intertidal estuarine snail native to Japan and recently documented in Oregon as a non-native invasive species.

A final report including a full description of methods used and the final results of the project will be available in January 2010. Staff is working to post select information and data summaries on the South Slough Reserve website and on the Oregon Coastal Atlas website.

ADJOURNMENT

Chair Solliday adjourned the meeting at 4:10 p.m.

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 the Reserve staff should also receive special recognition at the meeting.

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 2009

* = 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.

*Karen Brown**, Ashley Bulseco, Sue Cameron**, Lois Christensen**, Jacob Evans, Nina Gee, Ivonne Gekas, Nikki Graysun, Ralph Helske, Kaleoni Hurley, Sada Huynh, Nicole Jackson**, Andrea Knutsen, Laura Mays, Lonne Mays**, Melissa Seaton, Janet Stoffel, Annie Walser, Tom Younker** Evan Blom, Janet Stoffel.*

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.

*Sharon Cawley, Kevin Cellura, Curt Clay, Jenna Kulluson, Charlis Meador**, Heather Randolph, Jason Randolph**, Sarita Southgate, Lora Wehner*

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, Valerie Cooley, Robert Emmet*, James Fereday*, Richard Hamel***, Terry Huffman, Mark Ingersoll*, Dan Krossman*, Jan Long, David Lunde**, Patricia McKillip**, Joe Neill, Dennis Phillips, Brenda Rioux, Dixie Sheldon, Mary Ann Sherlock, Bob Sleeth, Karen Sparks, Ron Stuntzner*, Norma Van Natta**, Dick Vigue, Louise Whitehead, Craig Young**

Volunteers who have made unique and significant contributions in 2009 as recommended by the Reserve staff

***Anterra**-Six years of formatting and preparing the South Slough Newsletter, **Judy Brown**-Three years of faithfully staffing the Coos Bay Farmers Market SSNERR/Audubon booth, **Kevin Cellura**-Two years of oyster restoration research and continuation of the project in the community, **Lois Christensen**-One year of outstanding Visitor Services at the SSNERR front desk and with Education programs, **Jenna Kulluson**-Spent two summers providing quality educational staffing and assistance for formal and informal education programs, **David Lunde**-For three years of dedication and in delivering quality service and inventory in the Friends of South Slough Bookstore, and **Laura Mays**- for stepping in and assisting the Friends of South Slough with both the audit process and with the transition between Treasurers.*

Subject: Soliciting Comments and Input from the Commission

Issue: This item is an update regarding Oregon public meeting law and procedures for staff to solicit comments from the Commission.

Background: At the November 2009 meeting, the Commission expressed interest in having the staff solicit input from Commission members prior to sending correspondence on behalf of the Management Commission. With the assistance of SSNERR Commission chair Louise Solliday and Mr. Mark Shumock at the Oregon Department of Justice, staff researched the issue regarding whether e-mail communications between members of the Commission would constitute a public meeting for which formal notice would be required.

The scenario evaluated was a situation where SSNERR staff solicited the input of the Commissioners prior to sending a letter to a regulatory agency on behalf of the Management Commission. Typically, the Reserve manager would broadcast an e-mail message to all the Commissioners and individual Commissioners would “reply-all” with comments to all the other Commissioners and the manager. These e-mail exchanges constitute a public meeting under the statute if: (1) a quorum of the Commissioners is part of the exchange; and (2) the purpose of the exchange is to “make a decision or deliberate toward a decision on any matter”. The AG's office affirms that an e-mail exchange to establish the Commission's position on a matter before a regulatory agency would likely be a meeting to “make a decision or deliberate toward a decision” within the meaning of the statute. This type of correspondence would be subject to Oregon public meeting law requirements.

It is also possible for staff to solicit comments and input from the Commission by e-mail without triggering public meeting law requirements. It is also possible for less than a quorum of Commissioners, with or without staff, to discuss SSNERR matters by e-mail without triggering public meeting law requirements. If staff needs input from a quorum of the Commission without declaring a “public meeting”, the Reserve manager would need to e-mail each Commissioner separately and each Commissioner would reply only to the manager directly (or at least not to reply to a quorum of the other Commissioners). Staff can then assemble Commissioners comments and edits and re-circulate the document to each Commissioner individually.

E-mail exchanges between Commissioners and staff are subject to disclosure under the public records law. If there is a need or desire to keep interactions confidential, it is permissible for staff to discuss individual views of Commissioners in confidence by telephone.

Staff recommendation:

The staff does not request commission action at this time.

VII. Informational Presentation

A. The Oregon Coast Education Program

Presented by Tom Gaskill, SSNERR Education Program Coordinator and Jenna Kulluson, Oregon Coast Education Initiative Coordinator.

SSNERR staff will provide a project update on the Oregon Coastal Education Initiative (OCEI). The project team is working to develop and disseminate a set of exemplary educational modules that employ a combination of classroom-based, distance learning, and coastal field experiences. The project team includes professional K-12 educators working with partner leads from the South Slough National Estuarine Research Reserve (SSNERR), the University of Oregon-Oregon Institute of Marine Biology (OIMB), Oregon Coast Aquarium (OCA), and Oregon Sea Grant (OSG) to develop and implement a professional teacher development program.

One outcome of the project is to develop a network of educators focused on comprehensive coastal education for schools. Initial support for this effort has been obtained through a \$100,000 grant from NOAA's B-WET program. The team has also applied for additional B-WET funding to expand the project to include interior schools. The \$60,000 year-2 proposal is currently under review and notification is expected in the spring of 2010. An additional proposal to the Oregon Community Foundation's – Gray Environmental Education Fund for \$40,000 was also submitted recently. Notice on the outcome of that proposal is expected in June, 2010.

The OCEI partners are working with the K-12 educator leadership team to identify outstanding curriculum resources, distance learning resources, and field experiences which will contribute to the establishment of educational modules. The modules will then be field tested, documented, refined, and ultimately disseminated through an on-line resource developed through the Northwest Aquatic and Marine Educators (NAME). Additionally, dissemination will occur through OCEI professional teacher development workshops and as presentations at professional education conferences. The project will directly impact 50 educators and approximately 1250 students in the first year. The second year is anticipated to reach 100 educators and 2500 students.

Primary objectives – Year 1

Conduct a needs assessment to understand how educators can make more effective use of coastal educational experiences;

Provide teacher professional development to 25 educators through 2 separate 2 day long workshops;

Provide field and classroom support for teachers piloting use of coastal studies modules for at least 625 students;

Provide an on-line forum for 25 educators with distance learning components;

Develop and test a web-based interface for educators and students to access resources contained in the coastal studies modules;

VII. Informational Presentation

B: Partnership for Watersheds. (Craig Cornu SSNERR coordinator of monitoring programs and Bessie Joyce outreach coordinator, Coos Watershed Association)

Staff will present a project update on \$216,000, two-year award from the Cooperative Institute for Coastal and Estuarine Environmental Technologies (CICEET). The project is entitled “Collaborative Planning, Monitoring, and Management: Adaptive Stewardship of Southern Oregon Coastal Watersheds Facing the Dual Stressors of Land Use and Climate Change” Craig Cornu, SSNERR Coordinator of Monitoring Programs and Jon Souder, Executive Director of the Coos Watershed Association are the Co-Principle investigators. This project is focused on the South Slough and adjacent coastal frontal watersheds. The work focuses on the local effects of climate change and changes in land use linked to our community’s quality of life and long-term economic viability. In particular, the project poses the question: How can our community plan ahead to address these potential changes?

Here are the highlights of project implementation thus far:

Objective 1: Assemble Project Teams

This project comprises several interrelated elements: 1) watershed assessment (understanding current conditions); 2) stakeholder visioning (defining desired conditions); 3) watershed management planning (defining management actions to address undesirable conditions); 4) watershed status and trends monitoring (characterizing/modeling change in the project area); and 4) a state of the watershed information website (community information center). Project implementation requires the participation of multiple staff members from the South Slough NERR and Coos Watershed Association (CoosWA) as well as members of other organizations as well as community stakeholders and technical advisors. There are five core project teams responsible for different parts of the project: Collaboration Team, Knowledge Dissemination and Outreach Team, Watershed Assessment Team, Project Administration Team, and Project Evaluation Team. The most active teams to date have been the administration, collaboration, and outreach teams.

Objective 2: Develop Contracts

The project administration team has worked to develop the administrative mechanism to transfer funds between the principal project partners, SSNERR and CoosWA. A contract between the partners is nearly finalized and is making the rounds to be signed. A contract has been written and authorized between the SSNERR and Portland State University’s Oregon Consensus team who are providing assistance with the recruitment of, and defining meeting processes for the community stakeholder group. A third contract is soon to be developed for the services of a web designer to help launch the Partnership for Coastal Watersheds web site.

Objective 3: Change Project Name to Something More “User-Friendly”

One of the initial tasks of the outreach team was to come up with a name for our project that we could use to refer to the project easily among project participants. Neither the proposal title, nor the decision-support process title from the proposal narrative (Coastal Watersheds Ecosystem Management Process), nor any spiffy acronym we could make from these or similar names seemed to work until we came up with “Partnership for Coastal Watersheds” (or the “Partnership project” for short). We understand that as the project takes shape in the community the Partnership for Coastal Watersheds name will take on its own identity.

Objective 4: Introduce the Partnership Project to the Community

Simultaneous with the collaboration team’s efforts to develop the collaborative process for the formation and functioning of the community stakeholder group (see below), the outreach team began to introduce the Partnership project to the community. We developed an outreach strategy in which the project leaders would meet with the present the project directly to key organizations in our community (those organizations who should be represented on the stakeholder group) in advance of going to the local media with the project.

Our outreach strategy also includes community contact by way of information tables at local events, including the Charleston Oyster Feed and the Charleston Seafood Festival, which are very well attended events located in the center of the project area, and at an open house event to be located at a central location in Charleston. We have not yet planned the details but at minimum we would staff a table at the local events and provide outreach materials and be available to discuss the project. For the open house we would provide a short presentation, pose a series of questions to the participants as the basis for discussion and provide outreach materials about the project. We would use those opportunities to get feedback (via a survey card) from individuals about their reaction to the project, their interest in participating and their preferences for staying informed about the project.

As part of our outreach strategy, we developed a one page project overview which briefly and clearly describes the project purpose, objectives, and its various elements. We vetted early drafts among various staff and community members, and critiqued the draft at the end of a Reserve communications training led by the Oregon Department of State Lands (DSL) Communications Director.

The one pager has been used for a variety of purposes, most commonly sent as a preview to organizations when scheduling presentations, and then made available at the meeting. We also used it as the basis for articles in the most recent SSNERR and DSL newsletters.

Thus far we have given presentations about the project to six groups: the Coos Watershed Association Board of Directors, Charleston Community Enhancement

Corporation, A group of local agency, tribal and contract field biologists and program managers, the Oregon International Port of Coos Bay Board of Commissioners, the Coos County Board of Commissioners, and the Charleston Merchants Association. We currently have several groups scheduled for upcoming presentations: SSNERR Management Commission, Charleston Fire Dept / Coos Fire Protective Association, Oregon Department of Environmental Quality, Cape Arago Audubon Society. Presentations still need to be scheduled for the Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians, Oregon Resources Inc. (mining operators) and Bandon Dunes. After these presentations we will issue a press release to The World and KCBY and follow up with stories. Both local media outlets have heard something about the project and have expressed interest in doing stories.

Objective 5: Develop Collaborative Process / Collaboration Pre-Assessment

The collaboration team is working with the Oregon Consensus group (OC) whose members are from both Portland State University and the University of Oregon. The OC has been an invaluable resource for helping the collaboration team focus its goals for the stakeholder group and for defining how that group and the technical advisory group, a subcommittee of the stakeholder group, will relate to one another. We have developed a reasonably comprehensive list of stakeholders and technical advisors who the OC, CoosWA and SSNERR staff will contact to recruit for the stakeholder group participation.

We have most recently been working with OC to match the appropriate visioning process we will be engaging in with the stakeholder group with our project goals. The collaboration pre-assessment, the document that OC is under contract to develop for this project, will include their assessment of the level of participation we can expect from members of our community, the appropriate visioning process to use, what the membership of the community stakeholder group should look like given the issues we're addressing and feedback they get from the community, and recommendations for collaborative meeting processes to use with the stakeholder group.

MANAGEMENT AND ADMINISTRATION

Arrivals:

Michelle Miranda comes to the Reserve from the Experience Works program. In addition to providing customer service to our visitors and program participants at the front desk, Michelle delivers administrative assistance to Mike Graybill.

Jenna Kulluson is the Oregon Coastal Education Initiative Coordinator (Southern Oregon) working on the BWET grant with Tom Gaskill. The grant supports her position through September. Jenna has prior experience at South Slough with the summer science camp.

Holly Keammerer and Matthew Gray have been selected to receive 2010 NERRS Graduate Research Program Fellowships. Holly is a graduate student at the Oregon Institute of Marine Biology. Her fellowship will support her studies of salt marsh communities in South Slough. Matthew is enrolled as a graduate student in the Marine Resources Management program at Oregon State University. His fellowship will compare the feeding biology of native oysters in the Yaquina and Coos Estuaries.

Departures:

Alix Laferriere and Heidi Harris left the ECOS lab at the conclusion of the grant funded “Early Detection and Determination of the Breeding Population Size for Non-Indigenous Gastropods” project.

Lois Christensen completed her training plan for the Experience Works program and was reassigned to gain additional experience and skills at another organization. Lois continues to be involved with staff, programs and activities at South Slough.

Operations updates:

The uninhabitable mobile home on property recently acquired by the Reserve has been removed. The land is now mostly vacant, with the exception of the large shop building.

On February 28, the maintenance facility was broken into. Except for damage to a flatbed truck (door lock, interior light) and a broken window into the office area of the building, nothing was disturbed, nor anything of value taken. An electronic gate opener is missing and staff have changed codes on other gates and transmitters. The audible alarm

triggered by the window seems to have frightened the person(s) away. A report was filed with the Coos County Sheriff's Department.

Winter maintenance work on trails is nearing completion. The newly dedicated bridge is working as designed.

Staff are seeking bids to replace the wooden shingle roof on the Interpretive center, to upgrade lighting in the Interpretive center and to install a solar powered pump system as part of the water supply system at the Interpretive Center.

NOAA Grant Applications:

SSNERR's application to NOAA for FY10 Operations funding will be submitted prior to the March 22 application deadline. The Operations Award request will request \$693,916 in federal funds matched by \$284,536 in state support. In addition to \$388,934 of federal fund support of general Reserve operations, \$120,000 has been designated to support SSNERR participation in the NERR System-Wide Monitoring Program (SWMP); \$90,000 to participate in the Coastal Training Program; \$30,000 to host the Coastal Training Program sector meeting in early 2011; \$15,000 to fund the K-12 Estuary Education Project initiative (see Education program section for further detail); and \$49,982 to participate in a System- wide eelgrass and tidal marsh biomonitoring project. The SWMP project funds will support an additional part time staff member to conduct the work.

Because of a budget issue at one of the other sites in the NERR system, SSNERR's Operations request to NOAA will include a one-time funding increase of \$11,744. This sum has been divided between the Research, Education, and Stewardship programs as discretionary support for program specific services and supplies. Program coordinators have identified how best to use the funds.

As approved at the 126th Commission meeting last November, the Reserve also applied for two NOAA FY10 Acquisition and Construction awards. We requested \$600,000 to complete a three-party land transaction linked to the initial acquisition of Reserve land. The request will transfer management responsibilities for all Common School fund properties within the SSNERR's administrative boundaries to the SSNERR Management Commission. We also requested \$130,000 to transfer ownership of Hinch Road from Coos County to the SSNERR and to improve exterior security lighting in the vicinity of the SSNERR interpretive Center.

Following the close of the initial application period in November, NOAA determined that additional funding was available, and briefly re-opened the call for proposals in early 2010. South Slough applied for an additional \$150,000 to supplement the funding on hand to move SSNERR's administrative offices and services to Charleston. More detail on the Charleston plans are in another section of these materials.

Training, Conferences, Presentations and Professional Development:

Ali Helms and Adam DeMarzo attended the annual NERR SWMP Technician Training Workshop (February 8-11, 2010) in Myrtle Beach SC hosted by the NERRS Centralized Data Management Office (CDMO). Beginner and advanced training sessions were held for data collection and management of weather, water quality, nutrient, and telemetry components of SWMP. Training sessions included real-time transmission of the weather and water data, demonstration of the new CDMO website, discussions of the new database, data troubleshooting scenarios, and expert table breakout sessions for good data practices and data management. Ali and Adam presented two posters at the meeting: (1) *Detection of a Long-term pH Shift within the South Slough Estuary, Oregon: Potential Relationships to Climate Change, Ocean Acidification, and Net Estuary Ecosystem Metabolism*; and (2) *Tidal and Watershed Forcing of Nutrients and Dissolved Oxygen Stress within Four Pacific Coast Estuaries*.

Coastal and Estuarine Research Federation Conference:

Several staff South Slough staff members and outside investigators delivered presentations that focused on research studies conducted in or associated with the South Slough NERR during the Coastal and Estuarine Research Federation conference held in Portland, OR (1-5 November, 2009). The presentations and sessions included:

- (1) Art Bass (Oregon State University / *Tide gate impacts on juvenile salmonid movement*);
- (2) Steve Rumrill *et al.* (SSNERR / *Emerging science and restoration practices in Pacific northwest estuaries: an introduction - session*);
- (3) Jeremy Henderson (Oregon State University / *Annual vs. perennial? Comparisons of the life history of an invasive eelgrass (Zostera japonica) across an estuarine gradient in Oregon*);
- (4) Alix Laferriere *et al.* (SSNERR / *An assessment of the invasive snail *Assiminea parasitologica*'s spatial distribution and associated habitat characteristics in Coos Bay, Oregon*);
- (5) Steve Rumrill and Ben Grupe (SSNERR / *Tidal creek delivery and surf-zone dynamics of fecal indicator bacteria within Sunset Bay, Oregon*);
- (6) Irene Ulm and Steve Rumrill (ODOT/SSNERR / *Assessment, mitigation, and monitoring of eelgrass beds (Zostera marina)*)

- impacted by replacement of the North Fork Siuslaw River Bridge, Oregon);*
- (7) Laura Brophy *et al.* (GreenPoint Consulting / *Building a blueprint for restoration: using high-accuracy land surface elevation survey, electronic sensors, and tidal inundation regime modeling to link site structure and function in least-disturbed estuarine wetlands of Oregon, USA*);
- (8) Margot Hessing-Lewis *et al.* (Oregon State University / *Marine nutrient inputs shape macroalgae (Ulvoid spp.) and seagrass (Zostera marina) interactions along the South Slough estuarine gradient*);
- (9) Brett Dumbauld and Steve Rumrill (USDA/SSNERR / *Ecology of estuarine bivalves: merging science with mariculture and restoration – session*);
- (10) Julie Doumbia *et al.* (Oregon State University graduate student / *Temperature loggers as a low cost alternative for measuring tidal inundation regime*);
- (11) Steve Rumrill (SSNERR / *Interactions with non-native species as a factor in recovery of Olympia oysters (Ostrea lurida) in Coos Bay and the South Slough estuary, Oregon*);
- (12) Alicia Helms (SSNERR / *The effects of seasonal and long-term ocean cycles on water quality dynamics within the South Slough estuary, Oregon*);
- (13) Adam DeMarzo *et al.* (SSNERR / *Estuary Atlas: a visualization tool to illustrate spatial and temporal variability in water parameters along the estuarine gradient of the South Slough - poster*); and
- (14) Timothy Davidson and Catherine deRivera (Portland State University / *Factors influencing the colonization of a non-native bioeroding isopod (Sphaeroma quoianum) in a temperate estuary - poster*). Datasets generated by the South Slough NERR were also presented by
- (15) Dr. Burke Hales (Oregon State University) during his Chautauqua seminar on *Ocean acidification: the other CO2 problem*.

During January and February Craig Cornu, South Slough NERR Coordinator of Monitoring Programs, gave presentations about the Partnership for Coastal Watersheds project with Bessie Joyce and Jon Souder (both with the Coos Watershed Association) to the following organizations: 1. Coos Watershed Association Board of Directors; 2. Charleston Community Enhancement Corporation; 3. Local agency, tribal, and contract field biologists and program managers; 4. Oregon International Port of Coos Bay Board of Commissioners; 5. Coos County Board of Commissioners; 6. Charleston Merchants Association.

Hans Klausner, Nate Damewood and Robin Elledge, received Occupational Safety and Health Association training for forest-based operations; Robin has also received training in workplace ergonomics.

Craig Cornu and Hans Klausner participated in a “State of the Beaver” Conference focused on the role of beavers in wetland restoration projects.

Hans Klausner is participating as a member of an Inter-agency work group examining carbon-based project development and funding;

Mike Graybill is participating as a member of a county-wide sustainable design advisory team

John Bragg, South Slough NERR Coastal Training Program Coordinator, and Research Coordinator Steve Rumrill participated in a joint meeting of National Coastal Training Program coordinators and Research Program Coordinators hosted by the Waquoit Bay NERR in Massachusetts.

Tom Gaskill, SSNERR education program coordinator and Hans Klaussner, SSNERR Stewardship program coordinator participated in a joint meeting of NERRS educators and stewardship coordinators hosted by the Grand Bay Mississippi NERR.

South Slough staff and volunteers recently completed a series of trainings in preparation for the upcoming paddle season. The trainings began with a session at the North Bend pool to practice safety and rescue skills. Participants learned and practiced how to get themselves out of an overturned boat, a wet exit; self-rescue, get themselves back into their boat on their own; assist others in getting back in their boats. The second training was a classroom session to discuss the role and responsibilities of paddle assistant volunteers. We also reviewed the importance of being prepared and how to prepare for each paddle trip. Also discussed was the new state requirement for paddlers to carry an aquatic invasive species prevention permit. The final training was a practice paddle on South Slough just for staff and volunteers. The focus of this training was to review paddle procedures and for volunteers to have an opportunity to lead a portion of the paddle to better know the channel and landmarks.

Coastal Training Program Coordinator John Bragg gave presentations on estuaries and watersheds to the Bay Area Rotary, and North Bend Garden Club. The Coastal Training Program has developed several new public presentations for use by staff and is working with education and stewardship staff to develop a video presentation of a wood duck nesting box project in the Cox Canyon portion of the Reserve.

62007 SSNER F/F		Report for January-2010					Biennium Remaining: 70.83%			
		Biennium To October	November	December	January	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining
3110	CLASS/UNCLASS SALARY & PER DI	160,146	30,731	4,893	28,601	224,371	799,653	0	575,282	71.94%
3160	TEMPORARY APPOINTMENTS	6,339	734	-6,682	1,376	1,767	29,564	0	27,797	94.02%
3190	ALL OTHER DIFFERENTIAL	0	338	0	154	492	540	0	48	8.96%
3210	ERB ASSESSMENT	82	16	0	15	112	300	0	188	62.58%
3220	PUBLIC EMPLOYES' RETIREMENT	14,398	2,742	-355	2,471	19,255	84,000	0	64,745	77.08%
3221	PENSION BOND CONTRIBUTION	9,773	1,882	-20	1,711	13,356	38,200	0	24,844	65.04%
3230	SOCIAL SECURITY TAX	13,038	2,509	-81	2,354	17,810	52,000	0	34,190	65.76%
3250	WORKERS' COMPENSATION ASSE	104	18	-9	18	131	480	0	349	72.75%
3270	FLEXIBLE BENEFITS	43,102	13,348	3,369	9,695	69,513	229,662	0	160,149	69.73%
Total:	PERSONAL SERVICES	246,981	52,329	1,104	46,393	348,807	1,234,399	0	887,592	71.90%
4100	INSTATE TRAVEL	6,169	891	-1,402	997	6,656	65,551	0	58,895	89.85%
4125	OUT-OF-STATE TRAVEL	595	2,983	80	0	3,658	36,792	0	33,134	90.06%
4150	EMPLOYEE TRAINING	2,366	4,221	-400	225	6,412	20,224	0	13,812	68.30%
4175	OFFICE EXPENSES	1,499	142	-130	163	1,674	32,300	0	30,626	94.82%
4200	TELECOMM/TECH SVC AND SUPPLI	418	304	0	159	881	28,170	0	27,289	96.87%
4225	STATE GOVERNMENT SERVICE CH	0	0	0	0	0	17,004	0	17,004	100.00%
4250	DATA PROCESSING	0	0	0	0	0	9,678	0	9,678	100.00%
4275	PUBLICITY & PUBLICATIONS	22	0	-22	0	0	90	0	90	100.00%
4300	PROFESSIONAL SERVICES	16,510	12,351	-34,165	1,695	-3,610	834,705	0	838,315	100.43%
4315	IT PROFESSIONAL SERVICES	130	0	0	0	130	175	0	45	25.72%
4400	DUES AND SUBSCRIPTIONS	0	0	10	0	10	130	0	120	92.31%
4425	FACILITIES RENT & TAXES	0	0	0	0	0	130	0	130	100.00%
4450	FUELS AND UTILITIES	0	0	0	0	0	4,000	0	4,000	100.00%
4475	FACILITIES MAINTENANCE	0	0	0	0	0	7,500	0	7,500	100.00%
4650	OTHER SERVICES AND SUPPLIES	20,217	868	2,684	5,882	29,651	52,000	0	22,349	42.98%
4700	EXPENDABLE PROPERTY \$250-\$50	0	0	0	0	0	6,000	0	6,000	100.00%
4715	IT EXPENDABLE PROPERTY	6,767	1,014	-6,528	0	1,254	32,000	0	30,746	96.08%
Total:	SERVICES AND SUPPLIES	54,692	22,774	-39,872	9,121	46,716	1,146,449	0	1,099,733	95.93%
5100	OFFICE FURNITURE AND FIXTURES	0	0	0	0	0	14,500	0	14,500	100.00%
5200	TECHNICAL EQUIPMENT	0	0	0	0	0	376,762	0	376,762	100.00%
5700	BUILDINGS AND STRUCTURES	96,145	0	0	0	96,145	0	0	-96,145	NA
Total:	CAPITAL OUTLAY	96,145	0	0	0	96,145	391,262	0	295,117	75.43%
6035	DISTRIBUTION TO INDIVIDUALS	0	0	0	0	0	20,400	0	20,400	100.00%
Total:	SPECIAL PAYMENTS	0	0	0	0	0	20,400	0	20,400	100.00%
Grand Total:	Expense	397,817	75,103	-38,768	55,515	489,668	2,792,510	0	2,302,842	82.46%

62007 SSNER F/F		<i>Report for January-2010</i>					<i>Biennium Remaining: 70.83%</i>			
		Biennium To October	November	December	January	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining
0995	FEDERAL FUNDS REVENUE	161,226	373,872	22,882	24,447	582,426	0	0	NA	NA
Total: REVENUES		161,226	373,872	22,882	24,447	582,426	0	0	NA	NA
Grand Total: Revenue		161,226	373,872	22,882	24,447	582,426	0	0	NA	NA

32007 SSNER O/F		Report for January-2010					Biennium Remaining: 70.83%			
	Biennium To October	November	December	January	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining	
3110	CLASS/UNCLASS SALARY & PER DI	110,079	34,607	60,719	34,145	239,550	768,080	0	528,530	68.81%
3160	TEMPORARY APPOINTMENTS	-1,865	0	7,818	963	6,916	2,000	0	-4,916	-245.81%
3170	OVERTIME PAYMENTS	0	0	592	0	592	2,100	0	1,508	71.80%
3190	ALL OTHER DIFFERENTIAL	888	823	731	381	2,823	3,850	0	1,027	26.67%
3210	ERB ASSESSMENT	34	12	28	12	85	260	0	175	67.13%
3220	PUBLIC EMPLOYEES' RETIREMENT	8,636	2,868	5,919	2,881	20,304	97,000	0	76,696	79.07%
3221	PENSION BOND CONTRIBUTION	6,601	2,108	3,984	2,112	14,805	47,000	0	32,195	68.50%
3230	SOCIAL SECURITY TAX	8,337	2,707	5,343	2,712	19,098	63,000	0	43,902	69.69%
3240	UNEMPLOYMENT ASSESSMENT	0	0	0	1,199	1,199	0	0	-1,199	NA
3250	WORKERS' COMPENSATION ASSE	46	15	43	16	119	402	0	283	70.32%
3260	MASS TRANSIT	0	0	0	0	0	35	0	35	100.00%
3270	FLEXIBLE BENEFITS	30,716	9,195	17,130	9,839	66,879	183,358	0	116,479	63.53%
Total:	PERSONAL SERVICES	163,471	52,334	102,308	54,259	372,372	1,167,085	0	794,713	68.09%
4100	INSTATE TRAVEL	2,850	2,365	3,119	703	9,036	19,500	0	10,464	53.66%
4125	OUT-OF-STATE TRAVEL	1,411	0	468	388	2,267	6,700	0	4,433	66.17%
4150	EMPLOYEE TRAINING	7,004	4,210	350	3,137	14,701	24,000	0	9,299	38.74%
4175	OFFICE EXPENSES	2,634	701	909	737	4,981	15,000	0	10,019	66.80%
4200	TELECOMM/TECH SVC AND SUPPLI	1,854	672	616	464	3,605	14,000	0	10,395	74.25%
4225	STATE GOVERNMENT SERVICE CH	0	0	0	0	0	30,354	0	30,354	100.00%
4250	DATA PROCESSING	0	0	0	0	0	2,650	0	2,650	100.00%
4275	PUBLICITY & PUBLICATIONS	-22	22	22	522	544	303	0	-241	-79.65%
4300	PROFESSIONAL SERVICES	0	0	15,810	0	15,810	177,255	0	161,445	91.08%
4315	IT PROFESSIONAL SERVICES	552	130	0	0	682	1,000	0	318	31.81%
4325	ATTORNEY GENERAL LEGAL FEES	1,458	0	9,087	2,028	12,572	4,179	0	-8,393	-200.84%
4375	EMPLOYEE RECRUITMENT AND DE	0	0	0	0	0	235	0	235	100.00%
4400	DUES AND SUBSCRIPTIONS	0	0	0	0	0	25	0	25	100.00%
4425	FACILITIES RENT & TAXES	0	0	0	0	0	220	0	220	100.00%
4450	FUELS AND UTILITIES	1,599	790	271	1,236	3,897	13,300	0	9,403	70.70%
4475	FACILITIES MAINTENANCE	747	5,521	159	67	6,494	15,460	0	8,966	57.99%
4650	OTHER SERVICES AND SUPPLIES	3,674	3,452	4,579	6,083	17,788	48,000	0	30,212	62.94%
4700	EXPENDABLE PROPERTY \$250-\$50	0	0	0	0	0	620	0	620	100.00%
4715	IT EXPENDABLE PROPERTY	-3,276	1,385	10,866	9,910	18,885	20,000	0	1,115	5.57%
Total:	SERVICES AND SUPPLIES	20,483	19,249	46,255	25,275	111,261	392,801	0	281,540	71.67%
5150	TELECOMMUNICATIONS	7	-7	0	0	0	0	0	0	NA
5200	TECHNICAL EQUIPMENT	0	0	0	0	0	46,260	0	46,260	100.00%
5600	DATA PROCESSING HARDWARE	0	0	0	0	0	19,300	0	19,300	100.00%
Total:	CAPITAL OUTLAY	7	-7	0	0	0	65,560	0	65,560	100.00%
6030	DISTRIBUTION TO NON-GOVERNM	5,000	0	0	0	5,000	0	0	-5,000	NA

32007 SSNER O/F		<i>Report for January-2010</i>					<i>Biennium Remaining: 70.83%</i>			
	Biennium To October	November	December	January	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining	
Total: SPECIAL PAYMENTS	5,000	0	0	0	5,000	0	0	-5,000	NA	
Grand Total: Expense	188,961	71,576	148,562	79,534	488,633	1,625,446	0	1,136,813	69.94%	

Input on Staff Activities

EDUCATION PROGRAM UPDATE

October 27th, 2009 through February 20th, 2010

Education activities during this period have focused on planning to improve and expand the delivery of programs offered by South Slough. A priority has been placed on improved coordination, communication products, and training of volunteers to expand the Reserve's capacity to serve our visitors, students, and volunteers.

An education advisory group is being formed to assist with long term planning to address the scope and scale of South Slough's education activities within a regional context. This group will be assisted by a planned market analysis and a needs assessment study of K-12 coastal education providers and potential target audiences funded by NOAA.

Work with the Oregon Coast Education Program partnership continues through funding support from the NOAA Bay Watershed Education and Training (B-WET) program. Two coastal education modules are currently in development through this project. These modules will provide teachers with training and funding support to improve student's understanding of the relationship between Oregon's coastal watersheds, estuaries, and the ocean through comprehensive classroom and field-based experiences. Partners in this effort include the Oregon Institute of Marine Biology, the Oregon Coast Aquarium, Oregon Sea Grant, and the Northwest Aquatic and Marine Educators.

EDUCATION PROGRAM TOTALS

A total of 61 educational activities were conducted during this period for 960 participants. 146 contact hours and 106 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.

VISITATION AND VISITOR SERVICES

During this period, 678 visitors to the South Slough Interpretive Center were recorded for an average of 8 visitors per day. The South Slough Interpretive Center remains open to the public 10am – 4:30pm, Tuesday through Saturday throughout the year.

FORMAL EDUCATION & TRAINING

During the period from October 27th, 2009 to February 20th, 2010, 25 formal education programs were offered for 563 participants. A total of 51 contact hours and 44 hours of preparation time were recorded. Additionally, 7 adult trainings were conducted for 129 participants. 25 hours of preparation time were recorded and the events included 48 hours of contact with trainees. 4 of these events were volunteer related and 3 were held as a part of the Coastal Training Program.

Several formal education activities have focused on work with high school classes. Staff is seeking to better understand how project-based learning models might incorporate stewardship activities into the curriculum for use with these classes. For example, a wood duck nesting box project has been designed to include upland forest habitat assessment techniques. Students have learned how to use Global Positioning System technology in obtaining snag habitat data to inform placement and density of nest boxes adjacent to the Cox pond, a restored marsh in the south end of the Reserve.

2 community education programs were offered for 41 participants. This included 4 hours of prep time and 2 hours of contact time.

The Oregon Coast Education Program

In partnership with the Oregon Institute of Marine Biology, the Oregon Coast Aquarium, Oregon Sea Grant, and the Northwest Aquatic and Marine Educators, the Reserve continues to work on developing a long-term network of providers focused on comprehensive coastal education for schools. Additional information on the status of this project is the subject of an informational presentation at the March commission meeting.

NOAA Market Analysis and Needs Assessment study

South Slough has submitted a proposal to the Estuarine Reserves Division of NOAA requesting \$15,000 to conduct a market analysis and needs assessment study of K-12 Coastal and Estuarine Education in Oregon.

The proposed market analysis will seek to discover specific information about program offerings by various formal and informal institutions providing coastal education activities for K-12 and community college students and teachers. This study will include data about the numbers

and types of programs offered, educational objectives, costs, education staff, informational resources, educational methods employed, and potential for partnership.

The scope of the market analysis study area will include Oregon and the northern California coast. While this is an expansive geographic area, the population centers are fairly distinct and it is likely that a somewhat limited number of K-12 and community college coastal education providers exist. The network that comprises the Oregon Coast Education Program will be asked to contribute any current relevant data to inform the market analysis and this will provide substantial background information to the study.

The needs assessment will be conducted based on findings discovered through the market analysis. Niches of interest to South Slough NERR at this time include work with high school and community college classes, support of classrooms and students through the use of distance learning, and teacher training. However, Reserve staff is also keenly interested in refining our knowledge of the needs of audiences currently served by South Slough's programs. The scope of the needs assessment will likely target three bands within k-12 schools in southern Oregon and the southern Willamette valley. These potential audiences, of upper elementary, middle, and high school classes, have, to varying degrees, accessed South Slough's programs due to geographic proximity for coastal experiences.

Environmental Literacy Taskforce

The Reserve's education coordinator has been serving as a designee for the Oregon Department of State Lands on a taskforce established to develop an environmental literacy plan for Oregon. This plan is required for Oregon to be eligible for federal funding supported by the so-called "No Child Left Inside" act, legislation developed to address a lack of meaningful outdoor education opportunities in K-12 education.

The taskforce has met twice and is currently working on the development of a strategy to complete the environmental literacy plan by October, 2010. The plan will include elements to address state standards, graduation requirements, professional development opportunities, evaluation, and implementation.

Collaboration with Northwest Aquatic and Marine Educators

South Slough education staff has been working with the Northwest Aquatic and Marine Educators (NAME) to plan the 35th annual NAME

conference. The conference will take place in Florence, July 7 – 10, 2010. The theme of the conference is “No Educator Left Inside: Exploring Ocean and Watershed”. The goal of the conference is to explore current topics in marine and aquatic science while giving educators an opportunity to witness best practices in field experiences. An added benefit this year will be 4 pre-conference workshops as well as an evening keynote open to the general public. South Slough will also host a full day field trip from the conference.

INTERPRETIVE & OUTREACH ACTIVITIES

Interpretive programs continue to be offered for a diverse public audience of children, adults, and families. A total of 27 interpretive programs were offered and 227 people attended activities ranging from guided walks and paddle trips to summer camps. 46 hours of contact and 33 hours of preparation were recorded.

Programs included workshops, guided hikes and paddles, films, and special events. Most of the activities are led by South Slough staff with assistance from volunteers. Several workshops were offered by community members with specialized skills such as basket weaving and mushroom identification.

PUBLIC INVOLVEMENT ACTIVITIES

Volunteers

From October 2009-January 2010 a total of 466 hours were logged by SSNERR volunteers with a dollar value of about \$9,436. The bulk of the volunteer hours logged were in the category of Administration provided through the FOSS board and the Experience Works volunteer program.

The SSNERR volunteer program has grown to include a few new faces. Michelle Miranda is our new Experience Works volunteer for this half of the year. Michelle has lived in both Santa Cruz, CA and Astoria, Oregon and comes to us with a variety of office related experience. Michelle enjoys the Interpretive Center environment and has been getting acquainted with visitors, staff and volunteers. Other new SSNERR volunteers of note are, Nina Gee, Ralph Helske, Andrea Knutsen, Laura Mays and Sarita Southgate. The FOSS Board has also increased in number details are included in the FOSS section of this report.

Outreach

The Bay Area Chamber of Commerce Tourism committee has made progress on their lead effort to explore ways to combine maritime history,

nature and art for Bay Area events and projects. One vehicle they are exploring to achieve this is to plan, develop and promote the "Quest" booklet program for the Bay Area. (*Quests are fun, place-based adventures that use clues and hints to encourage you to explore the natural, cultural and historical treasures of Oregon's central coast.*) A subcommittee has been formed and a training class will be offered to anyone in the county that is interested.

The Charleston Community Enhancement Corporation is gearing up for their annual Oyster feed and silent auction fundraiser this year on Saturday, April 24th at the Oregon Institute of Marine Biology Cafeteria from 11am-4pm. CCEC also is partnering with Coos Bay Schools, South Slough and the Port of Coos Bay to do a SOLV clean-up of the Charleston Boat Basin area on Saturday, May 22nd from 9am-12 with a BBQ to follow. Elections were held in January of 2010. David Ford is President, Kathleen Hornstuen for Vice President, Diana Younker as Treasurer and SSNERR public involvement coordinator Deborah Rudd as Secretary.

On April 22, 2010 (Earth Day) The Coos Bay-North Bend & Charleston Visitor Centers and South Slough will conduct a collaborative Volunteer training in South Slough NERR's William Q. Wick Auditorium from 10am-3pm. Representatives from local State Parks, Travel Oregon, Bureau of Land Management (BLM) and SSNERR staff will give presentations and training exercises. Sterling Bank is donating 50 ceramic coffee mugs in the spirit of sustainability and to give the volunteers a token of their appreciation. This training is open to South Slough volunteers who work directly with the public.

Friends of South Slough, Inc. (FOSS)

FOSS recently held their annual members meeting and winter gathering potluck event. Dawn Rasmussen of Pathfinder Writing and Career Services was the key note speaker and fiddler, Jim Hockenhull of Silverton, OR provided the music. Some changes were made to the By-Laws to accommodate recommendations that came out of the 2009 audit done by Vena McCoy of the Department of State Lands. Another change was made to bring back the position of Historian/Archivist to the board. The following individuals make up the current FOSS board, Karen Brown, Sue Cameron, Lois Christensen, Valerie Cooley, Nicole Jackson, David Lunde, Lonnie Mays, Pat McKillip, Heather Randolph, Tom Younker and Mike Graybill. Officers will be voted on at the March meeting. Laura Mays, Rich Hamel and Nina Gee volunteer specifically for the FOSS Board but do not hold an officer position.

In December, FOSS received an \$11,000 grant from the Coquille Tribal Community Fund in support of the proposed aquaria project. FOSS has made commitments in support of this project as well as the research and planning to build an educational float house, a large multi-passenger canoe, support for board training, and preparation for an artist in residence program. The full work plan may be reviewed at: <http://www.foss.ws>

COASTAL TRAINING PROGRAM

The Coastal and Estuarine Research Federation held its biennial national conference in Portland, 2-5 November, at the Oregon Convention Center. The coastal training coordinator assisted with the coordination of the event and played a key role in pre-conference publicity and outreach. The CTP produced a series of illustrated articles to introduce Oregon's estuaries, and estuarine waterways throughout the Pacific Northwest, to an international audience of more than 1400 estuary scientists and managers who attended the five day conference. In addition to the articles, which also discussed climate change, coastal hazards and meeting the energy needs of coastal communities, CTP developed a series of large-format posters depicting Oregon's estuarine environments and assisted with media outreach and pre-conference publicity.

CTP is also working with Craig Cornu, coordinator of monitoring programs, and staff of the Coos Watershed Association to coordinate outreach and provide information about the partnership for coastal watersheds, reported in detail elsewhere in this packet. The role of CTP in this project is to help the partners understand where public interest in the project lies and provide information about habitat restoration projects that the partnership will sponsor. Details of the partnership's work will be made available on a soon-to-be-established Website. The intent of the partnership is to engage local landowners and other interested parties with opportunities to restore habitats in the South Slough watershed and along the coastal front between Cape Arago and Bullards Beach.

CTP represented SSNERR at the 2010 NERRA-NERRS annual meeting, 9-13 November, at the Tijuana River NERR in San Diego. The CTP discussions focused on implementing the recommendations of an external panel following a review in 2008. Since receiving the panel's recommendations, CTP coordinators have revised the logic model for the program and are in the process on developing a new set of performance indicators to gauge program effectiveness.

CTP is working with staff of the DSL Wetlands and Waterways Conservation Division to develop training related to coastal wetlands. Most division staff need additional training to help them understand how best to apply state fill and removal permit rules to estuary lands. Staff is also interested in basic eelgrass ecology, eelgrass mitigation, and mitigation for habitat restoration projects. CTP is planning a two-day training session for the division at South Slough.

CTP has worked with other education staff to make changes to the newsletter and is developing an online version of the South Slough News that will become the primary means of providing information about the South Slough. The paper newspaper will continue to be circulated to members of the Friends of South Slough.

CTP is organizing the development of an energy plan for SSNERR. The plan will consider how energy is used for programs, operations and facilities, and identify areas where energy that produced carbon dioxide can be reduced, replaced or offset. The plan will consider opportunities to use South Slough lands (forests, salt marshes, tide flats) as laboratory for quantifying the ability of these lands to absorb and store carbon dioxide. The plan also sets out options for using SSNERR forests to study the value of using a portion of state forests for carbon storage and accrued value through the sale of carbon credits.

Stewardship Program Update

Quarterly Stewardship Program Activities – November 2009 through March 2010

I. Habitat Restoration

- A. Restoration from Ridge-Top to Estuary: Stewardship staff continue to seek funding to initiate the *Upper Watershed Restoration Action Plan*. This plan, adopted by the Commission in 2009, recommends restoration actions intended to accelerate the development of late seral stage (old growth) conditions in the Reserve's forest communities. The plan was conceived as a complement to the wetlands restoration work the Reserve has conducted over the past decade, and encourages a whole watershed restoration approach to improve interrelated habitats from ridge-top to estuary. Wasson Valley has been identified as the highest priority site in need of restoration. Treatments will be conducted in the forests, riparian areas and bottom lands for the direct benefit of several key species of flora and fauna; Port Orford Cedar, Marbled Murrelet, Coho salmon, Pacific lamprey, Brook lamprey and Coastal Cut-throat trout. Stewardship staff are working to develop the project in partnership with Ducks Unlimited, ODFW, ODF and BLM for a proposal to OWEB in mid-April.
- B. Carbon Forestry: In 2009 stewardship staff partnered with Finite Carbon, a forest carbon development company specializing in carbon offsets, to develop a reforestation proposal for the Climate Trust's Oregon Program. This program funds new projects that avoid, sequester or displace carbon dioxide. As the project and proposal was developed it became apparent that SSNERR would need to enter into an agreement with Finite Carbon to compensate them for their assistance. Since there are no identified funds for pursuing this project, staff sought guidance from Reserve management and DSL's Director about how to proceed. Staff were encouraged to investigate the capacity of other state agencies to provide the expertise and services that a third party would provide.

In February, 2010 a multi-agency meeting was facilitated by the Oregon Department of Parks and Recreation to discuss to how state agencies can collaborate on carbon-based projects and share information about the rapidly changing carbon market. Stewardship staff attended this meeting on behalf of SSNERR. Other agencies in attendance included DSL, ODF and OPRD. This meeting was a good first step toward identifying gaps in staff expertise required for the State to develop carbon-based projects

in-house. It also provided an opportunity to discuss lessons learned from initial forays into carbon credit funding and how agencies have partnered with third parties in carbon project development. Through this meeting and subsequent meetings, SSNERR staff have identified a number of opportunities to partner with other state agencies and a number of alternative funding sources that may better fit its size and scale of our project. Staff will continue to investigate and capitalize on these opportunities to further the development and refine this project.

- C. Native Oyster Re-establishment: *Ostrea lurida*, the Olympia oyster is native to Coos Bay and the Pacific Northwest. Though evidence strongly suggests that there were once extensive *O. lurida* populations in Coos Bay, they became functionally extinct prior to the arrival of Europeans. *O. lurida* were eventually reintroduced to the Coos Estuary by commercial shellfish producers. These populations gradually increased in abundance and have become more widely distributed in Coos Bay proper, but in South Slough they remain very rare.

With a grant from the NOAA Restoration Center in 2008 Research staff began investigating the limiting factors behind the slow recovery of *O. lurida* in South Slough and experimental reintroduction techniques that may guide large-scale restoration efforts in the future. Stewardship staff have largely been in a support role for this effort, obtaining and managing permits and authorizations, monitoring and distributing up-to-date information that may affect the project, constructing or obtaining project materials, coordinating volunteer efforts, assisting Research staff with the deployment and regular measurements of mature and juvenile oysters, investigating best management practices for large-scale re-introduction efforts, and providing informational outreach programs to school groups and the local community.

The initial findings from these investigations were reported to the commission by Research staff at the November 2009 meeting. Recommendations for re-introduction practices were sought from the Commission and both research and stewardship staff are following up on those recommendations. Grant funding for this portion of the re-introduction effort has ended and SSNERR research and stewardship staff are completing final reports on the project.

II. Watershed Monitoring

Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET)-funded tidal wetland reference site

monitoring project: \$213K, two year (2007-10) project that characterizes a network of coastal wetlands in Oregon that can be used as reference for restoration and mitigations projects in Oregon's estuaries and tests new uses of existing technology for measuring tidal inundation period and water level.

We have previously described problems that the contractor assigned to develop the wireless water level, temperature and conductivity loggers had delivering a final, fully functioning data logger product. We report that after fabricating several promising prototypes the contracted failed to produce functional loggers for the project. they were unable to get the units to collect temperature and conductivity data reliably over even relatively short time periods. The contractor returned the money allocated to this task leaving an unexpected \$6,475 in the CICEET grant.

The grantor (CICEET) was supportive of our proposal to use the funding to change the scope of work to test the hypothesis that that significant relationships exist between measured physical and biological attributes in Oregon tidal wetland reference sites. The revised scope of work would also examine carbon sequestration in Pacific Northwest tidal wetlands. The proposed work required an additional no-cost extension- to December 31, 2010- with most of the field work and analysis being done by an Oregon State University graduate student, Megan MacClellan, under the supervision of Laura Brophy (project technical lead) and Craig Cornu (project co-PI). CICEET recently approved the no-cost extension and change of scope of work plan.

We previously reported that we've developed site and habitat-specific tidal datums (elevations for mean higher high water, mean high water...etc.) for the sites and habitat classes associated with this project (high intertidal salt marsh, low intertidal salt marsh, tidal scrub-shrub wetland, tidal forested wetland). Moving beyond tidal datums to a more complete understanding of inundation regimes, we continued to work with staff at the NOAA Center for Operational Oceanographic Products and Services (COOPS) to determine river flow effects on inundation. For smaller systems such as the South Slough estuary we would not anticipate much of a change in inundation regime due to elevated winter/spring creek discharge, but in larger systems (Columbia, Siletz), elevated winter/spring river discharge will likely have a significant effect on local tidal inundation regimes. This is work not previously undertaken by NOAA COOPS, who have been very interested in the opportunity to refine their modeling techniques through this collaborative effort.

We also previously reported that we developed an improved sampling method for groundwater level and we extended data collection for an additional 6 months to provide a complete seasonal groundwater dataset at sites where this is a controlling factor. This work has now been completed so we now can include with key reference sites characterizations a full year's worth of groundwater elevation data.

NOAA Restoration Center-funded reference site monitoring project: \$75K, 3 year pilot project (2008-2011) that initiates monitoring at two paired reference and restoration project sites in South Slough and Yaquina Bay. Habitats represented are tidal emergent high marsh (South Slough's Danger Point [reference] and Kunz [restoration] marshes) and tidal scrub-shrub and forested swamps (Yaquina Bay's "Y-28" [reference] and "Y-27" [restoration] marshes). Site attributes being monitored are groundwater fluctuation, soils, soil salinity, and vegetation communities.

ECOS lab team members (Helms, DeMarzo, Cornu) have deployed water level loggers in groundwater wells for 2 week periods at each site to collect winter water level data. The summer series was completed in 2009. These data have not yet been analyzed.

Vegetation data from the 2009 growing season sampling has mostly been entered into the project database by volunteer Karen Sparks. With two years of data to work with using this project's point-intercept sampling protocols, SSNERR staff (Helms) will run power analyses on these data to check that the number of sampling plots (10 per transect) is adequate to characterize changes in vegetation species composition and percent cover.

In mid-March we will receive the NERRS Real Time Kinematic Global Positioning System (RTK GPS) survey equipment that all Reserve sites now share (and we know how to use because of last summer's training and month-long use for various projects). We will establish additional elevation benchmarks in the Reserve to facilitate various projects and complete marsh elevation surveys at the Yaquina River project sites.

III. Watershed Activities

- A. Proposed Placer Mining In South Slough Watershed: The County continues to consider a proposal by Oregon Resources

Corporation (ORC) to lease exploration and mineral rights on approximately 6000 acres in the South Slough watershed. This would expand ORC's black sands mining operation currently located on private land roughly south and west of the Reserve. If agreed to this request would open nearly all of SSNERR's southern boundary, the headwaters of John B and Cox Creeks, and a majority of the upper Winchester Creek watershed to potential strip mining of black sands for the extraction of chromite, garnet and zircon.

In December, 2009 the Oregon Department of Geology and Mineral Industries (DOGAMI) issued an operating permit to ORC for lands currently under lease in the coastal frontal watersheds to the west of the Reserve. This permit contains 20 specific conditions that ORC must meet before their mining plan can be fully implemented. Also, ORC must also obtain approval from the National Marine Fisheries Service prior to any mining operations.

- B. Oregon Youth Conservation Corps Crew: In partnership with the SWOYA Boys and Girls Club and the South Coast Business Employment Corporation, SSNERR again applied for a seven person youth crew dedicated to conservation and stewardship projects at the Reserve.
- C. Land Acquisitions:
 1. Stewardship staff have submitted a proposal to the NOAA Land Acquisition and Construction Program to secure funding for the purchase of all surface rights (timber and development rights) to parcels classified as Common School Fund trust lands in the South Slough watershed. These properties came to the attention of SSNERR and DSL staff when three parcels within the SSNERR administrative boundary were recommended for timber harvest by ODF. Commercial timber harvest on Reserve lands is prohibited and this recommendation generated a thorough review of all DSL-owned land in the watershed. It was discovered that the three subject parcels were connected to a 1984 intra-agency land transaction that was not fully implemented. This proposed purchase of surface rights is intended to compensate the CSF for the potential timber revenue of these lands and retain the current administrative boundary.
 2. The Reserve also resubmitted a proposal to the NOAA Land Acquisition and Construction Program to complete the acquisition of Hinch Road. SSNERR has been working since the late 1980's to secure ownership and management for this one

mile long, gravel surfaced, county owned right of way that is the primary vehicle access route to the core area of the Reserve. Activities associated with this road have been linked to numerous management and stewardship issues at South Slough including sediment runoff, vandalism, introduction of non-native species, theft, poaching, and illegal burning, hunting and dumping.

The Coos County Board of Commissioners has previously supported the vacation of Hinch Road, but the SSNERR Management Commission directed staff to seek funding to make necessary improvements and maintenance plans prior to completing the transfer. Through this request SSNERR hopes to obtain that funding.

3. NOAA has announced a Federal Funding Opportunity for the Coastal and Estuarine Land Conservation Program (CELCP). The CELCP is a competitive national program that provides federal matching grants for the acquisition of coastal and estuarine lands that have significant conservation, recreation, ecological, historical, or aesthetic values, or that are threatened by conversion from their natural or recreational state to other uses. Each state is provided the opportunity to forward three proposals to the national competition. In Oregon, the Oregon Coastal Management Program (OCMP) is the lead agency for CELCP. In February OCMP conducted a pre-proposal review of projects and identified three proposals that it will submit. The Reserve's proposal to purchase the upper reaches of Anderson, Wasson and Hayward Creeks was one of these. Final proposals are due to NOAA on April 2nd and staff will work closely with the OCMP Coastal Conservation Coordinator to develop the application.

This proposal focuses on implementing recommendations from the SSNERR Cooperative Plan for Watershed Conservation adopted by the SSNERR management commission in 2006. Staff are currently in discussions with two property owners to purchase approximately 1060 acres of forested uplands in the watersheds mentioned above. By acquiring these properties SSNERR will be positioned to implement sub-watershed scale projects focused on ridge-top to estuary restoration activities that could shed much needed light on the links between activities in the uplands with estuarine processes. This acquisition proposal is being developed in coordination with the Trust for Public Lands (TPL), as they have ongoing negotiations with one of the sellers regarding a broader vision for their

Oregon properties. In December, 2009 TPL met with SSNERR management and stewardship staff to discuss how SSNERR's CELCP proposal fits into that broader vision. It was recognized that SSNERR's proposal could be one of a number of conservation oriented purchases on the south coast and TPL has offered to support SSNERR's application to NOAA for CELCP funding.

To identify the final cost of this transaction as well as the purchase of CSF surface rights discussed in Item C1 above, an independent appraisal and timber cruise of the subject properties will be required. In January the Reserve solicited proposals for this work and received four qualifying submissions. A review panel consisting of SSNERR stewardship staff, DSL's Review Appraiser and ODF staff reviewed the proposals and selected Mason, Bruce and Girard, Inc. to provide these services. The Reserve is now in contract negotiations with MBG.

INPUT ON STAFF ACTIVITIES

RESEARCH AND MONITORING PROGRAM UPDATE

During the period from 22 October 2009 to 22 February 2010 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 fall and winter, 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, recalibrate, and redeploy the YSI-6600 Extended Deployment System (EDS) dataloggers at the four long-term estuarine monitoring stations on Nov 10, 20, & 24, Dec 11 & 18, 2009 and Jan 12, 13, & 26, Feb 2 & 25, 2010. Fouling organisms including barnacles and mussels were dislodged on a monthly basis from the SWMP stations. The quarterly datasets, monthly log sheets and metadata for July-Sept & Oct-Dec 2009 were submitted on Oct 30, 2009 & Feb 1, 2010, respectively. The yearly water quality digital datasets, monthly calibration/field sheets and metadata for 2009 are currently being processed for yearly submission by March 15, 2010.

On Dec. 18, 2009, the Winchester Creek datasonde was deployed at the new location adjacent to the previous location and is currently transmitting real-time water quality data. Because the new location for the Sengstacken sonde will be moved a significant distance from the original location and vertical control will also be established at this site, complete installation of the Sengstacken telemetry equipment is scheduled for spring 2010.

South Slough NERR is a participant in the NOAA/NERRS project 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 Charleston Bridge and Valino stations is currently transmitting measurements of estuarine water parameters recorded by the YSI 6600 EDS datasonde.

B. Local Weather Conditions: The South Slough NERR SWMP Weather Station has operated continuously with recordings of several meteorological measurements (air temperature, relative humidity,

barometric pressure, wind speed and direction, precipitation, and solar radiation) every 15 minutes. Monthly maintenance checks were completed by Ali Helms & Adam DeMarzo for all the meteorological station sensors/solar panel and data was retrieved from the CR1000 datalogger on November 25, December 4, January 11, and February 17, 2009. On November 12, 2009 all South Slough sensors were swapped with CDMO sensors for biannual calibration. A GOES satellite transmission system has been installed on the South Slough NERR SWMP meteorological station that automatically sends datafiles from the CR1000 datalogger to the NERR Centralized Data Management Office.

The near real-time measurements and historical digital datasets generated by the SSNERR SWMP meteorological station are now available on the NERR CDMO website (<http://cdmo.baruch.sc.edu>). The quarterly datasets for July-September & October-December 2009 were submitted on Oct 30, 2009 & Feb 1, 2010. The digital meteorological datasets, monthly log sheets and metadata for 2009 are currently being processed for submission to the CDMO for final review by April 15, 2010.

C. Estuarine Nutrients: Nutrient sampling was conducted monthly during the reporting period. Water samples were collected from each of the 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 analyzed subsamples for Chl-a and Phaeopigment content at the South Slough NERR / Estuarine and Coastal Science Laboratory (ECOS). The SWMP Team has now instituted the preparation and analysis of monthly nutrient, bacteria, and chlorophyll blanks to further ensure data quality.

D. Availability of SWMP Real-Time Data / Data Products for Shellfish Growers: South Slough NERR is a participant in a pilot 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.

E. Ocean Acidification monitoring project. At the 8-11 February SWMP technical training workshop held in Myrtle Beach SC, YSI Inc. representative Mike Lizzotte reiterated that his company's interest in the research project described in the proposal submitted by the South Slough NERR titled "*Detection of a long-term shift in pH values and potential relationship with ocean acidification within the South Slough estuary, Oregon*" (see Part L, below). YSI, Inc. has offered to send the South Slough NERR a new pCO₂ measuring system, a new pH probe, and data telemetry equipment in exchange for serving as a beta-test site for the electronic sensors and datalogger equipment. YSI, Inc. has also let the SSNERR know that the Reserve is under consideration to receive \$10,000 in grant funds to help pay for installation and operation of the pCO₂ measurement equipment.

F. SWMP Biomonitoring Operational Work Plan: Staff members from the South Slough NERR (Co-PIs / A. Helms, S. Rumrill, and C. Cornu) developed and submitted an operational work plan titled "Integrative assessment of eelgrass and salt marsh vegetation along the estuarine gradient of the South Slough, OR: Biological communities as indicators of climate variability and change" to the NOAA / Estuarine Reserves Division for consideration as a component of the NERRS SWMP Biomonitoring Initiative. The work plan received favorable reviews and was accepted for funding at a level of \$50,000 (which will be incorporated into the SSNERR NOAA Operations Award for FY2010). The goal of the project is to establish and revisit long-term biological monitoring sites to document changes in Submerged Aquatic Vegetation (eelgrass beds) and emergent salt marshes in the South Slough estuary, and to assess the local effects of climate variability and change using these biological communities as indicators. The objectives are to: (1) establish a permanent network of paired eelgrass and salt marsh monitoring sites in different hydrographic regions of the South Slough estuary; (2) quantify change in vegetation patterns over spatial and temporal scales; (3) determine relationships between vegetation patterns and environmental factors; (4) assess estuarine ecosystem health; and (5) characterize local manifestations of climate change in these biological communities.

G. SWMP Oversight and Guidance Committees: Steve Rumrill continued to serve over the fall and winter months as a member of the NERR SWMP Oversight Committee. This longstanding committee works to review field based operations and develop solutions to site-specific problems that are linked to the operation of the NERR SWMP. Steve and other members of the committee have contributed to the identification of hurdles and

technical issues associated with SWMP program advancements within the states and universities, addressed human resource and budgetary issues within the NERRS and the CDMO, and they work directly with the NERR sites to ensure compliance with established policies that address the deployment of datalogger equipment, collection and processing of water samples, delays in data submission, data gaps, and SWMP performance measures. In particular, the Oversight Committee worked over the fall/winter reporting period to address data loss issues associated with boat damage to a SWMP station at the ACE basin NERR, to address ice formation in the tidal channels at the WBNERR, OWCNERR, GBNERR, and Wells NERR sites, to address the siting of SWMP stations in response to sedimentation at the TRNERR, and to solicit and document the rationale for late data submissions at other NERR sites.

Steve Rumrill and Ali Helms are members of the SWMP Guidance Committee, and Hans Klausner and John Bragg serve as alternate members. The mission of the SWMP Guidance Committee is to guide the future direction of the NERR System-Wide Monitoring Program in coordination with research and in full alignment with NERRS strategic planning, and to ensure that SWMP is effectively represented in the NERRS hierarchy of decision making, aligned with upper-level NERRS planning, and meets the needs of coastal management and education user groups. As co-chairman of the Guidance Committee, Steve worked with Whit Saumweber (NOAA/Estuarine Reserves Division) and other committee members to develop a draft statement to describe the Operational Capacity of SWMP. The statement of operational capacity was developed in response to one of the recommendations provided by the SWMP External Review Panel (2008). The SWMP Guidance Committee presented the draft statement of operational capacity and management applications for SWMP at the Annual NERRS/NERRA Conference (9-13 November 2009; San Diego, CA), and they worked in February 2010 to incorporate comments and input received over the winter. The SWMP statement of operational capacity and management applications will be finalized during the week of 2-4 March at the joint Research Coordinator / Coastal Training Coordinator meeting held at the Waquoit Bay NERR.

II. Research Program

A. Manuscripts from Previous Research: Steve Rumrill, Ali Helms, and Adam DeMarzo are working on a manuscript titled “*Detection of a long-term pH shift in the South Slough estuary, Oregon: potential considerations of ocean acidification and net ecosystem metabolism.*” The paper provides a summary of time-series data generated by the NERR SWMP within the

South Slough estuary over the period of 2002-09, and provides evidence of a subtle shift toward increased alkalinity over time at multiple locations along the South Slough estuarine gradient. Steve Rumrill presented the findings from the research during a session on Anthropogenic Perturbations of the Carbon Cycle and their Impacts in the North Pacific during the PICES conference (Jeju, South Korea; 27 October 2009). Dr. Toshiro Saino (PICES session co-chair; Director, Environmental Biogeochemical Cycle Research Program, Japan Agency for Marine-Earth Science and Technology) requested that the manuscript be submitted in the spring of 2010 for possible incorporation into a dedicated issue of the Journal of Oceanography.

B. Investigation of Estuarine Bacterial Contaminants: South Slough staff members continued the monthly monitoring of Fecal Indicator Bacterial (FIB) including total coliform, *Escherichia coli*, and *Enterococcus sp.* in tidal waters of the South Slough (see 1.C. above). The measurements of FIB are of interest to the Oregon Department of Environmental Quality as they continue to develop and evaluate Total Maximum Daily Load (TMDL) standards for fecal bacteria in the Coos Bay estuary. In addition, the FIB measurements are also of interest to the Oregon Department of Agriculture / Food Safety Division (Dawn Smith) as they conduct periodic assessments of potential contaminants of commercial oysters and recreational shellfish. Ali Helms and Steve Rumrill recently provided datasets and technical assistance to Alex Manderson (ODOA / Regional Shellfish Specialist) and Ali provided assistance to Dan Hull (ODOA) during boat-based sampling for bacteria in the South Slough estuary (9 December 2009). South Slough NERR will continue to provide data and technical support to ODEQ and ODOA on an as needed basis, and will offer assistance with extension of the detailed information on fecal indicator bacteria for the South Slough estuary into the more expansive regions of the Coos Estuary.

South Slough NERR staff members also continued to provide technical and logistic support for the research activities conducted by a visiting investigator (Dr. Elise Granek; Portland State University) who is working to describe the mechanisms of bacterial transport and other substances (*i.e.*, caffeine) into the surf zone for several small coastal streams located along the southern Oregon coast. In addition, volunteers from the Surfrider Foundation (George Tinker, Dan Matthews and others) continued to use South Slough NERR lab facilities over the fall and winter months for their routine monitoring of fecal indicator bacterial contamination at several local beaches.

C. Pacific Estuarine Research Society: As president-elect for the Pacific Estuarine Research Society (PERS), Steve Rumrill worked with the members of the PERS Executive Committee and the local conference

planning committee (Chairman; Scott Northrup) to make arrangements for the annual meeting in 2010, to review and upgrade society policy and treasury issues, and to distribute society awards and memorial funds. The annual PERS conference will be held in Nanaimo, BC (29 April – 1 May 2010) on the campus of Vancouver Island University, and the theme for the conference is “*Sustainable Use of Estuarine Environments.*”

D. Conservation, Mitigation and Transplant of Eelgrass Beds: South Slough NERR staff members (A. Helms, A. DeMarzo) completed the seasonal SeagrassNet survey of the eelgrass (*Zostera marina*) bed at Valino Island during low tides on 18 November 2009. The surveys provide a valuable baseline to assess seasonal and interannual changes in the eelgrass beds, and they contribute to the growing database to document geographic variability in the global status and decline of seagrass beds.

Steve Rumrill also continued to work with the Oregon Department of Transportation (ODOT) on the conservation, transplant, and mitigation planning for eelgrass beds that are impacted by new state highway improvement and bridge construction activities. In particular, Rumrill completed the annual monitoring report (6 January 2010) to describe the status and condition of two experimental eelgrass beds that were transplanted as a mitigation requirement in response to re-construction of the Highway 126 Bridge over the North Fork of the Siuslaw River (Siuslaw River estuary). The transplanted clusters of eelgrass plants survived well over the 2008-09 monitoring period, and they continued to expand in density and spatial cover along the transect lines placed in the middle and lower intertidal zones. The Downstream Eelgrass Transplant Area had an average density of 113 shoots per m² in the mid zone, and a density of 187 shoots per m² in the low zone in June 2009. Spatial cover of the eelgrass plants was also high in June 2009 with an average of 69% cover in the mid zone and 100% cover in the low zone. The total number of eelgrass plants in the Downstream Transplant Area (ca. 70 m²) is now estimated at about 9,400 plants with an overall average density of 134 plants m² and an overall average spatial coverage of 78% cover. The transplanted clusters of eelgrass plants also survived well within the Upstream Eelgrass Transplant Area over the 2008-09 monitoring period, and many of the transplanted clusters appeared to have expanded by vegetative propagation during the earlier growing period. The Upstream Transplant Area had an average density of 116 shoots per m² and a spatial coverage of 83% cover in the mid zone in June 2009. The total number of eelgrass plants in the Upstream Transplant Area (ca. 150 m²) is estimated at about 17,472 plants.

The transplanted eelgrass at Millport Slough (Siletz River Estuary) will be re-assessed in the summer of 2010 to determine the survivorship and

potential success of the *Zostera marina* plants. Rumrill also continued to work over the fall and winter months with a private consultant (P. Quarterman, PHS Pacific, Portland) to develop a mitigation plan and identify potential transplants areas in Coos Bay that are required in response to local expansion of the runway at the Southwest Oregon Regional Airport.

E. Relocation of NOAA Marine Operations Center – Pacific to Yaquina Bay: Planning work is currently underway to relocate the NOAA Marine Operations Center-Pacific from Seattle, WA to a new dock structure and terminal complex located along the shoreline of Yaquina Bay (Newport, OR). Construction of the dock structure, terminal, and berths for four oceanographic research vessels will require substantial dredging and excavation of intertidal and shallow subtidal habitat. A team of private industry representatives, engineers, and natural resource agencies are working to assess the estuarine habitat values and develop a mitigation plan to offset losses of eelgrass, crabs, clams, and intertidal tideflats. Members of the Yaquina Bay Terminal Mitigation Planning Team include: (1) Kirk Jarvie, Steve Rumrill, Anna Buckley (Oregon Department of State Lands); (2) Doug Cottam, Dan Avery, Bob Buckman, Justin Ainsworth (Oregon Department of Fish and Wildlife); (3) Marguerite Nabeta (Oregon Governor Kulongoski's Natural Resource Office); (4) Don Mann, David Jincks (Port of Yaquina Bay); (5) John van Staveren, Dale Groff (Pacific Habitat Services, Inc.); and (6) Vladimir Shepsis (Hydrologist, Coast and Harbor Engineering, Inc.). Construction of the new dock and terminal complex will require dredging of approximately 55,000 cubic yards of estuarine sediments. Steve Rumrill traveled to Yaquina Bay (3-4 December 2009) to conduct a boat survey and assist with underwater video determinations of the subtidal boundaries of existing eelgrass beds. The team established that *Zostera marina* persists to a depth of -8 ft below Mean Lower Low water in the immediate project impact area. As a member of the working group, Steve Rumrill is providing expertise on the ecological requirements, transplant techniques, and monitoring of eelgrass beds. It is estimated that the dredging will result in 0.73 acre of direct impacts to intertidal and subtidal eelgrass beds, and the group is planning for an initial mitigation ratio of 3:1 at the time of terminal construction (2010-2011) to account for mortality and to achieve a final mitigation ratio of 1:1 after a monitoring period of 10 years.

F. West Coast Governors' Agreement – Integrated Ecosystem Assessment: Steve Rumrill continued to work over the fall and winter as Chairman of the Pacific Coast Integrated Ecosystem Assessment - Action Coordination Team (IEA-ACT). The IEA-ACT is an integral component of the West Coast Governors' Agreement on Ocean Health. The Action Coordination Team has developed a working draft of the West Coast IEA Workplan that proposes to establish four Regional-IEAs that will serve as the initial

focal areas for the integrated assessments. The four Regional-IEAs are: (1) Central California/Morro Bay to Monterey Bay; (2) Northern California/Mendocino to Point Saint George; (3) Coastal Oregon Port Orford to Cascade Head; and (4) Olympic Coast/Puget Sound). The R-IEAs will be consolidated to provide the foundation for the broader scale Pacific Coast IEA, and the efforts will be coordinated with activities undertaken by the Regional Associations of the Integrated Ocean Observing Systems (*i.e.*, NANOOS, CenCOOS, SCOOS), the Pacific Coastal Ocean Observing System (PACOOS), the West Coast Regional Marine Research and Information Plan, the NOAA-Integrated Assessment of the California Current Large Marine Ecosystem, and other ongoing regional efforts (*i.e.* USEPA-CEMAP, PISCO). The IES-ACT received review comments on the proposed workplan from the three states in December 2009, and the team is currently working to integrate the comments and revise the workplan. NOAA provided notice that \$500,000 in federal funds will be available to support implementation of the overall WCGAOH tri-state agreement, and the WCGA-OH Executive Committee is working to develop a spending allocation plan for 2010-2011 that may include some funds to pay for further development of the Regional-IEAs.

G. Restoration of Native Olympia Oysters: South Slough NERR continued to work on the experimental out-planting of native Olympia oysters (*Ostrea lurida*) in the South Slough estuary. During the summer of 2009, 300 bags of Olympia oyster cultch were developed by the Whiskey Creek Shellfish Hatchery (Netarts Bay, Oregon) and transported to Younker Point (South Slough) where they were deployed in the lower intertidal zone (50 m X 10 m plot) as a series of 30 pyramids (3 rows, 10 pyramids per row). Each pyramid consisted of 10 oyster clutch bags that were stacked on a bag-layer of non-living shells, and the bags were secured with rope to a wood palette. The bags of oyster cultch were periodically monitored over the fall and the juvenile oysters survived well and grew to about 24-26 mm in shell length by February 2010. Adam DeMarzo continued to operate a YSI-6600 datasonde in the shallow subtidal zone immediately adjacent to the oyster grow-out site to develop a continuous time-series database of ambient estuarine water quality parameters (*i.e.*, temperature, conductivity, salinity). It is estimated that the restoration project has now transported about 4.5 juvenile Olympia oysters into the South Slough estuary. One-hundred and eighty oyster spat collector bags remain deployed at the mouth of Coalbank Slough throughout the fall and winter months to serve as settlement sites for the planktonic larvae of Olympia oysters. These spat collector bags will be checked, cleaned of epifouling organisms, and dipped in a weak chlorine solution before they are transported into the South Slough in the summer of 2010. Steve Rumrill delivered a seminar

titled “*Interactions with non-native species as a factor in recovery of Olympia oysters (Ostrea lurida) in Coos Bay and the South Slough estuary, Oregon*” during the Coastal and Estuarine Research Federation Conference (Portland, OR / 4 November 2009), and a poster titled “*Restoration and Recovery of Native Olympia Oysters within the South Slough estuary, Oregon*” at the NERRS/NERRA annual meeting in San Diego, CA (Nov 7-13, 2009). Steve also prepared the 6-month project progress report for submission to the NOAA / Community-Based Restoration Program (30 December 2009). Kevin Cellura (Science Teacher, Marshfield High School) traveled to San Diego (15-16 January 2010) to deliver his final presentation during the Murdock Charitable Trust – Partners in Science Annual Conference. The presentation titled “*Olympia oysters: Are locals better? A common-garden experiment*” described the results of field and laboratory experiments conducted to determine differences in the ecological performance of oysters derived from broodstock sources in Coos Bay, OR, and Willapa Bay, WA, during the summer months of 2008 and 2009.

H. National Ecosystem Health Policy and Management Advisory Group:
In December 2009, Steve Rumrill was invited by Dr. Paul Sandifer (Senior Science Advisor to the NOAA Administrator) to serve as an advisor to a new scientific working group that develops vital signs and indicators for the nation’s coastal and ocean ecosystems. The working group is co-led by Dr. Larry Crowder (Duke University), Mike Fogarty (NOAA Fisheries), Karen McLeod (Communication Partnership for Science and the Seas (COMPASS)), and Andrew Rosenberg (University of New Hampshire), and the efforts are convened by the National Center for Ecological Analysis and Synthesis. As a member of the advisory group, Steve’s role will be to provide perspectives from the Pacific northwest region and to ground-truth the products to ensure that they have utility and applicability in a variety of coastal contexts. Members of the National Ecosystem Health Policy and Management Advisory Group include: (1) Paul Sandifer, Chairman; Senior Science Advisor - NOAA National Ocean Service); (2) Meg Caldwell (Director, Stanford University - Center for Ocean Solutions); (3) Benjamin Cowie-Haskell (Deputy Superintendent - NOAA Stellwagen Bank National Marine Sanctuary); (4) Braxton Davis (Director of Policy and Planning - South Carolina Coastal Zone Management Program); (5) William Douros (Regional Director - NOAA West Coast National Marine Sanctuaries); (6) Paul Kelly (President, Gulf of Mexico Foundation / Joint Ocean Commission Initiative); (7) Amber Mace (Assistant Secretary for Coastal Matters - California Ocean Protection Council); (8) Steve Murawski (Director of Scientific Programs - NOAA Fisheries); (9) Martha Neuman (Action Agenda Director - Puget Sound Partnership); (10) Michael Nussman (President - American Sportsfishing Association); (11) John Pappalardo (Chairman, New England Fishery Management Council); (12) Diane Rigas (Vice President

for Oceans, Environmental Defense Fund); (13) Steve Rumrill (Research Coordinator, South Slough National Estuarine Research Reserve); (14) William Stelle (Partner, K and L Gates, LLP); (15) Kevin Summers (Associate Director of Science, US Environmental Protection Agency – Gulf Ecology Division); and (16) Jack Wiggin (Director, University of Massachusetts – Urban Harbors Institute). The working group and advisory group will conduct discussions, hold meetings, and develop their work products over the period 2010-2011.

I. Prediction of Climate Change Impacts in Pacific Northwest Estuaries:

Steve Rumrill collaborated with several colleagues to initiate the new research project titled: “*Predicting climate change threats to key estuarine habitats and ecosystem services in the Pacific northwest.*” Deborah Reusser (USGS) is the principal investigator and project contact, and the co-principal investigators are: P. Mote (OSU-Oregon Climate Change Research Institute); H. Lee, M. Frazier, C. Brown (USEPA-Coastal Ecology Branch), S. Rumrill (ODSL-South Slough NERR), B. Dumbauld (USDA-ARS), D. Vander Schaaf (TNC-Coastal and Marine Program), and R. Lowe (USFWS-Oregon Coastal Wildlife Refuges). The 3-year project received \$957,440 in support from the US Geological Survey-Climate Change Science Program, and grant funds will be administered by the USGS-Western Fisheries Research Center (Newport, OR). The overall goal of the research is to develop the baseline climactic and ecological information, models, and decision-support tools required to make more accurate predictions regarding the cumulative impacts of regional climate change on habitats and ecosystem services in different types of Pacific northwest estuaries. The specific objectives are to generate downscaled models to predict climate-driven alterations to the distribution and abundance of: (1) native and non-native oysters (*Ostrea lurida* and *Crassostrea gigas*); (2) native and non-native seagrasses (*Zostera marina* and *Z. japonica*); and (3) tidal marsh habitats and salt marsh communities. The research will be focused on five estuaries that differ in primary drivers, ecosystem services, and in their potential vulnerability to climate change. The target systems include three marine-dominated estuaries (Willapa Bay, Yaquina Bay, Coos Bay/South Slough), a river-dominated estuary (Coquille estuary), and a lagoonal system (Netarts Bay). The group held its first work session on development of refinements and applications of the numerical SLAMM Model on 3 December 2009 (Sea Level Affecting Marsh Migration).

J. California Marine Life Protection Act – North Coast Science Advisory Team:

Steve Rumrill was recently appointed to a 2-yr term by the State of California-Natural Resource Agency (8 October 2009) as a member of the California Marine Life Protection Act (MLPA) – North Coast Science Advisory Team (SAT). The SAT is charged with provision of scientific knowledge and technical support to assist the CA Department of Fish

and Game, the CA MLPA Blue Ribbon Task Force, and the CA North Coast Regional Stakeholders Group to help them meet the goals and objectives of the CA-MLPA in the North Coast Study Region (Cape Mendocino to the CA/OR border). Members of the SAT will help develop and analyze proposals for a network of marine protected areas, state marine conservation areas, and state marine reserves in the North Coast Region, provide scientific input into the MPA designation process, and respond to queries from the CA resource agencies, the Blue Ribbon Task Force, and the regional stakeholders. Steve met with the other members of the North Coast SAT during numerous conference calls beginning in December 2009, and he participated in SAT work group meetings in Eureka, CA on 16-17 December and 20-12 January 2010. At the request of Ken Wiseman (Chairman, California Marine Life Protection Act Initiative), Steve also delivered a seminar titled "*Marine Habitats, Ecosystems, and Ecosystem Services in the Northern California Study Region*" to the members of the MLPA Blue Ribbon Task Force (BRTF) and participated as a science advisor during the BRTF meeting held in Crescent City, CA (13-14 January 2010).

K. North Pacific Marine Science Organization – PICES: Steve Rumrill traveled to Jeju, South Korea (23 October – 1 November 2009) to participate in the annual meeting of the North Pacific Marine Science Organization (PICES). During the conference, Steve delivered a seminar (co-authored by Ali Helms and Adam DeMarzo) titled "*Long-term pH shift in a Pacific northwest estuary: Potential relationships between ocean acidification and alkalinity within the South Slough, Coos Bay, Oregon, USA*" as part of a session on Anthropogenic Perturbations of the Carbon Cycle and their Impacts in the North Pacific. The session conveners (Dr. James Christian, Canada; and Dr. Toshiro Saino, Japan) requested that a manuscript based on the presentation be submitted in the spring of 2010 for possible incorporation into a dedicated issue of the Journal of Oceanography. Steve also serves as a US delegate to the PICES Marine Environmental Quality Committee (MEQ) where he works with delegates from the member nations of China, South Korea, Japan, Russia, Canada, and the United States to oversee the progress made by various workgroups, prioritize sessions for the scientific program, select invited speakers, and coordinate contributions to the overall science framework for PICES. Steve was elected as Chairman of the MEQ which has responsibilities to promote and coordinate interdisciplinary research in the North Pacific Ocean to improve our understanding of sources and fates of contaminants, ecology of harmful algal blooms, marine environmental aspects of mariculture, and the transport and introduction of aquatic non-indigenous species. In his capacity as Chairman of the MEQ, Steve recently met (9-10 February 2010) with Dr. Tom Therriault (Canadian Department of Fisheries and Oceans) and Dr. John Chapman (Oregon State University) to prepare and plan the

logistics for a Rapid Assessment Survey (RAS) and workshop to identify non-indigenous invertebrates that inhabit Coos Bay and Yaquina Bay. The RAS workshop will be held at the OSU/Hatfield Marine Science Center (19-21 October 2010) immediately prior to the annual PICES conference in Portland (22-30 October 2010). Steve will travel to Sendai, Japan (24-29 April 2010) to participate in the inter-sessional PICES Science Board meeting, and to deliver a presentation titled "*Variability in pH values and the potential influence of ocean acidification on oysters and other shellfish in Pacific northwest estuaries*" during the joint PICES/ICES conference on Climate Change Effects on Fish and Fisheries: Forecasting Impacts, Assessing Ecosystem Responses, and Evaluating management Strategies.

L. Proposals Submitted:

Proposal Title: *Integrative assessment of eelgrass and salt marsh vegetation along the estuarine gradient of the South Slough, OR: Biological communities as indicators of climate variability and change*

Principal Investigators: Co PIs / A. Helms, S. Rumrill, and C. Cornu (SSNERR)

Fund Source/Program: NOAA / Estuarine Reserves Division

Funds Requested: \$50,000 / proposal accepted

Project Administration: Oregon Department of State Lands / South Slough NERR

Proposal Title: *Establishment of Experimental Olympia Oyster Beds and Characterization of Subtidal Oyster Habitat in Coos Bay and the South Slough*

Principal Investigator: S. Rumrill (SSNERR)

Fund Source/Program: USACOE / Estuary Habitat Restoration Program

Funds Requested: \$630,000 / proposal rejected

Project Administration: ODSL / SSNERR

Proposal Title: *Experimental Restoration of Native Olympia Oysters (*Ostrea lurida*) within the South Slough Estuary, Oregon*

Principal Investigator: S. Rumrill (SSNERR)

Fund Source/Program: NOAA/ERD/NERRA Restoration omnibus

Funds Requested: \$68,000 / proposal pending

Project Administration: ODSL/SSNERR

Proposal Title: *Detection of a long-term shift in pH values and potential relationship with ocean acidification within the South Slough estuary, Oregon*

Principal Investigator: S. Rumrill, A. Helms, A. DeMarzo (SSNERR)

Fund Source/Program: YSI-Foundation / Minding the Planet Program

Funds Requested: \$25,000 / proposal rejected

Project Administration: ODSL/SSNERR

Note: YSI, Inc. expressed great interest in the research project described by the proposal, and has offered to send the SSNERR a new pCO₂ measuring system and a new pH probe and data telemetry equipment in exchange for serving as a beta-test site for the electronic sensors and datalogger equipment. YSI, Inc. has also let the SSNERR know that the Reserve is under consideration to receive \$10,000 in grant funds to help pay for installation and operation of the pCO₂ measurement equipment.

III. Graduate Students, Fellowships, and Interns

A. NERR Graduate Research Fellowships: NOAA / Estuarine Reserves Division recently awarded two new NERR Graduate Research Fellowships grants to graduate students who will conduct their thesis work within the South Slough NERR. The new GRFs are Holly Keammerer (Ph.D. candidate; University of Oregon – Oregon Institute of Marine Biology) and Matthew Gray (Ph.D. candidate; Oregon State University). Holly’s GRF proposal is titled “*Evaluating interaction intensity between seedlings of five salt marsh species and existing emergent vegetation*” and she will receive 1-yr (\$20,000) of federal support to conduct laboratory and field experiments to examine competition and facilitation within the plant communities that inhabit salt marshes in the South Slough. Matt’s GRF proposal is titled “*Interspecific competition between native Olympia oysters (Ostrea lurida) and introduced Pacific oysters (Crassostrea gigas)*” and he will receive up to 3-yrs (\$60,000) of federal support to compare and contrast the feeding biology of Olympia and Pacific oysters in South Slough and Yaquina Bay, to evaluate feeding efficiencies under different field conditions, and determine the likelihood of competition for food resources between the two species.

B. Graduate Student Thesis Advisory Committees: Steve Rumrill continued to serve as a member of several graduate student thesis advisory committees. These students investigate a variety of marine and estuarine ecological problems and coastal management issues. The student thesis work takes place primarily in the South Slough NERR, the Coos Estuary, and other regions of the southern the Oregon coastal zone.

Ongoing Thesis Work:

Margot Hessing PhD OSU / Zoology

Holly Keammerer PhD Oregon Institute of Marine Biology

Thesis work completed:

Heather Austin MSc Oregon Institute of Marine Biology

