SOUTH SLOUGH RESERVE MANAGEMENT COMMISSION

DRAFT AGENDA

NOTE... NOTE... ---------- ***MEETING LOCATION HAS CHANGED*** ----------***NOTE.. NOTE...***

Oregon Institute of Marine Biology Dining Hall
63466 Boat Basin Drive
Charleston, Oregon 97402

Wednesday December 7, 2011

132nd REGULAR MEETING 1:00-4:30 P.M.

I. Call-to-Order

II. Introductions

III. Approval of the 131th regular meeting minutes

IV. Public Input*

V. Old Business
   A. Property trespass (15 minutes)
   B. South Slough NERR Climate and Energy plan (20 minutes)
   C. Other

VI. New Business
   A. 2012 meeting schedule
   B. Project presentations
      a. Oregon Coast Education Project (10 minutes)
      b. Partnership for Coastal Watersheds (10 minutes)
      c. AmeriCorps Team Silver 7 (5 minutes)
      d. Native Oyster Graduate Research Project update Matt Gray (10 minutes)
   C. Other

VII. Informational Items
   A. Administration updates
   B. Education programs
   C. Science programs updates
   D. Other

VIII. 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 541-888-8270 ext. 314 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 131st Regular Meeting

July 21, 2011

Commission members present:

Nicole Jackson
Craig Young
George Boehlert
Louise Solliday, Chair
James Fereday

Commission members not present:

Kevin Stufflebean
Robert Emmett
Mark Ingersoll
Ron Stuntzner

South Slough NERR staff present:

Mike Graybill
Pam Wilson
Deborah Rudd
John Bragg
Robin Elledge
Steve Rumrill
Craig Cornu

Others present:

Nina Gee
Howard Crombie

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

INTRODUCTIONS

Everyone present at the meeting introduced themselves. Nicole Jackson was introduced as a new member of the Management Commission representing the public.

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 Fereday moved to approve the minutes of the previous meeting and Commissioner Young seconded the motion. The minutes were approved.**

PUBLIC INPUT

There was no public input.

OLD BUSINESS

Unauthorized Activities

The Commission was notified of a letter from Jim Oxford addressed to Mike Graybill on July 17 that acknowledged receipt of the correspondence sent by the Commission to Mr. Oxford on July 5, 2011 regarding alleged trespass activities on State-owned land. In the letter, Mr. Oxford indicated that he would be in contact with the Commission in the near future to further address the concerns of the State.

The Commission thanked Ron Stuntzner for the survey work he donated to the Reserve.

NEW BUSINESS

Volunteer Recognition

Volunteers at the Reserve were recognized for their service by the Management Commission.

ADJOURNMENT

Chair Solliday adjourned the meeting at 1:15 p.m. The Management Commission then participated in a paddling tour on South Slough with staff in the new canoe purchased by the Friends of South Slough for the Reserve. The Commission also toured the Port Orford cedar restoration plot, the Spruce Ranch, and the new administrative offices for Reserve staff at OIMB in Charleston.

Subject: Trespass on SSNERR property.

Issue Progress report on suspected property trespass activities.

Background:

On 5 July 2011, the Management Commission sent a letter of trespass notice to adjacent property owner Mr. James Oxford. On 2 August 2011 SSNERR received a response from Mr. Oxford. The content of the notification letter and Mr. Oxford's response are attached below.

The notification letter identified 5 items related to the suspected trespass and called for Mr. Oxford to:

1. Work with DSL staff to design barriers to prevent livestock and motorized vehicles from entering State-owned land.
2. Work with DSL staff to develop a restoration plan for State-owned lands that have been impacted by the above stated unauthorized uses.
3. Construct the barriers to prevent future trespass and implement the restoration plan as agreed to by DSL.
4. Acknowledge the recovered boundary survey marker referenced in the attached survey report, and reevaluate excavation and landfill practices that may encroach on State-owned land.
5. Cease and desist from removing or disturbing vegetation on State owned land.

Staff analysis

Documentation included in Mr. Oxford's response letter indicates he has taken action to address some of the items in SSNERR's notification letter. Staff visited the property on the afternoon of 29 November 2011.

Fencing

An electric fence shown in the 2 August 2011 photos provided by Mr. Oxford was still in place on 29 November 2011. The fence consists of lightweight plastic posts with electrified plastic line. The fencing was installed without consultation with SSNERR staff. The fence appears to be operational and there is no evidence of recent livestock entry onto SSNERR property.

Boundary markers

An aluminum property corner survey monument and associated orange plastic boundary marker stake was clearly visible near a gate at the SE corner of the Oxford/SSNERR property line. The metal farm gate near this property boundary monument is situated at the terminus of a gravel road on Mr.

Oxford's property. Signs flanking both sides of the gate clearly indicate that the property beyond the gate is state property. A sign listing use restrictions including no motorized vehicle use, no commercial harvesting, overnight camping or open fires is prominently posted at this point of entry to the Reserve.

Discussion of right of way held by Mr. Oxford.
Documentation provided by Mr. Oxford references a right of way granted to him when he acquired the property from his parents. An excerpt from the deed describing the right of way granted by Everett and Mable Oxford (grantors) to James Oxford is as follows:

…"Together with right of way across grantors adjoining lands at a location to be mutually agreed upon between the parties and together with water right privileges from a source located on grantors adjoining lands"…

Everett and Mable Oxford sub divided their property when they deeded property to their son and sold property to the state for inclusion in to the South Slough NERR, therefore the property that Everett and Mable sold to the state for inclusion in the Reserve constituted only a portion of property they owned at the time. Until documentation regarding the specific location of the right of way referenced in James Oxford's deed is verified, it is not possible to determine if the right of way referenced in the deed held by Mr. Oxford applies to the property retained by Everett and Mable Oxford after they sold the property to the state or to the property that the state purchased from Everett and Mable Oxford.

Staff are currently searching for the deed granted to the state by Everett and Mabel Oxford and for documentation describing "the location mutually agreed upon between the parties" for the right of way referenced in the deed granted to James Oxford by his parents.

Continued unauthorized use of motorized vehicles.
Beyond the gate at the SE corner of Mr. Oxford's property, a pre-1970's single track, dirt surface logging road traverses SSNERR property for approximately ½ mile, where it crosses the Reserve boundary at a recently logged area owned by Menasha Corporation.

The entire road segment traversing SSNERR property between James Oxford's property and the Menasha property shows evidence of frequent and recent use by motorized vehicles. There is also evidence of recent commercial mushroom harvest and cedar bough harvest activities on SSNERR property. Vehicle entry onto SSNERR property is evident at both ends of the road segment on SSNERR property: at the SSNERR/Oxford boundary line and at the SSNERR/Menasha boundary line. Fresh vehicle tracks and evidence of discarded cedar boughs near the SSNERR/Oxford property boundary suggests that some of the unauthorized vehicle use is gaining access to the reserve via the gate at the corner of Mr. Oxford's property.

The vegetation line is now very distinct along the SSNERR /Menasha property boundary. There were no state property boundary signs in evidence at the SSNERR/Menasha property line on November 29th.

Water use

The deed referenced by Mr. Oxford includes "…*water right privileges from a source located on grantors adjoining lands".* When the state acquired property from Everett and Mable Oxford a spring on the newly acquired property near the farm gate on the SE corner of James Oxford's property had previously been developed as a residential water supply. At the time SSNERR purchased the property from Everett and Mable Oxford, this spring on SSNERR property supplied water to James Oxford's single family dwelling. Since acquiring the land from Everett and Mable Oxford, SSNERR staff have acknowledged the existence of this spring and have routinely granted James Oxford access onto SSNERR property to maintain the spring as a water source.

Staff observations and documentation provided by Mr. Oxford confirms that a second water storage tank has been installed on SSNERR property below the location of the original spring and storage tank. The second water system and storage tank was placed on SSNERR property within the last 10 years or so without consulting or notifying SSNERR personnel. Staff have not confirmed the point of diversion for the second water system but Mr. Oxford's response letter suggests it uses a point of diversion on state property other than the original spring/point of diversion:

> " We have two plastic water tanks in our gravity flow water system in use here at the ranch. One higher than the other. Both get water from the same small stream, but at different locations and elevations".

Additional documentation provided by Mr. Oxford suggests that he has developed or intends to develop several additional diversion points on waterways near his property. Staff are conducting field surveys, consulting with the Oregon department of water resources, and using information provided by Mr. Oxford to determine the current number and location/s of active water diversion points on SSNERR property.

Livestock trespass

Mr. Oxford's letter acknowledges his practice of letting his livestock onto SSNERR property and maintaining a livestock watering hole on SSNERR property.

> "…we have been careful to restrict our activities within our boundaries with the exception of the small sand basin next to our barn in use for livestock watering and domestic water system, and the little section of our pre-existing road."
>
> "…As well as the six foot water tank on your map, there is a livestock watering hole 35feet south of the tank. Although upgraded and improved upon several times, this water system has been in existence since 1965. The livestock watering hole goes back long before that".

Staff have confirmed that the "sand basin" the "six foot water tank" and the "livestock watering hole" are situated on state property. Staff are working to locate any documentation granting permission to Mr. Oxford to run livestock on SSNERR property or to maintain a stock watering hole on State property. Our preliminary records search has not located any agreements granting Mr. Oxford permission to run livestock or develop or maintain a stock watering pond on state property. The Oregon Department of Agriculture classifies Coos County as a closed range district. Livestock is not allowed to run at large in closed range districts. The livestock owner or manager must keep livestock on his or her own property. Until documentation granting Mr. Oxford permission to run livestock on SSNERR property is identified these practices should be considered an unauthorized trespass onto state property.

Staff Recommendation: The Commission should direct staff to:

a. Complete the search of deeds, water rights, and property line inspections to confirm the nature of potential easements and rights of way on state property held by Mr. Oxford.

b. In a manner consistent with DSL policies regarding trespass and with review by the Commission chair; send a second notice of trespass to Mr. Oxford including, but not limited to the following requests:

i. cease and desist the practice of running livestock or maintaining stock watering ponds on state property until further notice;

ii. complete the restoration plan outlined in the original letter of trespass;

iii. Identify the location of any and all water diversions originating on state property;

iv. provide documentation confirming the specifications of the mutually agreed upon location of the right of way referenced in previous correspondence.

c. Decommission and rehabilitate disused logging roads and construct gates or vehicle passage barriers as appropriate on SSNERR property where logging roadways cross between SSNERR and adjacent properties including the road accessed via Mr. Oxford's property.

d. Post signs at the boundary of the Reserve at points of access to identify property as state land and to provide information about special use restrictions.

Oregon

John A. Kitzhaber, MD, Governor

Department of State Lands
South Slough National Estuarine
Research Reserve
P.O. Box 5417
61907 Seven Devils Road
Charleston, Oregon 97420
(541) 888-5558
FAX (541) 888-5559
www.southsloughestuary.org

5 July, 2011

James Oxford
91078 Oxford Ranch Rd.
Coos Bay, OR 97420

State Land Board
John A. Kitzhaber, MD
Governor

Kate Brown
Secretary of State

Ted Wheeler
State Treasurer

SUBJECT: **Notice of Unauthorized Use of State-Owned Land**

Dear Mr. Oxford:

In 1977, the Oregon legislature enacted HB 3269 which authorized the State Land Board to acquire and accept the dedication of public and privately-owned lands for the creation of what is now the South Slough National Estuarine Research Reserve (SSNERR). These lands are held in public ownership by the Oregon Department of State Lands (DSL) for the benefit of all Oregonians. The authority to manage and protect these lands for educational, research and low-intensity recreational use is the responsibility of the State Land Board, acting through the SSNERR Management Commission.

We are sending you this letter because we believe that unauthorized activities associated with your property in township 26S, range 14W, section 13 has impacted State property. These activities include the excavation and construction of a livestock corral and water supply tank, use of motorized vehicles on State-owned land and disturbance and unauthorized removal of vegetation from State owned land. None of the aforementioned activities have been authorized by the SSNERR Manager or Management Commission, and thus violate the SSNERR Administrative Rules adopted under State Statute (ORS 273).

Additionally, we believe that excavation and landfill practices occurring on the property referenced above encroach on State-owned land. The State is interested in working with you to remedy the impacts that have occurred on State-owned land and prevent any future adverse impacts.

To address the unauthorized activities cited above we request that you:

1. Work with DSL staff to design barriers to prevent livestock and motorized vehicles from entering State-owned land from your property.
2. Work with DSL staff to develop a restoration plan for State-owned lands that have been impacted by the above stated unauthorized uses.

3.Construct the barriers to prevent future trespass and implement the restoration plan as agreed to by DSL.
4.Acknowledge the recovered boundary survey marker referenced in the attached survey report, and reevaluate excavation and landfill practices that may encroach on State-owned land.
5.Cease and desist from removing or disturbing vegetation on State owned land.

I am available to work with you to develop and approve a work plan to resolve the issues identified in this letter. I ask that you contact me at your earliest convenience to schedule a meeting to review the findings in this letter and to outline the tasks needed to resolve this matter. I am happy to clarify any questions you might have about your responsibility to respond to the matters raised in this letter. Thank you for your cooperation.

Sincerely,

Mike Graybill,
SSNERR Manager
541-888-5558 X 24

References

Oregon Revised Statutes and Oregon Administrative Rules

ORS 273.185 – investigation of trespasses
OAR 142-010-0050 – violation of rules

Enclosure: **Boundary Survey SE ¼ of Section 13 T.26S., R.14W., W.M. April 2011 Stuntzner Engineering and Forestry LLC**

CC Louise Solliday, Craig Cornu.

December 7 2011
SSMC 132nd

Oxford Ranch
James and Gina Oxford
91078 Oxford Land
Coos Bay, OR 97420

Department of State Lands
South Slough National Estuarine research Reserve
61097 Seven Devils Rd.
Charleston, OR 97420

Mike Graybill
SSNER manager

July 30, 2011

Greetings Mike,

We are in receipt of your letter of July 5, 2011. Due to the history of the area of your concerns, we were quite surprised. There has been no excavation, landfill or construction of a livestock corral or unauthorized removal of vegetation from state owned land by Oxford Ranch as you state that you believe in your letter.

The small sand basin next to our barn has been in existence for many years, including prior to DSL accusation in late 1970's. This is the area marked "clearing" on your recent survey map. This is a small natural occurring open basin of white clay sand that has been in existence as far back as I can remember, and I have been here for 64 years. There has been no excavation or vegetation removed. The small sand basin is where two tiny ravines join together, both with small underground streams. One of which is year round flow. The white sand clay area stays devoid of vegetation and is surrounded by forest.

What you are apparently mistaking for a livestock corral is a few old railroad tie posts. The old posts where put in back in the 1960's by my father Everett Oxford and his friend Bud Page. They were partners running cattle on the property. The few posts remain are what is left of a small round barrier they put up in an attempt to keep the elk from damaging the water system there.

As well as the six foot water tank on your map, there is a livestock watering hole 35feet south of the tank. Although upgraded and improved upon several times, this water system has been in existence since 1965. The livestock watering hole goes back long before that.

The 6 foot water tank in your map and letter is part of our existing gravity flow water system we are using here on the ranch. Without it we would have no water during dry season. The old small tank and pipe was upgraded several years ago. The larger tank location was moved a few feet from out of the brush to a more open spot on the edge of the sand basin. We

continue to keep a small barrier around the water system, which is two post and two wire panels, to keep the elk from damaging the system.

We have two plastic water tanks in our gravity flow water system in use here at the ranch. One higher than the other. Both get water from the same small stream, but at different locations and elevations. The higher one usually goes dry in August and September, while the lower one supplies some water year round. This is our only water supply. The location of the lower one is in the sand basin because that is the highest spot it can go and still keep gravity flow going. The point of origin on the stream is at the highest point possible. If we tried to move the tank closer or higher the system would fail.

On the edge of the sand basin is where the watering hole is for our livestock. It is the only useable water source they have in the late summer. It has been in existence for livestock since the 1960's that I'm aware of. The water use from this stream goes back much earlier to when the ranch was first developed by Charles S. Day in 1880 and later Gus and Earnest Johnson. (See copy of map furnished by State of Oregon Water Rescores Department).

Oxford Ranch has an Oregon state registered water use permit for this un-named stream and its location. (Please see copy of State of Oregon Water Rescores Department applications numbers 58802, 58402, and permit number 44550 enclosed). The water right and usage permit was issued to all of the Oxford family, which included James J Oxford, back in the 1970's.

My parents Everett and Mae Oxford deeded right of way, water rights and privileges to James Oxford December 1973. (Please see copy of Deed # 741-94958). This was back when they still owned the property and before the Sanctuary was formed. Deed 74-194958 signed December 29, 1973 by Everett M. Oxford and Mable L. Oxford, to James J Oxford, Grantee, and registered in Coos County Oregon; thereby does grant to James J. Oxford, his heirs and assigns, forever. The following; "together with right of way across Grantors adjoining lands at a location to the mutually agreed upon between the parties, and together with water right privileges from a source located on Grantors' adjoining lands."

Also from deeds in 1970's my parents have reserved upon their lands for their heirs and assigns, a right of way 60 feet in width to follow used roadway as it existed upon the ground, which would include the little portion of our roadway showing on your map. James J. Oxford is an heir and an assigned of Everett and Mable Oxford.

Our ranch is surrounded on three sides by DSL and we are very aware of the boundary lines. The corners are all well marked. We have been careful to restrict our activities within our boundaries with the exception of the small sand basin next to our barn in use for livestock watering and domestic water system, and the little section of our pre-existing road.

We are within our right to exercise those rights and privildiges earlier granted. The SSNERR and DSL should be aware that although they now own their lands within their boundaries, there may be previously granted rights and privilidages as well as "grandfather rights" that are still in

effect on these lands. If a Grantee and his assigns are granted certain rights and privildages from the owner of the land, those rights granted stay in effect upon the land even if the original Grantor no longer owns the land in the future. These rights remain in effect and can be passed on to future Grantees and assigns by deed or other legal means. We are within our legal right to continue our usage and maintenance of said water right and privileges previously granted.

This includes the livestock watering hole and the storage tank water system within the sand basin mentioned in your letter and map. Also the small section of road shown on your map.

I was born, raised and lived here on Oxford Ranch all my life. I know its history well including that involved with the South Slough Sanctuary. Oxford Ranch was instrumental in helping get the Sanctuary formed. The Oxford family has always been a supporter of the Sanctuary, going back to its beginning. I was present during the land negotiations with DSL. The final thing that sealed the deal with my parents was the promise that the Oxford family would always be able to continue using the land as they were at the time of negotions. Basically that was horseback riding, trail bike riding, firewood gathering, brush picking, Christmas trees, mushroom gathering, hunting, hiking, camping and the like. I witnessed the promise from both the; Nature Conservative representative (of whom I don't recall the name of but would be in the records), and DSL representative Bill Cox. I was a witness to the handshake of that promise. Later Sanctuary managers, including Dr. Rudy and Delane Munson, were all aware of the agreement for the Oxford Family's' limited continuing use on their previously owned land and they honored that agreement. Oxford Ranch is aware that those privileges are only for that portion of state lands that was previously owned by the Oxford family.

Earlier this year Sanctuary staff Hinze and a volunteer spent may days going all over our ranch property trying to do a survey. We cooperated fully with them every day. On days they were in our pastures we kept the horses locked up in the barn so they could do their work. We allowed them full access to all our lands.

They had explained to us that the reason for the survey was the Sanctuary was contemplating doing some logging on their lands. They wanted to be sure of all their boundaries prior to doing so. If this is really the case, then the logical and cost effective way would be logging done by access thru Oxford Ranch property. We feel it would be beneficial for all parties to keep the spirit of cooperation open.

Mike, we were surprised at this letter because of the past history with you in regards to the sand basin clearing. When we did the land exchange back in 1994, you and I walked the boundary line together after the new boundary was marked. You had commented on the "corral" and "clearing" next to our barn and just over our new boundary line. I had explained to you then that it was pre-existing, not a coral and the open sand area was natural occurring. That was over seventeen years ago. I wasn't concerned about the area being over the line then either because I knew we already had granted rights to use it.

You and other Sanctuary staff have visited our ranch several times since then as well. Why after all these years has this sand basin area and our limited use of it now become an issue with the Sanctuary?

In the spirit of co-operation we will remove the old fence posts marked on your map that you mistook for a corral, except two that protect our water system. We will remove the small section of old electric fence rope on your map. We will fence off the sand basin to prevent any livestock access except during the short dry season. We will place a gate to be used for that period and our periodic maintenance of the water system as needed.

Enclosed are copies of documentation for your records as well as pictures. We hope we have addressed your concerns. We ask to please include this letter and the documents to SSNERR and DSL records of the area so the Sanctuary and DSL are aware they exist. We also ask if your people are done with their surveys, would they please come remove all the pink plastic markers attached all over our ranch and grounds. Please call ahead first; we have livestock in the area.

If you still have any questions or concerns with regards to Oxford Ranch, please feel free to call us. We appreciate the spirit of cooperation between neighbors Oxford Ranch and SSNERR and hope for a continued long good relationship for the future.

Best Regards;
Your neighbors at Oxford Ranch

Jim and Gina Oxford
dba: OXFORD RANCH
Ranch: (541)888-5176
Jim Cell: (541) 297-7094
Gina Cell: (541) 297-7070

Enclosures:
Documents and Pictures

Cc: Craig Cornu
Chad Oxford
Legal File

Subject: Management Commission Meeting Schedule for 2012

Background: The South Slough Management Commission meets three times yearly for its regular business meetings. The meetings are scheduled on the third Thursday of March, July, and November. Occasionally, an extra meeting or workshop is held and scheduled separately. The dates for the regular business meetings in 2012 are:

March 15

July 19

November 15

Staff Recommendation: The Commission should adopt the proposed 2012 meeting schedule. Adequate notice will be made throughout the year to note upcoming meetings or to inform of any changes to the schedule.

SSNERR EDUCATION PROGRAM UPDATE

July 9th, 2011 through November 16, 2011

Summer and fall are some of the busiest months for education programming at South Slough. This past season saw an increase in activities related to summer science camps, teacher training through the Oregon Coast Education Program, and an expanded public outreach effort with a particular focus on National Estuaries Day leading to the highest level of education program participation recorded for a single year.

In contrast, visitation at the interpretive center has been down somewhat compared to past years. This can be accounted for, in part, by a reduction in public hours of operation necessitated by statewide furloughs. Additional elective closures for building maintenance and off-site outreach events accounted for a combined total of 19 fewer days of public access to the interpretive center in 2011 than in previous years.

The new aquarium exhibit slated for the entry at the interpretive center is currently being fabricated and will be installed in January 2012. In past years, major improvements at the interpretive center such as the 2002 building remodel and the opening of new exhibits in 2007 have corresponded with an increase in visitation. Therefore, we may expect a similar increase following the opening of the new "Watershed to Oyster Bed" exhibit in early 2012.

During this period, several South Slough staff members attended the annual NERRS/NERRA meeting held in Jacksonville, Florida in late October. Topics addressed at the meetings included climate change and estuaries, development of the Estuaries 101 middle school curriculum, new education performance measures, and community education efforts related to climate change. Education coordinator Tom Gaskill presented as a member of a plenary panel "NERRS Way Forward" highlighting the use of alternative methods of communication and technology such as webinars and wikis to reduce costs and travel expense while potentially improving efficiency.

Education Program Totals

For the period from July to November, 2011, a total of 95 educational activities were conducted during this period for 3440 participants. 332 contact hours and 231 hours of preparation were recorded. These totals include all types of education, interpretation, training, and outreach. A more detailed explanation of each sub-category is included in subsequent sections of this report. Including visitors to the South Slough Interpretive Center, a combined total of 5,348 people learned about estuaries and coastal watersheds through South Slough educational programs during this period.

Visitation and Visitor Services

During this period, 1908 visitors to the interpretive center were recorded for an average of 21 visitors per day. The period covered by this report spanned 97 days when the South Slough Interpretive Center was open to the public. Typical public hours for the building remain 10am – 4:30pm, Tuesday through Saturday throughout the year.

One state-wide furlough day closure occurred on a Friday in September. The interpretive center was closed to the public and also on the Saturday immediately following furlough days as has been the practice. Additional elective Saturday closures occurred on Saturday, September 24th and Saturday, October 8th to facilitate participation in public outreach events held off-site.

During the period from July, 17 formal education programs were offered for 703 participants. A total of 79.5 contact hours and 49.5 hours of preparation time were recorded.

South Slough education staff participated in the Oregon Science Teachers Association (OSTA) conference held at Marshfield High School in Coos Bay in October providing a presentation on the use of data in the classroom and an exhibit table. On the day following the conference, attending teachers were invited to participate in a workshop at South Slough highlighting tools and techniques provided through the Oregon Coast Education Program (OCEP) and the Watershed Invasive Species Education (WISE) program.

Workshop attendees received reimbursement for OSTA conference registration. Several teachers took advantage of this opportunity. Funding for the OCEP/WISE workshop was provided through a grant from the Oregon Community Foundation to facilitate professional learning communities of classroom educators.

South Slough continues to participate in the Tsalila education days held in Reedsport at the Umpqua Discovery Center and hosts local 3rd grade classes and other groups of student with on-site field trips to the reserve in the fall.
Education staff is currently developing concepts for special program offerings on Fridays to accommodate the shortened school week adopted by the local Coos Bay school district. The reserve will also participate as a community partner in a high school level watershed master stewardship program being developed by the Coos Watershed Association and Oregon Sea Grant providing guidance in the credit requirements and a potential work site for projects.

NERRS K-12 Estuary Education Program

"Journey of the Birds" webinar

In early November, South Slough education coordinator Tom Gaskill and Oregon Islands National Wildlife Refuge visitor services manager Dawn Grafe presented a National Science Teachers Association webinar, "Journey of the Birds". Post webinar information from the NSTA Learning Center is included below.

Dawn Grafe and Tom Gaskill presented information on shore birds and Brant geese. The presenters told participants how they can aid in monitoring the populations of various bird species. They also shared a number of online resources that include lesson plans and student activities that use birds as both a topic and an instrument in a variety of different curricular areas. Eighty-seven (87) participants were present at the live Web Seminar in addition to the presenter and NSTA staff. Participating educators represented the states of California, Colorado, Connecticut, Florida, Georgia, Illinois, Louisiana, Maryland, Massachusetts, Minnesota, Nebraska, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Vermont, Virginia, Washington, West Virginia, Wisconsin, and the District of Columbia. One participant attended the Web Seminar from a location outside the United States: Puerto Rico. Seminar participants received one of the NSTA *SciGuides*. A certificate of attendance was deposited into participants' *My PD Record and Certificates* area in the NSTA Learning Center for completing the evaluation form at the end of the program.

Here are some comments provided by the participants at the end of the Web Seminar:

- *"I live in South Texas and it is one of the best migratory birding areas in the world. Very few students realize this so these activities will generate interest."*
- *"I teach along the GA coast and much of my focus is on estuarine habitat. Shorebirds are an integral part of my ecology lessons."*
- *"Lots of great ideas for use with students. Studying birds is a great way to get students involved with conservation."*
- *"Great information that will be useful in working with teachers as they build lessons for students. Loved the resources shared and the content by the field experts."*

The webinar is archived at:
http://learningcenter.nsta.org/products/symposia_seminars/NOAA/webseminar8.aspx)

Estuaries 101 Middle School curriculum

South Slough staff continues to participate in the development of the national Estuaries 101 curriculum for middle schools providing content and review expertise. Two master teacher reviewers from Oregon are currently providing curriculum developers with comments as part of a team of over 50 experienced classroom educators. Additionally, NERRS education coordinators are providing detailed activity reviews for at least two individual units.

Changes to the curriculum will be incorporated in early 2012 and the final product will be made available on-line through the estuaries.noaa.gov website.

Market Analysis and Needs Assessment

Work continues on the development of the market analysis and needs assessment study being conducted by South Slough as part of a national effort to identify opportunities for estuary education. The market analysis has garnered 20 responses to date and requires additional promotion to achieve a sufficient sample size for the study results to be meaningful.

The needs assessment survey instrument is in a near final state for distribution and will undergo final edits in December. A grant extension request has been submitted to NOAA to extend the period of performance for 1 year. This will provide sufficient time for collection of additional data for the market analysis, administration of the needs assessment to schools in southern Oregon in January and February of 2012, and analysis of data with a final report completed by September 2012.

Results of the study will be used to inform future education program development at South Slough and shared with interested project participants including the Coos Bay Bureau of Land Management and the Coos Watershed Association which have been contributing partners.

Oregon Coast Education Program

The Oregon Coast Education Program (OCEP) has completed the first phase of the project funded by a $100,000 NOAA Bay Watershed Education and Training (B-WET) grant provided in 2009. This phase included the development of two modules, delivery of several in-person teacher training workshops, several on-line workshops, and facilitation of multiple field experiences for students observing best practices and using the modules. The partnership of institutions and individuals that made the project possible continues to work together successfully and this collaboration has led to many additional benefits for teachers and their students. The final report for this phase of the project (December, 2011) will capture the overall accomplishments, and include findings from the final evaluation report delivered to the OCEP core team by evaluator Bryan Rebar. This report identifies multiple indicators that the project has been successful in meeting the needs of Oregon teachers and their classes as they seek to learn about our coast and ocean through meaningful, well planned experiences and studies.

OCEP has been working with two new partners in the continued development of the concepts described in second phase of the project. This second phase is funded through a $60,000 NOAA-B-WET grant provided in 2010 and an $11,000 grant provided by the Oregon Community Foundation – Gray Family Fund.

As we have worked during this period to strengthen the relationships with these partners, we have conducted planning for fall teacher training workshops to be held in October 2011. A change in personnel has brought a new coordinator, Cait Goodwin to the project team and led to the departure of Brianna Patterson who was one of the initial coordinators. Other relevant transitions have included the retirement of Stephanie Wagner from the position of education coordinator at Tryon Creek State Park. However, she continues to provide a strong liaison to the park and is committed to the project in her new role as the director of the Center for Science Education at Portland State University, thus providing a new opportunity for partnership.

The OCEP core team decided during the summer of 2011 to offer a series of three workshops on consecutive weekends in October based upon feedback from teachers and leadership team members. These workshops are linked to additional relevant content provided through distance learning webinars. The workshops were also designed to take advantage of an opportunity for collaboration with the Oregon Science Teachers Association (OSTA) meeting to be held in Coos Bay, Oregon on a Friday prior to one of the workshops as a part of a state-wide in-service.

The first workshop was held in Bend followed by a second workshop in Charleston following the OSTA conference and the third workshop in Portland. The design for each of these workshops was consistent in some aspects with a degree of local variability incorporated to allow for place-based learning and incorporate local natural areas and expertise. A total of 30 teachers participated in the three workshops (approximately 10 per workshop) and the potential exists for more participation through additional distance learning opportunities. Teachers attending OSTA and the Charleston workshop were offered a reimbursement of their OSTA registration costs through another fund source, the Oregon Community Foundation, as an incentive to participate in the OCEP workshop at Charleston.

Funding opportunities to support future OCEP work are currently being sought. However, the NOAA-B-WET program in the Pacific Northwest did not receive any funding in the FY11or FY12 and continued support in the near future does not seem likely since the program is considered an earmark rather than a part of the base budget of the NOAA Office of Education. The Oregon Community Foundation – Gray Family Fund has issued a request for proposals seeking projects that provide outdoor education opportunities for 5th – 8th grade students and professional development for educators and volunteers. The deadline for proposals is February 1st, 2012. This may be a potential source of continued support for OCEP.

Community Education, Interpretive & Outreach Activities

Interpretive programs continue to be offered for a diverse public audience of children, adults, and families. A total of 57 interpretive programs were offered and 708 people attended activities ranging from guided walks and paddle trips to workshops. 159.25 hours of contact and 90.5 hours of preparation were recorded. 10 separate outreach events were recorded serving 1745 additional participants while 58 hours of preparation and 42 hours of contact time were reported. Community education activities accounted for 7 activities and an additional 171 participants and 13 contact hours. 11 hours of preparation time were recorded.

The South Slough Interpretive Center continues to host a diverse variety of community partners while offering a base of operations for field-based experiences. Recent maintenance related activities to manage vegetation, paint the exterior of the building, correct problems with exhibit and interior lighting, and repair damaged floor finishes will continue to support community involvement and visitation. Installation of new exhibits and maintenance of existing exhibits will be addressed during the interpretive center closures in December and January.

<u>"Watershed to Oyster Beds" exhibit</u>

Work on the development and fabrication of a new exhibit for the entryway at the South Slough Interpretive Center is continuing with a proposed completion date of January 31st, 2012. The project is comprised of three discreet, interrelated components.

A series of two aquaria and a terrarium will be integrated with a series of three platforms depicting the transition from a forested freshwater stream to the shoreline of the estuary and a tidal channel populated by a native oyster bed. A hand-painted mural by renowned artist Peggy O'Neal will provide the backdrop for the exhibit, highlighting elements of the watershed and estuary.

The tanks will feature fish of the estuary including bay pipefish, sculpin, and gunnels. Additional invertebrates such as shore crabs and shrimp may also be included. The terrarium will host native ferns and amphibians such as rough-skinned newt, western red-legged and Pacific tree frogs.

The life support system for the aquaria was developed by Oregon Coast Aquarium chief aquarist Kevin Clifford and will be installed in an exterior shed adjacent to the entryway. Plumbing and electrical access to the shed will be provided through the wall. Construction of the shed requires a permit and staff is currently awaiting an architectural design that will be used to inform construction. Labor for the shed construction project is being contributed by local contractor and South Slough volunteer Daniel Abel.

PUBLIC INVOLVEMENT PROGRAM UPDATE

Volunteers

From July-October 2011 SSNERR volunteers logged in 797 hours valued at $17,023. The breakdown included 168 education, 401 research/stewardship, 221 administration, and 7 other hours.

On Saturday, October 29th "South Slough 101-Where the River Meets the Sea", volunteer training was held. As the pre-requisite foundation for our new formal training series, South Slough 101 is designed to provide all current and potential volunteers with a baseline knowledge that will be built upon with separate themed training modules offered seasonally.

15 participants took part in the course, 7 of them current volunteers. A survey was taken and the overall consensus was that it was a good course but a few suggestions were made to improve the content delivery.

The first option module will be offered Saturday, November 19th from 12-3. Jake Robinson will help to teach basic forest ecology and engage volunteers in forest inventory and stewardship practices they might use in the field as a Reserve volunteer.

Friends of South Slough, Inc. (FOSS)

Since July, the Friends of South Slough, Inc. (FOSS) have completed several projects in support of the South Slough NERR. Summer 2011 began with the provision of funds for staff support in the Friends Book Store and for the children's summer science camps. FOSS also provided funds ensure there were adequate life vests in all sizes available for use with the summer camp big canoe paddle trips and other public activities.

In partnership with the Coquille Tribe and especially the Younker family, FOSS held a naming ceremony at Sunset Bay State park for the new clipper canoe. The Coquille tribe named the canoe "Chmoosh" which means "floating log-easy going" after Bob Younker, who was part of the original planning committee to make South Slough a Reserve. Over 100 people attended and several rode in the Tribal and the South Slough canoes.

The board provided $851 for an art hanging system for the SSNERR auditorium which was installed this summer.

David Lunde, FOSS Bookstore manager worked with SSNERR staff to complete laminated paddle guides available for sale in the FOSS Book Store.

Throughout the summer The Friends and some SSNERR staff also provided several home cooked meals for the 7 person AmeriCorps crew staying out at Spruce Ranch working on various Reserve projects.

FOSS Vice President, Nicole Jackson worked with Robin Elledge, SSNERR Operations Manager to write a grant in order to obtain an AmeriCorps VISTA volunteer who will help to provide work experience training opportunities for local students and those looking to expand their career skill sets. The Friends also paid the $5,000 match required for that project.

Lonne Mays investigated the cost of and found a great deal on a Toshiba laptop for board members to use allowing some work to be done at home or for two members at a time to be able to work on board activities at the Interpretive Center. Lonne is also working on getting FOSS documents scanned into a searchable database to make finding various documents easier on future members.

In September, the Friends helped to write a grant to the Oregon Coastal Management Program for $900 in funds provided by the Coastal Zone Management Act of 1972 as amended, administered by the National Oceanic and Atmospheric Administration, Office of Ocean and Coastal Resource Management to cover the costs of putting on the National Estuaries Day Festival. The friends also helped to design and build the "Down the Drain" maze and helped run several of the day's activities. The Friends also provided lunch for all the SOLV clean-up, Girl Scouts, High School and College Volunteers.

FOSS also put on a fundraiser the evening of National Estuaries Day in partnership with the Coos Bay Wooden Boat Building Center. 111 people attended the event and several also participated in the silent auction.

Outreach

South Slough Reserve partnered with the City of Coos Bay for National Estuaries and Public Lands Day this year. The city allowed South Slough to use the Hollering Place location in historic Empire. The theme for this year was "Go with the Flow" which will help to provide interpretation of various aspects of water movement in the estuary and watershed. Among those themes are water treatment which will be highlighted by the city, water board and sewer companies.

South Staff and volunteers also participated in the Shorebird Festival the end of August, the Coos Bay Farmer's Market once a month in the summer, the Salmon Celebration the second week of September.

The Bay Area Chamber of Commerce Tourism committee continues to explore tourism opportunities in the Bay area. Their 2011 projects include promoting Tourism related industry and highlighting local area visitor service providers who stand out in the community as well as developing local treasure hunt style educational walks called "Quests" in partnership with Oregon Sea Grant. There are now two Coos County area quests added to the official coastal Quest Guide, available for purchase at the local visitor centers and at the FOSS bookstore. One of the Quests focuses on South Slough, the other on downtown Coos Bay. The plan is to create at least one in the county per year.

The Charleston Community Enhancement Corporation (CCEC) had a brief summer hiatus but came back in September to provide a joint effort on National Public Lands Day in partnership with South Slough to do a SOLV clean-up of the Charleston area.

Public Involvement staff also participated in the recent community planning effort resulting from the recent Sustainable Design Architect Team (SDAT) findings. The 3-day session entitled "Your Town" needed to have representatives from various groups in the community to work together to create a common vision for the area. Experts from around the US shared sustainable urban development and planning schemes that brought about social, environmental and economic change to previously suffering communities. The "Your Town" workshop committees were given a small assignment to complete by the end of the year. Public Involvement staff participated in the Coos Bay committee. The task was to revitalize the alleyway behind Second Street in downtown Coos Bay. So far, one clean up party happened on Saturday October 22 where trash and weeds were removed. Tagging on one of the walls is being addressed. Business owners are working with tenants to repair lights. The city plans on revitalizing the landscaping and moving unsightly dumpsters. The "Your Town" committee is now planning a children's art mural that will be displayed across the empty space in the alley. (This art contest is designed after South slough's children's estuary poster contest the friends held a few years ago.) The plan is to create a comfortable pedestrian environment encouraging citizens to walk more and to fell a sense of community pride.

COASTAL TRAINING PROGRAM UPDATE

Mike Graybill, John Bragg and Steve Rumrill represented SSNERR at the dedication of the NOAA Pacific Fleet's new Marine Operations Center in Newport Aug. 6-7. Representing the NERRS, they joined representatives of other NOAA offices, including NOAA Fisheries, NOAA Corps, NOAA Vents Program, NOAA's Ark (a traveling environmental exhibit) and the National Weather Service, to meet the public and talk about NOAA-sponsored environmental work and resources. They demonstrated the use of 'Oly Rocs', an artificial substrate for anchoring developing native Olympia oysters that is under development at SSNERR; demonstrated water quality testing techniques used to distinguish areas of salty and fresh water in an estuary, More than 2,000 people attended the event. The facility, which NOAA leases from the Port of Newport, includes 40,852 square feet of office and warehouse space, a 1,300-foot-long pier, and a small boat dock. The main buildings are built to LEED (Leadership in Energy and Environmental Design) standards for environmentally sustainable construction. NOAA signed a 20-year lease with the Port of Newport in August 2009 following a competitive lease award process.

In August-September John Bragg assisted NOAA-ERD and the NOAA Restoration Center to assess the training needs of people who work in the business of restoring estuarine habitat throughout the U.S. The purpose of the assessment is to identify gaps in knowledge and skills among a wide range of workers who fit variously into the diverse category of 'habitat restoration professionals.' These individuals include project administrators, financial managers, scientists, planners, technical specialists, regulatory officials, cultural resource specialists, modelers, landowners and others. The NERRS determined to conduct an analysis of gaps in knowledge, skills or scientific information at the suggestion of a national professional organization that supports habitat restoration policies and activities. The NERRS reserves will use the results of the survey, which closed in November, to guide the development of a nationally-coordinated strategy to make professional training available to restoration workers. John developed a poster detailing some of the outcomes of the assessment for display at the NERRS annual meeting at the Guana-Tolomato-Matanzas NERR in Jacksonville, FL in October. He is working with CTP colleagues to prepare a research paper about the needs assessment for submission to an appropriate journal.

The CTP coordinator traveled to Myrtle Beach, SC. Sept. 28-Oct 1, at the invitation of the NERRS Centralized Data Management Office, to participate in a meeting of System-wide Monitoring Plan Data Management Committee (SWMP-DMC). The DMC meets annually to discuss opportunities and challenges in the collection, processing, and distribution of SWMP environmental data. The committee includes representatives from all NERRS sectors, including CTP, education, stewardship, management and GIS technical support.

John attended the NERRS annual business meeting in Florida Oct. 24-28, sponsored by the National Estuarine Research Reserve Association, where he led a session examining strategies used at various reserves to with decision makers about climate change and global warming, discussed SSNERR's role in coastal hazard response and in capitalizing on training and outreach opportunities that arise as a result of coastal hazards occurring, such as the wreck of the New Carissa, the 2004 tsunami in Indonesia, or the tsunami that entered Coos Bay following the Fukushima earthquake in Japan March 11. John was chosen by CTP coordinators to represent their sector on the NERRS Strategic Committee beginning in 2012. He also begins a two-year term as a member of the SWMP Governance Committee. At the meeting, John was recognized by ERD staff Matt Chasse and Tina O'Connell for his "outstanding" contributions to the NERR system.

SCIENCE PROGRAMS UPDATE

During the period from July 8, 2011 to December 2, 2011 South Slough NERR staff members continued work associated with several ongoing research monitoring and stewardship projects. Progress is described below:

I. SSNERR Status and Trends Monitoring Program

During the summer and fall, 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).

Ambient Estuarine Water Quality: Ali and Adam worked to retrieve, download, calibrate, and deploy the YSI-6600 Extended Deployment System (EDS) dataloggers at the four long-term estuarine monitoring stations on July 6-7, August 9 & 12, Sept 9, 11, 19, Oct 14, Nov 16, and Dec 2, 2011. Fouling organisms (primarily barnacles and mussels) were dislodged on a monthly basis from the SWMP stations. The datasets, for April-June, 2011 were submitted on August 1, 2011, the datasets for Jul-Sept 2011 were submitted by Nov 1, 2011, and the Oct-Dec quarterly datasets will be submitted by Feb. 1, 2012. The yearly water quality datasets, monthly calibration/field sheets and metadata for 2011 have begun initial processing for submission by March 15, 2012.

The Satlink programs at the Charleston Bridge, Valino Island, and Winchester Creek telemetered stations were reprogrammed in order to record but not transmit additional diagnostic parameters, including Dissolved Oxygen Charge and pH millivolts, for enhancement of the quality assurance/quality control procedures. The program for the Charleston Bridge station will be updated to accommodate the deployment of a new type of datalogger (6600 V2-4), which uses an optical Dissolved Oxygen sensor (ROX), rather than the rapid pulse Dissolved Oxygen sensor, where oxygen diffuses through a thin teflon membrane. We will be working toward replacing/upgrading all of the 6600 EDS/V2-2 sondes (2 optical ports) with the V2-4 sondes (4 optical ports) in the near future. The advantage is that the new logger has enough optical sensor ports to collect Turbidity, Chlorophyll, and Optical Dissolved Oxygen data simultaneously. The membrane style dissolved oxygen probes are easily scratched/punctured by small invertebrates and fish, which can result in suspect or, more typically, rejected dissolved oxygen data, depending on when the puncture occurred during the deployment.

The Centralized Data Management Office released two new tools to contribute to improved data quality assurance, quality control, and data visualization and access. One tool allows for the correction of historical depth/water level data relative to changes in barometric pressure, which has become increasingly important as staff work toward the vertical control of the water quality stations for tracking and modeling elevation changes in saltmarshes and eelgrass

habitats as well as the integration of monitoring infrastructure to a common reference datum. The second tool is a Real-Time Data Application Product that allows quick and easy visualization of near real time raw data, graphic displays of the parameters, and 24-hour dual-parameter charts. The tool allows users to bookmark favorite stations and visit them directly, and the station pages automatically update with new information after each data transmission and can be left open for display purposes.

Additionally, South Slough staff initiated a datalogger deployment comparison study to increase quality assurance/quality control of dissolved oxygen data; the results may prove beneficial to other water quality parameters as well. Results from this study may lead to small changes in equipment deployment methods. At the Valino Island monitoring station, telemetry problems with intermittent transmission of real-time datastreams were resolved and the station is currently transmitting all parameters hourly. The South Slough staff have gained access to algal toxin testing shared-use equipment (Abraxis, Inc), which would allow the opportunity for future expansion of the water quality monitoring to include information on harmful algal blooms if estuarine/marine testing kits and additional supplies are procured. Although results are not real-time, the ELISA (Enzyme Linked Immunosorbent Assay) based tests produce toxin results within several hours.

South Slough NERR is a participant in the NOAA/NERRS effort to install and operate real-time telemetry equipment as part of the national backbone of the US Integrated Coastal Ocean Observing System. The electronic satellite telemetry equipment at the Winchester Creek station is currently transmitting measurements of estuarine water parameters recorded by the YSI 6600 EDS datasonde. Telemetry equipment has been mounted on the tower for the new Elliot Creek station. The Elliot creek station will replace the Sengstacken site due to sediment build up at Sengstacken. We are working to install the protective casing at Elliot before we move the sonde to the new station.

B. Local Weather Conditions: The South Slough NERR SWMP Weather Station has operated continuously with recordings of air temperature, relative humidity, barometric pressure, wind speed and direction, precipitation, and solar radiation every 15 minutes. Ali Helms & Adam DeMarzo completed monthly maintenance on all the meteorological station sensors/ and solar panels. Data were retrieved from the CR1000 datalogger on 4/7/11, 5/5/11, 5/27/11, & 7/8/11, & 8/26/11. The GOES satellite transmission system on the meteorological station that automatically sends South Slough data from the CR1000 datalogger to the NERR Centralized Data Management Office receive station in Columbia, South Carolina.

The near real-time measurements and historical datasets generated by our meteorological station are now available on the NERR CDMO website (http://cdmo.baruch.sc.edu). The quarterly July-Sept 2011 datasets were submitted on November 1, 2011; the Oct-Dec 2011 will be submitted by Feb. 1, 2012, and the Jan-Mar 2012 datasets will be submitted by May 1, 2012. The

meteorological datasets, monthly log sheets and metadata for 2011are currently being processed for submission to the CDMO for final review by April 15, 2012.

C. Estuarine Nutrients: Monthly waterborne nutrient sampling was conducted during the reporting period (7/21-22, 8/16-17, 9/29-30, 11/1-2, 11/29-30, 2011). Water samples were collected from each of four SWMP nutrient sampling locations in South Slough. Subsamples were sent to the University of Washington's Marine Chemistry Laboratory for the analysis of dissolved inorganic nutrients. Adam DeMarzo analyzes subsamples for Chl-a and Phaeopigment content at the South Slough laboratory. The SWMP Team prepares and analyzes monthly nutrient, bacteria, and chlorophyll blanks to further ensure data quality. The nutrient & chlorophyll datasets, monthly field sheets and metadata for 2011 are currently being processed for submission to the CDMO for final review by May 15, 2011. Nutrient inter-laboratory comparison studies were initiated in Sept 2011 which included the inorganic nutrient comparison as well as chlorophyll analysis in the comparison. This comparison is a critical component of the system-wide QA/QC protocol, given the large number of laboratories conducting nutrient and Chl analyses for the program.

II. Additional Research and Monitoring Projects

A. 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 evaluate Total Maximum Daily Load (TMDL) standards for fecal bacteria in South Slough and the Coos Bay estuary. In addition, the FIB measurements are also of interest to the Oregon Department of Agriculture / Food Safety Division (Dawn Smith / Alex Manderson) as they conduct periodic assessments of potential contaminants of commercial oysters and recreational shellfish. 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. Volunteers from the Surfrider Foundation (George Tinker, Norm Leeling, and others) continued to use South Slough NERR ECOS Lab facilities over the winter months for their routine monitoring of fecal indicator bacterial contamination at several local beaches.

B. Restoration and Recovery 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. A mixed-parentage cohort of Olympia oysters (generated by the Whiskey Creek Shellfish Hatchery (Netarts Bay, OR) and by natural settlement of Olympia oysters on cultch bags deployed in Coos Bay) was established at the Younker Point grow-out site in July 2010. The juvenile oysters continued to grow over the winter, spring, and early

summer in 200 cultch bags deployed on the bottom in the form of stacked pyramids. Adam DeMarzo continued to operate a YSI-6600 datasonde in the shallow subtidal zone immediately adjacent to the oyster grow-out site at Younker Point to develop a continuous time-series database of ambient estuarine water quality parameters (*i.e.,* temperature, conductivity, salinity).

Two groups of Olympia oyster cultch bags were recovered from Coos Bay in June 2011 after they were colonized by natural settlement of Olympia oysters that originated from adult oysters that inhabit Coos Bay. The first group (85 cultch bags) was recovered on 14 June after a period of one-year from the confluence of Coalbank Slough and Isthmus Slough, and the second group (56 bags) was recovered on 16 June after a period of two-years from the floating dock at the Sause Brothers Towing Company (Coos Bay). Both groups of Olympia oyster cultch bags were taken to the Eastside Boat Launch (Isthmus Slough) where each shell was scrubbed, cleaned, rinsed, and rebagged into a new mesh bag by a team of Americorps workers and staff members from the South Slough NERR. The cleaned bags containing juvenile Olympia oysters were then transported (June 17) into the South Slough (Younker Point grow-out site) where they were stacked onto wooden pallets placed in the intertidal zone. The cleaning process was followed to ensure that the oyster bags do not serve as a vector for the inadvertent transfer of non-indigenous species into the South Slough estuary.

Initial work was begun in December 2010 on the new research project titled *"A collaborative approach to address larval supplies and settlement as critical early life-history issues during restoration of native Olympia oysters."* The three-year project is supported by $455,000 in grant funds provided by the NERRS Science Collaborative, and the research will focus on determination of the timing of reproduction and fecundity, larval supplies and dispersal, and larval settlement of Olympia oysters in Coos Bay and the South Slough. The team of co-investigators (Steve Rumrill, C. Young, R. Emlet, A. Shanks (UO-OIMB), F. Burris, J. Doyle (OSU Extension), J. Bragg (SSNERR)) will work with a group of local stakeholders to develop a plan for conservation and recovery of Olympia oyster populations in Coos Bay and the South Slough. Early work has begun to develop a localized conceptual model of the factors that control recruitment in populations of Olympia oysters.

Interactions between the scientists and members of the Olympia oyster stakeholders group were postponed over the winter and spring months due to a series of unexpected delays in the selection of key project personnel. First, the Oregon Department of Fish and Wildlife / Shellfish Program Leader (Dr. Leslee Parr) resigned in November to take another position. ODFW quickly initiated a search to find a replacement to fill this key position, and Steve Rumrill (ODSL/SSNERR) was invited to serve as a member of the ODFW selection committee. The search committee developed a short list, met in Newport on 24 Jan 2011 to interview prospective candidates, and they conducted a follow-up interview on 11 Feb 2011. ODFW is currently in negotiations with the top-ranked candidate. Second, the University of Oregon / Oregon Institute of Marine Biology conducted the process over the winter and spring months to

select the graduate students who will work with the Principal Investigators and the stakeholders to conduct the scientific research. The proposal submitted to the NERRS Science Collaborative provides a description of three master's-level graduate students who will investigate the reproductive biology and larval ecology of the Olympia oysters as the primary foci of their MSc thesis research. The first graduate student (Mark Oates) arrived at OIMB in June 2011 to begin the research to characterize the reproductive timing and reproductive output of Olympia oyster populations in Coos Bay. In accordance with the mission of the NERRS Science Collaborative, it is intended that the scientists, graduate students, team leader, outreach team, and members of the stakeholder committee work together to develop a common knowledge base about the factors that control Olympia oyster populations, and to identify the specific steps that will be taken to address the problem of population recovery in Coos Bay. Consequently, the meeting with the stakeholder committee has been postponed until August 2011 when the graduate students will be available on-site to participate directly in the meetings.

C. Northwest Association of Networked Ocean Observing System (NANOOS)
South Slough NERR is a participant in a partnership project with NANOOS 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.

In order to help minimize anomalous or erroneous chlorophyll data and improve the datasets, staff worked with Mindfly Web Design to place a data filter on transmitted chlorophyll data that excludes extremely high values or spikes. The time-series measurements of temperature, salinity, DO, pH, and fluorescence are of primary interest to the local oyster shellfish growers because they provide the essential information to characterize estuary water quality conditions for shellfish mariculture and an indicator of the concentration of phytoplankton available in the estuarine water column as food for filter-feeding oysters.

With NANOOS funding support, South Slough staff are working toward purchasing two new YSI 6600 V2-4 dataloggers with the full array of sensors to continue measuring the suite of estuarine water quality parameters. The V2-4 type dataloggers have 4 optical ports, allowing continued measurements of optical turbidity and chlorophyll but with the addition of optical measurements of dissolved oxygen. The YSI 6600 EDS dataloggers use the 6562 rapid pulse probe, which is a membrane-covered polarographic sensor. The YSI 6150 ROX optical dissolved oxygen probe will enhance the datasets of estuarine dissolved oxygen by significantly reducing data loss or suspect data due to field drift, membrane punctures by small invertebrates and fish, and probe fouling. In addition, the maintenance & calibrations of the optical sensor are less complicated.

SeagrassNet Monitoring

On July 15, 2011, Ali Helms and Adam DeMarzo completed the quarterly eelgrass field sampling at Valino Island using the SeagrassNet sampling protocol. SeagrassNet is an international monitoring program established in 2001 to document the worldwide status and health of seagrasses; the program has grown to include over 115 sites in 32 countries. Quarterly field sampling includes data collection from three permanent transects (lower/deep; lower/middle; upper/shallow) near Valino Island, each with 12 samples of spatial cover, shoot density, canopy height, biomass, and flowering shoots. South Slough began submitting eelgrass monitoring data as part of this program in 2004; since that time the Day Creek channel has migrated south and is influencing the edge dynamics of South Slough's SeagrassNet eelgrass bed. As a result of this channel migration, a few of the quadrats at the North end of the transects are now bare. However, preliminary analysis of data shows that the overall average eelgrass spatial cover and density at this site are increasing slightly (lower/deep and lower/middle transects) or staying the same (upper/shallow transect).

III. Proposals

Coastal and Ocean Climate Applications/ NERRS Partnership on Coastal Adaptation Proposal Update

South Slough submitted a Letter of Intent on July 26, 2011 for one of the NOAA Climate and Societal Interactions Programs called Coastal and Ocean Climate Applications (COCA) and was invited to submit a full proposal by Oct 3, 2011. The proposal is currently under review by the NOAA Climate Program Office. This program supports interdisciplinary applications research on impacts of climate variability and change on coastal communities and coastal and marine ecosystems to inform decision making. South Slough's project proposal is to conduct vulnerability assessments on two adjacent southern Oregon estuaries to better understand the range of risks posed by climate forcing. The project team will conduct assessments of the Coos River Estuary and the Coquille River Estuary using the methodology described by the National Wildlife Federation (NWF) in *Scanning the Conservation Horizon* (Glick *et al.*, 2010). These estuaries

include two federally-supported protected areas, the South Slough National Estuarine Research Reserve (SSNERR) in the Coos estuary, and the Bandon National Wildlife Refuge (NWR) in the Coquille estuary. The comparative analyses approach will reveal regional and estuary-specific vulnerabilities to environmental stress and provide decision makers with guidance for conducting further climate vulnerability assessments of coastal areas. The project will incorporate data from the SSNERR and the NWR, including prior research and on-going, protected-area stewardship (e.g., collaborative research to develop long-term, community-supported, climate change response and community-supported habitat restoration in both estuaries. The vulnerability assessments will also include a subset of culturally-significant local factors linked to climate change and be conducted with awareness of additional non-climate forcing factors since they can't be isolated from a wider range of environmental risks (ie earthquakes, tsunamis, storms, hazardous spills, shipwrecks).

This proposal addresses NOAA's long term goal for climate adaptation and mitigation, and the objective of the NERRS-COCA award, through a comparative study of climate vulnerabilities in two adjacent, but very different, estuaries. It builds on a history of habitat restoration work conducted throughout the Coos and Coquille watersheds with the on-going advice and support of academic, professional, governmental organizations, individuals, public and private stakeholders. Through collaborative work with these partners, SSNERR will develop a broader understanding of how climate will affect Oregon's estuarine habitats, water quality, and weather.

The NERRS Science Collaborative

South Slough NERR in collaboration with University of Oregon, and Oregon Sea Grant Extension Program were awarded funding for the NERRS Science Collaborative FY 2010 opportunity entitled "A Collaborative Approach to address Larval Supplies and Settlement as Critical Early Life-history Issues during Restoration of Native Olympia Oysters (*Ostrea lurida*) in Coos Bay and the South Slough Estuary." This project (2010-2013) will investigate the importance of larval supplies, estuarine retention time, settlement, and recruitment as factors that potentially limit recovery of self-sustaining populations of Olympia oysters (*Ostrea lurida*) in Oregon estuaries. The objectives include bringing together a diverse group of stakeholders and user-groups to form an Olympia Oyster Recovery Advisory Committee (OORAC); determining the suite of intrinsic ecological, reproductive, and early life-history factors that contribute to the success of Olympia oyster restoration efforts in Coos Bay/South Slough; and integrating the perspectives from agency, academic, mariculture, practitioner, and recreational stakeholders during development of an Olympia Oyster Recovery Strategy for Coos Bay , and perhaps other Oregon estuaries including Netarts Bay and Yaquina Bay.

IV. Graduate Students, Fellowships, and Interns

A NERR Graduate Research Fellowships: NOAA / Estuarine Reserves Division provides financial support for NERR Graduate Research Fellowship grants

awarded to graduate students who conduct their thesis work within the South Slough NERR. The GRFs are Matthew Gray (Ph.D. candidate; Oregon State University), and Kira Triebergs (MSc. Candidate; University of Oregon – Oregon Institute of Marine Biology).

Matt's GRF proposal is titled *"Interspecific competition between native Olympia oysters (Ostrea lurida) and introduced Pacific oysters (Crassostrea gigas)"* and he is supported by up to 3-yrs ($60,000) of federal funds to compare and contrast the feeding biology of Olympia and Pacific oysters in South Slough and Yaquina Bay. The primary emphasis of Matt's research is to evaluate feeding efficiencies for the two species of oysters under different field conditions, and to determine the likelihood of competition for food resources. Matt worked over the winter and spring seasons to further test and validate the laboratory technique used to generate quantitative measurements of oyster feeding rates, and to refine his interpretation of experimental results generated by a Coulter Counter that enumerates the concentrations of unicellular organisms suspended in seawater. Matt also generated additional measurements of the feeding frequency and efficiencies of adult Olympia oysters, and he documented their high sensitivity to physical disturbances. Matt also worked with the SSNERR to develop a proposal to survey the abundance and distribution of subtidal populations of Olympia oysters in Coos Bay. The proposal was submitted in April 2011 to the Society for Conservation Biology, but the proposal was not selected to receive support.

Kira's GRF proposal is titled *"Investigation of the life-history biology and potential control of the non-native colonial tunicate Didemnum vexillum in the South Slough estuary, Oregon,"* and she is supported by a one-year ($20,000) grant of federal funds. The provision of federal funds to OIMB to support Kira's GRF thesis work was delayed over the spring due to prolonged uncertainties in the NOAA/ERD budget. However, Kira initiated the investigation in April 2011 and is currently focusing her thesis work on: (1) determination of the reproductive biology, growth, and survival of *Didemnum* colonies that occur in the Charleston Marina; (2) plastic-wrapping and translocation of finger-docks into riverine waters as a potential mechanism for biocontrol; and (3) surveying the colonization by native and non-native epifouling communities on submerged plates placed along the estuarine gradient of the South Slough and Coos Bay. The survey of epifouling communities is designed to repeat the earlier survey work completed in 2003-04 by South Slough NERR and visiting scientists from the Smithsonian Environmental Research Center.

B. <u>Oregon Summer Scholar Program</u>: The South Slough NERR was selected by the Oregon Sea Grant Program as a recipient of a 2011 summer research assistantship as part of the Oregon Sea Grant Summer Scholar Program. Ms. Joanne Choi (recent graduate from Yale University, CT) joined the South Slough NERR on 14 June for a 10-week internship working within the Olympia oyster research and restoration program. Joanne will work closely with Steve Rumrill over the summer to complete a series of tasks including provision of assistance with the cleaning and transport of oyster bags, determination of the population size frequency for shells deposited on dredge spoil islands in Coos Bay, field

surveys of Olympia oyster populations, deployment of a water-quality datalogger at Isthmus Slough, conduct a cross-correlation to determine the relationship between pH measurements generated by two different types of pH meters (YSI-6600 / field multi-parameter datalogger; Accumet 15+ / laboratory PH/Temp meter), preparation of technical fact sheets for delivery to the Oylmpia Oyster Recovery Advisory Committee, and construction of modular artificial surfaces for settlement of Olympia oysters (OLY-ROCS). The OLY-ROCS (Olympia – Restoration of Oysters on Cement Substrata) are constructed of Quick-Rete cement paving stones embedded into a basement layer of biodegradable burlab fabric, and the uppermost surface Olympia oyster shells and shell fragments. The experimental OLY-ROCS are designed as an alternative to the oyster cultch bags, and they are intended for deployment into the intertidal zone of Coos Bay during the late summer where it is anticipated that they will be colonized by newly settled Olympia oysters. The OLY-ROCS will be recovered in the summer of 2012, cleaned, and then transported into the South Slough estuary in an effort to establish small clusters of Olympia oysters in the intertidal zone.

V. NERRS Meetings and Committees

A. SWMP Guidance Committee (SGC)
Several staff including, Steve Rumrill, Ali Helms, John Bragg, and Tom Elledge are serving on the SWMP Guidance Committee (SGC), which was established in 2009 to guide the future directions of SWMP in concert with research and in full alignment with NERRS strategic planning. The SGC is the multi-sectoral NERRS body that functions as the highest-level planning and guidance team for the overall design, coordination, implementation, and integration of SWMP into the portfolio of NERRS activities. The major task for the committee has been to rewrite the SWMP Plan, which will be finalized by March 31, 2011. The original SWMP plan was developed over 1995-2000, finalized in 2002, and revised in 2007. The SGC met at the Annual Meeting to discuss the priorities that the Data Management Committee and CDMO have recently discussed about how task list for CDMO will be handled, a recommendation from the Vegetation Monitoring Workgroup that a list of core variables and a revised protocol be accepted by the SWMP Guidance Committee as core components of a SWMP Vegetation Monitoring module, and discussion the NERRS Sentinel Sites Guidance document as it relates to the SGC tasks.

B. NERRS Annual Meeting
Ali Helms attended the annual NERRS Meeting October 24-28, 2011 held in Ponte Vedra Beach, FL, which was co-hosted by the National Estuarine Research Reserve Association (NERRA) and the Guana Tolomato Matanzas Reserve near St. Augustine, FL. The purpose of the annual meeting is to develop program strategies, integrate program sectors, discuss long and short term plans and budgets, and provide relevant targeted training for the NERRS. In addition, as the primary planning meeting for the NERRS, attendance by core staff is a NOAA grant requirement. The three focal objectives for the 2011 Annual meeting included 1) NERRS Climate Change Initiative, which is to understand, mitigate and adapt to climate change impacts on estuaries and

coastal communities 2) NERRS Way Forward initiative to increase capacity to effectively integrate and function in the future with fewer face to face meetings and 3) Using a place based approach to communicate about climate change, which includes developing NERRS key messages to increase ability to effectively communicated about climate change. The Climate Change Initiative includes a Climate Sensitivity Analysis which will be a synthesis of ecological data (using SWMP water quality data) combined with socio-demographic data to categorize individual reserve sensitivity to climate change.

STEWARDSHIP PROGRAM UPDATE

Quarterly Stewardship Program Activities – April 2011 through November 2011

I. Watershed Activities

A. Reserve staff met with Coos County Forester, Lance Morgan and forester, Scott Nichols to discuss the County's planned timber harvests along the west fork of Winchester Creek in the County forest where coho salmon spawn. The county will be putting these harvests up for bid this winter with the harvests to be completed in 2012.

Our discussions have been very productive focusing on identifying the exact location of the coho salmon spawning reach, and maintaining high quality spawning habitat for the long term (e.g., using the harvests as opportunities initiate conversion of alder-dominated riparian areas to conifer-dominated stands).

II. Watershed assesment

A. Partnership for Coastal Watersheds Project: Implementation of the 216K, two-year Cooperative Institute for Coastal and Estuarine Environmental Technologies (CICEET)-supported project made the following progress over the past several months (in partnership with the Coos Watershed Assn.):

The Partnership for Coastal Watersheds Steering Committee has met seven times and with the help of South Slough NERR and Coos Watershed Association staff, has accomplished the following:

1. Facilitated by Gregg Walker, Todd Jarvis and the OSU team, the Partnership Steering Committee developed a "Collaboration Compact". The compact commits steering committee members to a series of collectively agreed-upon rules for working together.

2. As reported previously, South Slough NERR and CoosWA staff have been collecting new data (e.g., see list below) and compiling our, and others' datasets describing various attributes of the project area. At the March 2011 meeting we presented a portion of the summarized data we have available to start building a description the project area's status and a Steering Committee member described the status of salmon populations in the project area and provided a historical context. At the April meeting we continued with a presentation about the cultural/historical context of the project area's status by one of the Steering Committee members. With the facilitation assistance of Gregg Walker, Todd Jarvis and the OSU team, we also solicited feedback from the PCW steering committee to understand the group's issues and watershed assessment priorities.

In support of this objective, we have continued to collect new data in the project area including

- Completing aquatic habitat inventories for key stream systems
- Completing road and landing surveys (chronic sediment sources)
- Continuing on-going stream gauge data collection for select stream systems
- Continuing on-going stream water quality-nutrients- data collection for select stream systems
- Continuing on-going eelgrass bed cover, stem density data collection
- Establishing elevations at permanent emergent vegetation monitoring plots and at groundwater well locations in South Slough estuarine marshes and eelgrass beds
- Delineating margins between low or mid-marsh and high marsh plant associations in South Slough estuarine wetlands (to establish a baseline for characterizing species shifts)
- Establishing elevations at new SET stations and re-survey existing stations
- Establish additional benchmarks to shore up the vertical control network

3. In each meeting since the March 2011 Partnership Steering Committee meeting, we have been building the group's collective understanding of the status of the project area while making progress on other group tasks (including finalizing the group's mission statement, and articulating the community values that the group would like to see reflected in vision statements for the project area). Links to the Watershed Assessment maps and (very brief) data summaries are listed on the Status and Trends page in the Partnership for Coastal Watersheds web site (http://www.partnershipforcoastalwatersheds.org/status-trends-monitoring/). These "state of the watersheds" summaries are placeholders for more extensive summaries that staff will be posting on the web site in winter 2011.

4. During the May and June Partnership Steering Committee meetings we facilitated small group sessions designed to articulate the community values that the group would like to see reflected in vision statements for the project area. As part of the first meeting we gave participants an opportunity to first go around the table to express their values verbally to the group as a whole to make sure everyone knew what participants' issues were and what was motivating their participation in developing vision statements for the project area.

   The small groups considered values in three areas of interest that reflected the "triple bottom line" for sustainable communities: social, economic, and environmental. The work completed by the group during those small group sessions created the foundation for a series

of 18 draft vision statements developed by staff. The draft vision statements were sent to the group via e-mail and posted on the Partnership Steering Committee's wiki site for comment. Prior to a meeting of a vision statement subcommittee convened September 1, we did not receive any comments on the draft statements.

At the subcommittee meeting, we discussed how the vision statements will be used to develop performance measures, and how we will use the performance measures and our status of the project area data to determine what actions the community will need to consider to help keep the us on track towards our vision. See example vision-to-action matrices copied below. We then reviewed and edited the draft vision statements and reduced them from 18 to 12 more concise statements. See the 12 draft vision statements copied below.

5. South Slough NERR and CoosWA staff are currently collecting data to evaluate the performance measures associated with each of the vision statements. Ecological data is being compiled as indicated above. Socioeconomic data is similarly being compiled, including the delivery of a survey being conducted via mail, e-mail and person to person on the street interviews. We are lucky to have the excellent assistance of the 10-person Americorps National Civilian Community Corps. Team Silver Seven to conduct the person to person interviews.

5. Our local newspaper, The World, has been interested in doing a story on the Partnership project. The Steering Committee however has not been ready to interact with the media. The group is still feeling they will go to the media when they have some accomplishments to talk about. It's likely the group will want to bring the vision statements and draft recommended actions to the media to preview the discussion we want the broader project area community to have when they review the Partnership for Coastal Watersheds Steering Committee's work.

6. In July we requested a one year no-cost extension for our project. The extension was approved. The original end date was August 31, 2011. The revised end date will be August 31, 2012.

Partnership for COASTAL Watersheds

Community Vision for the Partnership for Coastal Watersheds Region: South Slough and the Coastal Frontal Sub-Basins of the Coos Watershed. Our community vision describes desired future conditions we want to see in 20 years in our quality of life, environment and economy. We will work toward attaining the community vision because we are proud of where we live and are protective of the high quality of life we enjoy and maintain here for ourselves and for future generations.

1. Our community has a rural, small town feel with a high quality of life.

2. We have strong and culturally-diverse social networks and proven methods for resolving disputes.

3. We have a variety of transportation options.

4. We encourage the retention and development of stable enterprises engaging in a wide variety of sustainable economic activities.

5. Our products, many of which showcase the unique character of the area, its people and culture, are competitive in regional, national and global markets.

6. Our urban waterfront continues to be a defining economic, recreational and social center for us.

7. We continue to find innovative ways to generate much of our energy locally and to consume our energy efficiently.

8. We have a diverse and dynamic workforce.

9. We have a strong understanding of the cultural history of the area and the natural environment that our social and economic systems depend upon.

10. We monitor our natural and social systems and take action to address undesirable changes.

11. Our watersheds meet or exceed environmental standards and are resilient to chronic and catastrophic change.

12. Our watersheds include a diversity of land uses that allow for working landscapes, fully functioning natural processes and critical habitat for people, plants and wild animals.

B. Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET)-funded tidal wetland reference site monitoring project: This project is has been completed. The final report is available here:

https://www.onlinefilefolder.com/2sWjIWtawJtCpy

The pilot reference conditions database will be available online any day now on the Oregon Explorer web site. It will become available through this link:

http://oregonexplorer.info/wetlands/DataCollections/ReferenceSiteData.

C. NOAA Restoration Center-funded reference site monitoring project (in partnership with Wells NERR (Maine), Narragansett NERR (Rhode Island), North Carolina NERR, and the Chesapeake (VA) NERR): This project is nearing completion. As reported previously, we have submitted our final report. We are waiting for staff at the Wells NERR to complete a synthesis of the five site reports so we can comment and help complete the final project report to be submitted to the NOAA Restoration Center.

The draft South Slough NERR site report is available here:

https://www.onlinefilefolder.com/2sl55gxoXiIEXZ

D. SWMP Biomonitoing project: The SWMP biomonitoring project for 2010 continues with Judy Hamilton as the SWMP biomonitoring coordinator supported by funding from NOAA/NERRS. As reported previously, the goal of the project is to establish long-term biological monitoring sites to document changes in eelgrass beds and emergent salt marshes in the South Slough estuary and assess the local effects of climate variability and change using these biological communities as indicators.

We are completing the establishment of the two SWMP biomonitoring sites in the upper South Slough watershed, representing habitat classes not previously captured in South Slough NERR long term monitoring network: tidal freshwater scrub-shrub and marsh habitats. The Americorps crew will be helping us improve access to these sites in the upper estuary (need small bridge to cross Winchester Creek). Sampling transects and surface elevation table stations have been established at these two sites; vegetation data collection will be completed in summer 2012.

IV. Meetings / Presentations

South Slough NERR Coordinator of Monitoring Programs, Craig Cornu:

- April-September 2011 delivered multiple presentations at Partnership for Coastal Watersheds Steering Committee meetings.

- October and November 2011- Participated in meetings at DSL for the development of an Oregon Wetland Monitoring & Assessment Strategy.