

SOUTH SLOUGH RESERVE MANAGEMENT COMMISSION

Wednesday September 3, 2025

171st REGULAR MEETING 10:00 am – 1:00 pm

**South Slough Reserve Auditorium
61907 Seven Devils Road, Charleston, OR 97420**

PUBLIC PARTICIPATION:

To receive the Zoom link, please email Patricia Fox, South Slough Reserve Manager, at patricia.fox@dsl.oregon.gov by noon on September 2, 2025. Public comments are for consent and action items only. If you would like to testify, please provide your name, address, and organization/affiliation, if any.

Testimony will be heard in the order that requests for the meeting link are received. Written comments may be submitted until 12 p.m. on September 2, 2025, by emailing them to: patricia.fox@dsl.oregon.gov

AGENDA

I. Call-to-Order

II. Introductions

1. New Chair of Management Commission – Kaitlin Lovell, DSL Director
2. New Management Commission Member – Arnie Roblan, Port of Coos Bay

III. Review of Meeting Minutes

1. 170th regular meeting minutes from March 2025

IV. Public Input*

V. Agenda Items

1. Annual Report – *Information/Presentation*
2. Budget and Grants Update - *Informational*
3. Management Plan Update – *Informational*
4. Activities Update – *Informational*
5. Safety and Security Concerns – *Informational/Presentation*
6. Interns Recognition - *Informational*
7. Schedule Management Commission Meeting Dates - *Discussion/Action*

8. Other

VI. Information Reports

1. Administration/Facilities (presented by Patricia Fox)
2. Education (presented by Jaime Belanger)
3. Coastal Training (presented by Patricia Fox)
4. Science (presented by Shon Schooler)
5. Stewardship (presented by Alice Yeates)
6. Friends of South Slough (presented by Christine Moffitt)

VII. Next scheduled meeting: TBD

VIII. Adjourn

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

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

Minutes of the 170th Regular Meeting
March 13, 2025

Commission members present:

Vicki Walker, Chair
Jessica Quinlan
Lance Morgan

Laurabeth Barton
Cinamon Moffett
Paul Peterson

South Slough NERR staff and others present:

Mike Allman
Jen Kirkland
Jaime Belanger
Jeanne Standley, FOSS
Patrick Juarez
Christine Moffitt, FOSS
Shon Schooler
Mike Graybill
Stacie Strombom

Rebecca Muse
Juliana Ruble
Arnie Roblan, Port of Coos Bay
Ginny Hall
Deborah Rudd
Alice Yeates
Jenni Schmitt
Kathy Andreasen

The meeting was called to order at 10:05 a.m. by Vicki Walker Director of the Department of State Lands and Chair of the Commission.

INTRODUCTIONS

Chair Walker welcomed former State Senator Arnie Roblan, who joined the meeting in anticipation of an appointment on the South Slough Management Commission. Pending the Governor's signature, Mr. Roblan will serve as a Port of Coos Bay representative at the next regular meeting. Chair Walker also introduced the new Administrative Specialist and Projects Manager, two recently hired staff members who are engaged in administrative tasks. The Seasonal Educator was welcomed back, ready to assist with school field trips.

APPROVAL OF THE MINUTES OF THE PREVIOUS MEETING

Chair Walker asked if there was a motion to approve the minutes of the previous meeting as written. Commissioner Barton moved to approve,

and Commissioner Quinlan seconded. The motion carried with all in favor.

PUBLIC INPUT

There was no public input.

AGENDA ITEMS

Grants and Staffing Updates – informational

The Operations Manager gave briefings on the agenda items. Management submitted 3 applications for 2 different acquisitions in January: two applications were for the Winchester Tributaries parcel and one for the Deal/Triangle properties. Currently, NOAA is going through the motions on selection but cannot move forward with any awards until the continuing resolution budget is approved. Staff will complete any due diligence work on these land acquisition projects in house through the Bend DSL staff. South Slough Reserve did not renew its contract with Wild River Lands Trust, which expired at the end of November 2024.

The Operations Manager submitted the first draft of the Operations Award for FY25 (July 1, 2025 – June 30, 2026). NOAA has directed all reserves to budget the same amount as last year's \$880,967. Adjustments were made to line items due to increased payroll costs which were a result of the recent Cost of Living Adjustments (COLA).

Moving forward, if the federal budget stays level or is reduced further, the Reserve will need to continue to find ways of reducing costs. One change on the horizon with the NERR system is that there will be at least 2 more reserves coming on board in the next couple of years. If that happens with a level funded budget, then South Slough's "piece of the pie" will be reduced from being spread over 30 reserves to 32 reserves. With some very rough calculations, impact could be anywhere from \$75k - \$125k each year. Staff are researching alternative funding sources in the hope of mitigating budget reductions and lessening the impact on services and the work SSNERR does. All currently awarded grants are being monitored and adjusted accordingly due to changes at the federal level. Due to the continuing resolution which ends tomorrow at midnight, we are taking it day by day. Management will attend an emergency meeting Monday morning with the reserve system nonprofit NERRA to discuss what is next whether there is a shut down or not.

Entrance Project FY24 PAC-

South Slough contracted with Civil West Engineering to act as project manager for the relocation and improvement of the Visitor Center entrance, network infrastructure and parking expansion. Since this is a PAC award and not a BIL award, our new Project Manager was not going to be able to provide support on this project. The Reserve Manager met with the FOSS Board for a strategic planning session in January for the Reserve priorities for the year, which includes fiscal support by FOSS. One of the items FOSS agreed to financially support is a portion of the Project Manager's salary over the next 18 months to ensure the Visitor Center project stays on track.

Restrooms/Exhibits/ADA doors FY21 PAC-

The work is winding down on this grant. Just a few final touches are needed on the new ADA doors and then the final installation of the final panels and interactive exhibits will be happening the last week in May.

Wasson Creek access BIL funded -

The Project Manager is working on the contracts needed for returning public access to the Wasson Creek drainage after the restoration work from last year. A new loop trail will be added from the trail head down into the drainage. Trail Keepers of Oregon will be working with staff on this project over several weekends in the summer season. Part of returning access to the area will also include adding an ADA accessible boardwalk out into the middle of the valley. Work groups met this week to decide on materials to be used keeping in mind our priorities which include being environmentally sound, low maintenance and safe for the public to use. This work will happen over 2025 with the goal to be finished before year end.

New employees -

The Project Manager started work with South Slough on February 3rd. The position is funded through the noncompetitive BIL grant to work on BIL grant projects for project management support. The Project Manager is working on several projects, including the replacement of multiple monitoring pilings in the slough, Wasson Creek Restoration contracts, Wasson Boardwalk and trail improvements and the Visitor Center Entrance Improvement project.

Additionally, the Administrative Specialist started with South Slough on January 7th to provide administrative support for BIL grant projects. This week, our Seasonal Educator returned and was welcomed back by staff. Her primary focus is on school programming, summer science camp, interpretive programs and helping with teacher training and outreach activities in the community.

Management Plan Update – informational

The Reserve Manager continues to work with staff to update the Reserve's Management Plan. NOAA has approved a 2025 – 2030 timeframe for the document (updated from 2024 – 2029). The Reserve Manager intends to submit the draft plan to NOAA by May 30th.

Proposed Activities Update – informational

Increasing Trail Accessibility for Able-Challenged Persons:

South Slough's Diversity, Equity, and Inclusion Committee offered to assist the Reserve Manager in researching options and gathering information on how the Reserve could expand accessibility on the trails for able-challenged people. One company being researched is Empowering Access, which is a company out of Bend, Oregon that can conduct on-site assessments of our trail system and provide recommendation strategies from their findings. We're waiting to hear back on costs and what the output could look like for South Slough. We are also going to reach out to the Trail Keepers of Oregon to see if they have information on how sites like South Slough manage accessibility. More information will likely be presented at the July commission meeting. Chair Walker commented that per Commissioner Barton, the Coquille Tribe has grant funds available that could help.

Drone Recoup Fees/Support Other Research:

The Reserve Manager is still researching other agencies' drone policies and procedures in terms of how they handle observers, liability, and fee schedules. As information is gathered and researched, the Reserve Manager will present more information for the Board to consider in the future. Charging fees for the use of the drone could be considered for the next fee schedule.

Agenda Item # 1- Action Item

Approval for Herbicide use for Biddy Biddy (*Acaena novae-zelandiae*)

OAR 142-010-002 (3) states that "Chemical fertilizers, herbicides, or pesticides will be used within the Reserve only if necessary to assure sound management of the ecosystem. Any allowed application of such chemicals shall be approved in writing by the Commission, after consultation with the Advisory Group, in accordance with best management practices so as to prevent direct application or discharge to the estuary waters. It is the intent of the Commission to preferentially utilize nonchemical management techniques of pest control. Chemicals will be utilized for pest or weed control only after it has been determined that the nature and integrity of the ecosystem is endangered by the pest or weed."

The Operations Manager discussed the request for approval to use herbicide at select locations within the Reserve on Bidy Bidy (*Acaena novae-zelandiae*). At the last meeting, the Reserve Manager presented how *Acaena novae-zelandiae* (biddy-biddy), a highly invasive subshrub, is taking over at the maintenance shop and no other means of control (e.g. solarization, vinegar and salt treatments) are working. It is important to control this invasive plant at maintenance since it is where kayaks and vehicles are often washed and cleaned; additionally, these vehicles are driven throughout the Reserve's managed lands, so they are likely spreading the noxious plant. The Reserve Manager shared that Coos Watershed has been using a granular herbicide with success to control biddy-biddy. More information was desired from Chair Walker on their treatment procedures and Commissioner Moffett asked about the frequency and duration of the treatments by Coos Watershed.

From Eric Perry, Coos Watershed Noxious Weed Specialist:

We have been using the granular herbicide Escort XP (metsulfuron-methyl) at a rate of 0.25 grams per gallon, this rate was recommended to us by Carri Piroosko at ODA. If you convert that to ounces, it's roughly 0.01 ounces per gallon of water sprayed, and we spray at a roughly calibrated rate of 30 gallons per acre with a backpack sprayer. For example, to cover a patch of biddy that is a tenth of an acre, we only need 0.75 of a gram of herbicide. Along with that we use Activator 90 for surfactant, a 1% rate has worked. There is a potential for runoff with this herbicide, so it's recommended to not 10 treat if there is rain in a 48 hour forecast. Escort is generally safe for people and has an agricultural return entry interval of only 4 hours. We've seen very good (probably around 95%) kill rates with this, and found that it works to spray in April/May, and Oct. What we've been seeing is the season following our first treatment, maybe just a few of the larger plants will survive, but mainly it is just a handful of seedlings that pop up afterwards, so these get sprayed the following season, (first treatment April, second treatment October). We haven't seen any plants come back after this, so in most cases you probably will just need the one main treatment with a very small follow-up the next season, or the next year. The seeds supposedly remain viable for several years so you might have a few seedlings continue to pop up after these two treatments but those are easily hand pulled. CoosWA is in general moving away from getting grant funding to treat biddy biddy due to it becoming more common in town (yards parks etc.), but we could absolutely help out through a fee-for-service if we don't have grant funding at the time.

Additionally, Commissioner Peterson asked if there would be any issues with cooperative agreements. The Operations Manager said that there would be no issues. She added that on January 25th, the Reserve Manager signed a 5-year non-binding MOU with our South Coast Coastal Watershed Management partners to work together on managing invasive weeds across boundaries. Since the last meeting, where the commission discussed this issue, Reserve staff have found Bidy Bidy on the property at the entrance to the Visitor Center during a site walk for planning purposes for the Entrance Improvement project. This area will have major activity on it starting mid to late Summer

2025 when the Reserve starts the construction of the improvement project. If left unsprayed, this invasive plant will spread throughout the area including down the driveway towards and around the Visitor Center. Including this area of the Reserve in the approval for spraying will ensure that the invasive plant will not be spread during the construction period. The Operations Manager explained that staff would be able to potentially get in 2 treatments prior to construction equipment being on the ground if spraying is approved this March meeting. If granted, management will pursue a service contract with Coos Watershed for this service.

Chair Walker asked if there was a motion to proceed. Vice chair Barton moved, and Commissioner Moffett seconded the motion to approve the staff recommendation as written:

The Reserve recommends the South Slough Management Commission authorize the Reserve to spray an herbicide for biddy-biddy at the maintenance shop and Visitor Center Entrance property as needed to control this noxious plant based on Coos WA recommendations for application.

The motion passed with all in favor.

Eddy Covariance Tower

Planning for Installation at South Slough Reserve
SSNERR Research Coordinator

Eddy covariance (EC) towers are state of the art instruments used to measure land-atmosphere fluxes of carbon across different ecosystems; sensors on the towers provide high frequency data records that can identify hotspots and hot moments of carbon drawdown. The overall research goal with the installation of the EC tower in South Slough is to fill a major data gap and improve understanding of carbon dynamics in coastal wetlands. This research can inform local and regional land-management practices while also improving global carbon models.

The CARBS research project brings together researchers at University of Oregon, collaborators across the Pacific Northwest, and a close partnership with the Coquille Indian Tribe to better understand how carbon flows across coastal landscapes, with the goal of using this information to inform restoration, conservation, and management strategies. We would like to install an eddy covariance tower at a coastal marsh site, preferably Tom's Marsh, within the South Slough Reserve, with the goal of improving understanding of carbon fluxes (including carbon dioxide and methane) from these critical coastal habitats.

The EC tower consists of a heavy-duty tripod base, an instrument arm that supports multiple sensors, and a control box mounted on the tripod. The tower also requires a battery box and solar panels to power the instruments and support data storage and remote streaming. The installation would require elevating the battery box and solar panels above the high-water mark to prevent submergence during king tides. The total height of the tower is expected to be roughly 2.5-3 m tall. The Research Coordinator explained that a total of four towers have been installed on the Oregon coast in tidal wetlands, and next month would be ideal for the installation in South Slough. He added that researchers would like the instrument installation to last at least the duration of the project (4 years) but it would likely be closer to 8-10 years.

Commissioners discussed the proposed installation of the tower in Tom's Marsh. Concerns varied from the visual impact of the tower to possible ground disturbance in the marsh. The Research Coordinator said that the tower would not be installed on any official public trails, and it would only be observable from a distance from Winchester Creek. Commissioners also voiced their preference that information be made available to the public, as well as data sharing from the project. Commissioner Paulson said that the project would be a good opportunity to include an educational component. The Education Coordinator added that the exhibits in the Visitor Center offer platforms to convey information from new research projects to visitors. The Commission was pleased with this.

Chair Walker recommended an action item be brought on the decision and offered that staff in Salem could create an MOU. The Research Coordinator added that the MOU could include an agreement for data sharing per Commissioner Moffett's suggestion. The Operations Manager suggested the MOU with the research group could also include the process for installation that would focus on a minimal impact to the environment, maintenance that would ensure no cost to the Reserve, removal process and responsibility, as well as an agreement for data sharing.

Chair Walker moved to approve the installation of the Eddy Covariance tower in South Slough Reserve pending the creation of an MOU agreement. Commissioner Barton seconded and the motion was approved with none opposed.

Information Reports

Staff shared highlights and progress from their program areas.

Management- The Reserve Manager is out on medical leave. Ellie Forness, DSL's Government Relations Manager, is going to Coastal Week in Washington, D.C. to represent South Slough in her place. Additionally, FOSS is sending Todd Buchholz, a Board member, to represent South Slough on Capitol Hill.

Chair Walker informed the Commission that regarding the status of federal grants, nothing is yet known on her end. Oregon legislature has been asked for a potential budget item to ensure the continuance of the South Slough Reserve if need be.

Commissioner Quinlan thanked the Operations Manager for doing an excellent job.

FOSS Activities

FOSS president, **Christine Moffitt** shared some highlights of the last quarter. The FOSS Board was invited to review and contribute to the position description for the search for a DSL Director. The Board suggested several sentences, including demonstrated ability to partner with government agencies, stakeholders, Tribes, communities large and small, organizations, businesses, and nonprofit Friends groups. This attribute will be part of the criteria.

Board member and botanist **Jeanne Standley** has become a co-leader of the Saturday Stewards Program at the Reserve with the goal of creating stronger partnerships with the staff and engaging with community members that may wish to join FOSS. The program has been successful and recently completed a highly successful weed removal at Crown (Indian) Point.

FOSS VP **Todd Buchholz** will travel to DC for the week of March 23. He will also travel with Ellie Forness, Government Relations Manager, Department of State Lands. There will be meetings with congressional staff and NERRA leadership.

NOAA PAC ENTRANCE REDESIGN: The relocation and safety improvements for the Reserve's Visitor Center entrance, including network infrastructure and parking expansion (\$1.6m)- The local firm, Civil West Engineering, and its Partner HGE were selected for the Entrance Redesign Implementation. To expedite this project, the FOSS board agreed to assist with financial support for the new Reserve Project Manager who will interface with the contractors. The Reserve requested FOSS provide funding to ensure the Reserve can move this project forward without delay. FOSS approved a total of \$30,000 support for the Project Manager salary to assist the entrance project over the next 18 months.

The FOSS Board approved \$15,000 for the AmeriCorps position that began September 2024 and will run through July 2025. FOSS has supported this position at different levels in previous years.

The FOSS president concluded her remarks:

Our Board congratulates Vicki Walker for her exemplary service. We are grateful for her leadership as DSL director and Chair of the Commission since 2018. We wish her a very happy retirement! A commemorative plaque was

presented to the Chair from the Friends of South Slough, and refreshments (including cake) were served after the meeting.

Next regular meeting – The date for the next regular meeting is pending due to Chair Walker’s retirement effective July 1, 2025, and the timing of her replacement for Director of State Lands and Chair of the Commission.

ADJOURNMENT

Chair Walker asked if there was a motion to adjourn. Commissioner Barton moved, and Commissioner Quinlan seconded to adjourn the meeting. The motion passed with all in favor and the meeting was adjourned at 11:55 a.m.



Annual Report of the South Slough Reserve

Calendar Year 2024

OREGON DEPARTMENT OF STATE LANDS

MEET THE PROGRAM



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- Wasson Creek Restoration Project: Phase I
- Managing Invasive Green Crab
- Resonating with the Community

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LauraBeth Barton, a citizen of the Coquille Indian Tribe, at the opening ceremony for the Wasson Creek Restoration Project.

Storytelling by LauraBeth from the ceremony can be **viewed here on YouTube**.

At the time, LauraBeth was a representative on Tribal Council and serves on South Slough Reserve Management Commission.

MEET THE PROGRAM



The first of 30 National Estuarine Research Reserves around the nation, South Slough Reserve is a leader in improving understanding of estuaries and coastal watersheds. The Reserve manages and studies nearly 7,000 acres of natural area, including open water channels, tidal and freshwater wetlands, riparian areas, and forested lands.

Reserve lands and waters are used by visiting researchers, teachers and students, and other members of the public who come to the Reserve to hike or paddle, view wildlife, and participate in community classes. The Reserve Visitor Center offers interpretive exhibits as well as meeting spaces for the public.

The Reserve is located on state-owned land in the Coos estuary on Oregon's southern coast. Management is in partnership with Oregon Department of State Lands and National Oceanic and Atmospheric Administration. Co-stewardship of the land is in partnership with three local sovereign Tribal Nations:

- Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians
- Coquille Indian Tribe
- Confederated Tribes of Siletz Indians

This Annual Report of the South Slough Reserve for calendar year 2024 highlights critical environmental research, restoration, and community access.

PROGRAMS SERVICES AT THE RESERVE

COASTAL TRAINING

We provide training and technical assistance to decision-makers in coastal management and science fields.

[More information](#)

OUTREACH PROGRAMMING

We offer an array of programs for all ages to engage with estuary science, from mushroom identification to learning how to crab.

[More information](#)

CONDUCTING/FACILITATING RESEARCH

Staff conduct various research and monitoring efforts. The estuary is analyzed for local, regional, and national trends. They also mentor and facilitate visiting researchers.

[More information](#)

INTERNSHIPS

We host educational internships for high school and college students to provide opportunities for future scientists and science educators.

[More information](#)

STEWARDSHIP AND CULTURAL RESOURCES

We co-steward the lands and waterways together with three local sovereign Tribal Nations as they cared for these lands since time immemorial.

[More information](#)

PUBLIC RECREATION

The Reserve staff and volunteers maintain over four miles of hiking trails, including boardwalks bordered by skunk cabbage (see report cover), as well as paddle trails.

[More information](#)

EDUCATION OPPORTUNITIES

The Reserve provides education for toddler through high school age as well as Oregon teachers, providing tools to bring hands-on science into their classrooms.

[More information](#)

HABITAT AND SPECIES PROTECTION

We manage nearly 7,000 acres for habitat and species conservation to improve coastal science understanding and ecosystem health.

[More information](#)

CALENDAR YEAR 2024 IN NUMBERS

3,053 PEOPLE

*served by our
Visitor Center with more
enjoying our trails
365 days/year*

1,528 STUDENTS

*in Oregon K-12 participated
in field trips or
in-school learning*

164 PROGRAMS

*for public education,
from interpretive classes to
science summer camp*

56 RESEARCH PROJECTS

*of research were conducted
by staff and visiting
scientists*

214 DECISION MAKERS

*trained in workshops
to better inform their
understanding of coastal
data and ecology*

67 VOLUNTEERS

*removed invasive species
alongside staff and partners
during Saturday Stewards
events*

Education Coordinator Jaime Belanger demonstrating how to monitor salt in estuary waters with Seasonal Education Specialist Cherie Turner.

TAKEAWAYS FROM THIS REPORT

WASSON CREEK PHASE I

After receiving over \$3.5M from the Bipartisan Infrastructure Law, the Wasson Creek Restoration Project broke ground in 2024.

RESONATING WITH COMMUNITY

South Slough celebrated 50 years as the first National Estuarine Research Reserve in the nation by **connecting with community**.

MANAGING INVASIVE GREEN CRAB

The Reserve is researching the invasive 5-spine green crab (aka European green crab), a voracious predator that disrupts marine ecosystems and is now found in Oregon estuaries.

WASSON CREEK PHASE I

After receiving over \$3.5M from the Bipartisan Infrastructure Law, the Wasson Creek Restoration Project broke ground in 2024 with earth moving and native planting efforts. The valley floor was re-graded, which removed invasive species, returned stream flow, and created valley elevations for native wetland habitat.

The Reserve was grateful to work with local sovereign Tribal Nations cultural resource monitors to navigate inadvertent discoveries on the project.

525

*acres included
in the restoration*

9,897

*fish and amphibians
relocated*

7,900+

native species planted

\$250,000

*contributed to
the local economy*



CHALLENGE

The location of the Wasson valley posed a challenge for hiring contractors capable of working on such a remote job site. In addition, contractors had to factor in security concerns due to a history of equipment vandalization on-site.

Another challenge has been ensuring accessibility. It's important for people of different mobilities to experience the estuary, but the steep forested terrain and ever-changing wetlands are obstacles. How can we help people reach the estuary edge?

NEXT STEPS

A new project manager for the Reserve, Juliana Ruble, is assisting with the Wasson Creek Restoration Project.

To make the estuary accessible, a boardwalk is being designed with consideration to sedimentation rates, sea level rise, and earthquake vulnerability. Work on the boardwalk is anticipated to be completed by Winter 2025/6.

Contractors will also be on-site Summer 2025 to execute the project's forestry health plan to protect old stands, help young trees prosper, and improve resilience against severe wildfires.

In addition to broader work, Stewardship Coordinator Dr. Alice Yeates, continues to ensure ongoing co-stewardship with local sovereign Tribal Nations throughout the process.



*Pulling Together:
Coordinated effort by
paddlers towards a
shared goal.*

Reps from federal, state, and local sovereign Tribal Nations receive etched paddles at the opening ceremony for the Wasson Creek Restoration Project.

MANAGING INVASIVE GREEN CRAB

The Reserve is researching the 5-spine invasive green crab (aka European green crab), a voracious predator that disrupts local marine ecosystems and is now found in Oregon estuaries.

This species is detrimental to economically important species such as Dungeness crabs and shellfish, including oysters. Green crabs also destroy eelgrass beds which are important nursery habitat for numerous fish species.

22 YEARS

of data studying crab abundance in Coos Bay

221 TRAPS

set at 11 sites to capture green crabs

35 CRABS

allowed for recreational take by ODFW

1,506

green crabs captured from all sites

CHALLENGE

After tracking other approaches, Reserve staff determined *management* rather than *eradication* was more practical for protecting the estuary from the negative impacts of green crab. There are studies quantifying the destruction of fishing industries by invasive green crab on the East Coast, but little advanced understanding of green crab in Oregon.

Harvesting of green crab currently lacks a business case. No commercial take is currently allowed, due to misidentification as well as lack of market demand. Color being unreliable, the most useful identification trait are the 5-spines on either side of the eyes.

NEXT STEPS

Reserve staff will continue to work on building a business case for market demand and work with local businesses to understand the species' impact on oyster aquaculture.

The Reserve is partnering with Southwestern Oregon Community College to purchase a meat extractor to efficiently harvest meat for food and process shells for a beneficial garden amendment. The potential for these two new commercial markets is promising, especially since blind taste tests prefer green crabs over Dungeness.

South Slough's Margaret A. Davidson fellow, Lizzie Diel, is researching what green crabs eat by analyzing fatty acid profiles to understand how green crabs impact native clams, Pacific oysters, and Dungeness crabs in the South Slough and Coos Bay estuary. Research by Lizzie Diel will assist in making the case for increasing green crab harvest limits.

“

We grow most of our oysters in Joe Ney Slough and some in South Slough. There are hundreds of thousands of them [green crabs] up there. They are a really big problem for us. They get in and they eat the oysters. We watch the numbers just spike, and spike, and spike.

”

- Gavin Augustin, owner Qualman Oysters Farms

RESONATING WITH COMMUNITY

South Slough celebrated 50 years as the first National Estuarine Research Reserve (NERRS) in the nation by connecting with community.

From showcasing our new exhibits at the Visitor Center to partnering with Tillamook Estuary Partnership and Sea Grant in providing teacher training, the Reserve worked with partners throughout the Oregon Coast to increase access to science programming.

33 TEACHERS

from K-12 schools throughout Oregon trained

3,053 PEOPLE

served at the Visitor Center

\$275,502

in grants from NOAA for new exhibits

700 SQFT

of exhibit hall renovated at the Visitor Center

164

public education programs

CHALLENGE

The Reserve works to resonate with many different types of people. Providing Oregon schoolteachers with the tools to teach biodiversity and climate resiliency in their classrooms. Helping shellfish harvesters understand the impact of climate change on estuary systems. Getting the word out to Spanish-speaking parents that the Reserve has summer science camps.

There are three known challenges the Reserve faces in resonating with the community:

1. Remote physical location of the Reserve in a rural area
2. Capacity required for highly collaborative projects
3. Translation of complex information for disparate audiences

NEXT STEPS

The Reserve is working to make the physical site as well as programming more accessible, which will aid in resonating with the community.

New exhibits in the Visitor Center, completed in June 2025, will integrate Miluk Coos heritage and science learning with plain language as well as hands-on, interactive components. A new front entrance project, anticipated to be complete by Summer 2026, will make it possible for more school children to visit the Reserve as buses will have increased access.



The State Land Board joins federal partners and local sovereign Tribal Nations to cut the ribbon on new exhibits at the Visitor Center in August 2024.

STRATEGIC PLAN CHECK-IN

The South Slough Reserve has been working towards completion of **Strategic Plan** projects.

Some examples of measurable objectives tracked by the plan include:

- Creating in-class learning activities and hands-on field trip experiences to teach students about estuarine and coastal systems.
- Improve forest health and reduce wildfire risk on DSL-managed and surrounding forest lands.
- Provide professional development opportunities for teachers

8

number of program projects

10%

program percent of total Strategic Plan projects

100%

percent of projects continuous

THE FUTURE



Currently, the National Oceanic and Atmospheric Administration provides roughly 50% of Reserve operating costs with approximately 90% of that funding dedicated to personnel.

As we navigate through the current uncertainty of funding from our federal partner, we are struggling to understand the impacts to continued scientific studies, education, and outreach.


What will happen if we have to stop 30-year-old water quality monitoring?

Will a generation of school children miss the opportunity to learn hands-on science about the ecosystem in their own backyard?

How will the local fishery industry respond to invasive species without this critical data?

And how will coastal decision makers make informed choices about the future without data?

These are the questions that we will be facing in the future.



Looking towards the future, the Reserve has identified three actions to enhance accessibility to the Reserve and continue landmark restoration of the Wasson Valley.

Local contractor Rogue Detection works in the Wasson Valley of the Reserve to find animal scat. The material is analyzed by Oregon State University genetics lab to help the restoration scientists understand what wildlife are using the site pre-restoration.

1 **FRONT ENTRANCE PROJECT**

Scheduled for completion by 2026, work will be underway in 2025 for a new Reserve entrance which will provide better access for school buses, more visitor parking, reliable internet to the Visitor Center, and safer routes for drivers and pedestrians.

2 **WASSON LOOP TRAIL AND BOARDWALK**

The trail is anticipated to be completed by Winter 2025/26 and utilizes best practices in accessibility (relatively smooth surfaces, gentle slopes, and wider paths) to allow visitors of different mobility levels the opportunity to experience the estuary edge.

3 **WASSON CREEK - PHASE II**

Increasing forest health, planting native species, building stream complexity, and collaborating with local sovereign Tribal Nations and other local partners are slated for 2025 in the valley.

APPENDIX A: RESERVE PARTNERS

Tribal Partners

- Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians
- Coquille Indian Tribe
- Confederated Tribes of Siletz Indians

Local Businesses

- 7 Devils Brewing Company
- Blue Ridge Timber Cutting INC.
- Coos Head Food Coop
- Habitat Contracting LLC
- HGE Architects
- John Goodwin
- BiCoastal Media KWRO
- PAC Creative Agency LLC
- Swanson Ecological
- West Coast Purple Martin Wildlife
- Wilson Biochar

City and County Partners

- Coos Forest Protective Association
- Coos Basin Coho Partnership
- Coos Bay Planning Department
- Coos County Commissioners
- Coos County Forestry Department
- Coos County Planning Department
- Coos County Roads Department
- North Bend Planning Department
- Oregon International Port of Coos Bay
- Rogue Valley Council of Government
- Coos Bay Downtown Association

State Partners

- Oregon Department of State Lands
- Oregon Department of Fish and Wildlife
- Oregon Department of Land Conservation and Development
- Oregon Department of Forestry

- Oregon Department of Transportation
- Oregon Coast STEM Hub
- Oregon Sea Grant
- Oregon Department of Agriculture
- Oregon Natural Resources Education Program
- Oregon Parks and Recreation Department
- Oregon Watershed Enhancement Board
- Washington State Department of Natural Resources

Federal Partners

- National Oceanic and Atmospheric Administration
- National Estuarine Research Reserve System
- U.S. Forest Service
- Bureau of Land Management
- U.S. Fish and Wildlife Service
- U.S. Coast Guard
- U.S. State Department
- U.S. National Parks Service
- Integrated Ocean Observing System
- United Communities AmeriCorps

School and University Partners

- University of Oregon
- Oregon State University
- Portland State University
- Southern Oregon University
- University of California, Davis
- Louisiana State University
- Sacred Heart University, CT
- The College of Idaho
- University of New Hampshire
- University of Washington
- Woods Hole Oceanographic Institution
- Eddyville Charter School
- Marshfield High School
- Hillcrest Elementary School
- North Bay Elementary School
- Bandon High School

APPENDIX A: RESERVE PARTNERS (CONTINUED)

Additional Partners

- Friends of South Slough, Inc.
- Oregon Ocean Science Trust
- Partnership for Coastal Watersheds
- Coos Watershed Association
- Wetlands Conservancy
- The PEW Charitable Trusts
- Tenmile Lakes Basin Partnership
- Wild Rivers Land Trust
- Pacific Marine and Estuarine Fish Habitat Partnership
- Trailkeepers of Oregon
- National Science Foundation
- Parks Canada
- George Wright Society
- Pacific Lamprey Conservation Initiative
- South Coast Food Co-op
- The Egyptian Theater
- American Fisheries Society
- Tillamook Estuary Partnership
- Bandon Dunes Charitable Foundation
- Bay Area Hospital
- CatBird Stats
- Charleston Food Bank
- Coos Bay Downtown Farmers Market
- Coos Bay Garden Club
- Coos Bay Surfrider
- Coos Head Garden Club
- Coos Hispanic Allies
- Coos Soil and Water Conservation District
- Coquille Watershed Association
- Curry Soil and Water Conservation District
- Drew's Native Plants
- Farm Unlimited LLC
- Friends of Shore Acres
- Institute for Applied Ecology
- Leadership Coos
- League of Women Voters
- Lone Rock Timber
- Ko-Kwel Casino Hotel
- Natural Resources Conservation Service
- NW Watershed Association
- Oregon Museum of Science and Industry
- Pacific Birds Habitat Joint Venture
- PNW Blue Carbon Working group
- Roca Communications
- Rogue Climate
- Rogue Detection Teams LLC
- Smithsonian
- Southwestern Oregon Workforce Investment Board
- The Nature Conservancy
- The Understory Initiative
- Western Invasives Network
- Xerces Society
- Oregon Natural Resources Education Program

Administrative/Facilities Report

Staff: Patricia Fox, Reserve Manager
Rebecca Muse, Operations Manager
Michael Allman, Facilities Lead
Daniel Fenn, Park Ranger Assistant
Patrick Juarez, Procurement/Contract Assistant
Katherine Andreasen, Administrative Assistant
Ed Oswald, Information Systems Technician
Ginny Hall, Administrative Specialist
Juliana Ruble, Project Manager

Port of Coos Bay Commission Seat

Arnie Roblan has been approved for the Port of Coos Bay seat on the SSNERR Management Commission. Welcome Arnie.

Staffing updates

When DSL completed reorganization assessments back in 2023 of all the program areas, SSNERR management determined that there were two positions that could be a benefit to all staff at SSNERR. Management worked to try and narrow down how to make the biggest impact over-all not just in one program area. The two positions were a project manager and administrative specialist which would help alleviate a lot of the “other duties as assigned” tasks that tend to bury staff as we go about our daily tasks and projects, especially when we have so many BIL funded projects we are currently working on. Currently these positions are funded by the Bipartisan Infrastructure Act federal dollars through the end of 2026. These positions were hired at the beginning of this year.

During the spring Legislative session, the two positions were in our Policy Option Packages for permanent positions. We did not receive approval for these to be permanent positions for the 25-27 Biennium. We will continue to use federal dollars to fund these positions and ask again for permanent positions in the 27-29 biennium. We will continue to document the need to better position us in the next session.

Management Plan Update

Manager Fox is putting a pause for work to update and revise the Management Plan until additional information from NOAA can come in to meet current Executive Order requirements. Once additional information comes through on how to meet these requirements, work will continue.

Administrative

Attached are the state budget reports for the 2023-2025 biennium through July 2025.

Operations Manager Muse is monitoring the federal grants we currently have and working on getting costs spent and reimbursed quickly. Daily monitoring of the ASAP and grants system to ensure funding is still available will continue until the new administration ensures the funding availability is stable.

In May, management received notification that the Reserve will be awarded the two grants we submitted in January for the Deal/Triangle and Winchester acquisitions. Management has been working with NOAA on documentation requirements for a 10/1/25 kick off date. Both grants are for competitive BIL funded acquisition grants.

The Winchester 80-acre property is a Common School fund property that will be transferred to SSNERR management for conservation. The grant will compensate the Common School fund for the transfer.

The Deal/Triangle 113-acre property is currently owned by Coos County Forestry and managed for timber harvest. This property consists of upland timber and wetlands.

Operations Manager Muse submitted our FY25 Operations Award through NOAA in June. NOAA approved funding with the same amount as FY24, \$880,967. Due to timeline delays with the new administration, Operations awards will be delayed and will have a start date of 10/1 instead of the normal 7/1 date. Due to this delay NOAA has approved the Reserve to receive 90 pre-award costs back to 7/1 so that payroll can be reimbursed which is the largest line item in this budget.

Operations Manager Muse submitted the required progress reports on multiple federal grants at the end of July. These progress reports are required for every 6-month period. Grants included FY24 Operations award, FY21 PAC for Exhibits, Restrooms and ADA door upgrades, FY24 PAC for Visitor Center Entrance improvements and BIL Capacity building for payroll costs.

Facilities

Staff continue working on the trail system and facilities doing routine maintenance.

Regular upkeep and maintenance on all our vehicles are an ongoing need especially in the busy field season.

Accessibility and Exhibit Improvements Grant

The FY 21 NOAA PAC award covered the public restroom renovation, exhibit updates and ADA doorways on several doors at the Visitor Center. This grant is funding the renovation of the Visitor Center to ensure ADA accessibility at entrances and public restrooms as well as updates to multiple areas throughout the facility and updates of the exhibits. The grant provides \$670,000 in Federal funds for these projects.

With the public restroom portion of this grant complete, staff finished working with contractors on the exhibit updates as well as the ADA door upgrades to the Visitor Center. The final exhibit installation happened on 6/30/2025. The exhibits are beautiful, and staff are in learning mode to keep our new interactive exhibits updated on a regular basis. All the ADA door upgrades were completed as well.

Visitor Center Entrance and Parking Improvement Grant

NOAA PAC funding for the construction project for relocation and improvement of the Visitor Center entrance, network infrastructure & parking expansion kicked off in July 2024. The total approved budget for this project is \$1,621,516.

Our new Project Manager, Juliana Ruble, took this project and ran with it. She has been working through contracting, design and engineering to get us to the point where we can get bidding documents out on the street.

FOSS has offered to assist with some of Juliana Ruble's payroll so that she can manage this project to completion since she is only BIL funded at this time. We will be charging 10-20% of her payroll costs to FOSS so that she can work on this task. THANK YOU FOSS!

Contracting with Civil West Engineering/HGE Design is in the final stages for them to provide construction management and final designs for this project with 90% bid documents received at the end of July. Civil West/HGE Design were the contractors that worked on the original designs and engineering over the last couple of years, so they have all the knowledge on what is needed within the project.

The conduit bidding has been out for most of July, and we are working through the next steps. Cost estimates came in by almost 3x the amount we have in the budget, so we are going back to the drawing board to figure out where to go from here. Currently the installation of conduit for the underground network is scheduled to be completed late summer 2025 and construction for the rest of the project over the winter 2025/2026 with the anticipated completion date of sometime late Spring. This timeline lessens the impact on public access as well as the programs that are offered at the Visitor Center for the public.

32007 SSNER O/F

Report for June-2025

Biennium Remaining: 0.00%

	Biennium To March	April	May	June	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining
2010	38,062	0	0	0	38,062	0	0	NA	NA
Total:	38,062	0	0	0	38,062	0	0	NA	NA
Grand Total: Transfer Out	38,062	0	0	0	38,062	0	0	NA	NA
1010	3,000,000	200,000	200,000	0	3,400,000	0	0	NA	NA
Total:	3,000,000	200,000	200,000	0	3,400,000	0	0	NA	NA
Grand Total: Transfer In	3,000,000	200,000	200,000	0	3,400,000	0	0	NA	NA
0355	FEDERAL FUNDS								
0410	119,826	0	0	0	119,826	0	0	NA	NA
	CHARGES FOR SERVICES	66,904	0	0	66,904	0	0	NA	NA
0510	4,725	0	0	500	5,225	0	0	NA	NA
	RENTS AND ROYALTIES	1,050	0	0	1,050	0	0	NA	NA
0905									
	DONATIONS	0	0	0	0	0	0	NA	NA
0910									
	GRANTS (NON-FED)	0	5,000	0	5,000	0	0	NA	NA
0975	43,919	558	0	1,395	45,872	0	0	NA	NA
	OTHER REVENUE	236,424	558	1,895	243,877	0	0	NA	NA
Total:	236,424	558	5,000	1,895	243,877	0	0	NA	NA
REVENUES									
Grand Total: Revenue	236,424	558	5,000	1,895	243,877	0	0	NA	NA

32007 SSNER O/F

Report for June-2025

Biennium Remaining: 0.00%

	Biennium To March	April	May	June	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining
5900 OTHER CAPITAL OUTLAY	24,149	0	0	-10,782	13,367	0	0	-13,367	NA
Total: CAPITAL OUTLAY	52,970	17,584	0	-3,980	66,574	66,418	0	-156	-0.24%
Grand Total: Expense	3,204,624	172,197	160,864	180,859	3,718,545	3,076,185	854,216	211,856	5.39%

62007 SSNER F/F

Report for June-2025

Biennium Remaining: 0.00%

	Biennium To March	April	May	June	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining
3110	CLASS/UNCLASS SALARY & PER DIE	68,978	69,743	70,002	1,151,279	1,288,175	155,619	292,515	20.26%
3160	TEMPORARY APPOINTMENTS	0	0	0	0	84,938	0	84,938	100.00%
3170	OVERTIME PAYMENTS	4,626	0	0	4,626	3,657	0	-989	-26.50%
3180	SHIFT DIFFERENTIAL	1,649	140	119	2,012	8	0	-2,004	-25044.13%
3190	ALL OTHER DIFFERENTIAL	5,282	870	870	7,893	0	0	-7,893	NA
3210	ERB ASSESSMENT	315	21	21	378	470	0	93	19.68%
3220	PUBLIC EMPLOYEES' RETIREMENT S	167,350	12,072	14,513	205,863	225,024	0	19,161	8.52%
3221	PENSION BOND CONTRIBUTION	44,875	3,149	3,161	54,297	64,075	0	9,778	15.26%
3230	SOCIAL SECURITY TAX	72,430	5,310	5,381	88,484	102,562	0	14,078	13.73%
3241	PAID FAMILY MEDICAL LEAVE INSU	3,787	278	281	4,627	5,023	0	396	7.89%
3250	WORKERS' COMPENSATION ASSES	224	15	14	268	407	0	139	34.11%
3270	FLEXIBLE BENEFITS	221,304	14,504	14,222	264,465	350,856	0	86,392	24.62%
Total:	PERSONAL SERVICES	1,464,398	106,088	108,585	1,784,191	2,125,195	155,619	496,623	21.77%
4100	INSTATE TRAVEL	10,210	0	925	11,135	22,043	0	10,908	49.48%
4125	OUT-OF-STATE TRAVEL	2,268	0	687	2,955	15,272	0	12,317	80.65%
4150	EMPLOYEE TRAINING	56,376	2,189	400	59,444	24,953	0	-34,491	-138.23%
4175	OFFICE EXPENSES	11,003	561	947	12,839	23,208	0	10,369	44.68%
4200	TELECOMM/TECH SVC AND SUPPLI	20,951	24	1,347	24,967	10,553	0	-14,414	-136.59%
4250	DATA PROCESSING	0	0	0	0	11,940	0	11,940	100.00%
4275	PUBLICITY & PUBLICATIONS	165	0	0	165	1,745	0	1,580	90.57%
4300	PROFESSIONAL SERVICES	801,996	35,459	589,607	1,647,246	2,814,092	550,000	1,716,846	51.03%
4325	ATTORNEY GENERAL LEGAL FEES	23,650	0	963	24,613	0	0	-24,613	NA
4375	EMPLOYEE RECRUITMENT AND DE	0	0	0	0	6,914	0	6,914	100.00%
4400	DUES AND SUBSCRIPTIONS	12,844	0	600	13,444	976	0	-12,468	-1277.49%
4425	LEASE PAYMENTS & TAXES	225	0	0	225	0	0	-225	NA
4450	FUELS AND UTILITIES	2,722	0	0	2,722	29,892	0	27,170	90.89%
4475	FACILITIES MAINTENANCE	23,563	0	0	23,563	35,642	0	12,079	33.89%
4575	AGENCY PROGRAM RELATED SVCS	9,396	0	0	9,396	6,390	0	-3,006	-47.05%
4650	OTHER SERVICES AND SUPPLIES	230,704	14,869	12,993	276,862	18,075	0	-258,787	-1431.74%
4700	EXPENDABLE PROPERTY \$250-\$500	21,331	4,086	0	34,251	25,139	0	-9,112	-36.25%
4715	IT EXPENDABLE PROPERTY	38,969	399	150	39,518	1,713	0	-37,805	-2206.95%
Total:	SERVICES AND SUPPLIES	1,266,372	57,587	237,748	2,183,346	3,048,547	550,000	1,415,201	39.33%
5200	TECHNICAL EQUIPMENT	7,300	0	0	7,300	10,895	0	3,595	33.00%
5400	AUTOMOTIVE & AIRCRAFT	45,584	0	0	68,302	0	0	-68,302	NA
5550	DATA PROCESSING SOFTWARE	2,995	0	0	2,995	0	0	-2,995	NA
5650	LAND IMPROVEMENTS	90,360	11,241	6,879	144,769	0	0	-144,769	NA
5700	BUILDINGS AND STRUCTURES	538,022	83,515	-184,070	437,466	0	0	-437,466	NA
5900	OTHER CAPITAL OUTLAY	249,390	0	-22,718	226,672	0	0	-226,672	NA

SSNERR Education Program Update

Staff: Jaime Belanger, Education Lead

Eric Dean, Education Specialist

Deborah Rudd, Public Involvement Coordinator

Cherie Turner, Seasonal Education Specialist

Stacie Strombom, Afterschool Education Intern

(formerly AmeriCorps)



Marshfield Junior HS Science Camp

March 1 – July 31, 2025

During the spring, the Visitor Center at the Reserve operated on the usual schedule, open to the public Tuesday-Saturday from 10 AM – 4 PM. Education activities proceeded as usual, comprised of programs and events for students, teachers and general audiences on site at the Reserve, in and near schools, online and in locations around the community.

There were no major changes in program structure or offerings, but there were a few challenges the team was able to meet and overcome. During the winter and early spring, the education team worked on cross-training, particularly around delivery of some of the most popular school programs – mudflats exploration, dock study and watershed hikes. The Education Specialists provided lesson plans and demonstrations to the other education and training staff so they would be prepared to step in and cover a program if needed. In April and May, those staff were able to cover both planned and unexpected absences so there were no gaps in school programs. The team was also affected by the loss of funding for AmeriCorps, which supported the Estuary Explorers Afterschool Educator. Fortunately, the Friends of South Slough was able to step in and provide money to support an internship that allowed the afterschool program to continue through the end of the school year, and for the educator to finish their full term of service at the Reserve.

Two high school interns worked with the afterschool program during the spring season. One high school and four college interns are currently working with the education team to support summer science camps. Additional details about the internship program are provided in the Public Involvement section below.

The education team submitted three grant applications between March 1 and July 31. The Reserve received \$5000 from the Ford Family Foundation (FFF) to support the Estuary Explorers afterschool programs. Notification from the Judith Ann Mogan Foundation (JAMF) regarding the request of funding to extend the Seasonal Education Specialist to a year-round position is expected in September. The timeline for notification from the NERRS Science Collaborative, regarding the proposal to fund a market analysis and needs assessment, is unknown.

Staff Training and Innovations

Deborah Rudd assisted with cross-program tasks including eelgrass surveys on 4/29/2025, four school field trips, summer camp planning and implementation, paddle trip support, equipment transport, and grant writing. These collaborative efforts strengthen cross-program knowledge and enhance the Reserve's ability to deliver high-quality education, research, and stewardship programs. Deborah identified a funding opportunity and worked with Jaime to submit a proposal to JAMF to support year-round funding for Cherie's position. In June she attended an event at the Coos History Museum and received the Mary Banks Granter Maritime History Award on the Reserve's behalf. Deb actively participates in six committees related to DEI and community events including Coos Hispanic Allies, DSL DEI Committee, Earth Week Celebration Committee, Mayfly Festival Planning Committee, Octoberfish Planning Committee, South Slough Reserve DEI Committee. She attended several training courses focused on science communication, inclusive planning, and science messaging. During this period, Deborah received the following training:

- Field Trip Cross-Training 3/19, 3/21/2025
- DEI Committee Training: Tools for Conflict Resolution, Meeting Facilitation, and Inclusive Planning, 3/27/2025
- Science Sharing Day 4/2/2025
- Communicators Coffee Chat: Science Translation & Messaging 4/16/2025

Jaime Belanger wrapped up the final phase of exhibit installation in June. She collaborated with Sabra to submit a proposal to the NERRS Science Collaborative Knowledge Transfer opportunity for the second phase of a market analysis and needs assessment, with Stacie to apply

for funding from FFF, and with Deborah to apply for funding from JAMF. Jaime served on the application review committee for Coos Watershed's Teddy Villars scholarship fund and NOAA's 2025 Pacific Northwest B-WET funding opportunity. She contributed to the selection of one high school and four college interns. She continues to serve on the following groups in her role as Education Lead: Oregon Coast STEM Hub Leadership Council, the Coos Watershed Outreach and Education Committee, Oregon Natural Resources Education Program (ONREP) Facilitators, NERRS Estuary Education Resources Working Group, Reserve DEI Committee. She will begin work with the Oregon Coalition to Combat Marine Debris project in the fall. She attended the following professional meetings and training opportunities:

- NERRS Education Coordinator Virtual meeting 3/4/2025
- Fire Ecology and the Human Relationship 3/20/2025
- Mudflats Program Cross-training 3/21/2025
- Reserve Science Sharing Day 4/2/2025
- Black Oregonians' Connection with Nature: Historical Context and Current Realities 4/8, 4/15, 4/22

In June, **Eric Dean** attended a three-day Tribal History/Shared History South Coast Summer Course sponsored by the local Education Services District (ESD). The goal was to help develop educational skills to incorporate culturally responsive teaching through collaboration, learning, and reflection, with a place-based approach to Tribal History, Shared History. Educators were encouraged to explore their own context and connection to culturally responsive teaching and build support networks within the community for better implementation:

- Tribal History/Shared History South Coast Summer Intensive, 6/16/2025-6/18/2025

Cherie Turner worked alongside Eric to teach school and community programs. She helped lead a Bird House Workshop at the Coos Bay Public Library (CBPL) in partnership with the Oregon Department of Fish and Wildlife and was a lead educator for Oregon State University's Natural Resource Days, held at the Reserve every spring. She helped create and deliver cross training materials for the education team. She continued to work with the local Bandon Nonprofit Shoreline Education Awareness, Inc (S.E.A.) to provide guided birding/tide pooling programs. Cherie was a special guest speaker for CBPL Summer Reading Kick-off, which fosters students to learn more about their local environment through summer reading. She attended the Tribal History/Shared History South Coast Summer Intensive to develop

educational skills to incorporate culturally responsive teaching. She continues planning and implementing science camps for ages 5-18.

- Oregon Immigration Law Basics for State Employees 03/15/2025
- Science Sharing Day at the Reserve 04/02/2025
- Tribal History/Shared History South Coast Summer Intensive, 6/16/2025-6/18/2025
- Summer Camp Training, 6/20/2025

Stacie Strombom continued to lead Estuary Explorer afterschool programming and finished the school year with two cohorts at North Bay Elementary and Hillcrest Elementary. She hosted Families in the Field at the Reserve, where Estuary Explorer families come to learn alongside their children. She mentored two high school interns who had the opportunity to lead and facilitate various activities. She worked with Jaime to submit a proposal to FFF to support Estuary Explorers. She gave a presentation about Estuary Explorers to the Coos Bay School District Board to establish more program cohorts in the future. She co-led a booth with staff from the Charleston Marine Life Center at the Mayfly Festival and helped develop festival games. During the summer, she helped to plan and lead summer camps alongside Reserve education staff. She assisted FOSS with reopening their bookstore, including stocking displays and selling merchandise to support Reserve operations. Stacie's last day was July 31st. Stacie attended the following professional meetings and training opportunities:

- DiSC Assessment and Training, 03/14/2025
- Mudflats Program Cross-training 3/21/2025
- Summer Camp Training, 06/17, 06/18, 06/20/2015
- Teachers on the Estuary Climate Education, 07/16, 07/17/2025

Education Program Metrics

The Reserve led 129 education programs for 3,178 people of varying ages and backgrounds from around the state and beyond, which resulted in 7,214 hours of estuary learning. About 327 hours were committed to program planning, reflection, and post-program work. These numbers describe all student education, community interpretation, teacher training, outreach, and public stewardship provided directly by Reserve staff. Including visitors, a total of 4,705 people interacted with Reserve education this quarter. The numbers above do not include presentations given by the research staff or people served by the Training and Engagement Coordinator.

Spring and summer are generally the busiest times of year for education activities. These numbers are higher than last year at this time due to an additional month of programming included in this reporting period.

These summary data are also submitted twice a year to NOAA, along with information about the presentations conducted by the science staff, as one of the required performance indicators to the National Estuarine Research Reserve's performance measures database.

Visitation and Visitor Services

The Reserve Visitor Center building was open the visitors for 107 days during this reporting period. The building was closed for the Juneteenth and July 4th Holidays. 1,600 visitors were counted entering the building which is an average of 15 visitors each day. Staff observed continued steady use of the trails and other visitor services.

The final round of exhibit updates were installed in June by the Sea Reach Company from Sheridan, Oregon. Visitor comments regarding the updates are positive.

Formal Education & Training

The Reserve classifies education program areas based on audiences and learning goals, following NOAA Education categories for programs. "Formal education" includes programs provided to pre-K-12 students, undergraduates, graduate students, classroom and pre-service teachers and other non-formal educators like those teaching at the Reserve. Formal education opportunities for students and teachers are a core area for Reserve education. The education team focuses not only on how many participants they can serve, but also the time they spend with participants to ensure in-depth learning. Students and teachers often spend multiple hours or days learning with the education team.

Formal education programs offered during this reporting period include field trips, in-person classroom programs, and virtual and in-person teacher training. Students ranged in age from pre-

Kindergarten through college, from schools located locally, around Oregon and out of state. In total 41 school programs served 1,134 students leading to 3,420 hours of learning.

The Reserve partnered with Climate Generation, Oregon Educators for Climate Education and SubjectToClimate to provide a four-day teacher professional development with virtual and in-person components. The “Teach Climate Summer Institute” allowed educators to connect and learn from climate professionals around the country, and then collaborate closely with those in Oregon to build knowledge, teaching skills and confidence in climate education. The Reserve’s UAS/GIS Specialist joined an Oregon Coast STEM Hub’s teacher training to present information about drone operation and natural resource careers. These events provided 22 teachers with 246 hours of meaningful learning.

“This experience helped shift a common misunderstanding I carried—that the damage caused by humans is irreversible. I came to realize that it also takes human care, collaboration, and commitment to begin undoing what has been done. Witnessing people come together to restore the land showed me that healing is possible when we center biocultural knowledge and collective action.” – teacher workshop participant

Community Education & Outreach Activities

The Reserve education team provides a variety of community programs, including numerous interpretive learning opportunities about a wide range of local topics, information and activity tables at events, programs presented with partner organizations, STEM activities for children and stewardship activities with a learning component. Community education is offered to all ages both on site and in a variety of places around the region.



CBPL Birdhouse Workshop

A total of 86 programs were attended by 2,022 people leading to 3,548 hours of public learning. Programs included interpretive activities for community members and coastal visitors like birding, guided hikes and paddles, South Slough Monthly Stewards, outreach at events such as the Women in STEAM, Mayfly Festival, Family Fun Day and the Coos Bay Farmers’ Market, afterschool programs and science camps for children. The Estuary Explorers afterschool program

ran more sessions than the previous spring, in part due to relationship building, school and intern support. Other events and interpretive programs were well attended, with programs often at capacity.

“The students really looked forward to and enjoyed the club. There was a waiting list during both the winter and spring clubs due to high interest. I how this will continue next year.”

– Estuary Explorer’s Teacher contact

Public Involvement

Interns / Volunteers

The spring and summer months are peak seasons for engagement and interns and volunteers significantly contributed to the South Slough Reserve’s research, education, and stewardship efforts. From March through July 2025, an average of 5 interns and volunteers per month contributed 2,529 hours, valued at \$87,971.

South Slough Reserve Internship Program Summary

The South Slough Reserve Internship Program provides hands-on training in estuarine science, education, and natural resource management while fostering stewardship and supporting Reserve operations. Interns assist with habitat monitoring, species inventory, GIS mapping, education, trail work, and communications. All interns complete an onboarding process covering policies, procedures, and performance expectations.

This spring, the Reserve hosted six interns through partnerships with a variety of university and agency programs. Summer brought eight additional interns, supported through NOAA NCCOS, Oregon Sea Grant, the Oregon Coast STEM Hub, FOSS, and the Wasson Valley Restoration grant. They contributed to summer camps, field surveys, GIS, drone mapping, and restoration site monitoring. Intern appreciation efforts included an awards picnic and distribution of South Slough swag.

Volunteer Engagement



Estuary Ambassadors canoeing in Winchester Cr

During this reporting period volunteers supported field research, school field trips, and outreach. Notable contributions included wildlife camera maintenance and educational program assistance. Estuary Ambassadors received training and enrichment, including a canoe paddle and interpretation session. Five Ambassadors are currently active, with plans to expand the team to 12 this fall.

Interns and volunteers helped staff booths and activities at community events such as Earth Day, Family Fun Day, the Mayfly Festival, and the Coos Bay Farmers Market. The Reserve also received the Mary Banks Granger Maritime History Award in June. These outreach efforts help raise awareness about the Reserve's mission and programs, while fostering community engagement and support.

*Communications**

Communications efforts are led in partnership with the DSL Communications Officer and included social media, web page updates, signage, newsletters, and responding to public inquiries. A strategy is underway to improve photo storage and content organization. Newsletter performance averaged 150–240 opens per issue. Social media reach and engagement continue to grow across Facebook, Instagram, Google, and YouTube.

***The South Slough Reserve disseminates community program calendars and newsletters via Mailchimp. Publications during this period include:

- March 26, 2025: South Slough News (242 opens, 23 clicks)
- April 24, 2025: South Slough Events (152 opens, 31 clicks)
- May 15, 2025: South Slough News (172 opens, 17 clicks)
- June 25, 2025: South Slough Events (146 opens, 42 clicks)

Social media campaigns were also carried out, with notable posts:

- Facebook: *“Nearly 19 years ago, 40 large Sitka spruce trees were placed into tidal reaches of Winchester Creek in South Slough’s upper estuary”* (3.6K views)
- Instagram: *“Since 1995, the System-Wide Monitoring Program (SWMP) has helped track water quality, weather, and ecological changes across U.S. estuaries”* (790 views)
- YouTube: *“How to trap green crabs using a modified minnow trap”* (231 views)

Overall Channel Analytics (last 90 days):

- Facebook: Reach: 17,857, Engagement: 2,549, Total Followers: 3,618
- Instagram: Reach: 2.2K, Engagement: 1,423, Total Followers: 1,326
- Google: 1,991 interactions, 901 website clicks
- YouTube: 830 views, 24.9 watch time hours, 73 subscribers

***Terms:**

Mailchimp open rate- a percentage that tells you how many successfully delivered campaigns were opened by subscribers.

Mailchimp click rate- a percentage that tells you how many successfully delivered campaigns registered at least one click through to the website or designated landing page

Facebook/Instagram reach rate- number of unique users who had any content from or about your page enter their screen.

Facebook/ Instagram engagement rate- the number of users who see your posts and engage with them by liking, sharing, commenting.

Google Interactions-people who call, message, make bookings, ask for directions, and more from your business profile on Google. Google Website Clicks: People who click on a link to the South Slough Website: <https://www.oregon.gov/dsl/SS/Pages/About.aspx>

YouTube views: Total views for the selected date range. YouTube Watch Time: Estimated total hours of viewing time of your content from your audience.

Training & Engagement Program, March -July 2025

Sabra Comet, TEP Coordinator

TEP Knowledge Transfer Events

The Training & Engagement (TEP), formerly Coastal Training Program, is no longer required by NOAA to provide 5 trainings per fiscal year; instead, the TEP sector is expanding its metrics to include 'knowledge transfer events', which can be workshops/trainings, end product user development, communication products, and more. The new minimum is four of these 'events' per fiscal year.

Nurse Cribs – April 17-18, 2025. As part of the ongoing Wasson Creek watershed restoration project, restoration practitioners, volunteers who conduct wetland restoration projects, and land owners who were interested in the technique built several nurse cribs at the creek bed of the Wasson Creek valley. Several native and culturally important species were planted in the cribs. Ample time was allowed for the group to ask questions and brainstorm how to implement nurse cribs in their respective geographies.

Enhancing pollinator habitat on your forest property – May 10, 2025. In partnership with Norma Kline of OSU Extension services, South Slough Reserve hosted a workshop that gathered local landowners with private and relatively small (not large commercial grade) forested areas to learn how forest property, with some planning, can contribute to pollinator habitat. Approaches to building habitat to support pollinators throughout their lifecycles and resource needs, including nesting and foraging, were discussed with a subject matter expert. Documents to help plan actions on their own properties were shared, and thinned forest stands were visited at the Reserve to serve as examples and facilitate deeper dialogue.

Technical Assistance

NOAA TEP Database – spring 2025 – June 30, 2025. With the updated program reporting metrics (see first paragraph) and name of the sector, NOAA rolled out a new database and training in March. Due to there being a significant delay between closing the old NOAA database in 2024 and accessing the new one, OCM staff for the sector asked the new database be backfilled from FY23 through the end of the current fiscal year. This was completed and the Coordinator is now working on a SOP that will streamline reporting for the South Slough TEP position requirements (to the NOAA database, South Slough Commission, and DSL annual reporting).

Perceptions in Marsh Restoration publication, spring 2022 – June 2025. In 2022 the TEP Coordinator was on the team for a project titled "Determining salt marsh restoration success using focus groups of managers and the public, and past data" which studied both ecological data (and success metrics) as well as social perceptions of wetland restoration success via focus groups in three Oregon bays. The TEP Coordinator was a co-facilitator of the focus groups (social metrics) side of the project. In June 2025 an article was published in Biological Conservation magazine, titled 'Social and ecological connectivity: A Q-methodology investigation of coastal estuary perceptions in Oregon.'

Market Analysis and Needs Assessment (MANA) part 2, ongoing. The first stage of the Reserve-wide MANA framework project wrapped up in June 2024. The NERRS Science Collaborative has been identified as the top potential funder of the MANA multi-year next phase project. The TEP Coordinator and Education Coordinator submitted a proposal for funding in February 2025. With budget uncertainties, the approval timeline has been delayed significantly, but recent communications reported that the co-operative agreements (including those with the NERRS Science Collaborative) have been signed. We hope to hear the final decision on the grant proposal in the next 1-2 months. Several external partners have been identified as interested in serving in an advisory role once the project is funded.

Indigenous Data Sovereignty project, ongoing. The ongoing Indigenous Data Sovereignty report, written in partnership with the NERRS Science Collaborative, has now expanded to 6 modules, one more webinar (in addition to the short interview-style webinar released fall 2024) and at least 2 more planned ‘modules’ expanding the discussion to include Hawai’i and Alaska indigenous communities. The core six modules are slated for public release on the NERRS Science Collaborative website in early September. There has been interest shown from various partners, stakeholders, and other Reserves to expand the current end products as more applications are brought forward.

Offshore Wind Energy Roadmap December 2024 – ongoing. A multi-sector stakeholder group brought together by the Oregon Department of Land Conservation and Development (DLCD) to construct a road map-style guidance document for the continued discussion of offshore wind turbines on the southern Oregon coast met first in October 2024. The TEP Coordinator started attending the monthly meetings beginning in December 2024. HB 4080 voted in the 2024 Oregon legislature regular session deemed the draft Roadmap document due to the Governor’s office by September 1, 2025; in the 2025 Oregon legislature regular session this deadline was extended to January 1, 2027.

The Coordinator attends the meetings to communicate potential impacts to the Reserve as well as future pathways in which Reserve data and/or staff expertise will be needed as the process moves forward. Additionally, on May 14th the TEP Coordinator traveled to Brookings Oregon, the second site of potential offshore wind turbine deployment (Coos Bay being the other site) to get a sense of community opinion and concerns, with the assumption that these would be distinct from those expressed in Coos Bay public meetings. The monthly meetings for the road map group have paused for the summer but will resume in the early fall.

As of July 30, 2025 the Bureau of Ocean and Wind Energy (BOEM) rescinded designations of all Wind Energy Areas for future/potential leasing on the west coast in response to Executive Order “Ending Market Distorting Subsidies for Unreliable, Foreign Controlled Energy Sources” published on July 7, 2025. With HB 4080 still in effect DLCD is still tasked with completing the Roadmap; unless this status changes the Coordinator will plan on being attending ongoing Roadmap planning group meetings. In addition to the Roadmap and offshore wind still being intricately linked with Oregon’s renewable energy goals climate action policies, the Roadmap process has been identified by the Coordinator as a useful template for other complex, multi-stakeholder and multi-jurisdiction projects (such as the Coos Bay Intermodal Port project).

Coos Bay Intermodal Port January 2025 – ongoing. Several cohorts have been convened by the Department of Land Conservation and Development (DLCD); the CTP Coordinator sits on the

state agency staff cohort. These monthly meetings bring updates and SME presentations about the Coos Bay port expansion process and will continue for the foreseeable future.

SCIENCE and STEWARDSHIP PROGRAM UPDATE
March 1st, 2025 – July 31st, 2025

Staff: Shon Schooler, Lead Scientist
Ali Helms, Estuarine Monitoring Coordinator
Alice Yeates, Stewardship Coordinator
Jenni Schmitt, Watershed Monitoring Coordinator
Jennifer Kirkland, GIS Specialist
Adam DeMarzo, Program Analyst
Ryan Scott, Restoration Technician

MONITORING

NERRS System-Wide Monitoring Program (SWMP)

Ali Helms and Adam DeMarzo continued to operate the water quality, weather, and nutrient components of SWMP.

SWMP Data:

Science staff completed monthly field and lab work associated with the water quality, meteorological and nutrient long-term primary monitoring stations. This included monthly and quarterly station maintenance, data uploads, instrument cleanings and calibrations, and data submissions to the NERRS SWMP Centralized Data Management Office (CDMO). Quarterly submissions for water quality and meteorological data were submitted 2/1/2025, 5/1/2025, and 8/1/2025. Annual submissions for 2024 data were completed on 4/17/2025 (water quality) and 5/15/2025 (weather). The 2024 analyzed Nutrient data results continue to be delayed from University of Washington Marine Chemistry Laboratory. Spring 2025 meetings with UW attributed delays to UW oceanography cruises with grants, prioritization of UW academic/student samples, and lack of laboratory assistant (no FTE). In addition, some samples had to be rerun due to processing issues. Staff completed the Compliance Log for late submission as samples continue to be delayed, with annual submission due 6/17/2025. Staff are exploring other chemical oceanography labs in CA (Moss Landing, Scripps) and OR (OSU) for analyzing nutrient samples. All nutrient field data, bacteria and total suspended solids have been entered and verified. SWMP data submissions include data that have undergone several levels of quality assurance and quality control (QA/QC) procedures, metadata development, calibration and field logs, and instrument and sensor inventories. After annual data reviews are completed, datasets are authenticated, having undergone tertiary review and are available as final authoritative data. SWMP data for the SSNERR and other Reserves are accessible online at nerrsdata.org.

Staff are working on installing new pilings for Charleston Bridge and Valino Island water quality stations with funds from NERRS IRA. The Reserve is working with contractor, Oregon Marine Construction to procure the steel pilings and planning for installation during the next in-water work period in October 2025. Staff worked on acquiring the permits with partners, including ODSL, US Army Corp of Engineers, input from tribal preservation officers, and communication with NOAA Office for Coastal Management

and National Marine Fisheries Service for environmental compliance in Spring 2025. The progress report was submitted 5/21/2025. Staff prioritized spend down of the remaining NERRS IRA funds for restoration of the Fredrickson Shed.

The science staff completed monthly weather station maintenance, data downloads, and field logs for March - July 2025 at Tom's Creek marsh. The SWMP weather station (sostcmet) real-time data are available at nerrsdata.org/get/realTime.cfm.

The science staff completed field deployments, retrievals, and calibrations for three Coos estuary SWMP water quality stations located at Isthmus Slough, Catching Slough, and Coos River, and data were uploaded using the non-SWMP tool provided by the CDMO.

Science staff are collaborating with education and tribal partners on a Natural Science exhibit with Oregon Museum of Science and Industry about climate change and wetland restoration. Project partners are planning for on site interviews in early fall for the science team and tribal partners from CTCLUSI, CIT, and CTSI.

CDMO Data Management:

The Centralized Data Management Office (CDMO) is the technical support team dedicated to data management activities associated with the SWMP data collected at the 30 reserves. Recent activities of the CDMO include supporting data management for Wetlands and Water level vegetation and sediment monitoring datasets, including standardized templates for Surface Elevation Table (SET) data, working on the nutrient laboratory intercomparison results, and implementing a new SWMP data DOI for citations (<https://doi.org/10.25921/vw8a-8031>). SWMP staff attended the Annual NERRS Technician Training Workshop in March 2025, held in Pawley's Island, SC.

SWMP Status Reports:

The Reserve system developed tools for creating Annual Status Reports on water quality, nutrient, and weather summaries for each Reserve. The CDMO provides the R software package for download and updates files annually. Matt Dornback, Environmental Scientist with the Office of Coastal Management prepares the status report files for the Reserve system.

NERRS SWMP Syntheses:

South Slough is participating in a NERRS wide SWMP data synthesis project. The System-Wide synthesis team led by Kait Reindl (Lake Superior), Robert Dunn (formerly North Inlet-Winyah Bay), and Kim Cressman (Catbird Stats, contracted through OCM) to understand trends and drivers of change in hypoxia and eutrophication across the NERRS worked this winter and spring on a manuscript that was submitted to Nature in June 2025. A multi-Reserve (21 Reserves, including SSNERR) collaborative research proposal, *SWMP SURGE: SWMP Synthesis for University Research Graduate Education* was submitted to the NERRS Science Collaborative in April 2025 based on the successful 2024 NERRS Science Collaborative Catalyst that paired graduate students with seven Reserves, including SSNERR to address long-term changes in coastal management research questions using SWMP data.

Climate Reference Network:

The NOAA Climate Reference Network station at Frederickson Marsh collects air temperature and precipitation data as part of a US network of over 130 climate monitoring stations. Staff completed maintenance for the station rain gauges in March 2025 and for air temperature sensors in August 2025. Power to the station was turned off 7/23/25-7/28/25 due to helicopter log placement for the Wasson restoration project on 7/25/25. NOAA staff will complete annual station maintenance fall 2025. Data are available for this station (OR Coos Bay 8 SW) at: ncdc.noaa.gov/crn/current-observations.

Bacteria Monitoring:

Staff continued monthly monitoring of fecal indicator bacteria (total coliforms and *Escherichia coli*) at the four SWMP nutrient monitoring stations. The bacteria data are of interest for the Coos Bay Estuary Data Source, Oregon Department of Environmental Quality for Total Maximum Daily Load standards and to Oregon Department of Agriculture as they conduct commercial and recreational shellfish bacteria assessments.

Volunteers from the Surfrider Foundation use the lab for their monthly monitoring of fecal indicator bacteria (*Enterococcus sp.*) at three local beach sites (Miner Creek - Bastendorff Beach, Sunset Bay Big Creek and Sunset Bay proper).

Eelgrass Monitoring:

SSNERR science staff, interns and volunteers conducted quarterly eelgrass sampling at Valino Island in April and July 2025 using the SeagrassNet sampling protocol. SeagrassNet is an international monitoring program established to document the status and health of seagrasses. Eelgrass abundance declined at the permanent monitoring plots at Valino Island in 2015 with little natural recovery; however, plots at the lowest depth transect have shown an increase in abundance with some evidence of natural recovery at depth. Science staff and collaborators completed projects to investigate environmental factors contributing to the declines, with air and water temperature, watershed disturbance and turbidity found to be primary drivers of eelgrass declines. Staff are working on collaborative projects to understand seed-based restoration methods and develop national Submerged Aquatic Vegetation protocols and data syntheses.

Northwest Association of Networked Ocean Observing Systems (NANOOS):

As a participant in the US Integrated Coastal Ocean Observing System (IOOS)/ Northwest Association of Networked Ocean Observing System (NANOOS), SSNERR operates telemetry systems at all four of the core SWMP water quality stations and the weather station to provide real-time data available at nvs.nanoos.org/Explorer.

The NANOOS 5-year award (FY21-25) to sustain the Pacific Northwest component of the US IOOS, includes funding to support South Slough, OR Estuary Observations. The six month progress report for FY25 (January - June 2025) was submitted 7/22/25. South Slough received additional funding from the NOAA Inflation Reduction Act for replacement of a piling, sensors, and boat trailer. Since both of the pilings could be

replaced with NERRS IRA funds, staff are working on prioritizing the NANOOS funds for water quality equipment and station hardware, boat trailer, and UAS sensors. The IRA progress report for 2/1/2025-7/31/2025 will be submitted August 2025.

SSNERR partners with one of the local tribes, Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians (CTCLUSI) to provide telemetry equipment for their North Spit BLM sonde station in lower Coos Bay. The data are available to end-users through the NANOOS Visualization System nvs.nanoos.org.

SSNERR is partnering with the Southeast Coastal Ocean Observing Regional Association (SECOORA) on their Web Camera Observation Network to host a beach webcam at Bastendorff Beach County Park overview for recreational beach use (surfing, boogie boarding, beach combing, razor clamming, fishing off jetty), and shoreline change.

NERRS Wetlands and Water Levels Program:

The NERRS Wetlands and Water Levels (WWL) program pairs the long-term SWMP water quality and water level data with physical and biological data quantifying other factors (e.g., marsh elevation, plant community, vertical accretion, soil salinity, groundwater level) to help interpret long-term changes in emergent marshes, eelgrass beds, and forested tidal swamp communities.

Monitoring for the 2025 calendar year focuses on the following mainland tidal marsh sites: Metcalf Marsh (MM), Valino Marsh (DM), Hidden Creek (HC; our primary site), Danger Point (DP), Fredrickson South (FS), and Winchester Marsh (WM). Staff have deployed salinity and water level loggers in six groundwater wells (two each at HC, DP, and WM and one at FS) and water level loggers only at remaining wells for each site (four each at MM, VM, and HC, three at FS, two at WM and one at DP). All data loggers were downloaded and salinity loggers re-calibrated in March.

Biomonitoring (percent cover, stem density and height) for herbaceous vegetation began in this reporting period, with all data collected at MM and VM. Data related to sediment dynamics are collected annually at all eight marsh and one forested swamp sites. In this reporting period, deep rod surface elevation table (RSET) and soil accretion data were collected at five of the marsh sites (MM, Metcalf Islands (MI), VM, Little Valino Island (VI), and HC). Elevation data (via real time kinematic (RTK) GPS or laser level) is collected at all RSETs (29 total), and groundwater wells and biomonitoring plots where data was collected that year (including eelgrass plots). In this reporting period, elevation data was collected at Collver eelgrass site, MM, MI, and Valino eelgrass bed. In addition, in May staff tested methods at the Valino eelgrass for using lidar derived from Uncrewed Aerial Systems (UAS) to assess changes to eelgrass bed elevations. Staff completed quarterly eelgrass monitoring in April and July 2025 at the Valino Island long term monitoring plots with data collection including cover of macroalgae and eelgrass, vegetative and flowering shoot density, canopy height, sediment cores, and the exchange of hobo temperature sensors at two transects.

A tide gauge with water level sensor will be deployed in Winchester Creek, near the Hidden Creek marsh sentinel station to collect high-precision (mm) water level data to meet requirements of South Slough Reserve's Sentinel Sites project goals. Staff have received the NOAA Nile microwave radar sensor and telemetry system, worked with NOAA National Ocean Service, CO-OPS for assistance with a custom data logger program and system configuration with help from the Chesapeake Bay, MD and Pacific Operations Branch, Seattle, WA, and are planning for sensor installation this fall. In July 2025, staff met with NOAA Tides and Currents, Pacific Operations Branch Scientist to see the Charleston National Water Level Observation Network station and sensor. The Charleston NWLON is collecting data with an AquaTrak acoustic sensor side by side with a Nile microwave sensor as they phase out of the acoustic sensors. Staff acquired a system use agreement and real-time platform transmission information for the tide gauge station data management. Staff are working with the NANOOS data management team for real-time hosting of the tide gauge station as an asset on the NANOOS Visualization System. Staff are planning additional tidal benchmark locations based on requirements for distance between marks.

In June, staff and interns hosted a Marine Biology class of 24 students through a program aimed at supporting students with barriers to academic success. This took place at the Hidden Creek watershed and demonstration marsh for hands on learning related to relationships between watersheds, estuary and ocean influences.

In addition to Wasson Restoration Project, SSNERR Wetlands and Water Levels data are being used in a National Estuarine Research Reserve System national project called "National Synthesis of Tidal Marsh Response to Sea Level Rise" as well as a West Coast wide project called "Understanding Tidal Wetland Restoration at the Oldest Projects Along the West Coast". See partner projects below for more details.

Wasson Watershed Monitoring:

During this reporting period, science staff and contracted colleagues from Oregon State University finalized the Wasson Monitoring Plan, which can be found here: <https://www.oregon.gov/dsl/ss/Documents/Wasson-Restoration-monitoring-plan-v2025-05-06.pdf>.

This Monitoring Plan outlines the research questions, hypotheses, parameters and methods recommended to understand the Wasson Ridgetop to Valley Restoration Project. A technical advisory group, consisting of local topic experts, helped to guide the monitoring program including reviewing a near-final version of the Monitoring Plan and providing prioritization of research questions. During this reporting period, the monitoring team met monthly to finalize the plan, provide technical assistance to leads responsible for implementing actions within the plan, prioritize areas for future research publication, and organize tasks for the 2025 field season.

Monitoring efforts at Wasson and nearby reference sites in this reporting period include the following data collection and processing activities: quarterly downloading of data

loggers at 35 groundwater wells (which collect groundwater depth, temperature, and salinity (tidal areas only)), quarterly download of 12 stream temperature data loggers, replacement of a channel logger that measures tidal height, monthly download and battery exchange of 40 wildlife camera traps, monthly stream flow velocity measurements at 10 plots, monthly stream nutrient grab samples (for quantifying nitrogen and phosphorous) at two locations, benthic macroinvertebrate sampling at 15 plots, beaver activity surveys, biochar water collection for nutrient and heavy metals analysis, eulachon eDNA sampling, salamander abundance at upland forest locations, biweekly bird community composition surveys, continuous (15-minute) data sonde turbidity, conductivity and temperature measurements at two sites, including monthly instrument recalibrations, biweekly soil moisture readings (x132 measurements each time), nurse log crib baseline volumes and plant survival, forest plot re-establishment, maintenance of upland microclimate stations, and high-precision elevation measurements of various infrastructure throughout the Wasson valley, and UAS work. GIS staff, using Uncrewed Aerial Systems (UAS) and high precision GPS data collection have additionally collected multispectral, thermal infrared, and lidar data to assist with monitoring changes to vegetation, surface temperature, wetland elevation, and channel morphology. This reporting period, images were analyzed for log placement, channel density, spatial heterogeneity, thermal, UVVR and elevation.

South Slough staff worked with intern Anuhea Furuya on heavy metal and contaminant testing in the Wasson Creek Restoration Project area. The area that was tested is designated for a cultural traditional garden, to provide natural materials to local tribes. The project partnered with the CTCLUSI Environmental Testing Laboratory Manager, Janet Niessner, to target specific heavy metals of concern. The results showed no readings above expected background levels for this region.

For more details on restoration implementation work, see Wasson under the Stewardship section.

Indian Point Monitoring:

Staff continue to monitor endangered western lily populations annually and will periodically track changes to herbaceous, shrub and tree cover metrics related to the tree thinning restoration project that occurred in early 2018. Science staff have set aside a date for the annual population count to take place in July 2025.

Lamprey Monitoring:

The South Slough watershed hosts at least two native species of lamprey (western brook and Pacific). We have been collecting annual abundance data at three permanent sites in the Winchester Creek basin since 2018 to evaluate status of lamprey in the watershed. Population counts have been scheduled for August 2025 at three permanent plots (West Fork Winchester Creek, Winchester Creek mainstem, and Wasson Creek). In May, staff and interns provided support to the Coquille Indian Tribe for their annual Pacific lamprey spawning surveys in the Coquille River.

RESEARCH

SSNERR Projects

Studying the Changes in the Fish Community of the South Slough Estuary:

South Slough Research Coordinator Shon Schooler is mentoring a University of Oregon Clark Honors School undergraduate student, Jade Peairson, on a project looking at how the South Slough fish community has changed over 40 years. We are replicating methods that were conducted in 1987 and 2016-2017. We found a large decrease in diversity, abundance, and biomass from 1987 to 2016 and are interested to see how the community has changed since 2017. We have completed fish seines at 6 locations in the estuary from June-July and will continue through October 2025. Jade will then analyze the data and complete a dissertation by May 2026.

Invasive 5-spine (aka Green) Crab (*Carcinus maenas*) in the Coos Estuary:

South Slough Reserve is leading the monitoring and research of 5-spine crabs in the Coos estuary, including South Slough. The overall goals of the work are to: 1) compare the relative abundance of 5-spine crabs and native crabs in the estuary across years and locations, 2) examine linkages between environmental conditions and 5-spine crab abundance, 3) study the potential impacts of 5-spine crabs on native and commercially important species, 4) better understand the life cycle of 5-spine crabs in Oregon estuaries, and 5) generally reduce 5-spine crab abundance through consistent and repeated trapping. We have completed our June and July 2025 annual sampling of 10 sites around South Slough and Coos Bay. We also organize sampling in other estuaries along the Oregon Coast and collect the data into a publicly available database.

South Slough Research Coordinator, Dr. Shon Schooler, is mentoring South Slough's 2024-2026 Davidson Graduate Fellow, Lizzie Diel (Oregon Institute of Marine Biology), in a project studying the negative impacts of 5-spine crabs on native clams and commercially important Dungeness crabs and Pacific oysters (more details below).

Shon is mentoring an OSU Masters Student, Brandon Lindsey, on a project looking at the effect of 5-spine crabs on oyster cultivation. South Slough provides accommodation, equipment, lab space, and office space for Brandon when he is on site.

Shon is also mentoring two interns in the Southwestern Oregon Community College Agroecology Program (Irelyn Gibbs and Justin Gray). Their project is to develop potential commercial uses of 5-spine crabs as a management method and draft a business plan for this project.

In addition, as we trap crabs we preserve 5-spine crab samples to send to Dr. Carolyn Tepolt (Woods Hole Oceanographic Institution) for a study on population genetics as part of a west-coast ongoing research and monitoring program.

We are also partnering with Dr. Cat De Rivera (PSU) on a project studying predation rates of 5-spine crabs on juvenile Dungeness crabs. This involves tethering juvenile Dungeness in areas with varying abundance of 5-spine crabs and recording the number of crabs removed. We completed one site in July and will set up experiments at three more sites in August 2025.

Margaret A. Davidson Fellow Research:

Lizzie Diehl is our 2024-2026 Margaret A. Davidson Graduate Fellow. She is a graduate student at the Oregon Institute of Marine Biology (OIMB) and Dr. Aaron Galloway is her university advisor. She officially started her Fellowship with South Slough on August 1, 2024 and plans to finish her dissertation in 2026. She is studying the food webs associated with 5-spine green crabs using novel lipid analysis and eDNA metabarcoding.

Eelgrass Pilot Transplant at Valino Island, South Slough Estuary:

In April and July 2025, science staff completed quarterly monitoring of eelgrass transplanted from Clam Island to Valino Island in plots along an elevation gradient (deep, low, mid) and planted during different seasons to understand the potential to restore intertidal eelgrass to Valino Island using adult vegetative transplant methods. Transplanted plots at the lowest elevation transects have higher eelgrass abundance with deep and low elevation plots maintaining planting densities. The highest elevation plots (mid intertidal) are bare or have low eelgrass densities. As of July 2025, plots planted in the summer and fall have higher eelgrass abundance while winter and spring plots have lower abundance.

Eelgrass pilot study evaluating the potential of UAV lidar to replace traditional elevation surveys for long-term monitoring eelgrass beds in the reserve:

In summer 2025, South Slough Reserve science staff and our GIS intern developed a new monitoring method using drones to measure eelgrass elevations across our current monitoring sites. Elevation measurements across these sites have historically relied on Real-Time Kinematic (RTK) GPS surveys and traditional leveling methods tied to local benchmarks. These long-term datasets provide valuable insight into the relationship between eelgrass distribution, sediment accretion, and estuarine hydrodynamics. The data for summer 2025 will be analyzed and summarized in the winter of 2025.

Partner Projects

The Partnership for Coastal watersheds

The PCW is a local group of civic-minded community members that includes representatives of South Slough Reserve, Coos County Planning Department, Cities of Coos Bay and North Bend (planning and city council), Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians, Coquille Indian Tribe, South Coast Development Council, Coos Watershed Association, Department of Land Conservation and Development, Southwestern Oregon Community College, Oregon Department of Fish

and Wildlife, Oregon State Parks, US Fish and Wildlife Service, International Port of Coos Bay, Oregon Department of Environmental Quality, and citizens at large.

The PCW meets approximately monthly and is currently working towards several goals concurrently:

- The PCW continues to be a proponent and supporter for local governments to update the Coos Bay Estuary Management Plan.
- The PCW continues to be a sounding board for researchers doing work around the Coos estuary. Dr. Matt Brand (Louisiana State University) is leading a NOAA-funded project to enable our community to understand how much effect tidal wetland restoration might have on reducing storm- and extreme tide flooding in the Coos Bay area. Dr. Brand is currently working to quantify costs and benefits various scenarios for Coos Bay adaptation actions, including enhancement of levees, dredging, and dike removal scenarios. The PCW is acting as a local technical advisory group.

In addition, South Slough staff are working with DSL to migrate the PCW website to fall under the umbrella of DSL's website, for ease of website updates and long-term management.

Nuisance Flooding in the Coos Estuary:

Dr. Matt Brand (Louisiana State University) is leading a second Effects of Sea Level Rise (ESLR) NOAA-funded project, building on his sea level rise hydrodynamic model for the Coos estuary, that enabled our community to understand how much effect tidal wetland restoration might have on reducing storm- and sea level rise-related flooding in the Coos Bay area (Brand et al 2024). Dr. Brand's current work is to quantify costs and benefits of green and gray infrastructure scenarios for Coos Bay adaptation actions, including enhancement of levees, dredging, managed retreat and dike removal scenarios. For example, the model can help answer questions like, if you build a bigger levee to protect land (e.g., in downtown Coos Bay), how does that increase flooding in another part of the estuary (e.g., agricultural regions)? The analysis looks to quantify both damages from cumulative exposure of storm and tide flooding as well as costs associated with restoration or infrastructure improvements. The analysis also includes cost assessments of co-benefits (e.g., carbon sequestration, improved water quality, fisheries and recreational tourism). In this reporting period, science staff attended several team meetings and are in the beginning stages of planning a workshop where the project team would present findings in-person to the community and local- and state-level coastal managers. A recent article on this project can be found here:

<https://coastalscience.noaa.gov/news/modeling-reveals-how-wetland-restoration-mitigates-flooding-in-coastal-bays/>

National Synthesis of Tidal Marsh Response to Sea Level Rise:

This NSC-funded project, nicknamed "NAMASTE" is led by Chris Peter (Great Bay NERR, NH) in collaboration with team members across the Reserve system, including staff at SSNERR. This project is a national scale synthesis of marsh vegetation data, leveraging our Sentinel Site and SWMP programs. The synthesis is examining shifts in

plant species ranges and patterns of diversity across latitudes and biogeographic regions and quantifying climate-induced shifts to marsh systems. SSNERR staff have been informing technical team meetings, providing SSNERR Sentinel Site data and protocols to the project team for analysis, helping develop appropriate analyses, and providing feedback on draft products. In this reporting period, staff joined a virtual technical workshop to hear final project findings and contributed to the final project report.

Native Olympia Oyster Collaborative (NOOC):

This collaborative group, led by Kerstin Wasson and April Ridlon (Elkhorn Slough NERR), completed a synthesis of success of past Olympia oyster restoration projects to share lessons learned and to identify the practices and environmental conditions that predict the best restoration outcomes. The NOOC developed oyster mapping tools and continues to serve as a useful networking group for Olympia oyster updates, collaborative research opportunities, and conferences. West Coast Reserves, including participation by South Slough NERR and NOOC collaborators completed an oyster elevation distribution project to understand how and why the upper intertidal limit of Olympia oyster distribution varies across its range. Science staff completed elevation surveys for three sites (Coalbank Slough, Haynes Inlet, and Downtown Coos Bay) and submitted data for the West coast wide synthesis. A manuscript including data from British Columbia to Mexico was published in April 2025 in *Marine Environmental Research* by project lead Kerstin Wasson, Elkhorn Slough Reserve, five Reserves, and 20 additional collaborators: *Setting the Limit: Cold Rather Than Hot Temperatures Limit Intertidal Distribution of a Coastal Foundation Species* <https://doi.org/10.1016/j.marenvres.2025.107149>. More information about oysters can be found at the [Olympia & Pacific Oyster Data Portal](#) and the [Native Olympia Oyster Collaborative](#).

Eelgrass Biophysical Model and Ocean Acidification and Hypoxia Vulnerability:

The Reserve collaborated on a research project funded through the Oregon Ocean Science Trust (OOST) to evaluate the interaction of water quality and eelgrass in the Coos estuary using a biophysical model. The project was led by University of Washington (Tarang Khangaonkar, Caitlin Magel, and Adi Nugraha) with collaborators at the University of Oregon (Sutherland), CTCLUSI (Niessner), and South Slough Reserve (Helms, Belanger). Project partners participated in meetings with spring 2025 activities focused on review of model results comparing scenarios of eelgrass extent under varying ocean acidification conditions. Magel and the project team submitted a manuscript *Biophysical model of eelgrass and water quality in Coos Bay, OR shows greater mitigation potential for ocean acidification than hypoxia* to *Frontiers in Marine Science* that was accepted in May 2025. Project partners and NERRA completed an outreach story [Modeling the Power of Eelgrass in Coos Bay](#) for the model results, and NERRA will feature the article in the August newsletter.

Understanding Tidal Wetland Restoration at the Oldest Projects Along the West Coast:

This NERRS Science Collaborative-funded project, nicknamed MAREA (Mature Restoration Analysis) led by Dr. Chris Janousek from Oregon State University (OSU), is a collaboration across California, Oregon, and Washington, and includes four west coast Reserves. The project is researching the status and trajectory of the oldest regional tidal wetland restoration projects to better understand restoration efficacy and outcomes to inform future restoration efforts. Reserve staff are included on the project team to help coordinate engagement with end-users, present results to regional and national audiences, provide local and technical knowledge, collect data at wetlands in the Coos estuary, assist with data acquisition elsewhere in Oregon as needed, develop GIS analyses, and help develop products for educational purposes. Slough GIS staff developed multiple methods to determine UVVR analysis of current and past estuaries conditions for the project. During this reporting period, staff provided content for the final report and one staff joined others on the project team to give a national webinar on project findings.

Drone the NERRS:

Multiple NERRS have partnered the NERRS Science Collaborative-funded grant to further the research from a previous catalyst grant: “Drone the SWMP,” which included using UAS to monitor wetlands in six reserves and the development of a tool comprised of three interrelated standardized protocols for equipment operation, image processing, and image analysis that even a novice UAS operator could utilize. The purpose of this project is to evaluate the efficacy of this tool in a wider range of biogeographic regions. This will be accomplished by 1) each participating reserve utilizing the tool at their long-term wetland monitoring sites, 2) holding a mid-project meeting to compare tool efficacy and identify potential challenges or technical difficulties, 3) troubleshooting technical difficulties, and 4) improving or adjusting the tool as needed. If successful, this tool may be widely adopted by other Reserves and stakeholders outside of the NERR system as a low-cost method of coastal wetland monitoring. During this reporting period, SSNERR staff did final QA/QC checks of all datasets, compiled them, created metadata files, and submitted them to the Centralized Data Management Office for public use. The grant also closed out during this reporting period.

Seagrass Seed-based Restoration

The Reserve is a partner on a NERRS Science Collaborative transfer project *Communication and assessment of seagrass seed-based restoration techniques* being led by Torrance Hanley at Sacred Heart University in CT with additional partners at Padilla Bay NERR, WA, Long Island NERR, CT, University of Oregon, Oregon State University, and Washington Department of Natural Resources. The project will inform and improve seed-based restoration of eelgrass through surveys and interviews of restoration practitioners, a workshop to exchange information and establish a network of restoration end users, and a StoryMap of the outputs and seed-based restoration project examples. During March 2025, the project team released a survey to gather input on seagrass restoration using seed-based methods and in April 2025 the team hosted two virtual workshops to understand priorities around seagrass restoration in the Pacific

Northwest. Attendees participated in discussions around current seed-based restoration efforts and how to broaden restoration efforts along the West Coast.

Research Support

Mosquito Monitoring:

SSNERR is a field location for Oregon Department of Fish and Wildlife's adult mosquito abundance trapping program, to be used as a reference site for comparison to restored marshes in the Coquille valley. Trapping began in June 2018 and is expected to continue through 2026.

Measuring Greenhouse Gases:

South Slough staff are working with researchers at the University of Oregon (led by Dr. Lillian Aoki) on a project titled Convergence to Accelerate Research on Biological Sequestration (CARBS). The CARBS research project aims to better understand how carbon flows across coastal landscapes with the goal of using this information to inform restoration, conservation, and management strategies. We worked with the project team to install an eddy covariance tower at a coastal marsh (Toms) within the South Slough Reserve, with the goal of improving understanding of carbon fluxes (including carbon dioxide and methane). Eddy covariance (EC) towers are instruments used to measure land-atmosphere fluxes of carbon across different ecosystems. The system will measure greenhouse gases in South Slough marshes until 2028.

Marsh Carbon Sequestration Calculator:

The Reserve is collaborating on a NERR Science Collaborative project that continues carbon flux research, called Phase 2 Blue Carbon Research. The project is being led by Craig Cornu (Institute of Applied Ecology) with numerous collaborators from Oregon State University, University of Oregon, Western Washington University, Pacific Northwest National Laboratory, and the Padilla Bay NERR. This research is primarily aimed at measuring methane emissions from estuarine wetlands along salinity, temperature, and land-use gradients. It also includes assembling a database of carbon stocks for west coast tidal wetlands. The study includes sites in South Slough and Coos estuary. An internet-based carbon sequestration calculation tool has been developed for natural and restored marshes and is currently being tested and finalized.

Eelgrass Population Genetics:

In 2023, Reserve science staff Ali Helms began collaborating with an eelgrass genetics researcher, Bryan Briones Ortiz at the University of Washington. He is studying eelgrass populations genetics with sites from Washington and California as part of his dissertation research. With field collections and sample processing from eelgrass plants at Clam Island and Valino Island, he added two Oregon sites to his project with preliminary results from his genetic analyses showing genetically distinct populations between the two sites. Bryan is compiling and analyzing this data as part of his PhD research.

Fish and Invertebrate Population Dynamics in Restored, Natural, and Mudflat Habitats:

The Reserve is providing technical assistance to Oregon State University PhD graduate student Olivia Boisen (Heppell lab) who is researching ecosystem functions of restored eelgrass beds with two sites in the Coos estuary, North Bend Airport and Valino Island, South Slough. The project received funding from PMEP, Assessing Seagrass Restoration Effectiveness on Fish Communities, OR (2025) with the Reserve as a project collaborator.

STEWARDSHIP

Wasson Restoration:

Major contributions to the Wasson Creek Ridgetop-to-Estuary Restoration Project include:

- Staff worked with coastal practitioners (training workshop; see TEP report), teachers (TOTE program, see Education report) and restoration contractors (Swanson Ecological) to complete the remaining nurse cribs in the tidal portion of the valley (a total of 33 cribs have been installed). The hard work of many people will contribute to the re-establishment of tidal forested swamps in this area and expansion of South Slough's existing swamp.
- The SC worked with intern Anuheia Furuya on Traditional Garden planning with partners at the Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians (CTCLUSI). The proposal is to create an accessible space with a diverse mix of culturally important native species; where the Reserve can co-steward with local tribes and promote cultural harvest and stewardship. A draft plan has been sent to Coquille Indian Tribe, Siletz Indians and CTCLUSI for review and input. After review by partners at the tribes the plan will go to the Wasson Creek Advisory Team for input and then the Commission. Planting is planned for the 2026/2027 winter planting season.
- Staff worked with Swanson Ecological to repair and build up three beaver dam analogs in the project's tidal area. This work improved the hydrologic connectivity between the tidal channel and restoring wetlands.
- Farm Unlimited has been coordinating forest management in the watershed's uplands and completed Stands 2 and 3 (approx. 109 acres). Management includes variable density thinning, with leave areas, forest gap creation and density reduction thinning. Additional enhancement includes creation of habitat piles, a structure with internal cavities for wildlife use.
- Following recommendations from the Wasson Creek Advisory Team (January 2025) an additional 72 trees with root wads were placed throughout the Wasson wetlands. This placement of large woody debris (LWD) will enhance fish habitat and hydrological connectivity for process-based restoration. Due to low accessibility to the upper valley and to avoid impacting the restoration site in the main valley, LWD was installed by helicopter. Farm Unlimited provided project

management and subcontracted with Blue Ridge Timber Cutting to tip trees and Columbia Helicopters to place them, Reserve staff worked with ODFW experts to guide placement for greatest ecological uplift and BLM staff monitored downstream turbidity as per permit requirements.

- Education staff worked with Joe Metzler, local bird expert, to build and install purple martin and tree swallow boxes in the lower part of the restoration area. A local restoration expert, Mark Villers, donated his services to install poles for mounting boxes and mimicking snags. Poles were heat treated cut logs from the uplands thinning project area and vertically installed in the fill material beside the restoring tidal wetland. Purple martin are recovering populations, following declines in the South Slough watershed, and provide education opportunities.

Stewardship Collaboration Within the NERRS and Meaningful Co-stewardship and collaborations with Tribes:

The Reserve Stewardship Coordinator (SC), Alice Yeates continues to engage with the NERRs through collaborative research projects (e.g., National Marsh Synthesis Team) and working groups (e.g., Uplands Working group, Estuaries and Sovereignty Working Group). The Marsh Synthesis Team is wrapping up national analyses of marsh changes and currently working on a publication for submission to a peer reviewed journal. The Staff continue to work with THPO prior to new soil disturbance activities, minimizing the likelihood of damaging cultural resources in the Reserve. The NERR Science Collaborative Catalyst Grant Proposal (Lead Reserve Waquoit Bay NERR) “Re-igniting fire stewardship across the reserves and local landscapes,” is still pending decision from the review team. If funded SSNERR will work with CTCLUSI, Coquille Indian Tribe and potentially CT Siletz Indians to support cultural fire and explore use of fire stewardship on SSNERR managed lands.

Invasive Species:

The SSNERR South Slough Stewards program is partnering with the Friends of South Slough (FOSS) in 2025 to co-lead Saturday Stewards Program. Three Saturday Steward Programs, from March through July, focused on invasive plant management. Volunteers removed cotoneaster, biddy-biddy, field bindweed, and foxglove, reducing spread from the Reserve Visitor Center along trails and reducing expansion in the Wasson Creek Restoration project area.

Stewardship staff partnered with Rogue Climate to host youth interns and staff in an invasive plant removal event in the Wasson Creek Restoration project area. Volunteers pulled thistle and invasive blackberry from around native plantings to aid in their successful establishment.

INTERSHIPS

Irelyn Gibbs and Justin Gray (Southwestern Oregon Community College Agroecology Program, Oregon Sea Grant Funded Interns) are interns working with Shon Schooler to develop potential commercial uses of 5-spine crabs as a management method and draft a business plan.

Olivia Mendoza (Smith College, NOAA's College-Supported Internship Program) is an intern splitting her time working with Jenni Schmitt on estuary research and monitoring, and Jaime Belanger to implement education and outreach programs.

Annika Vikstrom (Middlebury College, NOAA's College-Supported Internship Program) is an intern splitting her time working with Jenni Schmitt on estuary research and monitoring, and Jaime Belanger to implement education and outreach programs.

Catelyn Toney (Oregon Sea Grant Internship Program) is an intern splitting her time working with Jenni Schmitt on estuary research and monitoring, and Jaime Belanger to implement education and outreach programs.

Isaac Adams (North Bend Highschool, Oregon STEM Hub Program) will be working with Jenni Schmitt on estuary research and monitoring activities this summer.

Anuheha Furuya (OIMB student) worked with Alice Yeates and Shon Schooler, along with partners at CTCLUSI, to create a draft plan of a Traditional Garden and test soils for potential contaminants.

Daniel Serpa (Bucknell University, NOAA's College-Supported Internship Program) is an intern with the Jennifer Kirkland working on monitoring estuary sites within the reserve for new and current research.

COMMITTEES AND WORKGROUPS

Local (Oregon)

Beaver Hill Restoration Project Technical Advisory Team:

Jenni Schmitt and Alice Yeates provide technical advice related to wetlands restoration and monitoring for this wetland restoration project, led by the Coquille Watershed Association. Project plans are near completion and hoping to implement in 2025.

Coastal Native Seed Partnership Committee:

Alice Yeates is on the Coastal Native Seed Partnership Science Program steering committee, which is working to increase support for local restoration projects by increasing native seed availability. The Reserve supports sustainable harvest for restoration projects.

Coos Basin Coho Partnership Committee:

Shon Schooler and Alice Yeates provided expertise to this committee. This group oversees a suite of Oregon Watershed Enhancement Board (OWEB) funded restoration projects in the Coos Basin. Shon is also on the Monitoring subcommittee and Alice is on the Communications subcommittee for this group.

Coos Watershed Association Technical Advisory Committee:

Jenni Schmitt, Alice Yeates, Shon Schooler, and Ali Helms participate on this committee to provide technical feedback on a variety of restoration and monitoring projects.

Gorse Action Group (GAG)

Alice Yeates participates in the Gorse Action Group (GAG), which is a coalition of dedicated partners working to minimize the economic and environmental impacts of gorse across a regional scale. The Gorse Action Group's highest priority is to stop the spread of gorse with specific objectives to prevent new infestations, control source populations, and build capacity for coordinated efforts.

Oregon Coast Artisan Trade Education Collective (OCATEC):

Shon Schooler is on the board of OCATEC. This organization develops training around trade skills, including aquaculture, with a focus on sustainability, community resilience, and circular economic principles.

Oregon 5-spine Crab Management Plan Steering Committee:

Shon Schooler is assisting on this committee which is overseeing the development of Oregon's green crab management plan. The committee is led by Dr. Catherine de Rivera (PSU).

Oregon Lamprey Technical Workgroup:

Jenni Schmitt sits on this advisory committee of the Conservation Agreement for Pacific Lamprey in Oregon. The group meets several times a year to discuss updates on conservation initiatives, subgroup updates (tagging, contaminants, ocean, engineering criteria, genetics/eDNA, Best Management Practices for minimizing impacts during stream disturbing activities, and restoration), standardizing white paper formats, lamprey terminology and larval lamprey survey and salvage protocols.

Oregon Ocean Monitoring Group (OOMG)

Ali Helms participates in the Oregon Ocean Monitoring Group led by ODFW, which meets quarterly.

Oregon Watershed Enhancement Board (OWEB) Focused Investment Partnership (FIP) Technical Review Team: Jenni Schmitt serves on this oversight team to evaluate and review restoration, monitoring, stakeholder engagement, and technical assistance grants submitted through the Coos Basin FIP.

South Coast Cooperative Weed Management Area (CWMA)

Alice Yeates participated in the South Coast CWMA meetings. The mission of the South Coast CWMA is to reduce the negative impact of invasive plant species on the economy, environment, and human health by collaborating with the community through education, information exchange and coordinating regional efforts for control. The Reserve just signed a collective MOU.

South Coast Lamprey Working Group:

Jenni Schmitt is on the steering committee for this workgroup, which works to help identify key information for lamprey management at regional, state, and local scales and identify opportunities for future work.

Southern Oregon Coast GIS User Group (SCUG):

Jennifer Kirkland and Sabra Comet are co-leading the SCUG sub-chapter of the Oregon chapter of the international organization of Urban and Regional Information Systems Associations (ORURISA). The chapter serves as a forum for professionals and students to meet, share ideas, and discuss issues related to geographic information science (GIS). The group held one fall meeting with multiple guest speakers and one workshop with hands-on demonstration of RTK GPS equipment in February.

Southwestern Oregon Community College Advisory Committee, Forestry and Natural Resources Department:

Alice Yeates participates in Southwestern Oregon Community College Forestry and Natural Resources Department Advisory Committee. This group guides program development and assists with improving student education.

Coos Head Co-Op Green Team

Alice Yeates participates in the Coos Head Food Co-Op Green Team, whose mission is to promote good stewardship and green actions in Coos County. This group is developing materials for local events (e.g., Earth Day Coos Bay and Mayfly festival) centered around “green” shopping practices.

Local (SSNERR)**SSNERR Diversity, Equity, Inclusion Committee:**

There is one science or stewardship staff representative on the Reserve’s DEI Committee. This committee is assessing and identifying ways to improve diversity, equity and inclusion in all areas of the Reserve. The committee’s goals focus on dismantling systemic racism and increasing the inclusion of underrepresented and marginalized communities.

SSNERR Uncrewed Aircraft System (UAS) Program Development:

Reserve staff have identified projects that could utilize a UAS (aka drone) for future research needs. Jennifer Kirkland has reached out to other Oregon agencies and NERR staff to gather information for developing a UAS program for SSNERR and DSL. She serves as the agency representative on a statewide UAS group lead by Oregon Department of Aviation.

Regional**Pacific and Estuarine Research Society (PERS) and Coastal and Estuarine Research Federation (CERF):**

Jenni Schmitt is the Oregon at-large representative for PERS. PERS is the regional chapter of CERF. The PERS board meets regularly to plan the annual PERS conference. Due to travel restrictions and loss of federal funding, the spring 2025 in Florence, OR was canceled. The board is looking for alternate virtual options for later in the year.

Pacific Marine and Estuarine Fish Habitat Partnership (PMEP) Data and Science Committee:

Ali Helms joined this regional workgroup for providing technical input and expertise from an Oregon perspective related to eelgrass habitats. The Committee reviewed drafts and provided input for an Eelgrass Restoration Techniques Synthesis Report funded through The Pew Charitable Trusts and administered by the Friends of South Slough. Melissa Ward (University of Oxford) and Kathryn Beheshti (UCSB), along with input from eelgrass data contributors, published the results from the report: Lessons learned from over thirty years of eelgrass restoration on the US West Coast. Staff Ali Helms attended the Data and Science committee meetings and will attend the Annual PMEP meeting September 2025. A PMEP Monitoring and Data Symposium was held on Monitoring guidance, data hubs, and collaborative platforms on May 6, 2025. There was a joint meeting of the Steering and Science & Data Committees on July 3, 2025. The annual PMEP meeting is being held in Bellingham, WA in September 2025 with Reserve science staff participating virtually.

National

NERRS Wetlands and Water Levels (WWL) Oversight Committee:

Jenni Schmitt and Ali Helms are on this NERRS committee, which was formed to develop Wetlands and Water Level (WWL) program (formerly Sentinel Site Program) outreach strategies, review outreach products from the Marsh Resilience (MARS) report card, integrate remote sensing/habitat mapping into WLWL sites, review WLWL plans, develop Centralized Data Management Office (CDMO) data templates for vegetation and sediment data, and manage inventory of WLWL equipment, capacity building and data acquisition. The group meets monthly and focuses on developing a funding strategy for the WLWL Program, including articulating expectations for minimum monitoring protocols to standardize datasets for site, regional and national synthesis, and justifying the need to financially support on-site monitoring, data analysis, and data maintenance and dissemination through the CDMO.

NERRS WWL Biomonitoring Workgroup:

Jenni Schmitt is part of this workgroup, which develops and oversees implementation of national marsh vegetation monitoring protocols and reviews vegetation monitoring datasets submitted to the CDMO.

NERRS WWL Elevation Subcommittee

Jenni Schmitt serves on this subcommittee that meets monthly to provide recommendations and solutions for national vertical control-related protocols including high precision GPS and elevation, surface elevation table, and water level data collection.

NERRS Estuaries and Sovereignty Working Group:

Alice Yeates is on the Estuaries and Sovereignty workgroup. This team works to center, engage, and learn from tribes and local communities to facilitate meaningful co-management and co-stewardship of coastal lands and waters.

NERRS Restoration Monitoring Team

Alice Yeates, Jenni Schmitt, and Ali Helms participate in this workgroup that meets monthly, led by Becky Swerida (Chesapeake Bay, MD) to share information about restoration monitoring protocols, restoration projects implemented across the Reserve system, and plan for restoration funding opportunities.

NERRS System-Wide Monitoring Program Guidance Committee:

Ali Helms serves on the SWMP Guidance Committee (current members: Chris Kinkade, Suzanne Shull, Jennifer Harper, Joan Muller, Matt Ferner, Ali Helms, Robin Weber, and Steve Baird) formed in 2010 to provide strategic planning and oversight of the SWMP program.

NERRS SWMP Oversight Committee:

Shon Schooler continues to serve on the SWMP Oversight Committee. This committee provides oversight of SWMP plans and can intervene if SWMP protocols are not being met by individual Reserves.

NERRS Submerged Aquatic Vegetation (SAV) Biomonitoring and Mapping Workgroup:

Ali Helms joined this workgroup to develop and provide input on protocols for implementing national vegetation, mapping, and mudflat sediment dynamic monitoring in SAV (i.e., eelgrass) habitats, with monthly meetings. The workgroup is working on advancing SSAM SAV at the system level. The SAV needs assessment team completed national surveys and interviews for Reserves and SAV stakeholders and synthesized the results into a report. The Workgroup submitted a NERRS Science Collaborative Catalyst proposal to develop national monitoring protocols for SAV and pilot data syntheses in April 2025.

NERRS Upland Stewardship and Monitoring Working Group:

Alice Yeates leads the NERRS uplands working group which aims to enhance communication between Reserves and to share information and develop collaborations on upland monitoring, management, research, and outreach. Members from this group submitted two NERR Science Collaborative Catalyst Proposals that are under review: “Coastal Watersheds Include Uplands Too” (Lead Reserve: Connecticut NERR) and “Re-igniting Fire Stewardship Across Reserves and Local Landscapes” (Lead Reserve: Waquoit Bay NERR).

NERRS Stewardship-GIS Visioning Team:

Alice Yeates is on this committee that meets regularly to formalize the Stewardship-GIS sector and develop related guidance documents and processes.

Research Papers

Haeffner, M., Finley, S., de Rivera, C., Grosholz, E., Gonzalez, J., Robertson-Rojas, V., **Schooler, S.**, Comet, S., Engelmeier, P. 2025. Social and ecological connectivity: A Q-methodology investigation of coastal estuary perceptions in Oregon. *Biological Conservation*. V 309: doi.org/10.1016/j.biocon.2025.111277

Wasson, K., K. Cressman, K. Beheshti, E. Herder, C. Endris, C. Harley, A. Abadia-Cardoso, R. Beas, J. Carolsfeld, A. Chang, J. Crooks, M. Ferner, E. Grosholz, N. Harrington, Neil; J. Harris, H. Hayford, **A. Helms**, J. Lorda, J. Ruesink, A. Alegría-Arzaburu, S. Rumrill, **J. Schmitt**, R. Smith, J. Walker, C. Whitcraft, S. Yang, D. Zacherl, and C. Zabin. 2025. Setting The Limit: Cold Rather Than Hot Temperatures Limit Intertidal Distribution of a Coastal Foundation Species. *Marine Environmental Research*. 208, p.107149. <https://doi.org/10.1016/j.marenvres.2025.107149>

Keogh, M., D. Sutherland, E. Eidam, T. Souza, **J. Schmitt, A. Helms**, D. Ralson. 2025. Estuarine sediment dynamics and the importance of storms in moving (and removing) mud. *Estuaries and Coasts*. 48(4), p.104. DOI: [10.1007/s12237-025-01524-1](https://doi.org/10.1007/s12237-025-01524-1)

Magel, C.L., Nugraha, A., Sutherland, D.A., **Helms, A.R.**, Niessner, J, and Khangaonkar, T. 2025. Biophysical model of eelgrass and water quality in Coos Bay, OR shows greater mitigation potential for ocean acidification than hypoxia. *Frontiers in Marine Science*, v 12, [/doi.org/10.3389/fmars.2025.1585621](https://doi.org/10.3389/fmars.2025.1585621)

Reinl, KL, Dunn, R.P., Cressman, KA, Collins, T, DeBose, JL, Friedrichs, CT, **Helms, AR**, Kinkade, C., Krask, JL Parrish, DB, Nicklay, HN, Justin T. Ridge, JT, Sanger, DM, Jacob A. Cianci-Gaskill, JA, Dix, NG, Grothues, TM, McMurray, SE, and C. Peter. 2025. In Situ Observations Reveal Continental-Scale Warming, Oxygen Decline, and Eutrophication in U.S. Estuaries. *Proceedings of the National Academy of Sciences*, (in review, submitted 15 July 2025).

Janousek, C, T. Williams, **J. Kirkland**, K. Wasson, **J. Schmitt**, L. Brophy, J. Crooks. 2025. Plant diversity lags other measures of vegetation development in restored tidal marshes along the Pacific coast. *Marine Ecology Progress Series* (in review).

Raposa, K.B., K. Cressman, J. Goldstein, R. A. Stevens, M. Tyrrell, B. DeGasperis, K. St. Laurent, R. K. Derby, S. Lerberg, E. F. Pinnix, J. Plunkett, J. Kinsella, C. Pepper, C. Killian, J. Black, K. Swanson, C. Biggs, E. Kuzmick, A. Dieppa-Ayala, K. W. Grimes, A. Durdall, J. Argueta, T. Reid, R Fuller, **J. Schmitt**, M. C. Ferner, M. Almeida, H. M. Sanchez Marquez, A. N. Olguin, M. Dewire, K. Wasson. The secret life of marshes and mangroves: camera trapping as a window into wildlife using North American coastal wetlands. *Conservation Biology* (in review).

Presentations

Schmitt, J. Elevation Capital, Vegetation, and Blue Carbon: Assessing Long-term Outcomes of Tidal Wetland Restoration. NERRS Science Collaborative webinar. May 2025.

Helms, A. Eelgrass and Native Oyster Declines: Restoration and Recovery Potential. Oregon Institute of Marine Biology, Coastal Environmental Science, March 5th, 2025.

Friends of South Slough Reserve, Inc.

P. O. Box 5446
Charleston, Oregon 97420

Date: 14 August 2025
From: Board of Directors, Friends of South Slough Reserve, Inc. (FOSS)
To: South Slough Management Commission
Re: Activities Report to Commission and Interested Public

FOSS, founded in 1988, supports and enhances the mission of the Reserve. Our work continues with financial and in-kind support for programs. The following summarizes our activities since the March 2025 meeting.

DSL DIRECTOR SEARCH AND MEETING:

FOSS was recognized as an important partner with DSL at the Reserve, and the Board was invited to review and contribute to the position description for a new DSL Director. FOSS president participated in one part of the interview process. We were honored to have the first opportunity for an in-person meeting with Director Kaitlin Lovell on August 12. Jeanne Standley and Christine Moffitt prepared a briefing document and reviewed it with her during the visit. We look forward to working with Director Lovell in efforts to support and enhance the South Slough NERR.

SATURDAY STEWARDS:

FOSS has partnered with South Slough on the Saturday Stewards program. Secretary Jeanne Standley represents FOSS and assists with leading the program. The partnership helps reduce staff time associated with the Stewards program and allows FOSS to engage with community members and support the Reserve with stewardship activities improving habitats such as weed pulling and planting. Last month the Stewards invited the South Coast Chapter of the Native Plant Society of Oregon to improve carnivorous plant habitat. In May the Saturday Stewards teamed up with Seven Devils Brewery to pick more than 40 pounds of Sitka Spruce tips for a special batch of South Slough Spruce Ale. A portion of the sales of this unique ale is donated to FOSS to support priority Reserve programs. Each month the Stewards work to benefit the Reserve and enjoy comradery and lunch donated by FOSS or the Coos Head Food Coop.

WASHINGTON DC CAPITAL HILL VISITS:

In late March, FOSS Vice President Todd Buchholz traveled to DC with DSL's Ellie Forness to brief members of congress and their staff, during Coast Week. Todd and Ellie joined other National Estuarine Research Reserve Association representatives to discuss the benefits of the National Estuarine Research Reserves. In June, FOSS President Christine Moffitt also visited DC and shared updates about the reserve system and NOAA related programs with Oregon Senator Merkley and Senator Wyden's staff.

FRONT DESK AND BOOKSTORE ASSISTANCE.

The FOSS Bookstore was opened for several Fridays and Saturdays, as well as some special events during May through July staffed by intern Stacie Strombom. Stacie came to the Reserve to provide leadership in Estuary Explorers program as an AmeriCorps member; however, her position was unexpectedly terminated in April. To support the reserve with this

important program the FOSS board answered the call from Reserve Manager, Patricia Fox, to retain Stacie through July. FOSS had provided financial support for the AmeriCorps Educational Intern. When the position was cut short, a new service agreement was implemented so Stacie could finish the 2025 Estuary Explorers program. In exchange for additional FOSS funding, Stacie assisted with the bookstore. She provided invaluable service to FOSS and the reserve by staffing the bookstore and offering opportunities for visitors and staff to purchase South Slough related merchandise. Sales during May through July were about \$2,200. We were pleased with Stacie's assistance to FOSS and wish her the best as she develops her skills with a new internship in Florida. We are once again exploring options for staffing the bookstore.

SUPPORT AND ENGAGEMENT IN THE PAC ENTRANCE REDESIGN:

FOSS Board continued to work with the Reserve leadership to prioritize strategies to assist and protect important projects and programs for the Reserve that could be affected by reduced Federal Funding and staffing challenges.

The Reserve successfully competed for a PAC grant to implement the design created by Civil West Engineering and HGE Architects for the entrance project. The Reserve sought approval to retain these local firms for the implementation phase. To ensure the project was implemented per the grant schedule, FOSS board committed an additional \$30,000 for salary for the Reserve Project Manager to work on this project. We appreciate and are proud to support the Reserve implement long-term goals such as the entrance redesign. At the invitation of the Reserve Manager, FOSS board members participated in design reviews in June and July.

SUPPORT FOR THE J. A. MOGAN FOUNDATION GRANT REQUEST:

FOSS submitted a letter of support for a proposal "Empowering Youth Through Nature: The Estuary Explorers After-School Program" submitted by the Reserve to the Morgan Foundation. Included in this letter of support was our promise of \$12,000 each year to support 2 years of funding. The goal of this proposal is to help establish a full-time professional as lead for the Estuary Explorers program. This grant will lay the groundwork for program continuity and efficiency.