

**SOUTH SLOUGH RESERVE MANAGEMENT COMMISSION**

**Wednesday March 20, 2024**

**167th REGULAR MEETING 10:00 am – 1:00 pm**

**PUBLIC PARTICIPATION:**

**This meeting will be held remotely.** To receive the Zoom link, please email Katherine Andreasen, South Slough Reserve Administrative Assistant, at [katherine.andreasen@dsl.oregon.gov](mailto:katherine.andreasen@dsl.oregon.gov) by noon on March 19, 2024. 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 March 19, 2024, by emailing them to: [katherine.andreasen@dsl.oregon.gov](mailto:katherine.andreasen@dsl.oregon.gov)

**AGENDA**

**I. Call-to-Order**

**II. Introductions**

1. New Reserve Manager – Patricia Fox

**III. Review of Meeting Minutes**

1. 166th regular meeting minutes from December 2023

**IV. Public Input\***

**V. Agenda Items**

1. Deal/Triangle property acquisition – *Action Item*
2. Fee Schedule – *Action Item*
3. Wasson Update- *Informational*
4. South Slough Annual Report – *Informational/presentation*
5. Other

**VI. Information Reports**

1. Administration/Facilities
2. Education
3. Coastal Training
4. Science
5. Stewardship
6. Friends of South Slough

**VII. Next scheduled meeting:** Thursday July 25, 2024, from 10 am – 1 pm

**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 166th Regular Meeting  
November 29, 2023

**Commission members present:**

Vicki Walker, Chair  
Laurabeth Barton  
John Sweet  
Cinamon Moffett

Maya Watts  
Jessica Quinlan  
Charis McGaughy

**South Slough NERR staff and others present:**

Bree Yednock  
Sabra Comet  
Alice Yeates  
Christine Moffitt, FOSS  
Jeanne Standley, FOSS  
Marlin Gochnour, Civil West Eng.  
Christopher Kinney, Civil West Eng.  
Stephanie Martell, HGE Architects  
Dominic Librie, HGE Architects  
Sean McMullen  
Erica Seiden, NOAA

Rebecca Muse  
Jennifer Kirkland  
Jaime Belanger  
Ed Oswald  
Deborah Rudd  
Ashtin Bowden  
Shon Schooler  
Ali Helms  
Kathy Andreasen  
Zachary Topor, NOAA

**The meeting was called to order at 10:03 a.m. by Vicki Walker Director of the Department of State Lands and Chair of the Commission.**

**INTRODUCTIONS**

Chair Walker welcomed Charis McGaughy, Superintendent of Coos Bay Public Schools, who has been appointed to represent local schools on the Management Commission. Members of the Friends of South Slough, Inc. (FOSS) were also given special introduction, as were the contractors from Civil West Engineering and HGE Architects, Inc.

## **APPROVAL OF THE MINUTES OF THE PREVIOUS MEETING**

**Chair Walker asked if there was a motion to approve the minutes of the previous meeting. Commissioner Quinlan moved to approve, and Commissioner Barton seconded. The motion carried with all in favor.**

## **PUBLIC INPUT**

There was no public input.

## **AGENDA ITEMS**

### **Visitor Center Entrance Improvements**

In 2021 and 2022, South Slough Reserve purchased two key properties that secured full state ownership of the entrance to the Reserve Visitor Center. These acquisitions were made possible by a NOAA PAC grant and support from the Friends of South Slough Reserve, Inc. (FOSS). The goal of these acquisitions was to create a safe and welcoming entrance to the Reserve, expand accessible parking, and add infrastructure to establish secure and reliable internet and network connectivity.

Late last year, FOSS approached Reserve management with the generous offer to contract a local company to develop an engineering plan and designs for the renovation of the entrance to the Visitor Center. FOSS was prepared to fund the work and oversee the contract. This concept was approved by the Management Commission in December 2022. In March 2023, FOSS contracted HGE Inc and Civil West Engineering for this project. The contracting team, FOSS and Reserve management met multiple times over the last eight months to come up with a design to meet the Reserve needs as well as keep the rural and natural feel of the Visitor Center. Comments and suggestions provided by Reserve staff on draft plans were incorporated where possible as the group moved through the design process. The proposed design presented to the Commission will be the first of two opportunities for public comment on the design.

The Reserve has the opportunity to apply for a FY24 NOAA Procurement, Acquisition and Construction (PAC) grant to fund this construction project. On October 25, 2023, NOAA posted the notice of federal opportunity for the FY24 PAC competition. Full applications are due in grants.gov on February 9, 2024. The design and cost estimate presented will assist in this application process.

The Design Team, comprised of local contractors from Civil West Engineering Services, Inc. and HGE Architects, Inc., presented slides of the proposed project to the Commission. The *South Slough Reserve Entrance Redesign Project Goals and Objectives* were included in the presentation:

*Entrance*

- Prioritize conservation and protection of the headwaters and aesthetics of the Reserve
- Improve traffic safety, visibility, and security
- Enhance street presence without encouraging vandalism or camping

*Parking*

- Increase capacity of parking areas while maintaining natural appearance
- Consider accessibility and electric vehicle (EV) charging
- Upgrade school bus access, drop-off, & parking
- Enhance lighting and sightlines from Visitor Center

*General*

- Connect hardwired, underground internet services from Seven Devils Road to Visitor Center
- Maintain visual and auditory buffer from adjacent properties and road
- Evaluate opportunities for “green” infrastructure

Cost estimates included an alternative to widen Seven Devils Road and create a left turn lane for safe access to the Reserve. Consultations with the county roadmaster indicate there is strong support for this improvement.

Commissioner McGaughy requested that a draft letter of support be sent to the Commission. Rebecca Muse, operations manager, augmented the discussion with information about the grant process with NOAA to fund the 1.7-million-dollar project. The project duration is estimated to be 3–5 years. The contract team fielded questions from Commissioners regarding ADA accessible pathways, and the safety of the turning radius for buses in the parking lot shown on the map. The team thanked Commissioners for their observations and feedback. Contractors clarified for Chair Walker that the designs shown are preliminary and are acceptable to submit for funding, while the next stage for the project will involve selecting materials for construction design and going out for bid.

**Chair Walker asked if there was a motion to accept the staff recommendation for the Management Commission to accept the project designs and authorize the Reserve to apply for a FY24 NOAA PAC grant to fund these improvements to the Visitor Center entrance. Commissioner Sweet moved and Commissioner Barton seconded the motion to approve the staff recommendation. The motion passed unanimously.**

Chair Walker asked FOSS President Christine Moffitt if she would like to make a comment. Christine Moffitt replied that she was very enthusiastic about the progress, and she would like to give FOSS Secretary Jeanne Standley accolades for her considerable help and determination with the project. Chair Walker

acknowledged the generous contribution from the Friends of South Slough, and she thanked everyone involved in the effort. She added that there might be a fundraising opportunity given the increased visibility of the concurrent 50<sup>th</sup> anniversary of the Reserve in 2024, and she reminded everyone of the Land Board meeting scheduled for August 2024 at South Slough Reserve.

## **Ramsar Wetland Designation**

Commissioners discussed the prospect of designating the South Slough Reserve as a “Wetland of International Importance” via the Ramsar convention. Guests Zachary Toper and Erica Seiden from NOAA were present at the meeting to answer questions from Commissioners. A handout was provided on how the Ramsar designation status has impacted California’s NERRs. NOAA’s Office for Coastal Management (NOAA OCM) has endorsed Ramsar as an “intergovernmental treaty that provides the framework for the conservation and wise use of wetlands and their resources.”

The application requirements include obtaining letters of endorsement from the Oregon Department of Fish and Wildlife as well as the State Land Board. Bree Yednock indicated that approval from the Land Board could be sought in February at the earliest.

**Chair Walker recommended that staff move forward and submit an application to designate the South Slough Reserve as a Ramsar site. Commissioner Sweet seconded. The motion was approved with all in favor.**

## **Presentation**

### **South Slough Reserve Celebrates 20 Years of Summer Science Camps**

Jaime Belanger, education coordinator gave an overview of the Reserve’s immensely popular Summer Science Day Camps. The science camps provide kids opportunities for hands-on exploration of the outdoor world through investigation, science, art, games, and laughter. Camp activities and themes vary from year to year and are planned to fit the abilities and interests of kids according to their grade in school. Five separate camps span the summer months at South Slough every other week to serve children from kindergarten through high school. Children enrolled are primarily from the local area, but every year there are some that are out-of-area, including out-of-state.

Camps have a minimum enrollment to operate, and a maximum enrollment based on vehicle capacity. Camp fees help with snacks, travel, supplies, tools, t-shirts and education intern stipends. Seasonal interns and volunteers are integral and make the camps happen for the children. Camp registration and fees are processed and managed through the commitment and expertise of the Friends of South Slough.

Commissioners greeted the presentation with excitement and suggestions. Commissioner Charis McGaughy applauded the state's predictable funding that affords these kinds of opportunities for the kids. She added that the school district could potentially partner with the Reserve to assist with lunches for the children. Commissioner John Sweet suggested the county could assist with advertising flyers. Commissioner Laura Beth Barton asked if the Reserve has considered afternoon wheelchair camps. Jaime replied that they had not and recognized it as a good idea to explore. Chair Walker thanked everyone.

### **Other**

50<sup>th</sup> anniversary - Bree Yednock said if anyone is interested in participating in the planning efforts for the Reserve's 50<sup>th</sup> anniversary celebration in 2024, virtual meetings will be held at 2 pm the first Tuesday of every month. Please contact Deborah Rudd.

Lee land trade – The DOJ is working on this with the real property team in Bend. The proposed land trade will be on the December 12 Land Board meeting agenda for approval.

Reserve boundary amendment – The public comment period for the NOAA draft has closed and no comments were received. NOAA did not notify the Reserve about the public comment period, so the Reserve's planned outreach wasn't done. Bree Yednock will explore ways public input can still be submitted and considered.

RV Host – To date has not been successful. Currently there is no cell phone coverage at the site, which has made it unattractive to potential applicants. Rebecca Muse will be looking at the possibilities of changing this, but it will take some time.

New exhibits and trail signs – Kudos to Jaime Belanger. The new trail signs look very good. The exhibits and all ADA doors should be completed by the end of June. Rebecca will request some additional funding to cover the costs.

### 2024 Meeting Schedule

Commissioners agreed on Wednesday March 20, 2024, Thursday July 25, 2024, and Wednesday November 20, 2024, for the regular business meetings.

All meetings will start at 10:00 am and end at 1:00 pm. Bree Yednock will send confirmation.

### **Information Reports**

Highlights and progress were shared.

Stewardship – Alice Yeates announced the opening ceremony for the Wasson restoration is set for Sunday May 19, 2024, with a focus on local connections. Also on July 1, 2024, guided tours of the restoration area will be held. These events will concur closely with the 50<sup>th</sup> anniversary of the Reserve.

FOSS – Reported that they are working on opening the bookstore and starting a membership drive.

### **ADJOURNMENT**

**Chair Walker asked if there was a motion to adjourn the meeting. Commissioner Sweet moved to adjourn and was seconded by Commissioner Quinlan. The motion passed and the meeting was adjourned at 1:06 p.m.**

## **Agenda Item # 1- Action Item**

### **Deal/Triangle Acquisition Approval for Due Diligence**

#### **SUBJECT**

Request for approval to initiate due diligence to use grant funding to purchase 113 acres of forestland from Coos County to expand South Slough National Estuarine Research Reserve and further protect its resources (See Appendix A).

#### **ISSUE**

Whether the Management Commission should authorize the due diligence to support the acquisition of 113 acres of land and mineral rights to increase the lands of the South Slough Reserve.

#### **AUTHORITY**

ORS 273.055; relating to the power to acquire and dispose of real property.

ORS 273.171; relating to the duties and authority of the Director.

ORS 273.316 and 273.321; relating to the exchange of state lands.

ORS 273.553; relating to the South Slough National Estuarine Research Reserve agreement between Oregon and federal government rules.

ORS 273.554; relating to the powers, membership and procedures of the South Slough National Estuarine Research Reserve Management Commission.

OAR 141-067; relating to the sale, exchange and purchase of state land.

#### **BACKGROUND**

The Reserve manages nearly 7,000 acres of natural habitat which include open water channels, tidal and freshwater wetlands, riparian areas, and forested lands. This area is managed for long-term research, education, and public recreation with a focus on the stewardship and protection of natural and cultural resources.

This proposed acquisition includes two properties owned by Coos County:

- The first property is a rectangle-shaped 100 acres, known as the “Deal property”, that will need to be separated out of three existing tax lots. This property was owned by Elwin Deal before Coos County acquired it.
- The second property, known as the “triangle property,” is a triangle-shaped 13-acre parcel along Seven Devils Road, near the South Slough Visitor Center.

South Slough staff met with the Coos County Commissioners in January 2024 and agreed on the area of land for sale for both properties. The Commissioners agreed to sell the Reserve both properties at their

yellow book appraised value. Additionally, Coos County will remove the derelict buildings of two homesteads after the purchase of the properties. See the signed agreement in Appendix B.

### **Deal Property (100 acres)**

The 100-acre Deal property is adjacent to the southern border of the Reserve and is a lowland, former-wetland pasture area with great potential for fish habitat. This area is the only suitable spawning habitat for coho salmon in the local watershed. The spawning reach is approximately three-quarters of a mile long and is located within the Coos County Forest, approximately 2 miles south of the Reserve. The Oregon Department of Fish and Wildlife conducts annual surveys for coho salmon in the spawning area and has fish traps on the Reserve to monitor adults moving upstream.

The Deal property also supports habitat for lamprey and marbled murrelet and contributes to the goals of several local and state conservation plans and priorities. In addition to the Department's Marbled Murrelet Management Plan, acquisition of this property also supports the Oregon Coast Coho Salmon Recovery Plan, the Coos Basin Coho Strategic Action Plan, Wild Rivers Land Trust's Conservation Plan, the Oregon Conservation Strategy, and Oregon's Comprehensive Land Use Plan.

Acquiring and transferring management of the Deal property to the Reserve will ensure that critical habitat for threatened and endangered species is not only protected in perpetuity, but that efforts to improve habitat for these species will be prioritized as well.

### **Triangle Property (13 acres)**

The triangle property consists of 13 acres of upland forest along Seven Devils Road with Reserve land behind the property to the north and east. An old road runs through the property and serves to access the land behind it. Acquiring this land would improve access to the Reserve and prevent future timber harvest on lands adjacent to the Reserve. Coos County wants to sell the Reserve the triangle property because the size and position make it unsuitable for commercial forestry.

### **NERRS Grant Funding Opportunity**

With several million dollars recently becoming available to National Estuarine Research Reserves (NERRS) through the Bipartisan Infrastructure Law (BIL), the Reserve is in a favorable position to resume this acquisition project. In 2022, the Reserve received capacity-building funding from National Oceanic and Atmospheric Administration (NOAA) and partnered with the Wild Rivers Land Trust to complete preliminary due diligence activities and develop a grant proposal for the next round of the NOAA-NERRS-BIL competitive funding program.

Following a favorably ranked pre-proposal, the Reserve submitted a full grant proposal to NOAA in February 2024, for the purchase and restoration of the properties.

### **PUBLIC INVOLVEMENT**

The Reserve will collaborate with Coos County and the Wild Rivers Land Trust to acquire and transfer the properties to Reserve management. The Reserve regularly partners with all the three federally recognized Tribes on the Oregon Coast: the Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians (CTCLUSI), the Coquille Indian Tribe, and the Confederated Tribes of Siletz Indians. The property acquisition has been discussed with the Coquille Indian Tribe and the CTCLUSI, and the Coos Basin Coho Partnership supports this initiative due to the alignment with the Reserve's mission and Tribal priorities.

## **RECOMMENDATION**

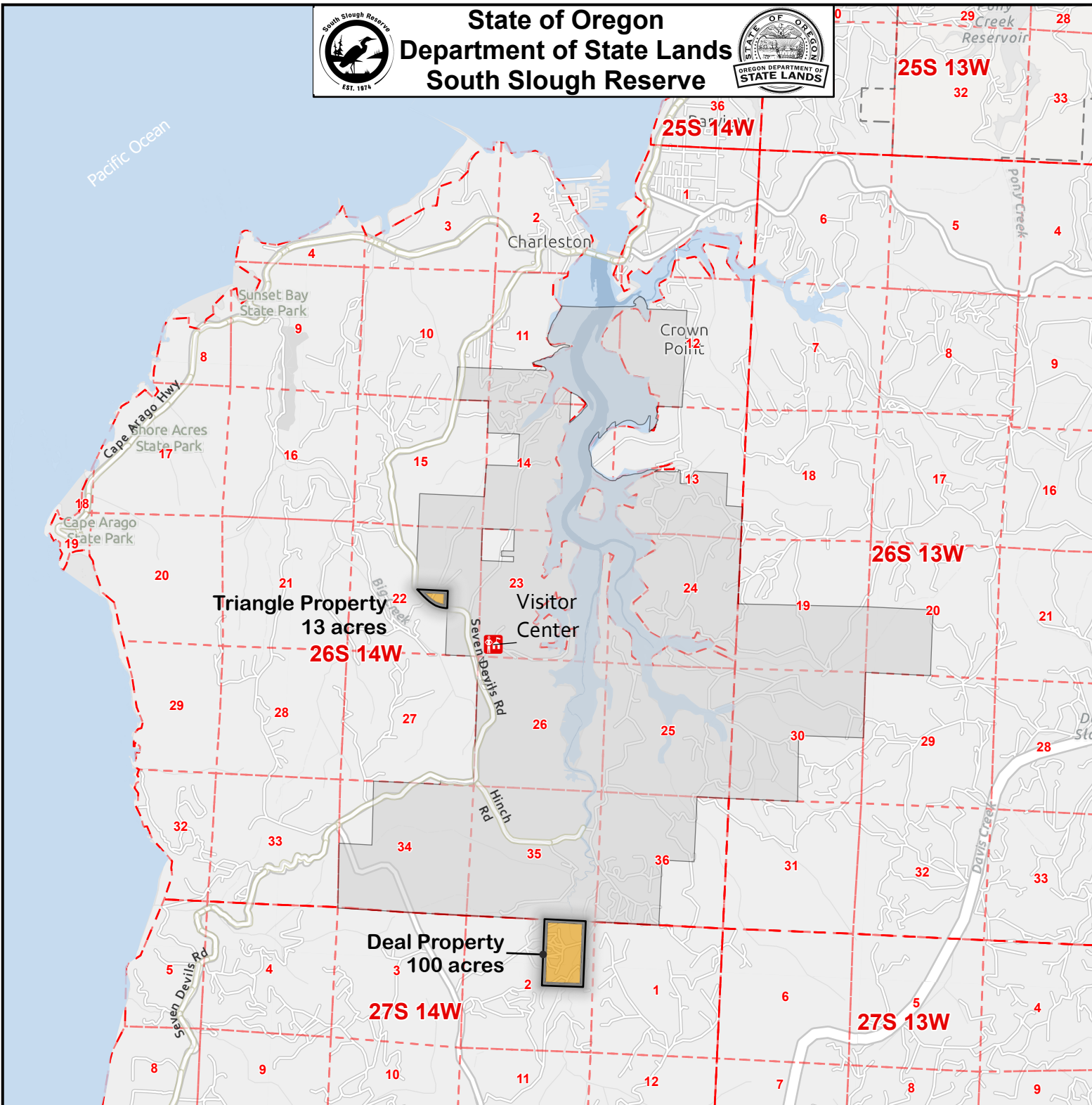
The Department recommends the South Slough Management Commission authorize the Reserve, through the Department of State Lands' Real Property staff, to complete due diligence work in support of the acquisition of land and mineral rights for the Deal property (100 acres) and the triangle property (13 acres).

## **APPENDICES**

- A. Map of Properties
- B. Coos County Letter of Intent






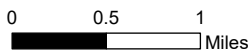
State of Oregon  
Department of State Lands  
South Slough Reserve



**Appendix A – South Slough Reserve Land Acquisition from Coos County**

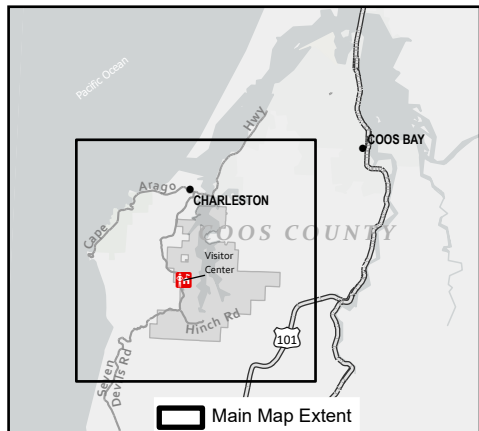
T26S, R14W Section 22 & T27S, R14W Section 2  
Coos County

-  Visitor Center
-  Reserve Boundary
-  Parcels of Interest



Map Projection:  
Oregon Statewide Lambert  
Datum NAD83  
International Feet

State of Oregon  
Department of State Lands  
775 Summer St NE, Suite 100  
Salem, OR 97301  
503-986-5200  
[www.oregon.gov/DSL](http://www.oregon.gov/DSL)



*This map depicts the approximate location and extent of a Department of State Lands Proprietary authorization for use. This product is for informational purposes only and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.*



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**ROD TAYLOR**

**JOHN SWEET**

**ROBERT "BOB" MAIN**

January 23, 2024

National Oceanic and Atmospheric Administration  
National Ocean Service  
Department of Commerce

RE: South Slough Reserve Land Acquisition CRRC grant

To Whom it May Concern,

The Coos County Board of Commissioners welcomes the opportunity to work with the South Slough National Estuarine Research Reserve on the proposed acquisition project that would transfer two properties adjacent to the Reserve from Coos County ownership to the Department of State Lands to be managed by South Slough Reserve.

The properties include one 100-acre property located in Coos County at Township 27S, Range 14W, Section 00, including all of Tax Lot 203 and parts of Tax Lots 200 and 204. The property includes a section of Winchester Creek including approximately 54 acres of wetland and 46 acres of upland forest. The property also includes 2 derelict homesteads which will be removed by Coos County after appraisals and due diligence activities have been completed and the ownership transferred to the Department of State Lands.

The second parcel is a 13-acre property located in Coos County at Township 26S, Range 14W, Section 22, Tax Lot 1700. The property is located along Seven Devils Road and is within the South Slough watershed and adjacent to Reserve lands.

As current owners of the property, we agree to work with the South Slough Reserve to outline appraisal conditions that meet the needs of both parties and identify a qualified appraiser to complete the required Yellow Book appraisal. We also agree to sell the two properties to the Department of State Lands for the appraised price. We understand that due diligence, appraisals, and closing costs will be funded by the proposed grant budget.

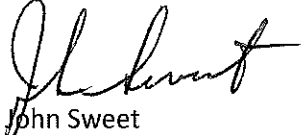
We support this project and look forward to continuing a partnership with the South Slough Reserve as we both manage lands on behalf of Coos County residents.

If you have any questions, please contact Lance Morgan, Coos County Forester at 541-396-7750 or [lmorgan@co.coos.or.us](mailto:lmorgan@co.coos.or.us)

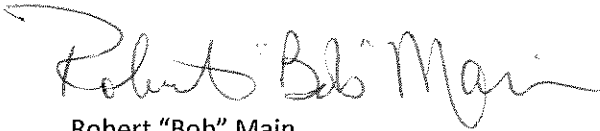
Sincerely,



Rod Taylor  
Chairman



John Sweet  
Commissioner



Robert "Bob" Main  
Commissioner

**Agenda Item # 2 – Action Item: Report on Fees Collected in 2022 and 2023**

**Subject**

Review by the Management Commission of the Reserve’s fee schedule and report from 2022-2023, and consideration of staff recommendation for fees in 2024 and 2025.

**Authority**

ORS273.553; relating to the management policy of the South Slough National Estuarine Research Reserve

ORS273.554 and ORS Chapter 183; relating to the authority of the South Slough National Estuarine Research Reserve Management Commission’s to adopt rules necessary to carry out ORS 273.553

OAR 142-015-0040; relating to the biennial review of fees by the Management Commission.

**Summary**

Per OAR 142-015-0040, the Reserve Manager must prepare a report and recommendations on fees to be considered by the Commission at its first meeting of each even-numbered year. At this meeting, the Commission shall review the report and adopt a new fee schedule.

The last time the fee schedule was reviewed was in March 2022. The statistics below cover the period of January 1, 2022, through December 2023. All facilities were closed to the public due to the COVID pandemic from January 1, 2020 – April 30, 2022.

**I. Spruce Ranch**

<b><u>Current Rates:</u></b>		
Spruce Ranch House	\$25/night	\$250/month
Spruce Ranch Yurts	\$25/night	\$250/month
Spruce Ranch Camping	\$15/night	n/a

Residents typically include South Slough interns, visiting researchers on SSNERR projects, visiting researchers on non-SSNERR projects, partner staff and DSL/SSNERR staff

Income generated from Spruce Ranch: \$ 2,900 (increased from last report by \$750)  
Total utility costs for Spruce Ranch: \$2,304.86  
Net gain: \$595.14

Spruce Ranch reopened May 1, 2022, due to COVID 19 closures.

Residents during 2022-2023:

Paying Residents

**Interns/Staff from partners that needed housing**

- BLM, OSU and ODFW staff

Non-paying Residents

**Residents not required to pay due to SSNERR related research, agreement, or internal Department of State Lands (DSL)**

- DSL staff, Margaret Davidson Fellow, Interns, Researchers, TOTE teachers, AmeriCorps staff

**II. Auditorium Statistics**

**Current Rate: \$100.00 for up to 4 hours/ \$150 for up to 8 hours**

- Income generated from Auditorium rental: \$725.00
- Utility costs are integrated with the Interpretive Center so no way to breakdown.
- Multiple different renters, including:  
General public, Coos Watershed Association, Natures Conservancy  
Coquille Indian Tribe, South Coast Early Learning Hub, Ford Family  
Foundation

**III. Cost Comparison – local rates as of March 2024**

<b>Housing Rate Comparisons</b>			
SOCC Housing	Private Room	\$3,093/term	\$103/day average
(include meals/11 wk)	Double Room	\$2,653/term	\$88/day average
**New arrivals prior to the scheduled move-in dates each term are charged \$100 per day			
**\$250.00 housing deposit/\$30/term social fee for long term residents			
OIMB Housing	Single room (Security Deposit \$100.00)	Dorm rooms \$20/night \$100/week \$200/month	Auditorium (per day) - \$ 150.00
OIMB Housing	Cottages (depending on which unit)	\$50-150/night \$250-1000/week \$500-1000/month	

<b>Meeting Room Rate Comparisons</b>				
Coos Bay History Museum	\$35 - \$100/hour  Dependent on room	\$15-40/hour  Non-Profit discount	\$50/hour  for after- hours Staffing	15% discount for Friends Members
Mill Casino	Sets custom rates depending on number in group and needs			
Coos Art Museum	\$115-190/hour Dependent on room	\$25-35/hour classroom	\$15-25/hour Prefontaine Meeting room	
North Bend Public Library	\$75/3 hours room for 96	\$100/4 hours	\$150/6 hours	\$175/8 or more hours

**Recommendations for Fee Schedule for 2024**

Reserve staff recommend the Commission maintain the existing fee schedule. Considering our remote location, the existing fees are still comparable to local rentals.



2023

# *Living Laboratory*

*Annual Report of the South Slough National Estuarine Research Reserve*

**OREGON DEPARTMENT OF STATE LANDS**



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Appendix A: Reserve Partners



# REPORT

## AT-A-GLANCE

The Department of State Lands is the state partner for the South Slough National Estuarine Research Reserve on the southern Oregon coast. The Reserve manages nearly 7,000 acres of natural habitat which includes open water channels, tidal and freshwater wetlands, riparian areas, and forested lands.

South Slough Reserve is a cornerstone of recreation, education, science, and coastal training, providing rich opportunities for the local community and visitors alike to learn about and explore estuaries. 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.

This **South Slough National Estuarine Research Reserve 2023 Annual Report** highlights program accomplishments during the 2023 calendar year and reviews revenue and spending.

### 2023 Key Achievements

**Over \$3.5 million** raised for implementation and monitoring of the Wasson Creek Restoration Project

**Inaugural drone program** launched to help with research, monitoring, and outreach

**\$1.634 million in funds leveraged** to support Reserve activities—38% more funding than leveraged in fiscal year 2022 (\$1,179,249)

**4,413 hours of learning** offered to the public and schools via field trips, summer camps, interpretive programming, and teacher professional development

**15 college and 3 high school interns** contributed 4,089 hours of service in the areas of research, education, communications, and stewardship

**508,406 square feet of invasive weeds** removed from the Reserve by volunteers as part of the Second Saturday Stewards program



# *SOUTH SLOUGH RESERVE*

## **OVERVIEW**

South Slough Reserve was designated in 1974 as the first unit of the National Estuarine Research Reserve System, which has since grown to a network of 30 reserves that protect more than 1.3 million acres of coastal areas across the country for long-term research, education, stewardship, and recreation. Each reserve is managed in partnership with the National Oceanic and Atmospheric Administration and coastal states. The Oregon Department of State Lands partners with NOAA to oversee the Reserve.

Reserve programs include Education, Research and Monitoring, Coastal Training, and Stewardship. These programs help people of all ages learn about estuaries and coastal watersheds; provide scientific information for coastal planning, resource management, and decision-making; conduct research and monitor ecological change over time; and manage and maintain Reserve land and facilities. These efforts collectively enhance scientific and public understanding of estuaries and contribute to improved estuarine management.

The Reserve's immediate governing body is the South Slough National Estuarine Research Reserve Management Commission, which includes nine governor-appointed members and the director of Oregon Department of State Lands, who serves as chair. The Commission establishes the Reserve's operating policies and administrative rules.

### **Tribal Partnerships**

The Reserve recognizes its location on the traditional lands of the Miluk Coos people who have managed this area for abundance since time immemorial. To ensure ongoing and sound stewardship of this special place and protection of its cultural resources, the Reserve relies on regular consultation and partnership with the Confederated Tribes of the Coos, Lower Umpqua and Siuslaw Indians (CTCLUSI); Coquille Indian Tribe; and Confederated Tribes of Siletz Indians. The Reserve values regular input from Tribal staff participating on the Reserve Management Commission and serving on technical advisory groups. Staff also maintain close contact with the Tribes' Tribal Historic Preservation Officers to assess potential impacts of Reserve projects on cultural resources and take measures to avoid or mitigate any negative impacts.

In 2023, Reserve staff partnered with Tribal staff

CTCLUSI Tribal Elder, John Schaefer, offers cultural knowledge to researchers from the Pacific Birds Habitat Joint Venture, Monica Iglecia and Laura Farwell, during their visit to the Wasson Creek Restoration Project.



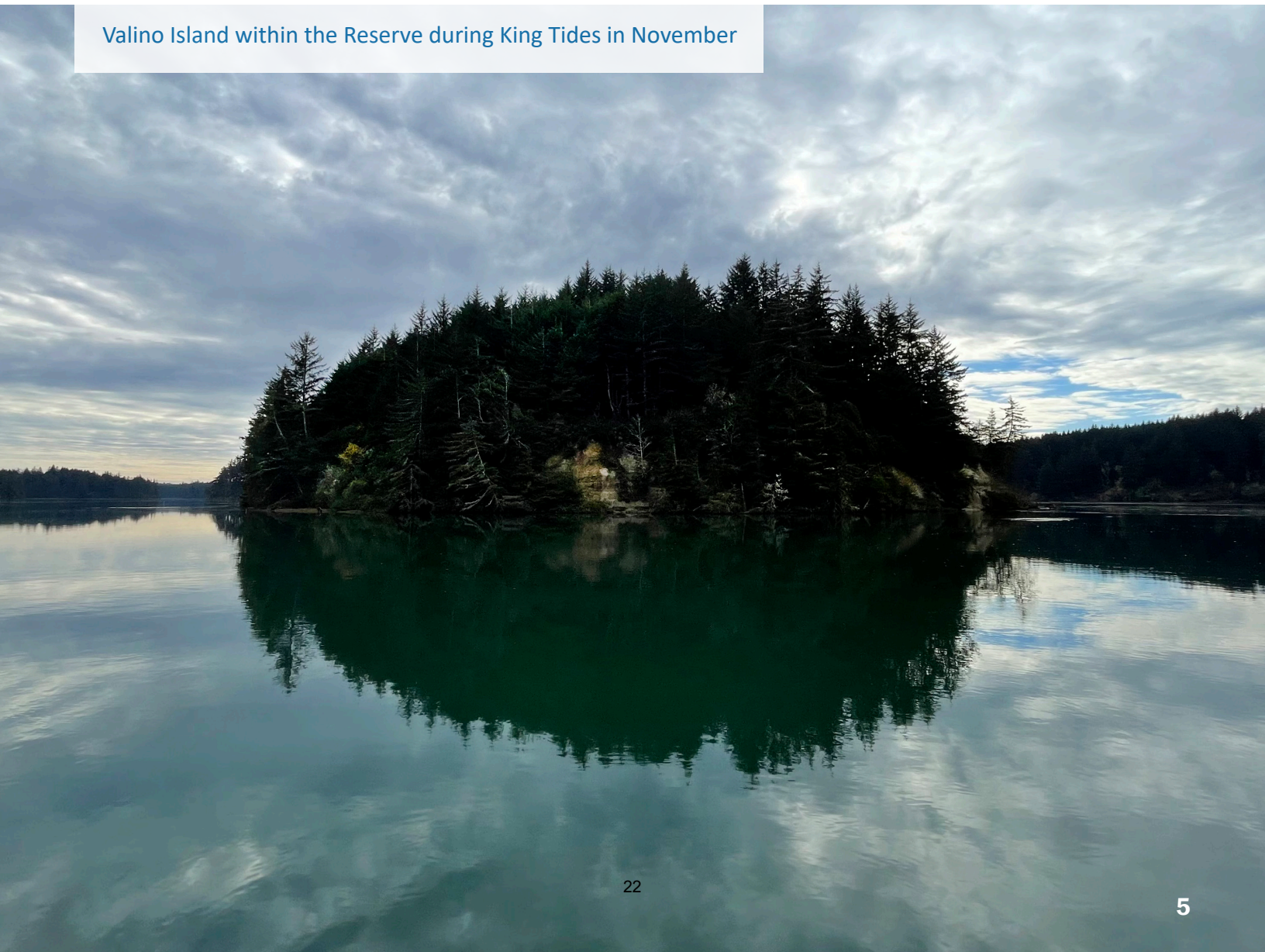
on education and training programs, research and monitoring projects, and stewardship work. For example, Reserve staff hosted multiple days of the Coquille Indian Tribes' Summer Camp, engaged with Tribal staff to incorporate cultural content into the designs for the new exhibits at the Reserve's visitor center, provided stewardship opportunities for Tribal youth, and collaborated on multiple science projects.

### Plans and Priorities

South Slough Reserve's programming and decision-making is guided by two key planning documents: the Department's 2022-2027 Strategic Plan and the Reserve's 2017-2022 Management Plan. The Reserve management plan outlines a Reserve-specific vision, mission, and overarching goals as well as a detailed strategic planning framework linked to the Reserve's Priority Focus Areas: Climate Change, Habitat Protection and Restoration, and Invasive Species.

In 2023, staff paused updating the Reserve management plan to focus capacity on completing the federal process for amending the Reserve's boundary to include all the lands acquired by the Reserve since 2008. With the boundary amendment nearing completion, Reserve staff will resume updating the management plan in 2024 to include the new boundary area.

Valino Island within the Reserve during King Tides in November





## RESERVE PROGRAM: **EDUCATION**

All programs of South Slough Reserve promote increased understanding and connection to the estuary through learning. The Education Program serves teachers, students, and community members from the local area, across Oregon, and beyond.

During 2023, the Reserve served:

- Regular school programming, such as classroom visits and field trips, for 2,120 students
- Four-week after-school Estuary Explorers program for 19 elementary students
- Spring break and summer science day camps for 108 kids
- Community classes and outreach events for 3,206 people

The Visitor Center was open Tuesday through Saturday from 10 AM to 4 PM, welcoming 3,055 people over 253 days.



Summer Science campers build a model beaver dam

### Digitizing Program Surveys

During spring 2023, Education Program staff and interns created digital program evaluation forms for school and community education participants. At the end of a school field trip or community program, participants are invited to scan a QR code and complete a short survey to help staff, interns, and volunteers identify what aspects of the program are working well and areas for improvement.

Converting the evaluation forms to short, online formats is making it much easier for the Education team to collect and analyze feedback from participants of these program areas. Previously the feedback for these programs was collected through paper surveys, or through a document sent with an email, requiring the data to be entered manually before it could be analyzed. Providing participants with an opportunity to respond immediately after a program, rather than hours or days later via email, has also increased the response rates for feedback.

Survey results were also overwhelmingly positive. For example, results from school field trips showed:

- 100% of participants found the education programs to be engaging and thought provoking
- 98% of teachers noted the curriculum was age appropriate and met curriculum outcomes
- Instructors received 4.9 stars out of 5 for knowledge and enthusiasm

The Education team is excited about the success of this transition and the information received through the evaluations. In the future, surveys can also be used to evaluate participants' understanding of Reserve priority issues and effectiveness of Reserve communication techniques.

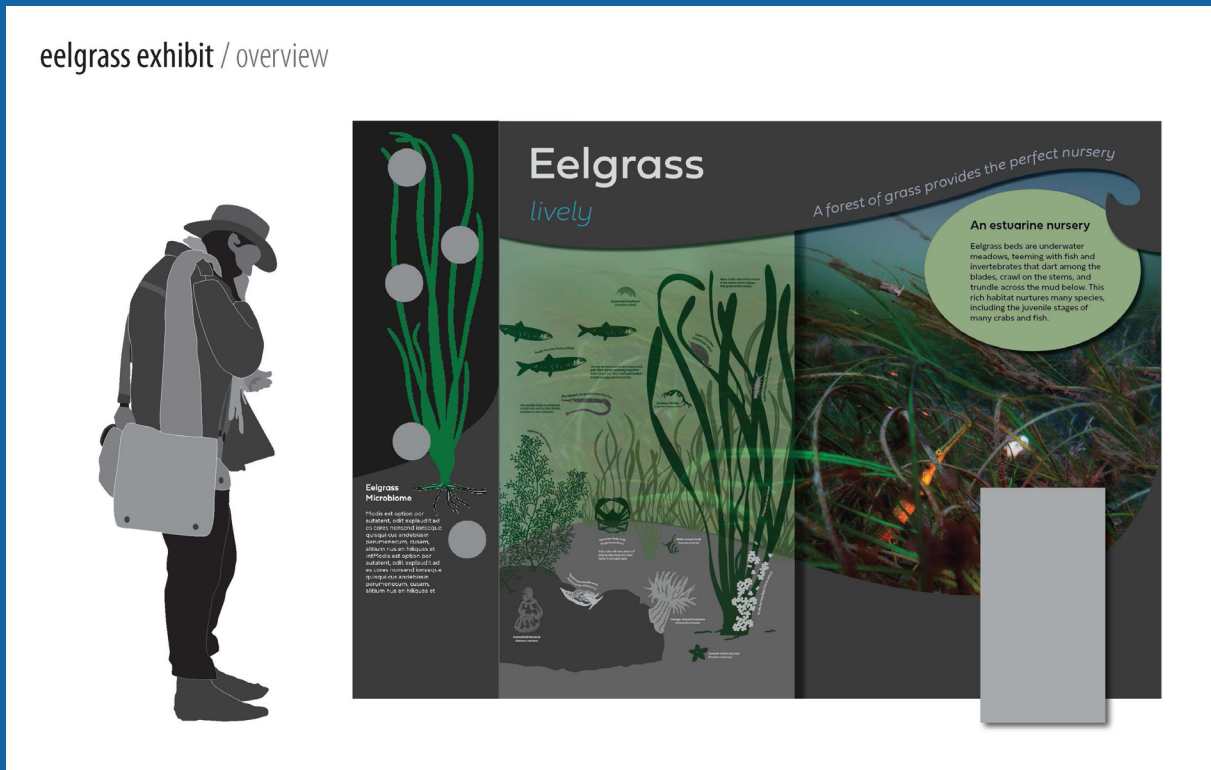
### Updating Interpretive Exhibits

The Reserve is working to update the interpretive exhibits inside the Visitor Center. Much has changed at the Reserve and in Oregon since the existing exhibits were designed twenty years ago. The new exhibits incorporate human stories and experiences as well as make improvements in accessibility and inclusivity so that all visitors can interact and learn.

Starting in 2022, Reserve staff and partners met with contractor, Content Design Collaborative, to kick off the development of detailed plans and drawings. This year, the Reserve contracted Sea Reach to implement design, writing, and fabrication based on the 2022 plans. A working group comprised of cultural staff from the CTCLUSI, the Coquille Indian Tribe, and the Confederated Tribes of Siletz Indians meets regularly with the Reserve Education Coordinator, Jaime Belanger, to ensure accurate and meaningful incorporation of Tribal culture and stewardship information. Reserve staff from all program areas are contributing information, ideas, and feedback to ensure that the natural history, science, and reserve activity is captured and communicated effectively. Updated exhibits will be installed by the end of June 2024 and highlighted during the 50th anniversary celebrations.

The work is funded through a NOAA Procurement, Acquisition, and Construction (PAC) grant, which also included updates to the public restrooms and installation of automatic doors to increase accessibility and inclusion for Reserve visitors.

### Draft Exhibition Design





## RESERVE PROGRAM: **STEWARDSHIP**

The Stewardship Program connects people to place, strengthens relationships with lands and waters, provides opportunities for people to contribute to the wellbeing of coastal watersheds, and facilitates co-stewardship with Tribal Nations on ancestral lands. In 2023, the stewardship team:

- Actively engaged with 460 students
- 23 members of the public participated in stewardship activities
- Gave public presentations to 245 people
- Partnered with more than 41 local natural and/or cultural resource professionals.

### Wasson Creek Restoration Project

One of the Focus Projects of the Department's 2022-2027 Strategic Plan, the Wasson Creek Restoration Project is a unique watershed-scale restoration project that has been decades in the planning. The Project will benefit fish and birds—including culturally important species such as coho salmon and lamprey and endangered species such as the marbled murrelet—as well as other wildlife and people.

The Wasson Creek Restoration Project project will not only restore a 525-acre watershed, but it will also serve as a living classroom so that we can learn from and improve restoration practices at the local, national, and global scale. Over \$3.5 million has been received for implementation and monitoring of the Project in 2023. Much of this funding is supporting jobs through hiring contractors and researchers, providing internships, and supporting staff at the Reserve. Funding is coming from:

- The National Estuarine Research Reserve System Habitat Protection and Restoration funds made possible by the Bipartisan Infrastructure Law (\$3,535,900)
- The Coos Basin Coho Partnership (\$300,000)
- The U.S. Fish and Wildlife Service Coastal Program (\$64,203)
- The Coquille Tribal Community Funds (\$5,000)



Removal of English ivy, an invasive plant that weakens and kills trees, from the Reserve

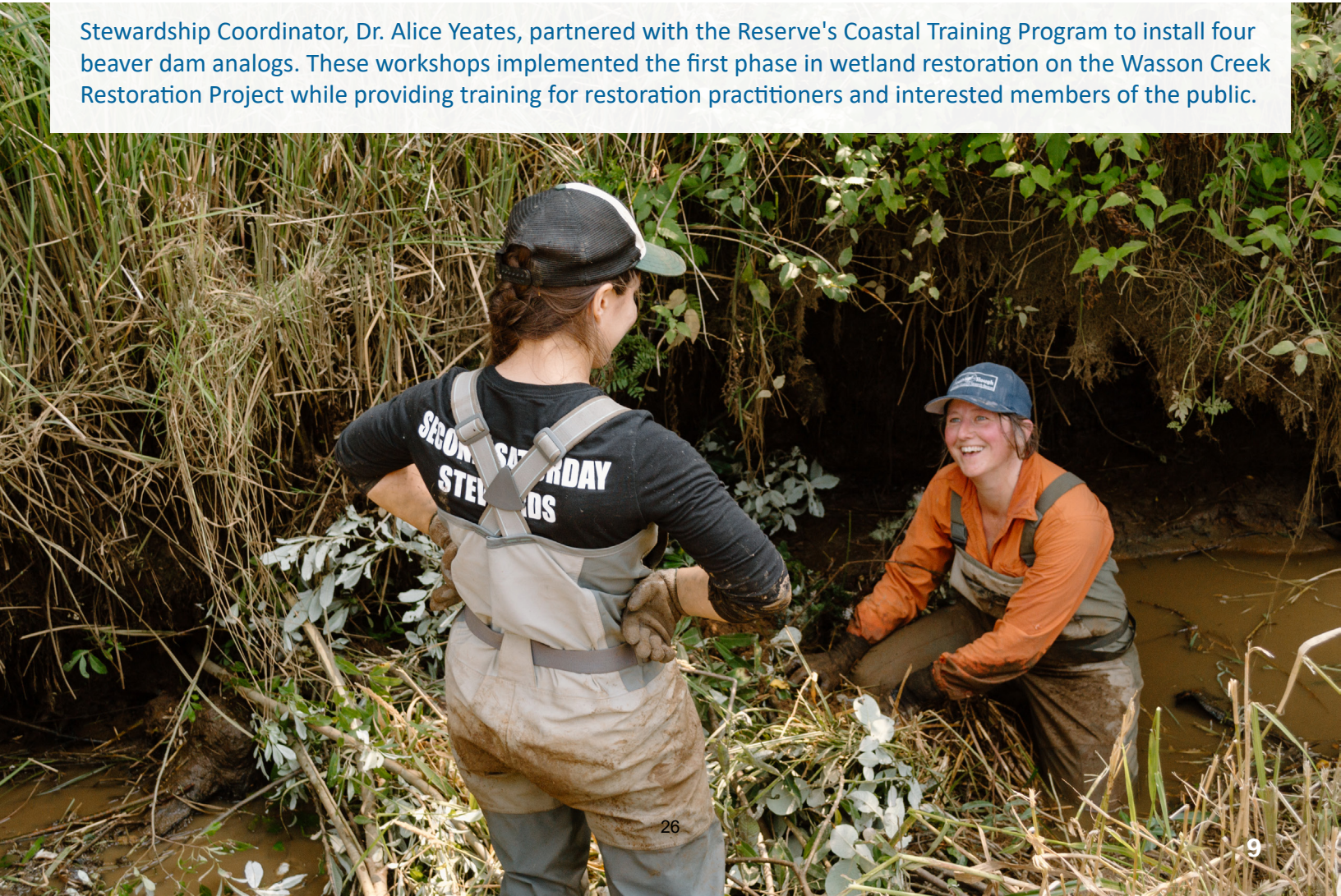
In 2023, the Wasson Creek Restoration Project restoration team—made up of Reserve staff, partners, volunteers, and interns—moved the project forward through:

1. Environmental compliance and permit completion for beaver dam analogs
2. Pre-restoration monitoring
3. Restoration implementation
4. Community engagement

With funding secured and progress made, the Reserve estimates restoration project completion by March 2026. This is an adjustment from the Department's 2022-2027 Strategic Plan which cited 2025 for completion. Major Tasks highlighted in the 2022-2027 Strategic Plan are on track:

MAJOR TASKS FROM DSL 2022-2027 STRATEGIC PLAN	CURRENT STATUS OF MAJOR TASKS
Develop restoration plan for forested uplands	Completed 2021
Update restoration plan for wetlands	Completed 2022
Pre-restoration monitoring	Extensive pre-restoration work has been completed, will be ongoing until restoration commences
Complete forested uplands restoration work	Completed phase 1 (45-acres) in 2022

Stewardship Coordinator, Dr. Alice Yeates, partnered with the Reserve's Coastal Training Program to install four beaver dam analogs. These workshops implemented the first phase in wetland restoration on the Wasson Creek Restoration Project while providing training for restoration practitioners and interested members of the public.





# RESERVE PROGRAM: COASTAL TRAINING

The Coastal Training Program provides training and technical assistance to coastal decision makers, natural resource managers, and restoration practitioners to support science-based coastal and estuarine management.

During 2023, the Coastal Training Program offered eight trainings attended by a total of 125 participants.

Training topics included:

- Creating infographics
- Geographic Info Systems (GIS) remote sensing techniques and climate change impacts
- Accessible trail design
- Biochar kiln usage and demonstration
- Creating defensible space around structures
- Installing beaver dam analogs for restoration
- An overview of Oregon’s coastal planning goals for local and city planners

Trainings were hosted in partnership with:

- South Coast GIS Users group
- Wilson Biochar Associates
- OSU Extension program, Coos Forest Protective Association
- Oregon Department of Forestry
- Trailkeepers of Oregon
- U.S. Fish and Wildlife Service
- Oregon Department of Land Conservation and Development

## Biochar Kiln Demonstration

In 2023, the Reserve’s Coastal Training Program hosted a training for natural resource managers as well as practitioners in forestry and restoration fields to get hands-on experience building a fire in a biochar kiln. Biochar is a low-emission fertilizer made from partially burning woody debris. This debris is usually a waste product, from timber operations and forest thinning treatments, that would otherwise require expensive or emissions-heavy disposal.

During breaks from tending the kiln the group had a robust discussion around using biochar as a forest management tool and the resulting char for carbon sequestration. Twenty participants and six instructors from as far away as northern California and the Portland metro area came away from the program with solid ideas and enthusiasm for utilizing biochar in their respective jurisdictions.





Reserve maintenance staff, Jonathan Forth, cooling the kiln while Dr. Chris Adlam, Regional Fire Specialist with Oregon State University, takes measurements with a temperature meter.

Coastal Training Program Coordinator Sabra Comet worked with Stewardship Coordinator Dr. Alice Yeates and Reserve Park Ranger Jonathan Forth to deliver the training. The Reserve contracted Wilson Biochar to conduct the demonstration using a kiln the Reserve had purchased in 2022. Feedback from speakers and participants was overwhelmingly positive and there are requests to make it a repeat program. Plans are already in the works to schedule more biochar kiln trainings to coincide with key steps in the Wasson Creek Watershed Restoration Project.

Additionally, several Reserve volunteers with video production experience created a [short informational video](#) of the biochar kiln operation and benefits, interviewing subject matter experts throughout the process. The video can be found on the Reserve website.

Since the training, Oregon Department of Forestry has borrowed and tested the Reserve's kiln for management of sudden oak death, a large concern for the timber industry of Curry and Coos counties. Use of the kiln was reported to be effective for rendering affected foliage during Forestry's culling efforts. In between workshops, the Reserve kiln will continue to be loaned to local groups for use in their own forest management projects.



## RESERVE PROGRAM:

# RESEARCH & MONITORING

The Research and Monitoring Program improves scientific understanding of estuaries and coastal watersheds through application of research, monitoring, and education to inform coastal management. The Program team expands capacity through collaborations and partnerships with academic, federal, state, nonprofit, and Tribal scientists as well as natural resource managers. In 2023, Reserve staff and partners:

- Conducted 36 research and monitoring projects
- Leveraged limited resources to increase productivity
- Facilitated collaborative learning experiences
- Improved understanding of estuarine, wetland, and upland ecosystems

These collaborations have resulted in numerous technical working groups, grant-funded projects, presentations, reports, and scientific publications.

### Wetland Restoration Over Time

With a decades-long history of restoration science, South Slough Reserve serves as a long-term living laboratory to understand the effectiveness of restoration methods and projects. The Mature Restoration Analysis is funded by National Estuarine Research Reserve System Science Collaborative and led by Dr. Chris Janousek from Oregon State University. The effort is a collaboration across west coast states and includes four Reserves. The project is researching the status and trajectory of the oldest regional tidal wetland projects to better understand restoration effectiveness and outcomes. The results will inform future restoration efforts.

Reserve staff are included on the project team to:

- Help coordinate engagement with decision makers and stakeholders
- Present results to regional and national audiences
- Provide local and technical knowledge
- Collect data at wetlands in the Coos estuary
- Assist with data acquisition in Oregon
- Develop education and outreach products

In 2023, Reserve staff and interns joined Oregon State University to collect vegetation and elevation data at sites in South Slough. The project team is planning a 2024 decision makers workshop at South Slough to disseminate findings.

*"I am a cultural anthropologist researching the social impact of debris that washed ashore from the 2011 tsunami and aquatic hitchhikers. This was a very important experience for me. I am deeply grateful for your cooperation."*

Dr. Taichi Uchio, Faculty of Global Studies at Reitaku University in Japan, after joining Reserve scientists and interns to survey Green Crabs over two days in August 2023.

### Supporting Graduate Fellows

The National Estuarine Research Reserve System program supports graduate students through the two-year NOAA Margaret A. Davidson Graduate Fellowship Program. Fellows work on the Reserve's coastal management priorities including climate change, habitat protection, and invasive species.

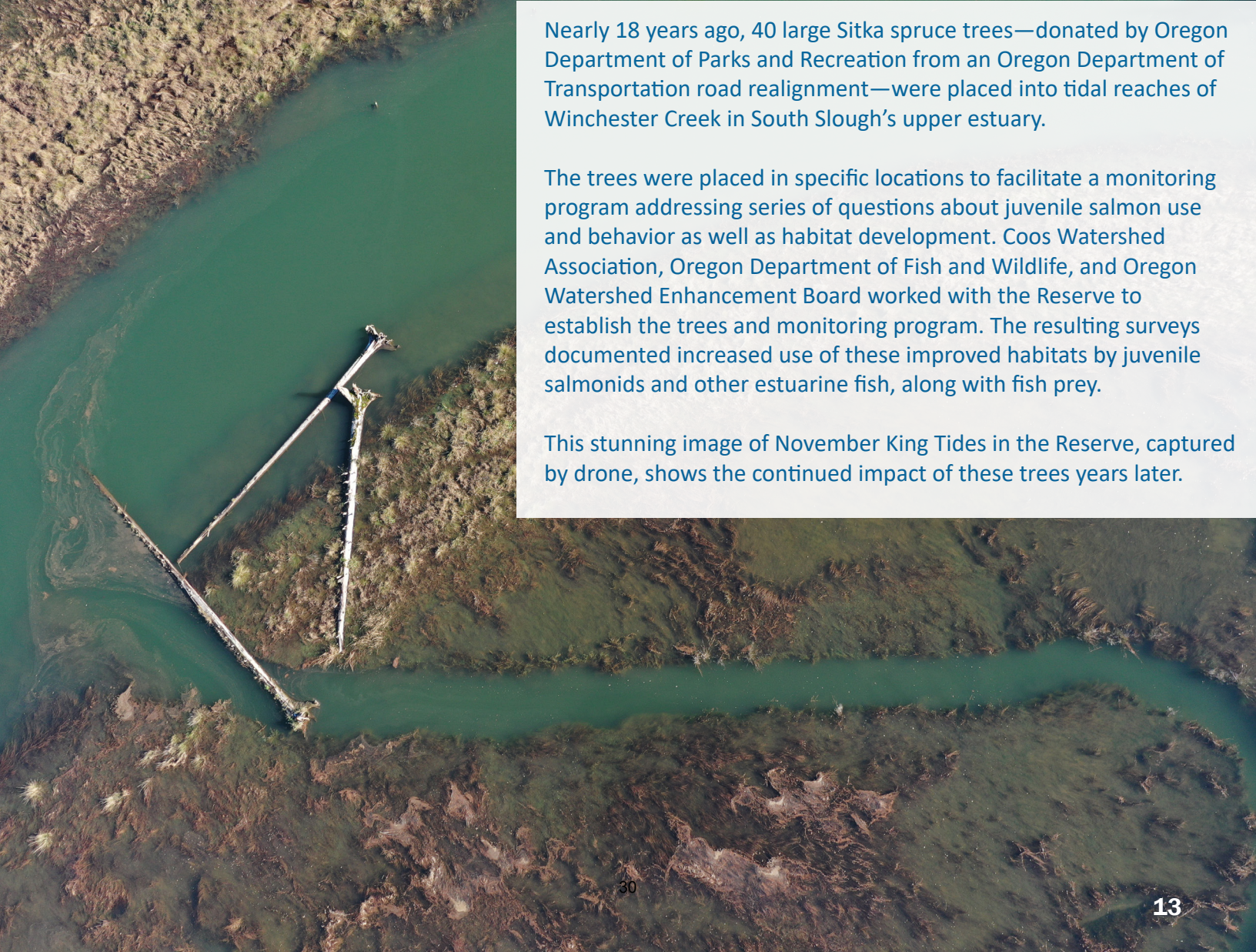
Taylor Dodrill, a PhD student from Portland State University and the Reserve's 2020-2022 fellow, conducted research to help predict the occurrence and effects of harmful algal blooms in South Slough, Coos estuary, and Tenmile Lakes. She completed her dissertation in October 2023.

Lara Breitzkreutz, a MS student from Oregon State University and the Reserve's 2022-2024 fellow, is evaluating recovery potential of eelgrass from seed banks under ambient and warming conditions in the Coos estuary.

### Launching an Uncrewed Aerial Systems program

Over the past year, Science staff led by GIS Specialist Jennifer Kirkland have been developing an Uncrewed Aerial Systems (UAS) program. Monitoring and mapping habitats in the Reserve such as eelgrass beds, emergent marsh, upland forests, and the Sitka spruce swamp will be greatly enhanced by the UAS program. Other benefits include helping Reserve Science staff study the progress of restoration projects, assess vegetation health, and track wetland responses to sea-level rise and other environmental stressors, as well as acquiring beautiful landscape photos for outreach and education purposes.

Jennifer Kirkland has completed the requirements to obtain her Federal Aviation Administration remote pilot (Part 107) certificate and has begun testing imagery acquisition and image processing methods. To aid in her work, the Reserve has acquired three UAS platforms, two smaller units for standard photography and one larger unit that can carry more sophisticated sensors.



Nearly 18 years ago, 40 large Sitka spruce trees—donated by Oregon Department of Parks and Recreation from an Oregon Department of Transportation road realignment—were placed into tidal reaches of Winchester Creek in South Slough's upper estuary.

The trees were placed in specific locations to facilitate a monitoring program addressing series of questions about juvenile salmon use and behavior as well as habitat development. Coos Watershed Association, Oregon Department of Fish and Wildlife, and Oregon Watershed Enhancement Board worked with the Reserve to establish the trees and monitoring program. The resulting surveys documented increased use of these improved habitats by juvenile salmonids and other estuarine fish, along with fish prey.

This stunning image of November King Tides in the Reserve, captured by drone, shows the continued impact of these trees years later.



# PUBLIC INVOLVEMENT

Reserve staff strive to give the public an opportunity to make meaningful connections to South Slough Reserve through volunteer and internship opportunities as well as informational outreach events around the community. In turn, volunteers and interns provide support and assistance to the Reserve by helping fulfill its operational, research, stewardship, and education goals. From January to December 2023, 49 volunteers and interns put in 4,795 hours valued at \$151,419.

Interns from summer 2023 returning to fixed points where the marsh level is measured repeatedly.

The survival of tidal wetlands depends on the intricate relationship between sea level and marsh elevation.



## Internship Program Improvements

The South Slough Reserve Internship Program has been providing quality educational experiences for high school and college students, as well as those re-entering the workforce or changing careers, since 2013. As of December 2023, the Reserve has hosted 118 interns who spent an average of 100-300 hours of job training with a staff mentor.

The Reserve made significant improvements to its internship program in 2023, including incorporating a toolkit from the Oregon Department of Administrative Services for state internship programs. The Reserve’s Public Involvement Coordinator, Operations Manager, and DSL Human Resources staff worked together to set up administration of monthly stipend awards provided through grants and the Friends of South Slough. Previously, administration and dispersal of stipend awards was done directly through the Friends of South Slough on a limited basis. As of December 2023, 19 of the 118 internships have been directly administered through the Department and South Slough Reserve.

## Volunteer Program Communications and Engagement

The Reserve continually works to update volunteer program management. Since 2021, volunteers have been able to report their hours via an online form which they can access with a QR code or link. This has helped to streamline the tracking of volunteer hours. Volunteers are recognized annually by the Management Commission, as well as by Reserve staff at every opportunity.

## Second Saturday Stewards

Through collaboration between Reserve Stewardship Coordinator Dr. Alice Yeates, Public Involvement Coordinator Deborah Rudd, and Park Ranger Assistant Jonathan Forth, a program was set up in 2019 to engage volunteers in the monitoring of invasive species through the Second Saturday Stewards program. A regular group of volunteers meet every second Saturday of the month for two hours to help remove and learn about invasive species. Thanks to the generosity of the local Coos Head Food Coop, stewardship volunteers are provided a meal after each session. As of December 2023, the Second Saturday Stewards have removed 508,406 square feet of invasive weeds and 24 industrial size bags of trash from Reserve lands.



# FACILITIES AND LAND

## MANAGEMENT PROJECTS

### Progress on New Entrance to the Reserve

In 2023, the Reserve partnered with the Friends of South Slough to reconfigure the entrance to the South Slough Reserve Visitor Center from Seven Devil’s Road. The goal of the redesign is to create a welcoming entrance with increased safety, parking, and access for school group buses. The project will also improve internet access, which is currently unreliable and impacts work operations at the Reserve.

Friends of South Slough provided funding and contract support for the development of engineering and architectural designs. Staff provided input throughout the iterative design process to ensure the designs would fit the needs of visitors and onsite programs. The final designs were approved by the South Slough Reserve Management Commission in November 2023 and are being used to develop a grant proposal for submission in 2024 to fund the construction phase of the project.

### Expanding the Reserve Boundary

In 2023, the Reserve worked with NOAA to complete the federal process required for National Estuarine Research Reserve boundary amendments. This included writing a draft environmental assessment with legal and public review. The project is in the final stages of engagement with the local community, stakeholders, and Tribes. The boundary update is expected to be completed in January 2024. The new boundary will include all the lands acquired by the Reserve since 2008.

### Trail Projects

Multiple trail improvements were made on the Reserve's 5.5 miles of public trails, including replacing boardwalks and upgrading and installing new education platforms.

### Accessibility Upgrades

Renovation of the public restrooms at the Visitor Center was completed in 2023 making them both fully accessible based on the Americans with Disabilities Act (ADA) standards and gender neutral.

Significant progress was also made on contracting for the installation of ADA-compliant exterior doors at the Visitor Center.

### Upgrading Communication Tower Power

In 2023, power for our network communications tower failed and upgrades were needed. Staff from the Department's Salem office and the Reserve collaborated to install and connect a new propane generator at the tower. This ensures that power can be available 24/7 if solar going into the system is not enough to maintain connectivity.



Maintenance staff, Mike Allman and Daniel Fenn, repair the North Creek Trail from tree damage after storm events in December 2023



# REVENUE & SPENDING

State funding for South Slough Reserve comes from the Common School Fund, which provides stable support for Reserve operations, programs, and services provided to Oregonians as envisioned by the Legislature. The South Slough Reserve upholds the values of the Common School Fund by supporting education and the long-term stewardship of the state’s wetlands and waterways. This funding provides two critical benefits. First, it enables the Reserve to provide high-quality programming and services to diverse audiences at little or no cost. Second, Common School Fund dollars are leveraged to bring in a significant amount of additional revenue: the Fund provides match for the Reserve’s annual operations award from NOAA and for various competitive grants each year. In 2023, the Reserve brought in a total of \$1,634,744 in non-Common School Fund dollars to support the water quality monitoring program, trail improvement projects, the acquisition of a key property at the entrance to the Visitor Center, renovation and upgrades to public restrooms and exhibits, and general operations. The Reserve also brings in revenue every year from facility rentals and lodging, with the fee schedule designed to offset operation and maintenance costs for use of the facilities.

The percentage of funding leveraged by the Reserve varies from year to year depending on project needs, the federal budget, and grant opportunities. In calendar year 2023, Reserve revenue included \$1,634,744 of leveraged funds, which accounted for 51.48 percent of total revenue. This was a 5.76 percent increase from calendar year 2022.

REVENUE	2023
Common School Fund	\$ 1,540,603
Leveraged funds*	\$ 1,634,744
Total Revenue	\$ 3,175,347
% Leveraged Funds	51.48%

*\* Leveraged funds include the operations award received from NOAA, competitive grants, funding from the Friends of South Slough, Inc. and fees charged for rentals and permits.*

SPENDING	2023
Salaries and Wages	\$2,212,060
Services and Supplies	\$501,160
Capital Outlay	\$399,263
Total Spending	\$3,112,483



## APPENDIX A

# RESERVE PARTNERS

### Tribal Partners

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

### City and County Partners

- City and county land-use planners
- Coos County
- Coos Health & Wellness
- All Coos County school districts

### 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 Natural Resources Education Program

### Federal Partners

- U.S. Forest Service
- Bureau of Land Management
- National Oceanic and Atmospheric Administration
- Coast Guard
- U.S. State Department
- U.S. National Parks Service

### University Partners

- University of Oregon
- University of Oregon, Oregon Institute of Marine Biology
- University of Oregon, Institute for Policy Research and Engagement
- Oregon State University
- Portland State University
- University of California, Davis
- Southern Oregon University

### Additional Partners

- Friends of South Slough, Inc.
- Partnership for Coastal Watersheds
- Coos Watershed Association
- Wetlands Conservancy
- The PEW Charitable Trusts
- National Estuarine Research Reserve System Science Collaborative
- National Estuarine Research Reserve Association
- Tenmile Lakes Basin Partnership
- Wild Rivers Land Trusts
- Pacific Marine and Estuarine Fish Habitat Partnership
- Trailkeepers of Oregon
- National Science Foundation
- Wilson Biochar, LLC
- Parks Canada
- George Wright Society
- Coos Bay Downtown Association
- Pacific Lamprey Conservation Initiative
- South Coast Food Co-op
- The Egyptian Theater
- American Fisheries Society

## **Administrative/Facilities Report**

**Staff: Bree Yednock, Former 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**

### Reserve Boundary and Management Plan Update

The Reserve received an update from NOAA on the Reserve Boundary update at the end of January. The NOAA Environmental Compliance team has completed its NEPA analysis and once the final version is ready it will be signed and posted on the environmental compliance website. Due to miscommunication, the Reserve was not notified that the NOAA public comment period was open until after it was closed, so Ms. Yednock did a robust campaign in December/January for public comment. She received no comments. The next step in this process will be for approval from NOAA for the Federal Register Notification (FRN). NOAA is recommending that SSNERR pick back up the Management Plan update and have the FRN for both processes submitted at the same time once the management plan is complete. The Management Plan will be one of the projects that our new Reserve Manager will pick up once onboarded.

### Administrative

Attached are the state budget reports for the 2023-2025 biennium through January 2024.

Winter slows down at the Visitor Center in terms of visitors but ramps up on the trails dealing with storm damage and rain run off issues. Facility staff continued with extra cleaning, security rounds, and weekly preparations of the Visitor Center for interpretative programs as needed.

Progress reports for NOAA Operations Awards were submitted in January to cover the July - December 2023 timeframe. These reports include all program areas.

### Recruitments

In December 2023, Reserve Manager Bree Yednock gave notice that she would be leaving SSNERR at the end of January for “her dream job”. Ms. Yednock will be missed but we wish her well on her next adventure!

After Ms. Yednock's notice, Director Walker, Operations Manager Muse, and HR started the process for recruitment in hopes to find a replacement sooner rather than later. Operations Manager Muse worked closely with Ms. Yednock to get up to date on all the pending projects and processes that Ms. Yednock was working on so that there would be a smooth transition just in case the replacement was not on right away. Operations Muse was put in place as Interim Manager (along with her normal duties) until the replacement could start.

The Interviewing committee for the Reserve Manager included Commissioners Quinlan and Moffett, various partners, staff, Director Walker, and Operations Manager Muse. Two rounds of interviews along with a presentation on what the finalists would bring to SSNERR were completed in February.

New Reserve Manager Patricia Fox started in the position on March 6, 2024. Patricia comes to us from DSL where she was the Southern Operations Manager for the Aquatic Resources Management department. She has been with the DSL family for close to 10 years. Patricia has a bachelor's in ecology from the University of Georgia, and a master's in environmental science from Alaska Pacific University. She has a strong history of serving her community and spent nearly 2 years in Togo, West Africa, in the Peace Corps providing technical assistance to local farmers and working with local governments, nonprofits and cooperatives for funding sources. She also developed an animal husbandry program country-wide, taught formal subjects in middle and high school, and worked with women collective groups across several villages to increase their homemade direct-to-market strategies. Welcome Patricia!

Operations Manager Muse also recruited for the two seasonal positions that we have for a Park Ranger Assistant and Educational Specialist. Both positions work during our busy season from the middle of March through the middle of October. Sage Crusier was hired as the Seasonal Park Ranger Assistant with a start date of 3/11/24. She comes to us with many years of experience in park type settings including state parks. Cherie Turner was hired as the Seasonal Education Specialist. She comes to us with many years as a science teacher with current certification with experience in STEAM (Science, technology, engineering, arts, math) curriculum.

During the reporting period, administrative and facilities staff continued work on the one NOAA Procurement, Acquisition, and Construction (PAC) award we currently have, which includes the renovation to public restrooms and exhibits. These updates are reported under the facilities section below.

Wintertime is a busy timeframe for staff with grant season upon us. Operations Manager Muse has been working on several grants this season with some being competitive and some guaranteed to receive based on the funding parameters.

Submitted grants include:

- NOAA FY24 operation grant (\$875k) from NOAA with our first draft submitted to NOAA at the end of February-non-competitive.
- NOAA PAC competition for the construction project for relocation and improvement of the Visitor Center entrance, network infrastructure & parking expansion (\$1.6m)- competitive,
- Acquisition grant through the Bipartisan Infrastructure Act for the Winchester Tributaries property (\$1m)-competitive,
- Infrastructure improvements for returning access to the Wasson Creek Restoration site and SWMP pilings (Charleston/Valino Island) (\$400k) from the Inflation Reduction Act Resilience fund - non-competitive.

Operations Manager Muse has been working with DSL management on the next biennium state budget and planning. Prior to Ms. Yednock leaving staff and management went through an exercise to look at SSNERR workloads and capacity. During this process, we discussed and examined where and how we could be more efficient with what we have and if needed, what additional positions would be needed if we had extra funding. It was obvious after the exercise that additional staff would assist with workloads and capacity issues. This process was completed DSL-wide, and the DSL management team has been problem solving how we could add additional staff with Policy Option Packages (POPs) and/or reorganizing our structure.

With a new Reserve Manager coming on board, some reorganization would be easier to implement now rather than later. One of the easiest things that Managers Yednock and Muse came up with early on would be to reorganize staff so that more efficient supervision could happen. One way we could do that would be to move to a more site-based supervision concept. In the past, the Reserve Manager supervised all education, science and the Operations Manager while being located at the Lab site in Charleston. The Operations Manager then supervised admin, facilities and IT while being located at the Visitor Center. Both Managers had staff they supervised at both sites in this case. Starting in March, each Manager will supervise staff at their location instead of being mixed between the two sites. This change will only move 4 staff to different managers and should make day-to-day supervision and tasks for managers much more efficient. We have also recommended additional positions in administrative, project management, education and science. While some are being considered in the next biennium 25-27 the others will be deferred to biennium 27-29.

## Facilities

Staff continue working on the trail system and facilities doing routine maintenance. Wintertime is an interesting time for facilities since they are dealing with the effects of the winter storms on our facilities and trails. Multiple trees have fallen, and cleanup was required.

Facilities has been “chasing roof leaks” at the Visitor Center. Operations Manager Muse has been working with fiscal to figure out a funding plan for a new roof within the new few years. February found us cleaning up a “flood” and damage from a leak in the kitchen area several times until we were able to locate and fix the leak. There will need to be some drywall repairs happening once we are 100% positive the leak is fixed.

Facilities staff also assisted IT in completing the addition and installation of a propane generator in November/December at the Joe Ney tower to fix our power issues in the wintertime. Since our communication tower sites are solar, we lose power and network connection regularly during gloomy dark coastal winters. The addition of the generator has helped since installation and hopefully will get us to the point where we can install the hardline network line at the Visitor Center.

### **Accessibility and Exhibit Improvements Grant**

The most recent FY 21 NOAA PAC award covered the public restroom renovation, exhibit updates and ADA doorways on several doors at the Visitor Center. This grant will fund 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 \$500,000 in Federal funds for these projects.

With the public restroom portion of this grant complete, staff continue with the exhibit updates as well as the ADA door upgrades to the Visitor Center. We are still problem-solving some issues with the ADA doors in the restrooms but for the most part that task of the grant is completed.

The Education and Administration teams have been working with the fabrication contractor for the exhibit updates and approving piece by piece as they are finalized. The same company who is doing the fabrication will also do the installation. We are still on schedule to finalize the exhibit updates by the end of May 2024.

The ADA doorways project went out for quotes and administration staff are working through the budget to adjust as needed so that everything fits within the total grant budget. We are under contract for 2 doors (front 2 doors to Visitor Center) to be updated by end of June 2024.

With this grant being underfunded due to cost increases due to COVID, we could not fund 100% of what we submitted as tasks. Operations Manager Muse requested additional funding through NOAA for funding the parts of the tasks that we could not complete with the current funding. The request went in for \$350k and a decision should be coming soon if we get the additional funding or not. If we get the funding, the tasks that we had to cut due to costs will be relooked at and then completed based on the additional funding received.

62007 SSNER F/F

Report for January-2024

Biennium Remaining: 70.83%

	Biennium To October	November	December	January	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining
Total: SPECIAL PAYMENTS	32,051	14,954	31,580	0	78,585	0	0	-78,585	NA
Grand Total: Expense	541,704	119,659	140,904	82,113	884,381	5,184,637	0	4,300,256	82.94%

62007 SSNER F/F

Report for January-2024

Biennium Remaining: 70.83%

	Biennium To October					Biennium To					Budget	Adjustments	Remaining Balance	% of Budget Remaining
	November	December	January	Date		January	February	March	April					
3110 CLASS/UNCLASS SALARY & PER DIE	182,979	40,929	44,187	44,587	312,682	1,288,175	0	975,493	75.73%					
3160 TEMPORARY APPOINTMENTS	0	0	0	0	0	84,938	0	84,938	100.00%					
3170 OVERTIME PAYMENTS	621	1,371	0	1	1,993	3,657	0	1,664	45.49%					
3180 SHIFT DIFFERENTIAL	85	8	0	371	464	8	0	-456	-5694.00%					
3190 ALL OTHER DIFFERENTIAL	370	99	106	106	681	0	0	-681	NA					
3210 ERB ASSESSMENT	58	16	16	16	105	470	0	365	77.65%					
3220 PUBLIC EMPLOYEES' RETIREMENT S	29,805	7,348	8,172	8,446	53,771	225,024	0	171,253	76.10%					
3221 PENSION BOND CONTRIBUTION	9,057	1,914	2,129	2,203	15,302	64,075	0	48,773	76.12%					
3230 SOCIAL SECURITY TAX	13,993	3,322	3,367	3,501	24,182	102,562	0	78,380	76.42%					
3241 PAID FAMILY MEDICAL LEAVE INSU	732	174	176	183	1,264	5,023	0	3,759	74.83%					
3250 WORKERS' COMPENSATION ASSES	47	12	12	10	82	407	0	325	79.94%					
3270 FLEXIBLE BENEFITS	38,692	9,847	9,772	9,736	68,046	350,856	0	282,810	80.61%					
<b>Total: PERSONAL SERVICES</b>	<b>276,437</b>	<b>65,039</b>	<b>67,936</b>	<b>69,160</b>	<b>478,573</b>	<b>2,125,195</b>	<b>0</b>	<b>1,646,622</b>	<b>77.48%</b>					
4100 INSTATE TRAVEL	318	0	133	336	786	22,043	0	21,257	96.43%					
4125 OUT-OF-STATE TRAVEL	0	129	15	0	144	15,272	0	15,128	99.06%					
4150 EMPLOYEE TRAINING	7,013	3,107	2,482	717	13,329	24,953	0	11,624	46.58%					
4175 OFFICE EXPENSES	2,733	159	610	627	4,131	23,298	0	19,077	82.20%					
4200 TELECOMM/TECH SVC AND SUPPLI	2,781	12	742	1,472	4,988	10,553	0	5,565	52.74%					
4250 DATA PROCESSING	0	0	0	0	0	11,940	0	11,940	100.00%					
4275 PUBLICITY & PUBLICATIONS	0	0	0	0	0	1,745	0	1,745	100.00%					
4300 PROFESSIONAL SERVICES	0	32,597	-29,030	0	3,568	2,810,092	0	2,810,525	99.87%					
4325 ATTORNEY GENERAL LEGAL FEES	0	0	0	6,160	6,160	0	0	-6,160	NA					
4375 EMPLOYEE RECRUITMENT AND DE	0	0	0	0	0	6,914	0	6,914	100.00%					
4400 DUES AND SUBSCRIPTIONS	638	30	182	0	850	976	0	126	12.96%					
4450 FUELS AND UTILITIES	387	223	404	460	1,474	29,892	0	28,418	95.07%					
4475 FACILITIES MAINTENANCE	0	0	0	0	0	35,642	0	35,642	100.00%					
4575 AGENCY PROGRAM RELATED SVCS	0	0	0	0	0	6,390	0	6,390	100.00%					
4650 OTHER SERVICES AND SUPPLIES	25,010	3,409	17,738	3,181	49,338	18,075	0	-31,263	-172.96%					
4700 EXPENDABLE PROPERTY \$250-\$500	3,445	0	0	0	3,445	25,139	0	21,694	86.30%					
4715 IT EXPENDABLE PROPERTY	1,021	0	2,518	0	3,539	1,713	0	-1,826	-106.60%					
<b>Total: SERVICES AND SUPPLIES</b>	<b>43,326</b>	<b>39,666</b>	<b>-4,196</b>	<b>12,954</b>	<b>91,750</b>	<b>3,048,547</b>	<b>0</b>	<b>2,956,797</b>	<b>96.99%</b>					
5200 TECHNICAL EQUIPMENT	0	0	0	0	0	10,895	0	10,895	100.00%					
5400 AUTOMOTIVE & AIRCRAFT	5,796	0	45,584	0	51,379	0	0	-51,379	NA					
5700 BUILDINGS AND STRUCTURES	24,067	0	0	0	24,067	0	0	-24,067	NA					
5900 OTHER CAPITAL OUTLAY	160,027	0	0	0	160,027	0	0	-160,027	NA					
<b>Total: CAPITAL OUTLAY</b>	<b>189,890</b>	<b>0</b>	<b>45,584</b>	<b>0</b>	<b>235,473</b>	<b>10,895</b>	<b>0</b>	<b>-224,578</b>	<b>-2061.30%</b>					
6030 DISTRIBUTION TO NON-GOVERNME	32,051	14,954	31,580	0	78,585	0	0	-78,585	NA					

62007 SSNER F/F

Report for January-2024

Biennium Remaining: 70.83%

	Biennium To October	November	December	January	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining
0995 FEDERAL FUNDS REVENUE	161,490	366,940	95,709	167,824	791,962	0	0	NA	NA
<b>Total: REVENUES</b>	<b>161,490</b>	<b>366,940</b>	<b>95,709</b>	<b>167,824</b>	<b>791,962</b>	<b>0</b>	<b>0</b>	<b>NA</b>	<b>NA</b>
<b>Grand Total: Revenue</b>	<b>161,490</b>	<b>366,940</b>	<b>95,709</b>	<b>167,824</b>	<b>791,962</b>	<b>0</b>	<b>0</b>	<b>NA</b>	<b>NA</b>

32007 SSNER O/F

Report for January-2024

Biennium Remaining: 70.83%

	Biennium To October	November	December	January	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining
Total: CAPITAL OUTLAY	6,914	0	0	0	6,914	66,418	0	59,504	89.59%
Grand Total: Expense	582,127	150,085	131,042	154,170	1,017,424	3,076,185	0	2,058,751	66.93%

**32007 SSNER O/F**

**Report for January-2024**

**Biennium Remaining: 70.83%**

	Biennium To October	November	December	January	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining	
3110	CLASS/UNCLASS SALARY & PER DIE	309,189	75,776	79,777	98,367	563,109	1,649,324	0	1,086,215	65.86%
3115	BOARD MEMBER STIPENDS	0	0	155	0	155	0	0	-155	NA
3160	TEMPORARY APPOINTMENTS	12,311	0	0	0	12,311	7,343	0	-4,968	-67.66%
3170	OVERTIME PAYMENTS	297	25	0	8	329	0	0	-329	NA
3180	SHIFT DIFFERENTIAL	164	36	56	573	829	0	0	-829	NA
3190	ALL OTHER DIFFERENTIAL	4,236	1,060	1,129	1,187	7,612	9,399	0	1,787	19.02%
3210	ERB ASSESSMENT	92	21	21	21	154	537	0	383	71.25%
3220	PUBLIC EMPLOYEES' RETIREMENT S	57,068	14,023	15,077	14,798	100,966	302,359	0	201,393	66.61%
3221	PENSION BOND CONTRIBUTION	17,117	3,611	3,883	3,811	28,423	83,952	0	55,529	66.14%
3230	SOCIAL SECURITY TAX	24,707	5,698	6,149	7,513	44,067	129,642	0	85,575	66.01%
3240	UNEMPLOYMENT ASSESSMENT	0	0	0	0	0	6,851	0	6,851	100.00%
3241	PAID FAMILY MEDICAL LEAVE INSU	1,292	298	322	393	2,304	6,749	0	4,445	65.86%
3250	WORKERS' COMPENSATION ASSES	70	17	18	15	121	467	0	346	74.16%
3260	MASS TRANSIT	0	0	0	0	0	9,577	0	9,577	100.00%
3270	FLEXIBLE BENEFITS	65,075	15,930	15,541	15,572	112,118	401,544	0	289,426	72.08%
<b>Total:</b>	<b>PERSONAL SERVICES</b>	<b>491,618</b>	<b>116,494</b>	<b>122,129</b>	<b>142,259</b>	<b>872,499</b>	<b>2,607,744</b>	<b>0</b>	<b>1,735,245</b>	<b>66.54%</b>
4100	INSTATE TRAVEL	13,395	5,008	2,629	153	21,184	18,628	0	-2,556	-13.72%
4125	OUT-OF-STATE TRAVEL	599	0	0	0	599	8,667	0	8,068	93.09%
4150	EMPLOYEE TRAINING	5,741	3,276	-886	440	8,571	10,178	0	1,607	15.79%
4175	OFFICE EXPENSES	727	345	229	749	2,049	26,268	0	24,219	92.20%
4200	TELECOMM/TECH SVC AND SUPPLI	6,786	1,721	1,722	1,834	12,063	17,784	0	5,721	32.17%
4250	DATA PROCESSING	0	0	0	0	0	634	0	634	100.00%
4275	PUBLICITY & PUBLICATIONS	0	0	0	0	0	589	0	589	100.00%
4300	PROFESSIONAL SERVICES	11,000	0	300	0	11,300	142,147	0	130,847	92.05%
4325	ATTORNEY GENERAL LEGAL FEES	358	3,988	0	0	4,345	9,037	0	4,692	51.92%
4375	EMPLOYEE RECRUITMENT AND DE	0	0	0	0	0	2,934	0	2,934	100.00%
4400	DUES AND SUBSCRIPTIONS	180	0	0	488	648	14	0	-634	-4528.57%
4425	LEASE PAYMENTS & TAXES	0	0	19	250	269	55	0	-214	-388.64%
4450	FUELS AND UTILITIES	1,000	283	323	854	2,461	9,326	0	6,865	73.61%
4475	FACILITIES MAINTENANCE	3,996	118	565	1,393	6,073	32,475	0	26,402	81.30%
4575	AGENCY PROGRAM RELATED SVCS	0	5,748	0	0	5,748	0	0	-5,748	NA
4650	OTHER SERVICES AND SUPPLIES	29,834	10,399	3,793	5,498	49,524	63,455	0	13,931	21.95%
4700	EXPENDABLE PROPERTY \$250-\$500	0	2,706	0	0	2,706	4,077	0	1,371	33.63%
4715	IT EXPENDABLE PROPERTY	9,980	0	220	272	10,471	55,755	0	45,284	81.22%
<b>Total:</b>	<b>SERVICES AND SUPPLIES</b>	<b>83,595</b>	<b>33,591</b>	<b>8,914</b>	<b>11,911</b>	<b>138,011</b>	<b>402,023</b>	<b>0</b>	<b>264,012</b>	<b>65.67%</b>
5200	TECHNICAL EQUIPMENT	0	0	0	0	0	46,834	0	46,834	100.00%
5600	DATA PROCESSING HARDWARE	0	0	0	0	0	19,584	0	19,584	100.00%
5900	OTHER CAPITAL OUTLAY	6,914	0	0	0	6,914	0	0	-6,914	NA

32007 SSNER O/F

Report for January-2024

Biennium Remaining: 70.83%

	Biennium To				Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining
	October	November	December	January					
1010 TRANSFER IN FROM OTHER FUNDS	600,000	0	200,000	200,000	1,000,000	0	0	NA	NA
<b>Total: TRANSFER IN</b>	<b>600,000</b>	<b>0</b>	<b>200,000</b>	<b>200,000</b>	<b>1,000,000</b>	<b>0</b>	<b>0</b>	<b>NA</b>	<b>NA</b>
<b>Grand Total: Transfer In</b>	<b>600,000</b>	<b>0</b>	<b>200,000</b>	<b>200,000</b>	<b>1,000,000</b>	<b>0</b>	<b>0</b>	<b>NA</b>	<b>NA</b>
<hr/>									
0355 FEDERAL FUNDS	14,913	0	8,926	0	23,839	0	0	NA	NA
0410 CHARGES FOR SERVICES	10,536	0	8,471	0	19,007	0	0	NA	NA
0510 RENTS AND ROYAL TIES	500	525	150	0	1,175	0	0	NA	NA
0975 OTHER REVENUE	1,447	0	5,701	1,970	9,117	0	0	NA	NA
<b>Total: REVENUES</b>	<b>27,396</b>	<b>525</b>	<b>23,248</b>	<b>1,970</b>	<b>53,139</b>	<b>0</b>	<b>0</b>	<b>NA</b>	<b>NA</b>
<b>Grand Total: Revenue</b>	<b>27,396</b>	<b>525</b>	<b>23,248</b>	<b>1,970</b>	<b>53,139</b>	<b>0</b>	<b>0</b>	<b>NA</b>	<b>NA</b>

## **SSNERR Education Program Update**

**Staff: Jaime Belanger, Education Coordinator/Lead**

**Eric Dean, Education Specialist**

**Deborah Rudd, Public Involvement**

**Coordinator**

**Ashtin Bowden, AmeriCorps Estuary**

**Explorer Educator**



*Bats and Bat Box Program, Coos Bay Library*

*November 1, 2023 – February 29, 2024*

Reserve education programs slow down during the winter months of December and January. Unpredictable weather makes it challenging to schedule outdoor field trips for students and outdoor events are rare. Holidays interfere with school schedules reducing opportunities for classroom visits. Community and afterschool programs were held fairly regularly, although weather also impacts these more than the rest of the year. The Visitor Center operated on the usual schedule, open to the public Tuesday-Saturday from 10 AM – 4 PM except for the State Holidays that fall during those times (Thanksgiving).

Education staff teleworked as program schedules permitted, or as required to ensure internet access when the network was unreliable. The power to the Visitor Center network relay was repaired, but the building continues to lose internet connectivity and access to the agency server during winter storms. This continues to be a challenge for staff because much of the winter workload is planning for the spring and summer seasons, including virtual meetings, so access to the internet and server are critical.

One education intern, Abbie Halverson from North Bend Highschool, worked with the afterschool program through February. The seasonal education specialist does not work during this quarter. The previous seasonal educator left last season early, and Sophie Relitz filled in temporarily through October. The Reserve recruited to officially fill the position during

December and January. A new seasonal education specialist, Cherie Turner, is scheduled to start on March 19<sup>th</sup>, 2024.

### **Staff Training, Innovations**

Deborah Rudd leads the SSNERR 50<sup>th</sup> Anniversary Planning Committee, served on the recruitment panel for the new Reserve Manager and contributes to the following groups and committees in her role as Public Involvement Coordinator - Coos Hispanic Allies, DSL DEI Planning Committee, DSL DEI Committee, Reserve DEI Committee, Mayfly Festival Planning Committee, Octoberfish 2024 Planning Committee, Oregon Peer Equity Network. During this period, Deborah received the following training:

- Oregon Recreation Summit, Coos Bay - 11/2-11/4/2023
- Uplift Cohort Workgroup, Salem - 11/17/2023
- Managing Eco-Anxiety Through Outdoor Learning, Online - 1/16/2024
- New Ricoh Machine Training, Online - 2/13/2024
- Travel Southern Oregon Coast (TSOC) Conference, Brookings – 2/26 - 2/27/2024

Jaime Belanger continued working with Sea Reach, Ltd, on the final stages of the exhibit project. She served on the recruitment panels for the Seasonal Education Specialist and Reserve Manger, is working with the Coastal Training Program Coordinator on a contracted design for a Reserve-wide Market Analysis and Needs Assessment funded by the NERRS Science Collaborative and is a mentor for the AmeriCorps member. She participates in the NERRS DEIJA Strategic Committee and its Learning Team Working Group, the Reserve DEI Committee, the Oregon Coast STEM Hub Leadership Council, on Coos Watershed's Outreach and Education committee, on the NERRS Estuary Education Resource Working Group, and is a facilitator for ONREP. She attended the following professional meetings and training opportunities:

- NERRS/NERRA Annual Meeting in New Jersey, 11/12-11/17/2023
- Watershed Game for Educators Workshop, Newport, 12/2/2023
- OMSI Natural Sciences Hall Workshop 3, Portland, 12/19/2023
- ONREP Facilitator Session 1, Online, 1/18/2024
- New Ricoh Machine Training, Online - 2/13/2024

During this period, Eric Dean served on the hiring committee for the new Reserve Seasonal Education Specialist recruitment and is currently serving as the mentor for Daniel Fenn, Reserve

Park Ranger Assistant. Eric is also mentoring Hira Hammad, who is serving for a second internship with the education team.

Ashtin Bowden has completed 6 out of 11 months in his service at the Reserve. He continued afterschool programs at North Bay Elementary School in January and February 2024, one day a week. One high school intern joined the program to assist Ashtin. The intern, Abigail Halverson, had her last day on the last day of the program. Ashtin began a nature journaling program offered to the community every Saturday at no cost. Ashtin continues to support other Reserve efforts such as stewardship programs, community outreach, DEI and safety committees. Ashtin and other AmeriCorps members organized an MLK Day of Service event in Roseburg, gathering at least 150 volunteers to clean up local parks. Ashtin participated in several training opportunities offered by Take Me Outside and Outdoor Learning.

- Managing Eco-Anxiety through Outdoor Learning 1/16/2024
- Outdoor Learning Astronomy 1/23/2024
- New Ricoh Machine Training, Online - 2/13/2024
- Stories in the Wild: Animal Tracks & Traces 2/20/2024
- Enhancing Climate Change Education through Active Learning 2/27/2024

### **Education Program Metrics**

Since November 1<sup>st</sup>, 2023 the Reserve has provided education programs for 620 people and 1,354 hours of estuary learning. About 71 hours were committed to program planning, reflection, and post-program work. The numbers above include all student education, interpretation, teacher training, outreach, and public stewardship delivered directly by Reserve staff. Including people entering the Visitor Center to ask questions and explore exhibits, the Reserve education and visitor center staff directly interacted with 1,098 people this period.

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 was open for 85 days during this period. Trails and waterways were open from dawn to dusk daily. 478 visitors were counted entering the building, averaging 6 each day. The short winter days and weather impact visitation during this period. Staff observed continued use of the trails, often by regular locals, and provided visitor services through communication with the public online and the phone at the front desk.

## Formal Education & Training

The Reserve classifies education program types based on audiences and learning goals, aligning with NOAA Education categories as closely as possible. Formal education includes programs provided to pre-K-12 students, undergraduates, graduate students, classroom and pre-service teachers and other non-formal



*Teacher workshop at the Garibaldi Boathouse*

educators. These education opportunities for students and teachers are a core area for Reserve education across the national system. The Reserve education team focuses not only on how many participants they can serve, but also the time they spend with participants to ensure deep learning. Students and teachers often spend multiple hours or days learning with the education team.

Formal education programs offered during this reporting period by the education team included field trips, classroom visits and teacher workshops, though at a much lower rate than during spring, summer or fall seasons. Six formal education programs reached 98 students and teachers, providing 214 hours of learning.

Students included grades 5, 6, 9 & 10. 88 students were served leading to 164 contact hours. Estuary learning activities for students included watershed hikes and a walking field trip from the classroom to Battle Rock Beach for water quality investigations and beach observations.

10 teachers participated in an “Essential Estuaries Ed-Venture” in Garibaldi, offered in partnership with the Tillamook Estuaries Program and Oregon Sea Grant. This Teachers on the Estuaries workshop is a NOAA-required task with specific criteria, including a minimum of 15 hours learning commitment from teachers. This workshop included independent prework, a live virtual orientation meeting and 1.5 in-person days combining for 15 hours of teacher professional development.

*“Galvanized my interest to advocate for more science time carved out during the school day -- guest speakers, inquiry, field trips, as well as regular instruction.”*

– Teacher response to how the workshop inspired them to change how they teach

### **Community Education & Interpretive Activities**

Community and interpretive programs at the Reserve are the additional learning opportunities for public audiences including classes and estuary activities delivered in different formats, information tables at events, programs presented with partner organizations, activities after or outside of school for children and stewardship activities with a learning component. Community education is offered to all ages in a variety of places around the region. The Reserve offered regular programming during the winter, though like the formal offerings there are fewer than in other seasons.



*Estuary Explorers at North Bay ES*

A total of 40 community programs for 507 people led to 1,037 hours of public learning about the Reserve and coastal habitats. Programs were attended by individuals of all ages and included weekly interpretive activities such as clamming, and birding for community members, monthly Second Saturday Stewards events joined by regular and new volunteers, and two sessions of Estuary Explorers afterschool activities.

Community programs are well attended and can have waitlists even during the winter. This period's programs reached 216 people with 680 learning hours and included a popular Bat Box building at the Coos Bay Library, a presentation from the Xerces Society, and nature films followed by a nature hike.

Festivals and events are also less frequent in winter and often indoors, like Crab Fisheries Day the Oregon Coast Aquarium, or the Resource Fair at SOCC. 233 people engaged with Reserve staff and volunteers at these events.

The Estuary Explorers afterschool program ran two sessions at North Bay Elementary School since November 1, 2023 reaching 37 elementary aged kids and providing them with 335 additional learning hours.

*"I think all the programs are great, well organized, informative and fun. "*

-Community program participant feedback

## **Public Involvement**

### Volunteers/Interns

The South Slough Reserve hosts a robust volunteer and internship program. This quarter is less busy than others, yet volunteers and interns provided continued support for reserve projects.

A monthly average of 8 volunteers/interns put in hours valued at \$1,034.1 from November 1 through February 29, 2024. The program category breakdown of hours included 366.75 research, 660.35 education, and 7 stewardship hours.

The Reserve is in the process of recruiting for spring and summer internships. Through support from the Friends of the South Slough Reserve, inc. and the following partner programs - Research Experiences for Undergraduates, NOAA College Supported Internship Program, Oregon Sea Grant, Oregon Coast STEM Hub, and grant project funds - the Reserve will be hosting two spring interns, ten summer interns, and three fall interns.

Four people joined the South Slough Reserve Volunteer program this quarter, Christopher Beil, Shaina Caplan, Jim McCann, and Lisa Williams. Chris has been helping the science team, Shaina and Lisa are training to help with school field trips, and Jim will be helping a few mornings a week at the Visitor Center front desk beginning in April 2024.

A volunteer outreach training was held at the Reserve on Saturday, November 11, 2023 that five people attended. A volunteer holiday appreciation party was held at the Pottery Company in Coos Bay on Thursday, December 7, 2023 that 21 people attended.

#### Outreach/Marketing

The Public Involvement Coordinator participated in the Travel Southern Oregon Coast (TSOC) conference in Brookings, OR. Several speakers and panels of experts shared information about how regional destination marketing organizations can help bring people to your organization or business, how to become an accessibility certified site, and increase visibility with social media. The Reserve also engaged in the following outreach events with the help of interns and volunteers. Public interactions at these events are included in the community program numbers:

- November 8, 2023 information table at League of Women Voters of Coos County free panel discussion on the “Coos Estuary and its People: Past, Present, and Future” at the Egyptian Theatre in Coos Bay.
- November 27, 2023 volunteers and staff hosted the holiday lights at partner agency Shore Acres State Park.
- December 27 information table at Crab Fisheries Day at the Newport Aquarium
- January 31 information table in the lobby at the League of Women Voters of Coos County free video “An Oregon Story: The Documentary Celebrating Oregon's Land Conservation Heritage” at the Egyptian Theatre.
- February 26 information table at the Southwestern Oregon Community College Resource Fair

#### Media

The South Slough Reserve delivers the community program calendars and the informational newsletters via the Mailchimp email marketing program each quarter. Below is the list of publications during this period:

- December 22, 2023: More Opportunities to Engage with Nature in 2024, 315 opens, 16 clicks
- January 1, 2024: What's in store for 2024, 336 opens, 8 clicks

(According to Mailchimp, the open rate is a percentage that tells you how many successfully delivered campaigns were opened by subscribers. The click rate is a percentage that tells you how many successfully delivered campaigns registered at least one click through to the website or designated landing page.)

Several social media campaigns were delivered during this period. Here is an overall analysis and a list of the top performing posts.

- Facebook: Job Opening Reserve Manager, 4,924 views.
- Instagram: Why would anyone spend a winter night in the middle of a chilly estuary? 767 views.
- Twitter (X Analytics): N/A
- YouTube: Wetlands Presentation, 11 views.

Overall Channel Analytics the last 90 days

- Facebook: Reach: 56.6K, Engagement: 2.3K, Total Followers: 3.5K
- Instagram: Reach: 1.8K, Engagement: 1.4K , Total Followers: 1.2K
- Twitter (X Analytics): Communications Team is analyzing whether to keep active on this channel to focus efforts more on Facebook and Instagram.
- Google: 822 interactions. Website Clicks: 412.
- YouTube: 250 views. 5.6 Watch time hours. Total Subscribers 55.

Terminology:

Facebook/Instagram reach rate- number of unique users who had any content from or about your Page enter their screen. Facebook, Instagram, and Twitter engagement rate- the number of users who see your posts and engage with them by liking, sharing, commenting.

Twitter impression rate- The number of times the #hashtag could have been seen by users.

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.

## **Coastal Training Program, November 2023 – February 2024**

**Sabra Comet, CTP Coordinator**

### **CTP Workshops and Trainings**

The Coastal Training Program is required by NOAA to complete at least five trainings per annual cycle; seven have occurred since the last update to the Commission, bringing the total to eight for the fiscal year (July 2023 – June 2024).

**SCUG – Climate Change Impacts** November 7, 2023. The South Coast GIS Users Group (SCUG) was brought together at the Southwestern Community College (SWOCC) campus to listen to several talks on utilizing GIS technology for projects concerning ecological changes brought on by climate change. The topics included Wildland data sources, mapping and using burn severity data, and sudden oak death. The audience was very engaged with numerous detailed questions after each talk.

**Coastal Goals for Local Planners**, December 2023 – present (ongoing). In partnership with the Department of Land Conservation and Development, the CTP Coordinator has been co-hosting a series of workshops with local and county planners on implementation of Oregon’s Coastal Zone Management Act Goals (4 that have implications on the coast). Each workshop is adapted to the local concerns and priorities; the counties completed so far include Coos, Douglas, Clatsop, and Tillamook. The workshops have also served the purpose of gathering information as to what related trainings are needed in the near future.

**SCUG – RTK Training** February 26, 2024. A vendor agreed to demo their hardware, software, and applications for Real-Time Kinetic mapping (RTK) for the SCUG chapter. The first half of the program was at a lowland swamp location at the Reserve, where equipment for gathering GIS ‘points and a UAV drone were discussed and demoed, with participants able to handle some of the equipment themselves. The second half of the program was in a classroom format, showing analysis of data collected with the equipment the previous day. The vendor is conducting similar demos with researchers in Newport. Rigorous participant engagement and discussion showed intent to use the information and possibly the demoed equipment.

**Indigenous Data Sovereignty**, February 27, 2024. The CTP Coordinator presented a talk on Indigenous Data Sovereignty as requested to the staff at the Oregon Department of State Lands. The talk covered the importance of the concept, practical applications, and suggestions for how to start implementing ethical practices. The recording (minus the Q and A at the end) will be available to DSL staff on the internal website.

### **Technical Assistance**

**Market Analysis and Needs Assessment**, ongoing. The SSNERR CTP Coordinator and Education Coordinator have continued to work with contractors from Sea & Shore Solutions, LLC to work on the first phase of a Reserve-wide Market Analysis and Needs Assessment (MANA). The work period (ending June 30, 2024) will conclude with products to assist Reserve staff and organize a framework for conducting the full MANA over the next several years. Since this includes finding gaps and new pathways of engagement (assessing “what we don’t know”) outside expertise is needed. NOAA staff have

expressed support for this first phase and may be able to assist with conducting later phases of the MANA.

**Indigenous Data Sovereignty in the NERRS System**, ongoing. The CTP Coordinator is part of a team from the NERRS Science Collaborative about data sovereignty and other protections that would assist the organization with adapting better to the needs of indigenous communities and Tribes. The first draft is being reviewed by the NERRS Science Collaborative Team and organization of the final products are ongoing.

**NERRS Indigenous Knowledge (IK) Working Group – NERRS Designation Guidance**, ongoing. The NERRS IK Working Group met in September for a special session to group edit the existing NERRS Site Designation Guidance document for better understanding of Tribal sovereignty, responsibility of the state partner when designating a potential NERR site, and overall partnership building. Edits and feedback between the working group and NOAA are ongoing.

**SCIENCE and STEWARDSHIP PROGRAM UPDATE**  
**November 1st, 2023 – February 29th, 2024**

**Staff:** Shon Schooler, Research Coordinator  
Ali Helms, Estuarine Monitoring Coordinator  
Jenni Schmitt, Watershed Monitoring Coordinator  
Alice Yeates, Stewardship Coordinator  
Adam DeMarzo, Monitoring Technician  
Jennifer Kirkland, GIS Specialist  
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 Nov. 1, 2023 and Feb. 1, 2024. Annual submissions for 2023 data will be completed on 4/17/2024 (water quality), 5/15/2024 (weather), and 6/15/2024 (nutrients). 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. Annual water quality reviews for 2021 and 2013 data were completed November 2023 and February 2024. 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](http://nerrsdata.org).

The science staff completed monthly weather station maintenance, data downloads, and field logs for November 2023 – February 2024 at Tom’s Creek marsh. The SWMP weather station (sostcmet) real-time data are available at [nerrsdata.org/get/realTime.cfm](http://nerrsdata.org/get/realTime.cfm).

The science staff completed monthly collection, processing, and analysis for Total Suspended Solids (TSS), a nutrient parameter added to the routine SWMP nutrient dataset, for a NERRS Science Collaborative Sediment Hydrodynamic Model project (Sutherland, UO): *Buried or Fried? Understanding sedimentation and temperature effects on native species restoration in the South Slough National Estuarine Research Reserve and the Coos estuary.*

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 on education projects led by Jaime Belanger, including a SWMP exhibit in the entryway of the South Slough Reserve Visitor Center and a SWMP Data Mystery. Education and science staff will continue refining information for slides for the exhibit touch screen. The SWMP Data Mysteries are stories that allow students to use SWMP data tools to graph and explore real events with a new data story being developed around eelgrass declines related to water quality changes.

### **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 Sentinel Site vegetation monitoring datasets, releasing a new telemetry application for internal troubleshooting use, updating SWMP station images, updating data management processes for older datasets allowing them to be included in annual SWMP status reports, and purchasing equipment for Reserves from SWMP wish lists. The annual NERRS Technician Training Workshop will be held in Pawley's Island, SC March 11-15, 2024, with the last ½ day of the workshop dedicated to an R training workshop, including customizing Reserve SWMP status reports, and other SWMP R packages; the workshop will be hosted by the CDMO with participation by Ali Helms and Adam DeMarzo.

### **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 is working to resume the status report file preparation for the Reserve system and will be hosting a training workshop at the TTW in March 2024.

### **NERRS SWMP Syntheses:**

The Reserve System is conducting two SWMP data synthesis projects. The first System-Wide synthesis (2023-2024) is being led by Kait Reinl (Lake Superior), Robert Dunn (North Inlet-Winyah Bay), and Kim Cressman (Catbird Stats, contracted through OCM) to understand long term trends and drivers of change in hypoxia and eutrophication across the NERRS, and identify seasonal patterns in water quality, nutrients, and site phenologies related to hypoxia and eutrophication. The second synthesis is a NERRS Science Collaborative Catalyst project (Oct 2023 – Sept 2024) led by Kait Reinl and Sylvia Yang (Padilla Bay) with 7 Reserves participating, including South Slough to synthesize long-term SWMP datasets to quantify estuarine ecosystem dynamics and identify trends along an ecological gradient.

**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).

**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 and annual winterizing for the station rain gauges in November 2023 and January, February 2024. NOAA staff completed annual station maintenance in November 2023. Data are available for this station (OR Coos Bay 8 SW) at: [ncdc.noaa.gov/crn/current-observations](https://ncdc.noaa.gov/crn/current-observations).

**SeagrassNet Monitoring:**

SSNERR science staff and volunteers conducted quarterly eelgrass sampling at Valino Island in January 2024 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, some plots at the lowest depth transect have shown an increase in abundance. 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 research proposals and projects to assess habitat site suitability and pilot restoration methods.

**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](https://nvs.nanoos.org/Explorer). The NANOOS 5-year award (FY21-25) to sustain the Pacific Northwest component of the US IOOS, including South Slough, OR Estuary Observations was awarded and began 6/1/2022. The 6 month progress report for FY23 (7/1/23-12/31/23) was submitted January 2024. Staff submitted package components for the NOAA Inflation Reduction Act opportunity FY24-28, including State of Work, Budget Justification, CV, and letter of commitment for South Slough moorings with replacement of platform infrastructure, sensors, and boat trailer. The full NANOOS IRA proposal will be submitted March 2024.

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](https://nvs.nanoos.org).

**NERRS Sentinel Sites Monitoring:**

The NERRS Sentinel Sites 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 marsh plant communities, eelgrass beds, and a Sitka spruce swamp.

During this reporting period, water level, salinity and temperature loggers were removed from groundwater wells at two mainland marsh sites (Metcalf Marsh and Valino Marsh), downloaded, recalibrated, and deployed at the Winchester Spruce Swamp site where summer 2024 biomonitoring will occur. Three additional groundwater wells at nearby Winchester Marsh have water level and one salinity logger actively collecting data, for use as a reference site for the upcoming Wasson Restoration Project. These loggers were downloaded and recalibrated during this reporting period.

Staff and volunteers completed quarterly eelgrass monitoring in January 2024 at the Valino Island Site long term monitoring plots with data collection including cover of macroalgae and eelgrass, density, flowering shoots, and the exchange of hobo temperature sensors at 2 transects.

In addition to Wasson, SSNERR Sentinel Site 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”. Data are also being used in the newest hydrodynamic modeling project. See partner projects below for more details.

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 from Yellow Springs Instruments and worked with NOAA National Ocean Service, CO-OPS for assistance with a custom data logger program and system configurations that were completed with help from the Chesapeake Bay, MD and Pacific Operations Branch, WA. Staff acquired a system use agreement and real-time platform transmission information for the tide gauge station data management in Winter 2022. 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.

**Wasson Watershed Monitoring:**

Science staff are completing baseline monitoring of the Wasson Creek Watershed, in preparation for anticipated restoration work. A technical advisory group, consisting of local topic experts, has continued to guide monitoring protocol development. Staff and contracted colleagues from Oregon State University have identified and begun to fill data gaps and finalize development of a monitoring plan, including a short- and long-term monitoring timeline. New monitoring efforts at Wasson and nearby reference sites in this reporting period include the following data collection activities: quarterly download 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, quarterly download of a channel logger that measures tidal height, eDNA analysis of native freshwater mussels (which came back negative for South Slough sites), monthly download and battery exchange of 15 wildlife camera traps, monthly stream flow velocity measurements, deer scat collection for DNA analysis, monthly water nutrient grab samples (for quantifying nitrogen and phosphorous) at two locations, bulk density, organic matter and carbon quantification of three soil cores (75 subsamples), collection of nine new deep soil cores, reinstallation of one groundwater well, installation of two more forest plots, and recalibration of one water quality instruments to collect 15-minute turbidity, conductivity and temperature measurements. GIS staff are beginning to develop an Uncrewed Aerial Systems (UAS) program to assist with monitoring data collection including changes to vegetation and channel morphology, including testing multispectral sensors and acquisition of a lidar sensor. Additionally, staff have begun to remove monitoring infrastructure ahead of summer 2024 restoration work. For more details on restoration work, see Wasson under Stewardship below.

**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. The next annual population count will take place in July 2024.

**Lamprey Monitoring:**

The South Slough watershed hosts at least two native species of lamprey (western brook and Pacific). However, we do not have adequate abundance data over time to evaluate the status of lamprey in the South Slough watershed. Therefore, we have been collecting annual abundance data at three permanent sites along Winchester Creek since 2018. The next annual population count will take place August/September 2024 at three permanent plots (West Fork Winchester Creek, Winchester Creek mainstem, and Wasson Creek).

In addition, the Reserve is leading a citizen science project (funded from a USDA-USFS grant) that is mapping Western brook and Pacific lamprey distributions in watersheds of Oregon's south coast using environmental DNA (eDNA) methods. Sampling has been completed and a report has been written summarizing the results. Parker Jung, an intern from the University of Oregon's Clarke Honors College, is currently working on a research project to compare the habitat preferences between the two species. Schooler and Schmitt are part of a statewide Lamprey Technical Workgroup.

## **RESEARCH**

### ***SSNERR Projects***

#### **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. We completed our 2023 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. We found that 5-spine crab abundance is continuing to increase in South Slough, Coos Bay, and along the coast. 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 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 sampling.

#### **DNA Methods to Monitor Invasive Species and Biodiversity in Estuarine Systems:**

The Reserve is collaborating on a research project initially funded through the NERRS Science Collaborative to use eDNA to characterize fish biodiversity in estuaries. The project includes researchers from University of New Hampshire and from the Great Bay (NH), Apalachicola (FL), He'eia (HI), Hudson (NY), Padilla Bay (WA), and Wells (ME) NERRs. In 2021, Oceankind funded a proposal to continue to investigate the use of eDNA to monitor estuarine fish communities (with Dr. Alison Watts of the University of New Hampshire). We started quarterly sampling at our five SWMP sites and our Wasson restoration site in May 2022, most recently sampled in February 2024. The project will run through September 2024.

#### **Eelgrass Pilot Transplant at Valino Island, South Slough Estuary:**

Science staff continued 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. After three years, 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 January 2024, plots planted in the Summer and Fall have higher eelgrass abundance while Winter and Spring plots have lower abundance.

#### **Margaret A. Davidson Fellow Research:**

Our previous Fellow, Taylor Dodrill, completed her Ph.D. and accepted a position at Ocean Associates, Inc. as a contractor for the NOAA National Marine Fisheries Service Office of Protected Resources.

Lara Breikreutz (Oregon State University, M.S. student, Tomas Nash and Mueller Labs) started in August 2022 as the Reserve's 2022-2024 Margaret A. Davidson Graduate

Fellow, evaluating recovery potential of eelgrass from seed banks under ambient and warming conditions in the Coos estuary. She conducts monthly field work at 5 sites to understand eelgrass flowering, reproductive ecology and seed bank dynamics. Lara presented her research at the Oregon State of the Coast (SOTC; Newport, OR), NERRA annual (Galloway, New Jersey) and the Coastal and Estuarine Research Federation (CERF; Portland, OR) meetings in November 2023. Lara completed her final monthly eelgrass surveys and sediment core/seed bank sampling in February 2024 and is working on data analyses. She plans to defend her thesis in July 2024 and has accepted a PhD position in Jennifer Ruesink's lab at University of Washington.

### ***Partner Projects***

#### **Partnership for Coastal Watersheds (PCW):**

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, International Port of Coos Bay, and citizens at large.

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

- The PCW continues to be a proponent and supporter for local governments to update the Coos Bay Estuary Management Plan. The PCW is an advisory group for the local governments as they move through the Phase 1 process.
- Dr. Matt Brand (formerly Pacific Northwest National Laboratory (PNNL), now Louisiana State University) recently led an Effects of Sea Level Rise (ESLR) NOAA-funded project that created a model to enable 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. The model was used to investigate the potential reduction of infrastructure flooding through restoring tidal wetlands in the system, where water is stored in reconnected wetlands behind breached dikes, helping to reduce flooding in vulnerable built-up areas (e.g., North Bend Airport, parts of Highway 101). Under the same ESLR program, NOAA recently awarded Dr. Brand funding to expand on this work to quantify costs and benefits of green and gray infrastructure scenarios for Coos Bay adaptation actions, including enhancement of levees, dredging, and dike removal scenarios. The PCW is again acting as a local technical advisory group.
- The PCW continues to be a sounding board for researchers doing work around the Coos estuary, including University of Oregon professor Dave Sutherland's estuary modeling work (see "Hydrodynamic Model of Coos Estuary" below).
- For more on the PCW and its current work, visit their website: <https://partnershipforcoastalwatersheds.org>

**Hydrodynamic Model of Coos Estuary:**

A series of projects, led by Dr. David Sutherland (University of Oregon) have resulted in a hydrodynamic model for the Coos estuary to characterize present-day sediment distribution, surface and bottom salinity, sediment flux, temperature, and circulation patterns in the estuary. SSNERR staff are currently involved as technical advisors (helping to interpret findings), facilitating end-user discussions between the project team and other end-users and stakeholders (e.g., Coos County, Oregon Department of Fish and Wildlife, Oregon Department of Environmental Quality, Oregon Institute of Marine Biology, Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians, Coquille Indian Tribe, Department of State Lands, Partnership for Coastal Watersheds) and as end-users themselves (e.g., including a hydrodynamic model display in the new Visitor Center exhibits).

The team's current project (funded by the NERRS Science Collaborative, NSC) focuses on better understanding sediment and temperature effects on native oysters and eelgrass in the Coos estuary. Reserve staff initially helped with data collection but are now focused on helping coordinate engagement with end-users, interpreting results for publications, and presenting results to regional and external audiences. The project team has been recently meeting with multiple end users to begin developing and packaging final products.

**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.

**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 the Reserve and NOOC collaborators began an oyster elevation mapping 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) in Summer 2023 and submitted data in October 2023 for the West coast wide synthesis. The datasets contributed from BC to Mexico are being compiled for a future manuscript. More information about oysters can

be found at the [Olympia & Pacific Oyster Data Portal](#) and the [Native Olympia Oyster Collaborative](#). Staff was interviewed in October 2023 by graduate student (Megan Hayes, UO) for her PhD on ‘How to love an oyster’, which includes environmental, cultural, and social aspects of relationships between native and Pacific oysters along the West Coast.

#### **Kelp / Eelgrass Framework Development Project:**

Building on the Planet Pilot Project led by the Oregon Coastal Management Program at Department of Land Conservation and Development (DLCD) with multiple state agencies, including participation by SSNERR, to determine how useful Planet’s daily global satellite data products would be for eelgrass and kelp detection on Oregon’s coast, DLCD received funding through the Oregon Geospatial Information Council Framework Development program for the project “CMECS Biotic Component Data Development for Seagrass and Canopy Forming Algal beds” (2021-2023), led by Eric Nielsen (GIS Analyst), Institute of Natural Resources, Portland State University and Tayna Haddad, DLCD. SSNERR staff (Jenni Schmitt, Ali Helms, and Jennifer Kirkland) are participating as project advisory team members, by providing eelgrass field survey datasets for ground truthing habitat mapping of intertidal eelgrass and providing input on map products. The project received an extension and will be completed in 2024.

#### **Wildlife Camera Surveys:**

This national NERRS-wide project was developed by Kenny Raposa at Narragansett Bay NERR to conduct the first-ever broad-scale snapshot inventory of wildlife in North American coastal wetlands. SSNERR staff participated by setting up and maintaining camera trapping stations at five wetlands at South Slough (Hidden Creek Marsh, Fredrickson South Marsh, Metcalf Marsh, Winchester Spruce Swamp, Tom’s Creek Marsh). Results will help compile a species list and inventory of wildlife that use North American coastal wetlands, gain insights into relative wildlife abundance, seasonal use of wetlands, and community composition, and provide a collection of coastal wetland wildlife photos for outreach. Results are currently being compiled and analyzed for publication.

#### **Eelgrass Biophysical Model and Ocean Acidification and Hypoxia Vulnerability:**

The Reserve is collaborating on a research project (September 2022-March 2024) 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 is being 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 and Fall 2023 activities were focused on data compilation from the variety of data sources. Caitlin Magel presented project results at the CERF conference on *Biophysical modeling of the interaction between eelgrass and water quality in Coos Bay estuary, Oregon*, and will be presenting at the Hatfield Marine Science Center webinar series in March 2024.

**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 and stakeholders, 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 are developing multiple methods to determine UVVR analysis of current and past estuaries conditions for the project. During this reporting period, the project team hosted a February 2024 end-user meeting to disseminate initial findings, received feedback on further desired analyses, and understand preferences for final end products.

**Drone the NERRS:**

Multiple NERRS have partnered on this new 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.

**NASA DEVELOP Water Quality and Eelgrass project:**

The Reserve collaborated with NASA’s DEVELOP program, hosted by the California Ames Research Center along with CTCLUSI on a project to *Monitor Changes in Water Quality to Identify Stressors in Eelgrass Extent Throughout the Coos Estuary*. The project combined platforms and sensors from NASA’s earth observations to analyze seasonal and annual patterns in water quality and eelgrass presence to identify drivers of change. The project was completed June – August 2023, with final products of Coos estuary maps of turbidity, chlorophyll-a, and eelgrass extent from 2016-2023, the period following eelgrass habitat declines correlated to a Marine Heat Wave in 2014. Sean McCollum (GIS intern) presented project results at CERF in November 2023. Sean recently accepted a position as the GIS Data Specialist at the Elkhorn Slough Reserve.

***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 2025. ODFW staff have also agreed to sample Wasson Creek for the SSNERR restoration project at SSNERR staff request. This sampling will help us understand the effect of marsh restoration projects on mosquito populations.

**Carbon Sequestration:**

In conjunction with the EESLR project listed above, the Reserve is collaborating on a NERR Science Collaborative project (2020-2024) 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.

**Population Genetics of 5-spine (aka Green) Crabs (*Carcinus maenas*):**

We are continuing to work with Dr. Carolyn Tepolt of Woods Hole Oceanographic Institute by providing 5-spine crabs of selected sizes for an international genetic analysis. The purpose of the project is to identify and track different genetic populations of green crabs along the west coast of North America. In 2018-2022 we collected and posted samples as per sampling protocols. Samples have been collected for 2023 and these were sent for analysis in February 2024.

**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 2 sites.

**Eelgrass Microbial Communities:**

South Slough Reserve provided field logistics, housing, and research support for Margaret (Maggie) Redick, PhD student at Oregon State University (McPhail lab) to study microbial and metabolic diversity in eelgrass beds. Maggie conducted sampling of eelgrass sediments at four sites in the Coos estuary in Summer 2023, and is currently processing samples for analyses.

## **STEWARDSHIP**

### **Wasson Restoration:**

Major contributions to the Wasson Ridgetop-to-Estuary Restoration Project focused on pre-restoration monitoring (see Wasson Watershed Monitoring section), administration and planning. Two large contracts are currently being processed by the Oregon Department of Administrative Services contracting team. The forestry contract has been offered to Farm Unlimited and is in the process of finalization. The earthmoving wetland contract is on track to be completed by March 2024. Permit applications are underway with the Bureau of Land Management, ARBO II RRT.

### **Stewardship Collaboration Within the NERRS:**

The Reserve Stewardship Coordinator, Alice Yeates, co-lead an upland monitoring and research workshop at Delaware NERR following the NERRS Annual Meeting in New Jersey. The two-day workshop focused on building a national focus on upland research and monitoring in estuarine watersheds and was attended by representatives from 12 states, as well as the National Oceanic and Atmospheric Administration (NOAA). The states represented include Delaware, Maryland, Ohio, Connecticut, Georgia, Alaska, Washington, Oregon, Wisconsin, Florida, Texas and Rhode Island.

### **Invasive Species:**

The SSNERR Second Saturday Stewards program took a break over December/January and started up with a holly hunt in February with 11 participants. The program promoted Coos Watershed Association's (Coos WA) holly hack-a-thon which aimed to reduce seed spread through a fun educational activity. Due to conflicting second Saturday events, we are changing the name to the South Slough Stewards and will adjust the schedule throughout the year. SSNERR continues to participate in regional invasive species efforts, including the South Coast Cooperative Weed Management Area (CWMA) meetings. Reserve staff also work with CoosWA and Oregon Department of Agriculture (ODA) Noxious Weeds Program to conduct Coos estuary surveys of *Spartina patens*, an "A" listed noxious weed in Oregon.

### **Meaningful Co-stewardship and collaborations with Tribes:**

SSNERR Staff continue to collaborate on the NERR Science Collaborative Catalyst Grant, *Integrating Indigenous knowledge and NERR science and monitoring to improve estuarine stewardship and management, with shared benefits for birds and local communities* with Pacific Birds Habitat Joint Venture and the NERRs in Hawai'i, Alaska, and Washington. The Reserves are engaging with their Indigenous communities (including Coquille Indian Tribe and Confederated Tribes of the Coos, Lower Umpqua and Siuslaw Indians (CTCLUSI)) for a knowledge sharing opportunity held at the He'eia NERR in April 2024. This project offers an intergenerational opportunity to learn from established relationships between Hawaiian Indigenous communities and the He'eia NERR and strengthen relationships between Reserve's and Indigenous communities whose ancestral lands the Reserve resides.

The Reserve Stewardship Coordinator engaged in an all-day workshop hosted by Coquille Indian Tribe's Historic Preservation Officer (THPO) to better integrate and help plan for cultural resource protection in restoration projects. Staff continue to work with THPO prior to new soil disturbance activities, minimizing the likelihood of damaging cultural resources in the Reserve. Additionally, Staff collaborated with CTCLUSI,

Coquille Indian Tribe, OSU Fire Extension and other fire specialists on developing the *Fire with Cultural Aspects* project proposal, as part of the NOAA Climate Resilience Regional Challenge Grant proposal submitted by DLCD. If funded this project will provide support and resources for Indigenous stewardship and co-stewardship centered around fire between the SSNERR and both CTCLUSI and Coquille Indian Tribe. If funded the project team will also engage with the Confederated Tribes of the Siletz Indians and extend an invitation to participate.

## **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.

#### **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.

#### **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 upcoming or ongoing restoration 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 (aka Green) 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 Invasive Species Council (OISC):**

Shon Schooler serves on the OISC representing Southwest Oregon. His term is from January 2023-December 2024.

**Oregon Lamprey Technical Workgroup:**

Shon Schooler and Jenni Schmitt sit 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 Jennifer Koester (ODFW), which meets quarterly with the last meeting held November 2023.

**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.

**South Coast Lamprey Working Group:**

Jenni Schmitt and Shon Schooler are 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.

**Wild Rivers Land Trust Conservation Committee:**

Alice Yeates remains on the Wild Rivers Land Trust Conservation Committee. The Wild Rivers Land Trust aims to conserve and steward natural spaces from Tenmile Lakes to Brookings, OR.

***Local (SSNERR)***

**SSNERR Diversity, Equity, Inclusion Committee:**

Ali Helms is the Science Program 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.

**SSNERR Safety Committee:**

Shon Schooler chairs the SSNERR Safety Committee. The goal is to provide the information and resources to keep staff, interns, and volunteers safe in the office and in the field.

***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 has been meeting regularly to plan the annual PERS conference, which will convene in April 2024 in Nanaimo, BC. Schmitt is also on the planning team for CERF (as co-lead of the Inclusive Culture Committee), which had a conference in Portland, OR in November 2023.

**Pacific Marine and Estuarine Fish Habitat Partnership (PMEP) Eelgrass Advisory 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](#) and presented results at the CERF meeting, held in Portland, OR in November 2023. PMEP is hosting a Symposium in March 2024 on Effective Estuary Restoration.

### *National*

#### **NERRS Coastal and Ocean Acidification (COA) workgroup:**

Ali Helms participated in the NERRS COA workgroup, December 2019 - 2023, to share ideas, resources, best practices for monitoring, and partnerships to collaborate on ocean and estuarine acidification monitoring activities across the Reserve system. The workgroup was led by Kari St Laurent at the Delaware NERR and quarterly meetings have been postponed with Kari's departure from the NERRS to NOAA.

#### **NERRS Indigenous Knowledge and Stewardship Working Group:**

Alice Yeates is on the NERRS Indigenous Knowledge and Stewardship working group. This team addresses social and environmental justice in the NERRS system by centering, engaging, and learning from Indigenous peoples and local communities to facilitate meaningful co-management of coastal lands and waters. The group is working with NOAA's Office for Coastal Management and other partners to improve guidance documents (currently working on the Reserve designation guidance document).

#### **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 developed recommendations to inform the SWMP Application Module for SAV and presented updates at the NERRS annual meeting in November 2023.

**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. The group meets monthly and is planning a peer learning experience at Delaware NERR following the NERRA Annual Meeting in November, funds provided by the Delaware NERR Science Collaborative Capacity Funds.

**NERRS Wetlands and Water Levels (WLWL) Biomonitoring Workgroup:**

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

**NERRS WLWL Oversight Committee:**

Jenni Schmitt and Ali Helms are on this NERRS committee, which was formed to develop Wetlands and Water Level (WLWL) 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 Stewardship-GIS Planning Team:**

Jenni Schmitt is on this committee that meets monthly to plan for the spring virtual Stewardship/GIS NERRS meeting as well as the national NERRS annual meeting in Kennebunkport, ME in October 2024.

**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**

Eidam, E., T. Souza, M. Keogh, D. Sutherland, D. Ralston., **J. Schmitt, A. Helms.** 2024. Spatial and temporal variability of century-scale sediment accumulation in an active-margin estuary. Submitted to *Estuaries and Coasts* (in review).

Keogh, M., D. Sutherland, E. Eidam, T. Souza, **J. Schmitt, A. Helms**, D. Ralson. Estuarine sediment dynamics and the importance of storms in moving (and removing) mud. *Estuaries and Coasts* (in prep).

### **PRESENTATIONS**

Jenni Schmitt and Jennifer Kirkland. A long-term perspective on tidal wetland restoration: Vegetation development, elevation capital, and carbon sequestration in the oldest projects along the west coast. End-user Virtual Meeting, February 22, 2024.

Ali Helms and Adam DeMarzo. South Slough Reserve SWMP video for NERRS Science Collaborative Catalist SWMP Synthesis project. January 11, 2024.

Ali Helms. Eelgrass monitoring/restoration and overview of research at South Slough. University of Michigan Ecology and Evolutionary Biology Society group. November 29 2023.

Shon Schooler, Sylvia Yamada, Becky Flitcroft. Increased abundance and spatial variability of the invasive 5-spine green crab in Oregon estuaries. Oregon State of the Coast meeting, November 8, 2023.

Alice Yeates. Uplands monitoring techniques. NERRS Uplands Monitoring Workshop, November 17-18, 2023.

Alice Yeates, Collette Yee. Wildlife monitoring using dog detection teams. Pub Science at 7 Devils Brewery, February 25, 2024.

Friends of South Slough Reserve, Inc.  
P. O. Box 5446  
Charleston, Oregon 97420

**Date:** 12 March 2024  
**From:** Board of Directors, Friends of South Slough Reserve, Inc. (FOSS)  
**To:** South Slough Management Commission  
**Re:** Activities Report to Commission and Interested Public

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FOSS volunteers work to enhance the Reserve with financial and in-kind support for its mission and programs. The following summarizes our activities since the last meeting.

*Entrance Redesign Final Steps*

The FOSS Board provided funding and oversight for the comprehensive design for reconfiguring and improving the safety and access to the Reserve and Visitor Center from Seven Devils Road. The project was submitted by the Reserve for a NERRS Construction & Acquisition Application Grant. If funded FOSS will provide additional match for this important project.

*Financial Support for SSNERR Programs and the 50<sup>th</sup> Anniversary Celebrations.*

FOSS continues to provide funding for Reserve programs in education, stewardship, public involvement, and internships. FOSS is providing additional support for the 50<sup>th</sup> anniversary celebration. Among the goals for this year are to reprint and update the book “**South Slough Adventures Life on a Southern Oregon Estuary.**” This book was first published by FOSS in 1995. Melody Caldera, FOSS volunteer, editor and author of many chapters in the first edition provided a preface for this 50<sup>th</sup> Anniversary Edition. This third printing will include a brief update of major events, and a recent color aerial photo of the slough. We anticipate copies of this book will be available for the opening ceremonies in May.