SOUTH SLOUGH RESERVE MANAGEMENT COMMISSION

November 29, 2023

166th REGULAR MEETING 10:00 am – 1:00 pm

PUBLIC PARTICIPATION:
To receive the Zoom link, please email Katherine Andreasen, South Slough Reserve Administrative Assistant, at katherine.andreasen@dsl.oregon.gov by noon on November 28, 2023. 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 November 28, 2023, by emailing them to: katherine.andreasen@dsl.oregon.gov

AGENDA

I. Call-to-Order

II. Introductions

III. Review of Meeting Minutes
1. 165th regular meeting minutes from September 2023

IV. Public Input*

V. Agenda Items
1. Visitor Center Entrance Improvements – *FOSS/Contractor presentation*
2. Ramsar Wetland Designation – *NOAA presentation*
3. South Slough Summer Camps Celebrate 20 Years – *Staff presentation, Jaime Belanger*
4. 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: To be scheduled.

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 165th Regular Meeting
September 27, 2023

Commission members present:

Vicki Walker, Chair
Kris Wall
John Burns
Maya Watts
Jessica Quinlan
Cinamon Moffett

South Slough NERR staff and others present:

Bree Yednock
Sabra Comet
Alice Yeates
Christine Moffitt, FOSS
Kathy Andreasen
Ryan Scott
Shon Schooler
Deborah Rudd
Jaime Belanger
Rebecca Muse
Jennifer Kirkland
Ed Oswald
Adam DeMarzo
Chuck Lee
Jerry Lee
Ashtin Bowden
Ali Helms
Sophie Relitz

The meeting was called to order at 1:05 p.m. by Vicki Walker Director of the Department of State Lands and Chair of the Commission. The meeting was held remotely via Zoom video conferencing.

INTRODUCTIONS

Chair Walker welcomed everyone to the meeting. Two of the Reserve's neighbors, Chuck and Jerry Lee, were introduced as well as Ashtin Bowden, the Reserve's new AmeriCorps person. All present at the meeting were invited to introduce themselves.

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 Moffett seconded. The motion carried with all in favor.

PUBLIC INPUT

There was no public input.

AGENDA ITEMS

Reserve Entrance Land Trade

Chair Walker opted to move the land trade discussion to the beginning of the agenda in consideration of the two meeting guests, Jerry and Chuck Lee.

On June 7, 2023, during a special meeting of the South Slough Reserve Management Commission, the Commission directed Reserve staff to explore the feasibility of a land trade at the entrance of the Reserve's visitor center. The request for this potential land trade was the result of discussions with the neighboring landowner who requested permission for vehicular access across Reserve property for commercial use. During initial research it was also determined that a land trade would also resolve historic encroachments by both the Reserve and the neighboring landowner, making it a mutually beneficial solution for both parties. In the interest of protecting public safety and resolving property encroachments at South Slough Reserve, staff request authorization to proceed with due diligence for a potential land trade at the entrance to the South Slough Reserve Visitor Center.

The Lee Family submitted an application to exchange land to the Department of State Lands on September 7, 2023. The application outlines a request for the Lee Family to acquire an approximately 0.29-acre triangular area comprised of grassy frontage along Seven Devils Road and a paved section of the Reserve's existing entrance driveway. The area has a small section of trees and shrub understory, but the area is fairly disturbed without much habitat value. The proposed trade area was acquired by the Reserve in 2021 with NOAA funding but is currently outside of the National Estuarine Research Reserve boundary. The Lee Family is proposing to trade an area of equal size (approximately 0.29 acres) of mature forest habitat adjacent to the Reserve's driveway and surrounded on two sides by Reserve lands. Through consultation with legal counsel at the Department of Justice, it was determined the trade must be

based on equal value and not equal acreage. Therefore, appraisals will be required to determine the final acreage of the trade parcels.

The area the Reserve is considering to trade was acquired with Procurement, Acquisition, and Construction funds from NOAA in 2021 and encompasses a portion of the Reserve's existing driveway. As a result, the trade is dependent on the Reserve securing project funds to move its driveway to a new location as part of an ongoing project to create a welcoming, accessible, and safe entrance. With support from the Friends of South Slough Reserve, designs for the new entrance are currently being developed to move the entrance approximately 100 feet north of its current location. This is a priority project, and the Reserve will be pursuing grant funding in early 2024 to reconfigure the entrance. Commissioners discussed the issue and asked questions.

Chair Walker asked if there was a motion to accept the staff recommendation that the Commission authorize the Reserve to proceed with due diligence for the Lee Land Trade with the knowledge that completion of the land trade is reliant on approval by the Land Board and the Reserve securing funds to reconfigure the entrance away from its current location. Commissioner Burns moved and Commissioner Quinlan seconded the motion to approve the staff recommendation. The motion passed unanimously.

Chair Walker asked if there were any further questions or comments from the group. Jerry and Chuck Lee both agreed they were amenable to the land trade process, which they commented was well thought out and they expressed thank you for the cooperation in the matter.

Volunteer Recognition Procedures

Since 2005, the South Slough Reserve Management Commission has made it a priority to recognize the contributions of volunteers. In November 2005, at the 114th Regular Meeting of the South Slough Reserve Management Commission, the Commission passed a formal motion to codify its volunteer recognition procedures as outlined in the meeting's briefing packet.

Commissioners were asked if the Management Commission should amend its volunteer recognition procedures to allow flexibility while recognizing the contribution of volunteers to programs and activities at South Slough Reserve. Deborah Rudd spoke regarding the issue, and she commented that the South Slough Reserve is grateful for the many dedicated volunteers who donate their time and expertise to our programs every year.

Commissioners forwarded questions to Deborah and discussed the recommendation for flexibility in volunteer recognition procedures.

Chair Walker asked if there was a motion, per the staff recommendation, to provide flexibility in volunteer recognition procedures. Commissioner Quinlan moved and Commissioner Watts seconded to pass a motion to provide flexibility in volunteer recognition procedures, while continuing regular recognition of South Slough Reserve volunteers. The motion carried with all in favor.

Ramsar Wetland Designation

Bree Yednock shared the following information from the NOAA Office for Coastal Management (NOAA OCM) indorsing Ramsar, an "intergovernmental treaty (named after the Iranian city of its inception) that provides the framework for the conservation and wise use of wetlands and their resources."

NOAA OCM believes that designating your reserve as a Ramsar site would benefit you and your community in the following ways:

- *Communicates significance of the resources on a national and international scale when highlighted in press releases, media articles, videos, news casts, etc.*
- *Garners additional interest from the public*
- *Highlights the value of the NERR system to Congressional representatives and reinforces the need for continued, consistent funding.*
- *Creates opportunities for cross-border collaboration and information sharing (e.g., sister estuaries)*

The application requirements are moderate and subsequent designation upkeep are minimal and fall under current Reserve reporting responsibilities. There is no cost to the applying party, nor does the designation hold any regulatory power to enact additional restrictions. The management plan and site profile of the reserve contains much of the necessary information and fulfills the requirement for maintenance of the ecological character of the wetland.

Ramsar requires that the designated body:

- *Update and submit the Ramsar Information Sheet (RIS) during the application and every six years subsequent. This contains data and descriptions of the ecological character of the wetland.*
- *Obtain a letter of endorsement from all landowners; this includes public, private, tribal, and/or indigenous owners.*
- *Obtain a letter of endorsement from the state's fish and wildlife agency and any other party that has regulatory interest in the site.*
- *Provide a written commitment to maintain the ecological character of the site; and report to Ramsar when/if any changes occur.*
- *Promote Ramsar branding at the site.*

Wetlands across the world are threatened by development, climate change, and biodiversity loss. The NERRs system provides an amazing example of a coordinated, systematic, and passionate protection of coastal wetlands through stewardship, research, training, and education. NOAA OCM believes that Ramsar designation provides us an opportunity to learn, grow, collaborate, and shine on an international level.

Bree Yednock explained that through NOAA, South Slough Reserve has been provided an opportunity to be designated a Ramsar site. A NOAA Coastal Management fellow recently visited South Slough and provided information to staff about the program and assistance on the application for designation. Some reserves in the NERRS already have the designation, and there is an effort by NOAA to encourage other reserves on the west coast to apply. The Commission discussed the opportunity, and Chair Walker suggested contacting other reserves in the system and querying them on the process. Ms. Yednock said she recommended that the Commission support staff's effort for South Slough Reserve's designation. Chair Walker added that a good start on the process would be to offer a presentation to the Land Board.

Chair Walker asked if the Commission would like to introduce a motion to move forward and assess the process of designating the South Slough Reserve as a Ramsar site. Commissioner Quinlan moved and Commissioner Burns seconded the motion to do due diligence and to assess the process of designating the South Slough Reserve as a Ramsar site. The motion was approved with all in favor.

There were no further comments or questions.

Presentation

Dr. Shon Schooler gave a staff presentation on the Status of the invasive five-spine green crab in Oregon. Dr. Schooler explained that the El Niño conditions expected mean more recruits of invasive crabs for the next several years. Green crab management needs include:

1) Monitoring to evaluate population growth (coastal monitoring coordinator)
2) Experiments to understand per capita impacts (to set target levels, functional eradication)
3) Management: develop a sustained trapping

Next steps for management:
- Continue research and monitoring
- Oregon Green Crab Management Plan (PSU: Dr. Cat de Rivera and steering committee (SSNERR, ODFW, Sea Grant, others))
- Start management in high-value areas (South Slough)
- Session at State of the Coast (HMSC, Newport, Oregon Nov 4th, 2023): https://seagrant.oregonstate.edu/state-coast

The full presentation can be found here: https://www.oregon.gov/dsl/SS/Documents/Schooler%202023%20South%20Slough%20Commission.pdf

Information Reports

Staff shared highlights and progress within their program areas.

FOSS
Christine Moffitt reported that the Friends of South Slough (FOSS) works to enhance the Reserve with financial and in-kind support for its mission and programs. The FOSS Board selected a contractor to execute a comprehensive design for reconfiguring and improving the safety of access to the Reserve and Visitor Center from Seven Devils Road. The Coos Bay based contractor team selected is Civil West Engineering Services, Inc.

FOSS secretary Jeanne Standley serves as primary contact from FOSS, and the project steering team includes the contractors, FOSS board, SSNERR operations manager, Rebecca Muse and reserve manager, Bree Yednock. The goal of the project is to have plans and cost estimates for a project that can be submitted to NOAA for infrastructure funding. A presentation of this work is planned to be shared with the Commission at the next meeting. Sharing the design with the public as part of SSNERR's 50th anniversary celebration is also anticipated.

ADMINISTRATIVE
Bree Yednock reported that Bree Turner, South Slough Reserve's dedicated liaison officer will be leaving her position with NOAA as she has accepted another natural resource position in Washington state. Reserve staff would like to acknowledge and thank her for her time and commitment to South Slough Reserve.

Bree Yednock gave an update on the efforts to increase security around the Reserve due to illegal activities. Additional surveillance by law enforcement is requested in high-risk areas. A map that will highlight increased areas of patrol is close to being finished.

Next scheduled meeting: TBD- Commissioners and staff discussed either Wednesday, November 29 or Friday, December 1 as possible dates for the November meeting.

ADJOURNMENT

Chair Walker thanked the meeting attendees. She made a motion to adjourn the meeting and was seconded by Commissioner Quinlan. The motion passed and the meeting was adjourned at 3:06 p.m.

Agenda Item 1 – *Action Item*

Visitor Center Entrance Improvements

SUBJECT

Protecting public safety and infrastructure at South Slough Reserve by improving access to the Visitor Center.

ISSUE

Whether the Management Commission should approve the South Slough Reserve's request to accept designs and apply for a FY24 National Oceanic and Atmospheric Administration (NOAA) Procurement, Acquisition and Construction (PAC) grant for the renovation and construction of expanded parking and network infrastructure to the Visitor Center.

AUTHORITY

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

ORS273.554; relating to the authority of the South Slough National Estuarine Research Reserve Management Commission

SUMMARY

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. With the completion of both transactions, the ownership is now transferred to the Reserve, and we are ready to move into the next phase of improving the Reserve entrance.

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 contractors, FOSS and Reserve management meet 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.

Improvements included in the design:

- Relocating the entrance road and sign to improve traffic safety, visibility, and security.
- Adding a turn lane on Seven Devils Road to assist with safety when entering Reserve.
- Install hard-wired internet, network, cable and communications infrastructure connecting the Visitors Center to the existing facilities on Seven Devils Road.
- Expand the visitor parking areas and include charging stations and other upgrades for ADA accessibility and parking.
- Enhance and upgrade lighting and security features at the entrance.
- Create a visual and auditory buffer from adjacent commercial property.

This proposed design is being presented to the Commission today. This 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 you are being presented with today will assist in this application process.

RECOMMENDATION

The Reserve recommends the Management Commission 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.

ATTACHMENTS

Presentation Slides

Design Exhibit for Entrance Project Alternatives

Cost Estimates for Entrance Project Alternatives

Friends of South Slough Reserve Inc. (FOSS)

SOUTH SLOUGH RESERVE ENTRANCE REDESIGN PROJECT

SSNERR MANAGEMENT COMMISSION MEETING

NOVEMBER 29, 2023

Photo by John Bragg

DESIGN TEAM

Will Dawson,
Civil West Engineering
Principal, South Coast Regional Manager / Project Lead

Stephanie Martell,
HGE Architects, Inc.
Principal Landscape Architect

Christopher Kinney,
Civil West Engineering
Civil Engineer

Dominic Librie,
HGE Architects, Inc.
Design Professional

PROJECT GOALS & OBJECTIVES

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

PROJECT SUMMARY

- Project started in April 2023

- Met four times with the FOSS Board of Directors and South Slough Reserve staff
- Met three times internally as a Design Team
- Met once with County Roadmaster

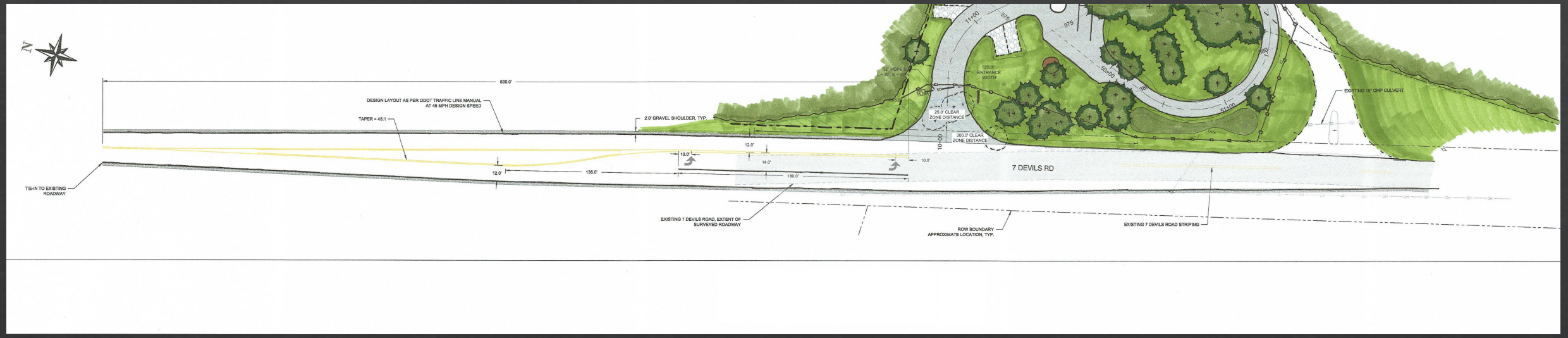
- Designed and reviewed two options each for the entrance and parking lot
- Current design reflects discussion and feedback from prior meetings and FOSS internal review

- Civil West preparing cost estimates

EXISTING PLAN

OVERALL PLAN

ENLARGED PLAN – TURN LANE



ENLARGED PLAN – ENTRY

ENLARGED PLAN – PARKING


7 DEVILS RD EXPANSION TO ACCOMMODATE LEFT TURN LANE, SEE 2/C1
150' x 20' VISION CLEARANCE TRIANGLE AS PER COOS COUNTY CODE 7.1.525. ELIMINATE EXISTING TREES AND OTHER SIGHT OBSTRUCTIONS GREATER THAN 36" WITHIN TRIANGLE AS PER CODE
PROPOSED DOUBLE-SIDED ENTRANCE SIGN
EXISTING CONCRETE FOUNDATION
GRAVEL SURFACING FOR FIVE (5) PARKING SPOTS FOR LATER PHASE
PROPOSED DRAINAGE SWALE, TYP. SEE SHEET C3
EXISTING GRAVEL
EXISTING STUMP
PROPOSED BERM
PROPOSED ACCESS DRIVE, SEE SHEET C3 FOR SLOPES AND GRADING
7 DEVILS RD
CROSSWALK STRIPING, TYP.
PROPOSED FENCE LINE
EXISTING EDGE OF ASPHALT, TYP.
GRAVEL SURFACING FOR TWELVE (12) PARKING SPOTS FOR LATER PHASE
GRAVEL SURFACING FOR PULL-OUT
GRAVEL SURFACING FOR OVERFLOW PARKING
PROPOSED PEDESTRIAN PATHWAY, TYP.
PROPOSED STORM DRAIN SYSTEM, TYP. SEE SHEET C3
EX. PARKING STRIPING, TYP.
PROPOSED LIGHT POLE WITH SECURITY CAMERA, TYP.
PROPOSED BOLLARD, TYP.
EXISTING LIGHT POLE
EXISTING GRAVEL

Questions?

FIGURE 1.0-1

0 1"
NTS

Drawn By: CSK
Date: 10/26/23

PROJECT ALTERNATIVES EXHIBIT

ENTRANCE REDESIGN PROJECT

FRIENDS OF SOUTH SLOUGH

61907 SEVEN DEVILS RD

Civil West Engineering Services, Inc.

541.223.5130 WWW.CIVILWEST.COM

Client:	Friends of South Slough
Project:	South Slough National Esturine Research Reserve Entrance Redesign
Project #:	2204-277
Date:	11/13/2023
Prepared By:	CSK

Alternative 1 - Driveway Entrance

Item	Description	Unit	Est. Quantity	Unit Amount	Total
1	Mobilization, Insurance, Overhead, Bonds (5% of Construction Cost)	ls	1	$ 12,600.00	$ 12,600
2	Construction Facilities (5% of Construction Cost)	ls	1	$ 12,600.00	$ 12,600
3	Demolition & Site Preparation (5% of Construction Cost)	ls	1	$ 12,600.00	$ 12,600
4	Clearing and Grubbing	ls	1	$ 10,000.00	$ 10,000
5	Earthwork (mostly fill used from on-site)	cy	1000	$ 15.00	$ 15,000
6	Level 3 Asphalt Concrete (4" layer)	ton	380	$ 200.00	$ 76,000
7	Aggregate Base (12" structural section)	cy	710	$ 35.00	$ 24,850
8	Pedestrian path (4" crushed oyster shell path over 4" gravel base)	sf	1000	$ 12.50	$ 12,500
9	Storm Drain Piping (L = 60') & Riprap	ls	1	$ 4,000.00	$ 4,000
10	Swale	sf	1650	$ 5.00	$ 8,250
11	Split-Rail Fencing	lf	475	$ 35.00	$ 16,625
12	Electric Sliding Gate for Entrance	ea	1	$ 20,000.00	$ 20,000
13	Geotextile Fabric	sy	4520	$ 8.00	$ 36,160
14	Entry Sign (assumes relocation of existing)	ea	1	$ 2,500.00	$ 2,500
15	Erosion Control	ls	1	$ 10,000.00	$ 10,000
16	Site Restoration	ls	1	$ 15,000.00	$ 15,000
Construction Subtotal					$ 250,885
Engineering/ Construction Management			20%		$ 50,200
Contingency			20%		$ 50,200
Total Project Cost					**$ 389,085**

Client:	Friends of South Slough
Project:	South Slough National Esturine Research Reserve Entrance Redesign
Project #:	2204-277
Date:	11/13/2023
Prepared By:	CSK

Alternative 2 - Parking & Pathway along Existing Driveway

Item	Description	Unit	Est. Quantity	Unit Amount	Total
1	Mobilization, Insurance, Overhead, Bonds (5% of Construction Cost)	ls	1	$ 2,800.00	$ 2,800
2	Construction Facilities (5% of Construction Cost)	ls	1	$ 2,800.00	$ 2,800
3	Demolition & Site Preparation (5% of Construction Cost)	ls	1	$ 2,800.00	$ 2,800
4	Clearing and Grubbing	ls	1	$ 10,000.00	$ 10,000
5	Aggregate Base (12" structural section)	cy	215	$ 35.00	$ 7,525
6	Pedestrian path (4" crushed oyster shell path over 4" gravel base)	sf	3020	$ 12.50	$ 37,750
7	Crosswalk Striping	ls	1	$ 700.00	$ 700
Construction Subtotal					$ 55,975
Engineering/ Construction Management			20%		$ 11,200
Contingency			20%		$ 11,200
Total Project Cost					**$ 97,975**

Client:	Friends of South Slough
Project:	South Slough National Esturine Research Reserve Entrance Redesign
Project #:	2204-277
Date:	11/13/2023
Prepared By:	CSK

Alternative 3 - Parking Lot Expansion

Item	Description	Unit	Est. Quantity	Unit Amount	Total
1	Mobilization, Insurance, Overhead, Bonds (5% of Construction Cost)	ls	1	$ 23,900.00	$ 23,900
2	Construction Facilities (5% of Construction Cost)	ls	1	$ 23,900.00	$ 23,900
3	Demolition & Site Preparation (5% of Construction Cost)	ls	1	$ 23,900.00	$ 23,900
4	Clearing and Grubbing	ls	1	$ 20,000.00	$ 20,000
5	Earthwork (re-used cut)	cy	1000	$ 20.00	$ 20,000
6	Earthwork (hauled-off cut)*	cy	600	$ 35.00	$ 21,000
7	Level 3 Asphalt Concrete (4" layer)	ton	420	$ 200.00	$ 84,000
8	Aggregate Base (12" structural section)	cy	1200	$ 35.00	$ 42,000
9	Pedestrian path (4" crushed oyster shell path over 4" gravel base)	sf	715	$ 12.50	$ 8,938
10	Swale	sf	1320	$ 5.00	$ 6,600
11	Light Bollard	ea	16	$ 1,000.00	$ 16,000
12	Light Pole	ea	9	$ 9,000.00	$ 81,000
13	High Speed Internet: Installation to Site	ls	1	$ 70,000.00	$ 70,000
14	High Speed Internet: Installation to Bldg	ls	1	$ 20,000.00	$ 20,000
15	High Speed Internet: Installation from Bldg to Room	ls	1	$ 10,000.00	$ 10,000
16	Crosswalk Striping	ls	1	$ 3,800.00	$ 3,800
17	Catch Basin	ea	1	$ 5,000.00	$ 5,000
18	Storm Drain Piping (L = 140') & Riprap	ls	1	$ 9,000.00	$ 9,000
19	EV Charging Pedestal	ea	1	$ 20,000.00	$ 20,000
20	Power Service Extension (inc. conduits, fittings, wiring, etc.)	ls	1	$ 40,000.00	$ 40,000
21	Site Restoration	ls	1	$ 25,000.00	$ 25,000
Construction Subtotal					$ 502,338
Engineering/ Construction Management			20%		$ 100,500
Contingency			20%		$ 100,500
Total Project Cost					**$ 775,038**

*Based on the following assumptions: current day prices, disposal site approx. 15 mi, typ. dump truck capacity of 14 cy

Client:	Friends of South Slough
Project:	South Slough National Esturine Research Reserve Entrance Redesign
Project #:	2204-277
Date:	11/13/2023
Prepared By:	CSK

Alternative 4 - Left Turn Lane on 7 Devils Rd

Item	Description	Unit	Est. Quantity	Unit Amount	Total
1	Mobilization, Insurance, Overhead, Bonds (5% of Construction Cost)	ls	1	$ 8,300.00	$ 8,300
2	Construction Facilities (5% of Construction Cost)	ls	1	$ 8,300.00	$ 8,300
3	Demolition & Site Preparation (5% of Construction Cost)	ls	1	$ 8,300.00	$ 8,300
4	Level 3 Asphalt (4" layer inc. 2" overlay over existing roadway)	ton	560	$ 200.00	$ 112,000
5	Aggregate Base (12" structural section)	cy	340	$ 35.00	$ 11,900
6	Geotextile Fabric	sy	1375	$ 8.00	$ 11,000
7	Gravel Shoulder (12" structural section)	cy	166	$ 35.00	$ 5,819
8	Embankment	ton	100	$ 75.00	$ 7,500
9	Roadway Markings (Directional Arrows, not striping)	ea	2	$ 500.00	$ 1,000
10	Painted Roadway Striping	lf	3615	$ 4.25	$ 15,400
Construction Subtotal					$ 164,619
Engineering/ Construction Management			20%		$ 33,000
Contingency			20%		$ 33,000
Total Project Cost					**$ 255,519**

Client:	Friends of South Slough
Project:	South Slough National Esturine Research Reserve Entrance Redesign
Project #:	2204-277
Date:	11/13/2023
Prepared By:	CSK

Alternative 5 - All Alternatives Combined

Item	Description	Unit	Est. Quantity	Unit Amount	Total
1	Mobilization, Insurance, Overhead, Bonds (5% of Construction Cost)	ls	1	$ 48,700.00	$ 48,700
2	Construction Facilities (5% of Construction Cost)	ls	1	$ 48,700.00	$ 48,700
3	Demolition & Site Preparation (5% of Construction Cost)	ls	1	$ 48,700.00	$ 48,700
4	Alternative 1 - Driveway Entrance	ls	1	$ 250,885.00	$ 250,885
5	Alternative 2 - Parking & Pathway along Existing Driveway	ls	1	$ 55,975.00	$ 55,975
6	Alternative 3 - Parking Lot Expansion	ls	1	$ 502,337.50	$ 502,338
7	Alternative 4 - Left Turn Lane on 7 Devils Rd	ls	1	$ 164,618.75	$ 164,619
Construction Subtotal					$ 973,816
Engineering/ Construction Management			20%		$ 194,800
Contingency			20%		$ 194,800
Total Project Cost					**$ 1,509,516**

Administrative/Facilities Report

Staff: Bree Yednock, 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 completed its work on the draft environmental assessment for the proposed boundary update as required through the National Environmental Policy Act (NEPA). NOAA completed Section 508 compliance for document accessibility and started the process for federal consistency determination in September. The next steps will be for NOAA to complete the federal register notice steps and post the draft EA the NOAA website for comment.

Administrative

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

Summer is always bustling at the Visitor Center with vacation travelers and Summer Camp happening on a regular basis. Facility staff continued with extra cleaning, security rounds, and weekly preparations for summer camp.

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

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.

Administrative staff have prepped and processed the required financial information to set up the new biennium (2023-2025) state funding as well as new NOAA operations award for federal fiscal year 2023. We also finalized contracting with Wild Rivers Land Trust for the reserve's non-competitive capacity-building grant totaling $300,000 to fund due diligence expenses and personnel time for potential land acquisitions. These noncompetitive funds are provided by NOAA through the Bipartisan Infrastructure Law (formerly called the Infrastructure Investment and Jobs Act).

Staff have also been planning the submission for the 2024 non-competitive funds that are available to Reserves through the Inflation Reduction Act. This proposal will have two separate tasks – Wasson Boardwalk and piling replacement for two SWMP stations (Charleston and Valino).

Operations Manager Muse has also been completing training for the new federal grants management system and preparing for all NOAA grants to be transferred over to this new online system since Grants Online is being retired.

Facilities

Staff continue working on the trail system and facilities doing routine maintenance. Summer was an interesting time for facilities since we had some turnover in staff. The Park Ranger Assistant (Jonathan Forth) left DSL at the end of June to relocate to the east coast. The duties for this position were taken up by the Facilities Lead until the position could be filled. Prioritization of tasks were based on need during this timeframe. Recruitment was successful and the new Park Ranger Assistant started on August 14th. Welcome Daniel Fenn, he came to us from Oregon State Parks where he was a Seasonal Park Ranger Assistant.

Facilities staff finished removing the aquaria equipment from the front entrance to the visitor center in preparation for the updates coming through the exhibit update task. This area will be evolving with updates throughout the next few months.

Recruitment for the RV host is ongoing until filled. Due to this being a new type of opportunity, there was a lot of work done on how to recruit, post the position and how the placement would be handled. We are adjusting this process along the way as needed. Future recruitment should be much easier, and refinements will be made along the way.

Operations Manager Muse has been involved with FOSS on the new entrance and parking lot design over the summer. FOSS is funding this project and all the work to get to a final design so we can submit a proposal to NOAA in early 2024 for a Procurement, Acquisition and Construction grant. There will be a presentation during the Commission meeting to go over the final draft designs from the Contractors – HGE Design and Civil West Engineering.

Facilities staff completed the Hinch Kayak Launch expansion in August. We submitted and were awarded a permit through the US. Army Corp of Engineers for this expansion. There is an ongoing state permit through DSL for the kayak launch and after research and discussions with DSL staff, it was determined the work we needed to perform was considered maintenance and there was no need for additional state permitting for the work. This work was completed during the in-water work period required of the permit. The launch was

expanded approximately an additional 7 feet which now accommodates the longer kayaks for a safer launch in and out of the water.

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 quotes for 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 needed more detailed quotes so that we could make decisions on how to get the project done but also make the budget. There were some overages on the restroom renovation, so we needed to make a few budget adjustments. Contractors came out in September to do a site walk through so they could drill down their quotes per door. Based on those updated quotes, we might have to narrow down which doors are updated and which doors we do in the future.

32007	SSNER O/F			*Report for October-2023*					*Biennium Remaining: 83.33%*	
		Biennium To July	August	September	October	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining
1010	TRANSFER IN FROM OTHER FUNDS	0	400,000	0	0	400,000	0	0	NA	NA
Total:	**TRANSFER IN**	**0**	**400,000**	**0**	**0**	**400,000**	**0**	**0**	**NA**	**NA**
Grand Total: Transfer In		**0**	**400,000**	**0**	**0**	**400,000**	**0**	**0**	**NA**	**NA**
0355	FEDERAL FUNDS	0	0	14,913	0	14,913	0	0	NA	NA
0510	RENTS AND ROYALTIES	0	0	500	0	500	0	0	NA	NA
0975	OTHER REVENUE	275	0	0	0	275	0	0	NA	NA
Total:	**REVENUES**	**275**	**0**	**15,413**	**0**	**15,688**	**0**	**0**	**NA**	**NA**
Grand Total: Revenue		**275**	**0**	**15,413**	**0**	**15,688**	**0**	**0**	**NA**	**NA**

32007	SSNER O/F			*Report for October-2023*					*Biennium Remaining: 83.33%*	
		Biennium To July	August	September	October	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining
3110	CLASS/UNCLASS SALARY & PER DIE	76,861	93,137	73,636	0	243,634	1,649,324	0	1,405,690	85.23%
3160	TEMPORARY APPOINTMENTS	2,725	3,972	3,453	0	10,150	7,343	0	-2,807	-38.23%
3170	OVERTIME PAYMENTS	0	0	297	0	297	0	0	-297	NA
3180	SHIFT DIFFERENTIAL	41	23	60	0	125	0	0	-125	NA
3190	ALL OTHER DIFFERENTIAL	1,047	1,069	1,060	0	3,176	9,399	0	6,223	66.21%
3210	ERB ASSESSMENT	24	22	23	0	69	537	0	468	87.20%
3220	PUBLIC EMPLOYES' RETIREMENT S	13,660	16,448	13,340	0	43,448	302,359	0	258,911	85.63%
3221	PENSION BOND CONTRIBUTION	4,096	4,925	4,005	0	13,026	83,952	0	70,926	84.48%
3230	SOCIAL SECURITY TAX	6,098	7,448	5,942	0	19,488	129,642	0	110,154	84.97%
3240	UNEMPLOYMENT ASSESSMENT	0	0	0	0	0	6,851	0	6,851	100.00%
3241	PAID FAMILY MEDICAL LEAVE INSU	319	389	311	0	1,019	6,749	0	5,730	84.90%
3250	WORKERS' COMPENSATION ASSES	19	18	20	0	57	467	0	410	87.87%
3260	MASS TRANSIT	0	0	0	0	0	9,577	0	9,577	100.00%
3270	FLEXIBLE BENEFITS	15,644	15,458	17,455	0	48,557	401,544	0	352,987	87.91%
Total:	**PERSONAL SERVICES**	**120,534**	**142,909**	**119,602**	**0**	**383,045**	**2,607,744**	**0**	**2,224,699**	**85.31%**
4100	INSTATE TRAVEL	232	4,691	4,477	0	9,401	18,628	0	9,227	49.54%
4125	OUT-OF-STATE TRAVEL	0	-304	599	0	295	8,667	0	8,372	96.60%
4150	EMPLOYEE TRAINING	625	1,512	989	0	3,126	10,178	0	7,052	69.29%
4175	OFFICE EXPENSES	0	209	190	0	399	26,268	0	25,869	98.48%
4200	TELECOMM/TECH SVC AND SUPPLI	2,545	1,685	1,703	0	5,933	17,784	0	11,851	66.64%
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	0	0	11,000	0	11,000	142,147	0	131,147	92.26%
4325	ATTORNEY GENERAL LEGAL FEES	0	0	358	0	358	9,037	0	8,680	96.04%
4375	EMPLOYEE RECRUITMENT AND DE	0	0	0	0	0	2,934	0	2,934	100.00%
4400	DUES AND SUBSCRIPTIONS	120	0	0	0	120	14	0	-106	-757.14%
4425	LEASE PAYMENTS & TAXES	0	0	0	0	0	55	0	55	100.00%
4450	FUELS AND UTILITIES	260	245	229	0	733	9,326	0	8,593	92.14%
4475	FACILITIES MAINTENANCE	218	373	2,843	0	3,434	32,475	0	29,041	89.43%
4650	OTHER SERVICES AND SUPPLIES	678	9,669	4,617	272	15,236	63,455	0	48,219	75.99%
4700	EXPENDABLE PROPERTY $250-$500	0	0	0	0	0	4,077	0	4,077	100.00%
4715	IT EXPENDABLE PROPERTY	3,054	6,833	0	0	9,887	55,755	0	45,868	82.27%
Total:	**SERVICES AND SUPPLIES**	**7,732**	**24,912**	**27,005**	**272**	**59,920**	**402,023**	**0**	**342,103**	**85.10%**
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	0	0	6,914	0	6,914	0	0	-6,914	NA
Total:	**CAPITAL OUTLAY**	**0**	**0**	**6,914**	**0**	**6,914**	**66,418**	**0**	**59,504**	**89.59%**

32007 SSNER O/F			*Report for October-2023*					*Biennium Remaining: 83.33%*	
	Biennium To July	August	September	October	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining
Grand Total: Expense	**128,266**	**167,821**	**153,520**	**272**	**449,879**	**3,076,185**	**0**	**2,626,306**	**85.38%**

62007	SSNER F/F			*Report for October-2023*					*Biennium Remaining: 83.33%*	
		Biennium To July	August	September	October	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining
0995	FEDERAL FUNDS REVENUE	0	209	161,281	0	161,490	0	0	NA	NA
Total:	**REVENUES**	**0**	**209**	**161,281**	**0**	**161,490**	**0**	**0**	**NA**	**NA**
Grand Total: Revenue		**0**	**209**	**161,281**	**0**	**161,490**	**0**	**0**	**NA**	**NA**

62007	SSNER F/F			Report for October-2023				Biennium Remaining: 83.33%		
		Biennium To July	August	September	October	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining
3110	CLASS/UNCLASS SALARY & PER DIE	36,505	51,476	42,677	0	130,659	1,288,175	0	1,157,516	89.86%
3160	TEMPORARY APPOINTMENTS	0	0	0	0	0	84,938	0	84,938	100.00%
3170	OVERTIME PAYMENTS	0	0	0	0	0	3,657	0	3,657	100.00%
3180	SHIFT DIFFERENTIAL	0	0	5	0	5	8	0	4	43.75%
3190	ALL OTHER DIFFERENTIAL	91	80	99	0	270	0	0	-270	NA
3210	ERB ASSESSMENT	13	14	16	0	43	470	0	427	90.92%
3220	PUBLIC EMPLOYES' RETIREMENT S	6,771	8,464	7,260	0	22,495	225,024	0	202,529	90.00%
3221	PENSION BOND CONTRIBUTION	2,061	2,574	2,204	0	6,838	64,075	0	57,237	89.33%
3230	SOCIAL SECURITY TAX	2,792	3,928	3,250	0	9,970	102,562	0	92,592	90.28%
3241	PAID FAMILY MEDICAL LEAVE INSU	146	205	170	0	521	5,023	0	4,502	89.62%
3250	WORKERS' COMPENSATION ASSES	10	11	12	0	32	407	0	375	92.13%
3270	FLEXIBLE BENEFITS	9,097	9,478	9,964	0	28,539	350,856	0	322,317	91.87%
Total:	**PERSONAL SERVICES**	**57,485**	**76,231**	**65,656**	**0**	**199,371**	**2,125,195**	**0**	**1,925,824**	**90.62%**
4100	INSTATE TRAVEL	89	229	0	0	318	22,043	0	21,725	98.56%
4125	OUT-OF-STATE TRAVEL	0	304	0	0	304	15,272	0	14,968	98.01%
4150	EMPLOYEE TRAINING	0	824	1,690	0	2,514	24,953	0	22,439	89.92%
4175	OFFICE EXPENSES	709	471	493	0	1,673	23,208	0	21,535	92.79%
4200	TELECOMM/TECH SVC AND SUPPLI	633	687	12	0	1,331	10,553	0	9,222	87.38%
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	0	0	0	0	2,814,643	0	2,814,643	100.00%
4325	ATTORNEY GENERAL LEGAL FEES	0	0	0	0	0	-551	0	-551	100.00%
4375	EMPLOYEE RECRUITMENT AND DE	0	0	0	0	0	6,914	0	6,914	100.00%
4400	DUES AND SUBSCRIPTIONS	12	476	150	0	638	976	0	338	34.63%
4450	FUELS AND UTILITIES	159	56	79	0	293	29,892	0	29,599	99.02%
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	3,754	8,794	6,264	0	18,813	18,075	0	-738	-4.08%
4700	EXPENDABLE PROPERTY $250-$500	0	3,445	0	0	3,445	25,139	0	21,694	86.30%
4715	IT EXPENDABLE PROPERTY	0	890	0	0	890	1,713	0	823	48.07%
Total:	**SERVICES AND SUPPLIES**	**5,355**	**16,176**	**8,688**	**0**	**30,219**	**3,048,547**	**0**	**3,018,328**	**99.01%**
5200	TECHNICAL EQUIPMENT	0	0	0	0	0	10,895	0	10,895	100.00%
5700	BUILDINGS AND STRUCTURES	0	8,550	0	0	8,550	0	0	-8,550	NA
5900	OTHER CAPITAL OUTLAY	0	0	29,277	0	29,277	0	0	-29,277	NA
Total:	**CAPITAL OUTLAY**	**0**	**8,550**	**29,277**	**0**	**37,827**	**10,895**	**0**	**-26,932**	**-247.20%**
6030	DISTRIBUTION TO NON-GOVERNME	0	0	32,051	0	32,051	0	0	-32,051	NA
Total:	**SPECIAL PAYMENTS**	**0**	**0**	**32,051**	**0**	**32,051**	**0**	**0**	**-32,051**	**NA**

62007 SSNER F/F			*Report for October-2023*					*Biennium Remaining: 83.33%*	
	Biennium To July	August	September	October	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining
Grand Total: Expense	**62,840**	**100,957**	**135,672**	**0**	**299,469**	**5,184,637**	**0**	**4,885,168**	**94.22%**

SSNERR Education Program Update

Staff: Jaime Belanger, Education Coordinator/Lead
Eric Dean, Education Specialist
Deborah Rudd, Public Involvement Coordinator
Sophie Relitz, Seasonal Education Specialist
Ashtin Bowden, AmeriCorps Estuary Explorers

Teacher training in South Slough

July 1 – October 31, 2023

This period was, as is expected, one of the busiest periods for education programs. The Visitor Center operated on the usual schedule, open to the public Tuesday-Saturday from 10 AM – 4 PM. The education programs, which include programs, activities and events for schools, teachers and general audiences, were delivered on site, online, in schools and in many locations around the community.

The Reserve education staff members were working to their fullest capacities to meet community needs during this time. Education interns, volunteers and partners contributed essential program support through October. Additionally, an AmeriCorps member began service on September 1st and will serve as the Estuary Explorers Educator facilitating afterschool programs through July 2024.

Staff Training, Innovations

Deborah Rudd contributes to the following groups and committees in her role as Public Involvement Coordinator - Coos Hispanic Allies, DSL DEI Planning Committee, Mayfly Festival Planning Committee, Octoberfish 2024 Planning Committee, Oregon Peer Equity Network, South Slough Reserve & DSL DEI Committees. She is the lead of the Reserve's 50th Anniversary Planning Committee. During this period, Deborah received the following training:

- Uplift Cohort Workgroup: Salem 07/21/2023, 09/15/2023, 10/20/2023

- Records Retention and Management Training 10/28/2023

Jaime Belanger organized and led summer science camps with the support of the education specialists, interns, volunteers, and other Reserve staff. She finalized the interpretive trail sign project and began working with Sea Reach, Inc, on the final stages of the exhibit project in the Visitor Center. She coordinates regular meetings with tribal partners on content for the exhibit hall. She serves as a mentor for the United Communities AmeriCorps member and was a mentor for the high school summer camp intern, and a co-mentor for two summer interns working with both the science and education teams. She participates in the NERRS Diversity, Equity, Inclusion, Justice and Accessibility (DEIJA) Strategic Committee, and serves on its Learning Team; she serves as a member of the Oregon Coast STEM Hub Leadership Council, as a facilitator for the Oregon Natural Resources Education Program (ONREP), on the Coos Watershed's Outreach and Education committee and is a member of the NERRS Estuary Education Resource working group. She attended the following professional meetings and training opportunities:

- Reserve Kayak Safety Training 9/21/2023
- Records Retention and File Management 10/24/2023

This summer, Eric Dean developed a new community education program to help novice kayakers develop on-water paddling skills; this development was based on feedback from numerous participants of our estuary paddles trips who felt they lacked the skill to do the 5-mile trip. The program was well attended with over 40 participants in the five workshops offered over the summer. Participants learned the basics of forward, reverse, and sideways maneuvers; as well as emergency stop and veering to avoid an obstruction. The feedback was very positive, and all participants thought it was time well spent. During this period, Eric served on the hiring committee for the new South Slough Park Ranger Assistant and is currently serving as the mentor for this new staff member (Daniel Fenn). Eric is mentoring Hira Hammad, who is serving for a second internship with the education team. Eric participated in the following training this fall:

- Records Retention and File Management 10/25/2023

Sophie Relitz continued to fill in as the Seasonal Education Specialist and support programs during this period. Sophie led and assisted with summer camps, fall school programs and created new activities for the monthly Tide of the Toddlers. She helped with an Invasive Scotch Broom removal event at North Bay Elementary School, which was greatly appreciated by the teacher organizing the event. Sophie also contributed to training for the AmeriCorps position because she had the same role herself two years ago. The last day of her seasonal work for the Reserve was October 21. She participated in the following training during this period:

- Kayak Skills Training 9/14/2023
- Reserve Kayak Safety Training 9/21/2023

Ashtin Bowden joined the Reserve on September 1, 2023, and began working immediately to get afterschool programs started at local schools. He will begin the program with North Bay Elementary School in November and work with the kids two days a week for four weeks. He is working on recruiting high school students to assist as well. Ashtin also helped with the Invasive Scotch Broom removal event at North Bay Elementary School. Ashtin participated in several training opportunities provided by the Reserve, AmeriCorps and other partners.

- Kayak Skills Training 9/14/2023
- Reserve Kayak Safety Training 9/21/2023
- Teaching Out Your Back Door 09/22/2023
- ONREP Teaching the Whole Student with Nature Journaling 09/26/2023
- Teachers on the Estuary (TOTE) 10/06 – 10/08/2023
- UCA Volunteer Management Training 10/13/2023
- DAS – CHRO – 2023 Preventing Discrimination and Harassment 10/18/2023
- DAS – EIS – 2023 Information Security Training: Foundations 10/18/2023

Volunteer contributions

- North Bay third grade teacher Edward Nichols volunteered with three summer science camps, making a significant contribution to the Reserve and providing advanced learning opportunities for other educators during camp.

Education Program Metrics

The Reserve held 91 education programs for 1,561 people from all around the state and beyond. These programs resulted in 4,849 hours of estuary learning. About 240 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. Considering the visitor learning in the Visitor Center, the Reserve directly interacted with 3,109 people in an education capacity this period.

These summary data are 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 86 days during this period, maintaining the regular open schedule of Tuesday-Saturday, 10 AM – 4 PM, except for one holiday closure on Tuesday July 4, 2023. Trails and waterways were open from dawn to dusk daily, apart from one week during the summer while the kayak launch was repaired. During that time access to the Hinch kayak launch was restricted. 1,548 visitors were counted entering the building, averaging 18 visitors each day. Staff have also observed continued steady use of the trails, and visitor services through communication with the public online and via the phone at the front desk.

Formal Education & Training

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

Formal education programs offered during this reporting period by the education team included middle school science camp, field trips, classroom visits and teacher workshops. A total of 19 formal education programs reached 380 students and teachers, providing 1,645 hours of learning.

Student grade levels ranged from third through eighth and undergraduate college. 350 students were served leading to 1,431 contact hours. Estuary learning activities for students were comprised of watershed hikes, dock study, middle school science camp and Introduction to Sentinel Site/System-Wide Monitoring Program.

18 teachers participated in two different teacher workshops during this time. One half-day workshop offered in partnership with the Coos Bay school district, and the annual three-day Teachers on the Estuary (TOTE) training supported by NOAA. This year's TOTE theme was "Essential Estuaries," and teachers paddled in the estuary to learn about water quality monitoring and estuary dynamics, had a presentation on ethnobotany and cultural connections with the estuary, and practiced nature journaling as a learning and reflection tool. These trainings lead to 214 hours of teacher professional development.

"They loved getting to take a "silent walk" alone for 45 seconds while the guide waited ahead."

– Ocean Crest Elementary teacher about their students' favorite parts

"Loved this class, will be very useful for my own courses!"

-Teacher workshop participant

Community Education & Interpretive Activities

Community and interpretive programs at the Reserve encompass the informal learning opportunities and includes classes and estuary activities delivered in different formats, information tables at events, programs presented with partner organizations, activities 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 a variety of programs and events throughout this period.

69 community programs for 1,179 people led to 3,176 hours of public learning about the Reserve and coastal habitats. Programs were attended by folks of all ages and included weekly interpretive activities like kayaking, clamming, and birding for community members and coastal visitors, monthly Second Saturday Stewards events joined by regular and new volunteers, and four-day summer science camps for children through age 18. Community programs are well attended and often have waitlists of participants. Several summer science camp waitlists were long enough to warrant a whole other camp group, though the education staff does not have the capacity to offer any more than they already do. The Reserve had a table at the Coos Bay Farmers Market twice a month, as well as participation in numerous community events like the Coquille Indian Tribe's Salmon Celebration at the Mill Casino and the "Walk for the Wild" event at the Bandon Wildlife Refuge.

"Amazing job balancing science and fun. We hope to return next year!"

-Summer camp parent feedback

Outreach booth at Miluk Salmon Celebration

Public Involvement

Volunteers/Interns

The South Slough Reserve hosts a robust volunteer and internship program. During this quarter Reserve volunteers and interns provided support for outreach, education, stewardship, and research projects.

A total of 78 volunteers/interns put in 2,814.8 hours valued at $89,511 from July 1 through October 31, 2023. The program category breakdown included 1,742.55 research, 801.75 education, and 270.50 stewardship hours.

There is a current recruitment for outreach/education volunteers to assist with tabling at events and some other aspects of the education programming. A formal training is scheduled for Saturday, November 11 where participants will learn Reserve and estuary basics, interpretation and communication skills, engagement tools and tips, as well as some hands-on learning.

Internships

Interns are funded through a variety of programs, partnerships, and grants, including DSL, Friends of South Slough, NANOOS, NOAA National Centers for Coastal Ocean Science (NCCOS), University of Oregon - Institute of Marine Biology (OIMB), Oregon State University (OSU) Stem Hub and Sea Grant, Research Experience for Undergraduates (REU) - National Science Foundation (NSF) in partnership with OIMB, NOAA funding through the Bipartisan Infrastructure Law (formerly called the Infrastructure Investment and Jobs Act), and NERRS Science Collaborative.

- Aeden Gillam (Northern Arizona University) was a grant-funded DSL Hybrid Education/Science intern, working with co-mentors Jenni Schmitt (science) and Jaime Belanger (education). His science internship, including work on the Sentinel Site program and a variety of restoration monitoring projects, concluded in August.
- Alicia Matthew (University of Oregon, BS Marine Biology) is working with SWMP staff as the Fall water quality intern (NANOOS) Sept – Dec 2023 and assists with field and lab work to support the SWMP program.
- Annaliese Schrandt (Ohio State University) was a grant-funded DSL Restoration Monitoring intern, working with mentor Jenni Schmitt primarily on restoration monitoring projects. Her internship concluded in August.

- Jack Waddington (2023 graduate of Marshfield High School, heading to Arizona State University in the fall), was an OSU STEM Hub intern working with mentor Jenni Schmitt on a variety of monitoring projects. His internship concluded in August.

- Devin Forest-Hines (Clackamas Community College) worked with Shon Schooler on a project looking at the spatial extent of green 5-spine crabs in Coos Bay and South Slough. He presented his research results at the REU poster symposium in August 2023, and he will be giving a poster on his research at the Oregon: State of the Coast Conference in November 2023.

- Hira Hammad (recent OSU Environmental Science graduate) served in both spring and summer supporting school field trips. Both internships were funded by the Friends of South Slough Reserve, Inc.

- North Bend High School junior Isaac Adams helped with summer science camps as the youth summer education intern. The Oregon Coast STEM Hub provided funding to support this position.

- Naia Pulotu (Brigham Young University, Hawaii) worked with Shon Schooler on a project looking at green 5-spine crab sex ratios in Coos Bay and South Slough. She presented her research results at the REU poster symposium in August 2023.

- Nikola Jensen (Smith College) was a NOAA National Centers for Coastal Ocean Science intern working with co-mentors Jenni Schmitt (on a variety of monitoring projects) and Jaime Belanger (on summer science camps) as a hybrid science/education intern. Their work concluded in August.

- Parker Jung is an intern at the University of Oregon. She is working with Shon Schooler on the spatial (GIS) analysis of lamprey environmental DNA data.

- Sean McCollum (Florida State University, MS Ecology) is working with Jen Kirkland as the Fall GIS intern Sept-Dec 2023 and helping develop the UAS program.

- Shreyaan Seth (University of Michigan), OIMB REU Program, worked with mentor Ali Helms from June – August 2023, on eelgrass seed characteristics, energetics, and

seedling germination to inform future seed-based restoration projects. He presented his research results at the REU poster symposium in August 2023, and will present a poster at Western Society of Naturalists in Monterey Bay, CA in November 2023.

- Taylor Cockrell (OSU) worked with Coastal Training (Sabra Comet) and Public Involvement (Deborah Rudd) programs to boost communication resources at the Reserve. Oregon State University Sea Grant funded this internship.
- Vithika Goyal is an intern at the University of Oregon. She is working with Shon Schooler on analyzing South Slough and ODFW seine data looking at bay pipefish populations over time.

Outreach/Marketing

The Reserve engaged in the following outreach events with the help of interns and volunteers. Participants who interacted with the Reserve at these events are included in the numbers for Community Education listed above.

4 Coos Bay Wednesday Farmers Markets

Salmon Celebration and Canoe Races

Stand Up for the Bay Event

Octoberfish Festival

Bandon Marsh Walk for the Wild

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:

August 22, 2023: Drones, Fish, & Fun, 383 opens, 43 clicks

September 7, 2023: South Slough Reserve Fall Community Classes, 373 opens, 50 clicks

October 14, 2023: Marshes, Mushrooms, & More, 366 opens, 66 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: Hi Beaver Friend-Beaver Dam Analogs, 3,589 views.

Instagram: Shutter Creek Correctional Facility, 593 views.

Twitter (X Analytics): N/A

YouTube: How to Trap European Green Crabs, 913 views.

Overall Channel Analytics the last 90 days

Facebook: Reach: 18,155, Engagement: 1.1K, Total Followers: 3,460.

Instagram: Reach: 1,497, Engagement: 1.1K , Total Followers: 1,118.

Twitter (X Analytics): Communications Team is analyzing whether to keep active on this channel to focus efforts more on Facebook and Instagram.

Google: 4,884 views. 1,363 interactions. Website Clicks: 672.

YouTube: 1.1 K views. 33.8 Watch time hours. Total Subscribers 51.

Definition of Analytics Terms:

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, July - October 2023

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; one has occurred since the last update to the Commission, bringing the total to one for the fiscal year (June 2023 – July 2024).

Beaver Dam Analogs, August 22-24, 2023. In partnership with the SSNERR Stewardship Coordinator and funded by the Wasson Creek Restoration project grant, a hands-on workshop exploring the theory, application, and construction of Beaver Dam Analogs (BDAs) was completed on Wasson Creek. Two instructors from the US Fish and Wildlife Service came from Washington state and California to teach restoration practitioners, as well as the SSNERR Stewardship Coordinator and Restoration Technician. Several BDAs were constructed on lower Wasson Creek; wildlife cameras were set up overnight to document the process over several tidal cycles. A surprise beaver sighting was recorded on the night between the second and third day of the workshop. More BDAs are planned on Wasson Creek and a follow up workshop is planned for fall of 2024 with the same instructors.

Several other workshops and training series are in progress; anticipated number of trainings for the fiscal year will meet or exceed the minimum requirements set by NOAA.

Technical Assistance

Market Analysis and Needs Assessment, ongoing. The SSNERR CTP Coordinator and Education Coordinator successfully secured 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.

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.

PMEP Communications Committee, ongoing. The Pacific Marine and Estuarine Fish Habitat Partnership (PMEP) Communications Committee was reconvened, after being dormant since 2022. Committee recommendations for better communication across social media platforms and outreach pathways was discussed, and the recommendations implemented were an overall success. Further fine tuning of communication pathways and products are ongoing, incorporating new funding streams from PMEP and new data tools published via PMEP.

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.

U.S. - Chile Partner Summit Workshop on Indigenous-Led Conservation of Protected Areas (Indigenous Summit Workshop) Report, 2018-September 2023. The Indigenous Summit Workshop report was drafted, went through several months of edits with the planning and leadership team (including the Coastal Training Program Coordinator) and translated into Spanish and English. The final document is being formatted for publication on the George Wright Society website and associated George Wright Society Forum, an online journal with wide readership internationally.

PSU Invasives/OISC Hub Collaboration (First Foods expansion), ongoing. The CTP Coordinator met with the group updating the Oregon Invasive Species Council (OISC) Hub, an online tool that replaced the 'Top 100 Invasive Species of Concern' web page in 2022. The Hub staff presented on a short-term project in collaboration with the Confederated Tribes of Warm Springs staff to connect management strategies (control measures) and proliferation of invasive species to impacts on First Foods. The CTP Coordinator reached out to Hub staff to discuss an expansion of impacts on First Food species in the coastal zone. Dr. de Rivera of Portland State University, who has a large presence in the OISC, asked if the initiative could be connected to partner projects assigned in her Invasive Species class at Portland State University in the Fall 2023 quarter. The group reached consensus to ask students (within an 8-10 week period) to start the literature research, to create an introductory paragraph on the importance of invasive species (and management strategies) on First Foods. The CTP Coordinator, Dr. Samuel Chan of OSU Extension, and OISC Hub staff presented the project at Dr. de Rivera's class and it was accepted by 5 students. At the end of the quarter in mid-November 2023 the information will be re-packaged into a grant proposal that the OISC can then use to fund a comprehensive project that will work closely with staff from relevant Tribal Nations. There will be several opportunities for the CTP Coordinator to host trainings/workshops as the project moves forward.

PFA Riparian Workshop, October 12, 2023. Norma Kline of Oregon State University Extension Services approached the SSNERR Stewardship Coordinator and CTP Coordinator to host a pilot workshop training for small woodland owners (SWO's) how to classify riparian exclusion areas under the soon-to-be implemented Private Forest Accord (PFA). The class was co-taught by a half dozen forestry professionals; the instructors and SSNERR staff walked trails from the Visitor Center to the main stem of South Slough before the workshop. As this was a pilot workshop, the CTP Coordinator had a limited logistics role; during future iterations of this topic the CTP Coordinator will have a more active role, working closely with Kline. The pilot workshop was extremely successful; every participant (25 SMOs, as well as the SSNERR Restoration Technician) that registered showed up and gave feedback that the workshop was extremely helpful. The CTP Coordinator is working with Kline to go over the post-workshop evaluations and plan subsequent trainings.

SCIENCE and STEWARDSHIP PROGRAM UPDATE
July 1st, 2023 – October 30th, 2023

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 July 1, 2023 and Nov 1, 2023. 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 October and November 2023. 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.

The science staff completed monthly weather station maintenance, data downloads, and field logs for July – October 2023 at Tom's Creek marsh. The SWMP weather station (sostcmet) real-time data are available at nerrsdata.org/get/realTime.cfm.

The science staff completed 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 SWMPRr 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 for the station rain gauges and will complete annual winterizing. NOAA staff will complete annual station maintenance in early November 2023. Data are available for this station (OR Coos Bay 8 SW) at: ncdc.noaa.gov/crn/current-observations.

SeagrassNet Monitoring:
SSNERR science staff and volunteers conducted quarterly eelgrass sampling at Valino Island in July and October 2023 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.
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. In August 2023, South Slough staff Helms and DeMarzo participated in the Annual NANOOS meeting and 20th Anniversary held in Astoria, OR. The progress report for FY23 (1/1/23-6/30/23) was submitted July 2023. The FY20 no cost extension and the final progress reports for the previous 5 year award (FY16-FY20) were submitted September 2023. Staff submitted equipment budget requests for the NANOOS IRA infrastructure and personnel funding opportunity on 10/31/23, for a $15K/year increase for replacing pilings, water quality sensors, and boat trailer for FY24-28. 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.

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, science staff and interns completed summer 2023 data collection of Surface Elevation Tables (SETs) and soil accretion cores at all marsh and spruce swamp sites. Water level, salinity (subset) and temperature loggers were deployed in groundwater wells at two mainland marsh sites (Metcalf Marsh and Valino Marsh) beginning January 2023 (eight total wells) where summer marsh biomonitoring occurred. Data was downloaded and conductivity sensors calibrated quarterly, last occurring in September 2023. Elevation surveys were completed at four marsh sites (Metcalf Marsh, Metcalf Islands, Valino Marsh and Little Valino Island) and three eelgrass sites (Collver, Danger, Valino) to capture change in elevation. Staff collected all elevation data using NOAA GPS equipment on loan or via Sprinter level surveys.

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 as reference site conditions for the upcoming Wasson watershed restoration project and 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 are working with NOAA National Ocean Service, CO-OPS for assistance with a custom data logger program. 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 for Spring/Summer 2024.

Wasson Watershed Monitoring:
Science staff are completing baseline monitoring of the Wasson Creek lowlands, in preparation for anticipated restoration work. A technical advisory group, consisting of

local topic experts, is guiding monitoring protocol development. Staff and contracted colleagues from Oregon State University are beginning to identify and 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 marshes in this reporting period include the establishment of two new benchmarks (for vertical control), establishing four new groundwater wells, collecting groundwater depth, temperature, and salinity data, download of stream temperature data loggers, freshwater mussel surveys, establishment of wildlife camera traps, stream macroinvertebrate sampling, stream flow velocity measurements, installation of two water quality instruments to collect 15-minute turbidity, conductivity and temperature measurements, data metrics for newly installed beaver dam analogs, and stream channel morphology 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. Additionally, post-restoration monitoring has begun at an upper Wasson zone where willow and other shrub stakes were planted winter of 2022/23 to overshade invasive reed canary grass. 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 most recent annual population count took place in July 2023. Both total plant numbers and number of flowers were up slightly from previous years.

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 most recent population assessment occurred in August/September 2023. A previous site on the spawning reach of the West Fork Winchester Creek was temporarily discontinued as a permanent plot due to deep pools from recent beaver activities, making electroshocking unsafe. A new permanent site was added at the Wasson Watershed Restoration project site.

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 can be found at: https://www.oregon.gov/dsl/SS/Documents/Lamprey_eDNA_CommunityScienceReport_2021_.pdf. 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 started our 2023 annual sampling of 10 sites around South Slough and Coos Bay in June and sampling continued through September. 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. Read the 2023 report at:
https://www.oregon.gov/dsl/SS/Documents/Status of the 5-spine (aka Green) Crab (Carcinus maenas) in Coos Bay.pdf

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 in May 2022, most recently sampled in August 2023. The project will run through June 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 October 2023, plots planted in the Summer and Fall have higher eelgrass abundance (17 shoots/plot) while Winter and Spring plots have lower abundance (7-13 shoots/plot).

Margaret A. Davidson Fellow Research:
Taylor Dodrill (Portland State University, Ph.D. student, Peterson Lab) is our 2020-2022 Margaret A. Davidson Graduate Fellow. She is conducting research that will help us predict the occurrence and negative effects of harmful algal blooms in South Slough, Coos estuary, and Tenmile Lakes. As part of her fellowship, she collaborated with natural resource managers at the Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians (CTCLUSI) to sample sites they are interested in. She has conducted experiments on what triggers toxins to be expressed in algae at facilities at the Oregon

Institute of Marine Biology (OIMB) and has surveyed recreational shellfish harvesters to assess what they know about toxins from harmful algal blooms. She is currently finishing her Ph.D., writing and publishing papers on the results of her research. She successfully defended her dissertation October 18, 2023.

Lara Breitkreutz (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. For summer 2023, Lara sampled her sites more frequently, and mentored two Research Experience Undergraduates from OSU. Amber Newman collected data on sulfide sediment dynamics, and Zahra Vogel studied flowering characteristics. Lara developed research posters for 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; she will present posters at SOTC and CERF. Lara submitted a research proposal application for the NSF Graduate Research Fellowship Program in October 2023 to expand her eelgrass research at South Slough characterizing environmental and genetic drivers of habitat change.

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. Funding secured by Oregon Department of Land Conservation and Development has been provided to University of Oregon's Institute for Policy Research and Engagement (UO-IPRE) to provide necessary capacity and technical assistance to finalize the Phase 1 update of the plan (i.e., ensure language within is consistent and meets legal requirements, and adopt newest data products to replace the decades-old data inventories that support the plan). The PCW is the advisory group for the local governments as they move through this Phase 1 process.
- The PCW is finalizing a restoration opportunity inventory for the Coos estuary. This project has identified tidal marshes that could benefit from restoration, potential eelgrass restoration sites, historically restored sites and reference wetlands that have remained relatively untouched. The first step of this

work entailed refining the state's Coastal and Marine Ecological Classification Standard (CMECS) for the Coos estuary. Technical feedback on attributes desired in the restoration inventory have been incorporated into draft products. Funding for this project is from The PEW Charitable Trusts to Coos Watershed Association and work is being coordinated by Craig Cornu (Institute for Applied Ecology) with guidance from the Department of Land Conservation and Development (DLCD) and the Partnership for Coastal Watersheds.

- Craig Cornu and colleague Matt Brand (formerly Pacific Northwest National Laboratory (PNNL), now Louisiana State University) 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 or diminishment of flooding through restoring tidal wetlands in the system with the idea that water may be dissipated or stored elsewhere in the watershed if some dikes are breached and the wetlands behind them reconnected to the system. This project modeled how much of a difference restoring all diked areas would make for high priority areas that are most prone to flooding (e.g., North Bend Airport, parts of Highway 101). Under the same ESLR program, NOAA recently awarded PNNL funding to expand on this work to quantify costs and benefits of green and gray infrastructure scenarios for Coos Bay adaptation actions. The PCW will again act as a local technical advisory group.
- The PCW continues to be a sounding board for researchers doing work around the Coos estuary. Most recently the group has been engaged by University of Oregon professor Dave Sutherland's 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, and circulation patterns in the estuary. SSNERR staff are currently involved as technical advisors (helping to interpret findings) and 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).

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 are included on the project team to help coordinate engagement with end-users and stakeholders, present results to regional and national audiences, provide local technical knowledge, collect monthly grab samples for Total Suspended Sediment (TSS) analysis, assist with data acquisition as needed, and help

develop products for educational purposes. The Reserve's Education Coordinator is working with the project team to incorporate products into interpretive displays at the SSNERR Visitor Center. SSNERR staff presented findings on the sediment modeling work at two regional audiences in spring 2023 (Pacific Estuarine Research Society, and GIS In Action). Project team members will attend the CERF meeting (Nov 2023 in Portland, OR) and NERRA annual meeting (Nov 2023, Galloway, NJ), to present project results on 1) Changes in sediment transport and accumulation in Coos Bay, Oregon over the past 100-150 years, 2) Remote and local influences on temperature variability in the Coos estuary, and 3) Estuarine sediment dynamics and the importance of storms in moving mud. The team also met with multiple end users in September and October 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. More information about oysters can be found at the Olympia & Pacific Oyster Data Portal: https://www.arcgis.com/home/item.html?id=eb7c6a73b4a4474e9dbb270505288707 and the Native Olympia Oyster Collaborative: https://olympiaoysternet.ucdavis.edu. 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 are participating with camera trapping stations at five wetlands at South Slough (Hidden Creek Marsh, Fredrickson South Marsh, Metcalf Marsh, Winchester Spruce Swamp, Tom's Creek Marsh). Staff, interns, and volunteers visit stations monthly to download images, check settings and replace batteries. Camera stations were all decommissioned late June 2023, upon completion of a year's data collection. 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. Summer outreach intern, Taylor Cockrell, developed a great storymap for the South Slough portion of this project: https://storymaps.arcgis.com/stories/6973b6879c83464eb186cf3159e06853

NOAA GPS on Benchmarks:
The National Geodetic Survey (NGS) is modernizing the National Spatial Reference System by 2025 to improve its local and national accuracy. The NGS is doing this by updating its centuries old benchmarks, which are the basis of the mapping infrastructure, by taking advantage of modern technologies and leveraging national partnerships. SSNERR is involved by recovering benchmarks, evaluating benchmark stability, and collecting GPS observations on benchmarks in South Slough and the nearby communities of Coos Bay, North Bend and Charleston. Final data were submitted to NGS in October. These efforts will help improve the accuracy of the transformation tool that NGS is building so mapping data will be more accurate in our area.

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 will present project results at the CERF conference on

Biophysical modeling of the interaction between eelgrass and water quality in Coos Bay estuary, Oregon.

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, and help develop products for educational purposes. In July/August 2023, SSNERR staff and interns joined with the OSU team to collect vegetation and elevation data at one of the paired restored/restoration sites in South Slough (Kunz Marsh (restored) and Danger Point Marsh (reference)). The other Reserve sites included in this project (Fredrickson South Marsh (reference) and Fredrickson restored) were sampled in June. The advisory team met in October to discuss outreach options for non-technical audiences, and plan for an early 2024 end-user meeting.

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) will present project results at CERF in November 2023.

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 (2020-2023) 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. 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 will be sent for analysis in December.

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 conducted in February 2023 from eelgrass plants at Clam Island and Valino Island, he is adding two Oregon sites to his analyses, and Summer 2023 he presented preliminary results from his genetic analyses.

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, with research assistance provided by Lara Breitkreutz and Ali Helms.

STEWARDSHIP

Wasson and Upland Research, Restoration and Management:
Major contributions to the Wasson Ridgetop-to-Estuary Restoration Project focused on pre-restoration monitoring (see Wasson Watershed Monitoring section), administration and phase one of implementation. The permitting for the first phase of implementation and NOAA federal environmental compliance review for all monitoring and implementation of the Wasson project has been successfully completed. Two large contracts are in process with the Oregon Department of Administrative Services contracting team. The forestry contract will close to bidding in November and the earthmoving wetland contract is on track to be completed by March 2024. In addition to the information provided in the Wasson Watershed Monitoring section of this report, monitoring in forests has also continued during this period with the installation of permanent forest plots. The first phase of implementation, which involved installing beaver dam analogs (BDAs), was completed as part of a coastal training program on Aug 22-24th.

Invasive Species:
The SSNERR Second Saturday Stewards program continues to provide monthly volunteer opportunities both at the Reserve and with partners in the Coos watershed. From July through October there were three Second Saturday Steward events with a total of 14 participants who cleared invasive species from approximately 200,000 square feet on Reserve lands.

The Coquille Indian Tribe's Youth Crew, led by Laura Angulo and funded by the Oregon Youth Corps, assisted with invasive species removal in the Wasson project area. Ongoing involvement in 2024 with Coquille Indian Tribe's Youth Crew will include planting culturally important native species.

SSNERR continues to participate in regional invasive species efforts, including the South Coast Cooperative Weed Management Area (CWMA) meetings. Reserve staff also work with Coos Watershed Association (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.

Native, Endangered, and Culturally Significant Species:
The Agroecology class at Southwestern Oregon Community College visited the Wasson Restoration site to learn about first foods and culturally important species (Sept. 28th). The tour was co-led by the Stewardship Coordinator along with Ashley Russell and Patricia Whereat Phillips from the Confederated Tribes of the Coos, Lower Umpqua and Siuslaw Indians (CTCLUSI). The tour included discussions on co-stewardship and importance of ecological restoration projects on biocultural restoration.

The National Estuarine Research Reserve (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,* commenced on October 1st. The Pacific Birds Habitat Joint Venture is partnering with NERRs in Hawai'i, Alaska, Washington and Oregon and their Indigenous communities for a knowledge sharing opportunity held at the He'eia NERR in April

2024. This project offers an opportunity to learn from established relationships between Hawaiian Indigenous communities and the He'eia NERR. The project objective is to collaboratively address ecosystem management and stewardship needs described by each reserve and Indigenous community partners. Knowledge gained from this shared experience will be disseminated to and built upon within our local communities.

Year one of a two-year Wasson monitoring plan for the endangered marbled murrelet was completed in June/July by qualified observes, including the SSNERR Restoration Technician and contractors. No evidence of occupancy of the site was detected. The second and final year of monitoring will be completed between June 1st and August 5th.

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 is on 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 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 August 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 have re-booted the SCUG chapter of the Oregon 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 a technical workshop in February at Southwestern Oregon Community College.

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:
Alice Yeates 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. The committee has developed land acknowledgement statements for use by Reserve staff through consultation with CTCLUSI and CIT and reached out to the Confederated Tribes of the Siletz Indians.

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.

DSL Field Data Collection with Field Maps App:
Jennifer Kirkland is working with the DSL IT and GIS staff to help develop and implement the use of field data collected with mobile devices (phones) using the Field Maps App. She is working with the aquatic resource management (ARM) group to develop digital products for their data collection. In addition, she hosts trainings weekly for staff.

Regional

Pacific and Estuarine Research Society (PERS) and Coastal and Estuarine Research Federation (CERF):
Jenni Schmitt is the Oregon at-large representative for PERS. PERS is the regional chapter of CERF. The PERS board meets regularly to plan the annual PERS conference, last convening in October to plan for the spring 2024 conference in Nanaimo, BC. Schmitt is also on the planning team for CERF, which has a conference in Portland, OR in November 2023, as co-lead of the Inclusive Culture Committee.

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.

National

NERRS Bivalve Working Group:
Shon Schooler continues to serve on the NERRS Bivalve Working Group with Nikki Dix, Guana Tolomato NERR; Kerstin Wasson, Elkhorn Slough NERR; and Jeff Crooks, Tijuana NERR.

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 (Cheasapeake 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 information at the NERRS RC/SC joint sector meeting in October 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 has recently been focused 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. Most recently the group made recommendations to the NERRS to adjust terminology related to this work. The group meets monthly.

RESEARCH PAPERS

Eidam, E., T. Souza, M. Keogh, D. Sutherland, D. Ralston., J. Schmitt, **A. Helms**. 2023. Spatial and temporal variability of century-scale sediment accumulation in an active-margin estuary. Submitted to *Estuaries and Coasts* (in review).

Matthew A. Schultz; Christopher N. Janousek; Laura S. Brophy; **Jenni Schmitt**; Scott D Bridgham. 2023. How management interacts with environmental drivers to control greenhouse gas fluxes from Pacific Northwest coastal wetlands. Biogeochemistry, pp 1-26. doi.org/10.1007/s10533-023-01071-6

Magel CL, Hacker S, Chan F, and **Helms AR**. 2023. Eelgrass and Macroalgae Loss in an Oregon Estuary: Consequences for Ocean Acidification and Hypoxia. Ocean-Land-Atmosphere Research (2): Article 0023. doi.org/10.34133/olar.0023

PRESENTATIONS

Jenni Schmitt. NAMASTE – Vegetation monitoring method recommendations. Joint Research Coordinator/Stewardship Coordinator Virtual Meeting, October 24, 2023.

Ali Helms. Eelgrass monitoring/restoration and overview of research at South Slough. Oregon Education Association meeting, Mill Casino, North Bend, OR. October 16, 2023.

Jenni Schmitt, Ali Helms, Jaime Belanger. Oregon State University Estuarine Ecology Annual site visit with field trip and presentations on South Slough programs, Wetlands and Water Levels, and SWMP. Hidden Creek, South Slough. October 14, 2023.

Ali Helms, Sean McCollum, Alicia Matthew. Teachers on the Estuary workshop with science presentations on water quality, eelgrass restoration, drivers of seagrass meadow organic carbon burial and storage, and estuarine ecology. October 6, 2023.

Ali Helms. Eelgrass Restoration and Methods. ODSL DEIJ Committee. September 14, 2023.

Shon Schooler, Sylvia Yamada. The status of the 5-spine green crab in Oregon. South Slough NERR Commission meeting, September 27, 2023.

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

Date: 29 November 2023
From: Board of Directors, Friends of South Slough Reserve, Inc. (FOSS)
To: South Slough Management Commission
Re: Activities Report to Commission and Interested Public

FOSS 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.

Redesign of Entrance from Seven Devils Road

The FOSS Board provided all funding and oversight to address the comprehensive design for reconfiguring and improving the safety of access to the Reserve and Visitor Center from Seven Devils Road. The contractors prepared all the documents and will present the final design and cost estimates to the Board at this Commission meeting. We provide this investment of funds and volunteer leadership as a way to highlight and celebrate the 50th anniversary of the Reserve.

Financial Support for SSNERR Programs

FOSS continues to provide funding for Reserve programs in education, stewardship, public involvement, and internships. We are preparing budgets for these programs for 2024, and plan additional support for the 50th anniversary celebration.

Support for Reserve Budgets with NOAA and DSL

FOSS Board members provide letters of support for budgets of State and National agencies that are part of the Reserve Program. In addition, FOSS members provide public testimony and commentary to highlight the critical role of estuaries to enhance water quality, protect communities from flooding and sea level rise, sequester carbon and mitigate ocean acidification. We provide commentary about Oregon's largest estuary that supports essential habitat for fish and wildlife populations and an amazing recreational asset, all of which provide important economic benefits to the people of our region and the nation.