SOUTH SLOUGH RESERVE MANAGEMENT COMMISSION

Wednesday, December 10, 2025

172nd REGULAR MEETING 10:00 am – 1:00 pm

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

PUBLIC PARTICIPATION:

To receive the Zoom link, please email Patricia Fox, South Slough Reserve Manager, at patricia.fox@dsl.oregon.gov by noon on December 9, 2025. Public comments are for consent and action items only. If you would like to testify, please provide your name, address, and organization/affiliation, if any. Testimony will be heard in the order that requests for the meeting link are received. Written comments may be submitted until 12 p.m. on December 9, 2025, by emailing them to: patricia.fox@dsl.oregon.gov

AGENDA

I. **Call-to-Order**

II. **Introductions**

III. **Review of Meeting Minutes**
   1. 171st regular meeting minutes from September 3, 2025

IV. **Public Input***

V. **Agenda Items**
   1. Updates - *Informational*
   2. Water rights – *Informational*
   3. 2024 System-Wide Monitoring Program Status and Trends - *Informational*

4. Other

VI. Information Reports

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

VII. Next scheduled meeting: Wednesday, March 4, 2026, at 10am

VIII. Adjourn

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

Table of Contents

SOUTH SLOUGH NATIONAL ESTUARINE RESEARCH RESERVE MANAGEMENT COMMISSION

Minutes of the 171st Regular Meeting
September 3, 2025

Commission members present:

Kaitlin Lovell, Chair
Jessica Quinlan
Lance Morgan
Maya Watts
Laurabeth Barton, Vice-Chair
Arnie Roblan
Cinamon Moffett
Paul Peterson

South Slough NERR staff and others present:

Jen Kirkland
Jaime Belanger
Ryan Scott
Jenni Schmitt
Kathy Andreasen
Juliana Ruble
Patricia Fox
Christine Moffitt
Ali Helms

The meeting was called to order at 10:04 a.m. by Kaitlin Lovell Director of the Department of State Lands and Chair of the Commission.

INTRODUCTIONS

Kaitlin Lovell, DSL Director introduced herself as the new Chair of Management Commission. Arnie Roblan was introduced as a new Management Commission member representing the Port of Coos Bay.

APPROVAL OF THE MINUTES OF THE PREVIOUS MEETING

Chair Lovell asked if there was a motion to approve the 170th regular meeting minutes from March 2025. Commissioner Roblan moved to approve, and Commissioner Watts seconded. The motion carried with all in favor.

PUBLIC INPUT

There was no public input.

AGENDA ITEMS

Annual Report – Information/Presentation

Manager Fox shared the 2024 Annual Report of the South Slough Reserve. The report was well received by the Commission and it is posted on the state website SSNERR Annual Report. The report will also be presented to the Land Board later this fall.

Roll Call

The Chair asked for a roll call. All eight voting members of the Commission were present at the meeting.

Budget and Grants Update – Informational

The Reserve Manager gave some updates. The Department of Commerce approved NOAA to execute the FY 2025 Cooperative Agreements, which includes the Reserve's FY 2025 Operations award in the same amount as last year at $880,967. The status of the FY2026 budget is presently unknown, and Manager Fox hopes to have some information to present at the next meeting.

Progress on the acquisition of the 80-acre Winchester parcel and the county owned Triangle/Deal property looks very promising.

Funds should be received for the two land acquisition projects in October. These two competitive grants were for taking the Winchester Tributaries parcel into South Slough management from the common school lands and one for the Deal/Triangle properties that are currently Coos County Foresty owned. Meanwhile, South Slough continues to complete due diligent work with DSL's Real Property staff. Manager Fox said work is being done to clear the mineral rights on Reserve property. Commissioner Roblan asked about the status of the water rights on all the Reserve's water sources. Manager Fox said she would inquire and get back with him.

Management Plan update – informational

Manager Fox reported that she was not working actively on the Management Plan as no guidance or notice has been received from NOAA representatives on how to sync the Plan with the federal administration's Executive Orders. NOAA liaison, Jenny Koester confirmed that other reserves are also on hold with the updates on their plans as well. South Slough will continue to operate under the existing Management Plan that covered the period of 2017 – 2022 until further notice or guidance is received. Chair Lovell clarified that some of the executive orders from the federal government are showing up in the grant language and DSL is working with the DOJ to assure that the Reserve is in compliance with those orders and can accept the grant awards; and for now there are not any concerns that there is any violation.

Activities Update – Informational

Exploring and improving some trails to improve access for all
South Slough staff and managers met with Empowering Access from Bend, OR to understand how access can be improved on some of the trails to able-challenged people. After the meeting, the owner of Empowering Access provided an estimate to have her subconsultants come out to review the identified trails, make recommendations in a report, and potentially come to a future Management Commission meeting to answer any questions. The

estimate was $17,580 so given the current federal funding situation, Reserve Management have decided to put this project on hold for now. Staff are researching grant opportunities, and this project may have to be done in phases (i.e. one for the consultation and another grant for the implementation).

Spraying Invasive Weeds

At the March 2025 meeting, the Commission approved Management's request to spray the invasive biddy-biddy plant at Maintenance and the Visitor's Center entrance. South Slough entered a contract with Coos Watershed Association to provide this service twice a year in the months of April and October for two years. An estimated 35 hours for spray service for 2025 and 2026 at the approved sites was given. The total of the contract is not to exceed $2,050. A map was provided of both sites to ensure locations are accurate and access was scheduled with the Facilities Lead. The partnership and support the Reserve has with Coos Watershed Association is greatly appreciated. Chair Lovell suggested that for the future, creating a blanket document that provides permission to spray might be useful.

Eddy Covariance Tower

At the March meeting, Shon Schooler asked the Board's permission to have researchers from the University of Oregon work in collaboration with the Coquille Indian Tribe to install an eddy covariance tower that would monitor carbon fluctuations across the landscape. As coastal wetland areas have complex spatial and temporal dynamics, the project sought to better understand how carbon dioxide and methane flow across the landscape, with the goal of using this information to inform restoration, conservation, and management strategies. Eddy covariance (EC) towers are state of the art instruments used to measure land-atmosphere fluxes of carbon across different ecosystems; sensors on the towers provide high-frequency data records that can identify hotspots and hot moments of carbon drawdown.

The Board outlined several concerns and determined an MOU was needed prior to allowing installation. Manager Fox worked with the University of Oregon on an MOU that addressed liability in the

event the equipment is vandalized, maintenance of all equipment, access to equipment in case of emergency, data accessibility, schedule for installing and removal of equipment, and liability for equipment removal (or mediation in the event they do not do so). Manager Fox had the prior Chair, DSL Director Vicki Walker review the MOU, as well as DSL's general DOJ counsel. Both Director Walker and DOJ counsel approved the MOU. The MOU was signed on June 6, 2025. The equipment was installed at Tom's Creek Marsh late June. The agreement will terminate on July 1, 2030, and all equipment will be removed.

Safety and Security Concerns (and need for law enforcement support) – Informational/Presentation

Manager Fox shared some of the safety and security concerns at the Reserve that management has been dealing with on a regular basis. Manager Fox said that she wants the Commission to be aware of the dangers and hazards affecting staff and the public, including visiting children. The combination of property crime, such as theft and unlawful burning, drug-related issues, and other increased criminal activity creates a complex challenge for public land safety.

Manager Fox shared photos in a PowerPoint presentation that detailed some of the recent illegal dumping, squatting, vandalism and theft issues being dealt with at the Reserve. Additionally, some trees were cut, and the wood is being sold as firewood. There needs to be a sustainable solution. The topic isn't new, and the issues are not new. These situations put Reserve staff and the public at risk. There are often used drug needles found in the debris left on Reserve property that staff clean up with a sharps container. Staff have to deal with other biohazardous waste and solid waste. Most of the photos shown come from a local residence adjacent to the Reserve at 61807 Seven Devil's Road. Law enforcement recently did a tour of some of the problem areas accompanied by Reserve managers and maintenance staff. Law enforcement informed staff that they cannot do anything and that a fence needs to be built. The County has issued code enforcement violations, but no further details are known.

Deputy Burgo, Deputy McRee, and Sargeant Matt Smith of the Coos County Sheriff's Office are continuing to patrol timberlands and marine waters as they are able to in between their regular assignments. The Timber Operators Patrol Service (TOPS) position is expected to be filled by October 1st of this year, which will help.

In collaboration with Coos County Forest, and specifically, Lance Morgan, South Slough tried to partially fund a full OSP position for more support. The venture was unsuccessful, but issues remain, including the discovery of abandoned, still warm campfires recently. Manager Fox said the Management Commission's awareness of these problems is needed as well as their assistance and their support. What can be done to achieve more law enforcement support? What about a cleanup contractor for large and/or hazardous dumps?

Commissioners discussed the problem and offered suggestions, such as hiring a private trained security contractor. Chair Lovell said the issues exist across state lands, and the hope is to come up with an agency-wide solution. Sharing government resources and leveraging assistance was discussed. Commissioner Roblan mentioned that state parks deal with similar problems of keeping staff and the visiting public safe while safeguarding state land and resources. Manager Fox thanked the Commission and said she was open to any new ideas, and she would follow up and contact state park officials for information.

Interns Recognition – Informational

Stacie Strombom started as the Reserve's AmeriCorps volunteer last August, but in April, the program was cut by the federal administration. Through assistance from FOSS, Stacie was able to complete her service primarily in running the after-school program, Estuary Explorers, but also helped open the bookstore for the first time since 2019. She completed her 11-month program on July 31st.

Spring:
Fleur Bice-Estuary Explorers (STEM HUB)
Kendall Rohlik-Estuary Explorers (STEM HUB)
Sabrina McNeely-GIS (DSL/WASSON)
Anuhea Furuya-Traditional Garden (No stipend-intern for school credit OIMB)

Spring/Summer PT:
Justin Gibbs-5 Spine Crabs-(SWOCC)
Irelyn Galway-5 Spine Crabs-(SWOCC)

Summer:
Daniel Serpa-GIS/UAS (NCCOS)
Olivia Mendoza-Science/Education (NCCOS)
Annika Vikstrom-Science/Education (NCCOS)
Catelyn Toney-Science/Education (OR Sea Grant)
Katie Dammann-Restoration/Education (DSL/Wasson)
Isaac Addams-Highschool Science (OR STEM HUB)
Malia Mosley-Highschool Education (OR STEM HUB)

The Commission thanked the interns for their service and also thanked staff for mentoring them.

Schedule Management Commission Meeting Dates

Chair Lovell worked with the commission to determine the meeting schedule. It was agreed to hold the next meeting on
Wednesday December 3, 2025, from 10 am – 1 pm.

The 2026 schedule was set:
Wednesday March 4, 2026, 10am – 1pm
Wednesday July 8, 2026, 10am – 1pm
Wednesday October 7, 2026, 10am – 1pm

Discussion/Action
Other

Commissioner Barton requested guidance from the Commission on her participation with Reserve staff on various activities and projects. Chair Lovell said if it was done on her own personal time, it would be fine. Commissioner Barton expressed her thanks, and she said she also appreciated receiving her packet with a larger font size so she could read it.

Information Reports

Staff shared highlights and progress from their program areas.

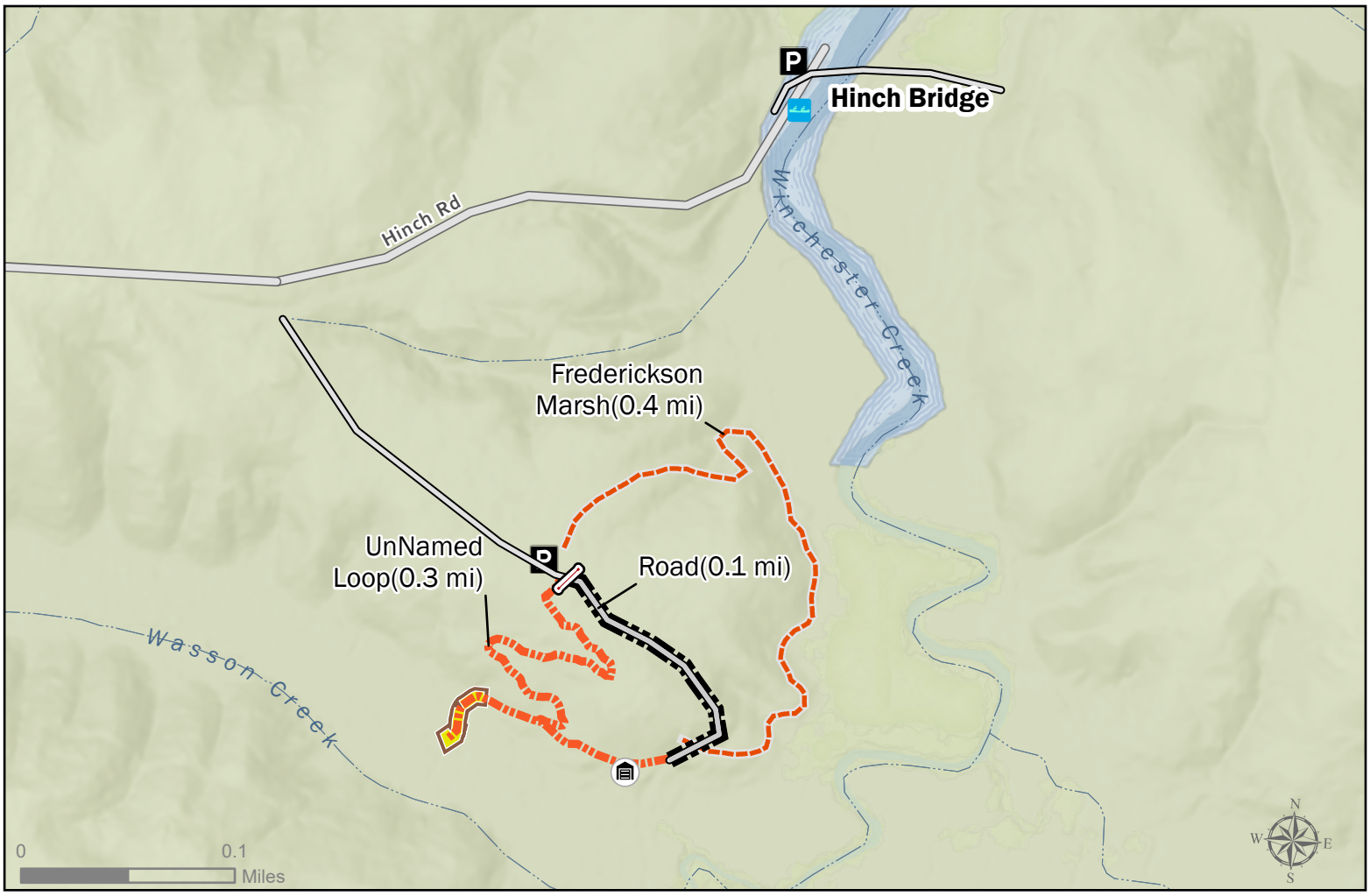
FOSS Activities
FOSS president, Christine Moffitt spoke before the group and said that the Friends are highly engaged with the South Slough Reserve. They worked hard on the 50th anniversary preparations and are proud of their effort and accomplishments towards supporting the Reserve and its mission. The Friends work with donors and bequests are particularly important to the work. She encouraged all to consider a tax-deductible donation to the Friends of South Slough Reserve. Chair Lovell expressed her thanks to the Friends.

ADJOURNMENT

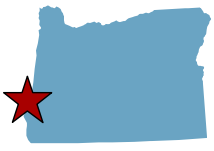
Chair Lovell adjourned the meeting at 12:26 p.m. Meeting participants were encouraged to enjoy the delicious refreshments generously provided by the Friends of South Slough Reserve.

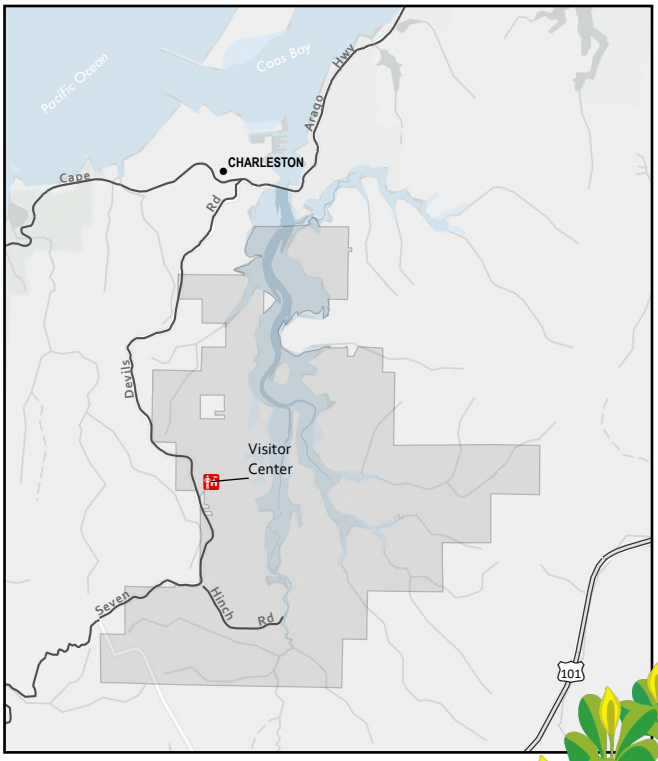
South Slough Reserve South Trails

Let the trail draw you down to the water



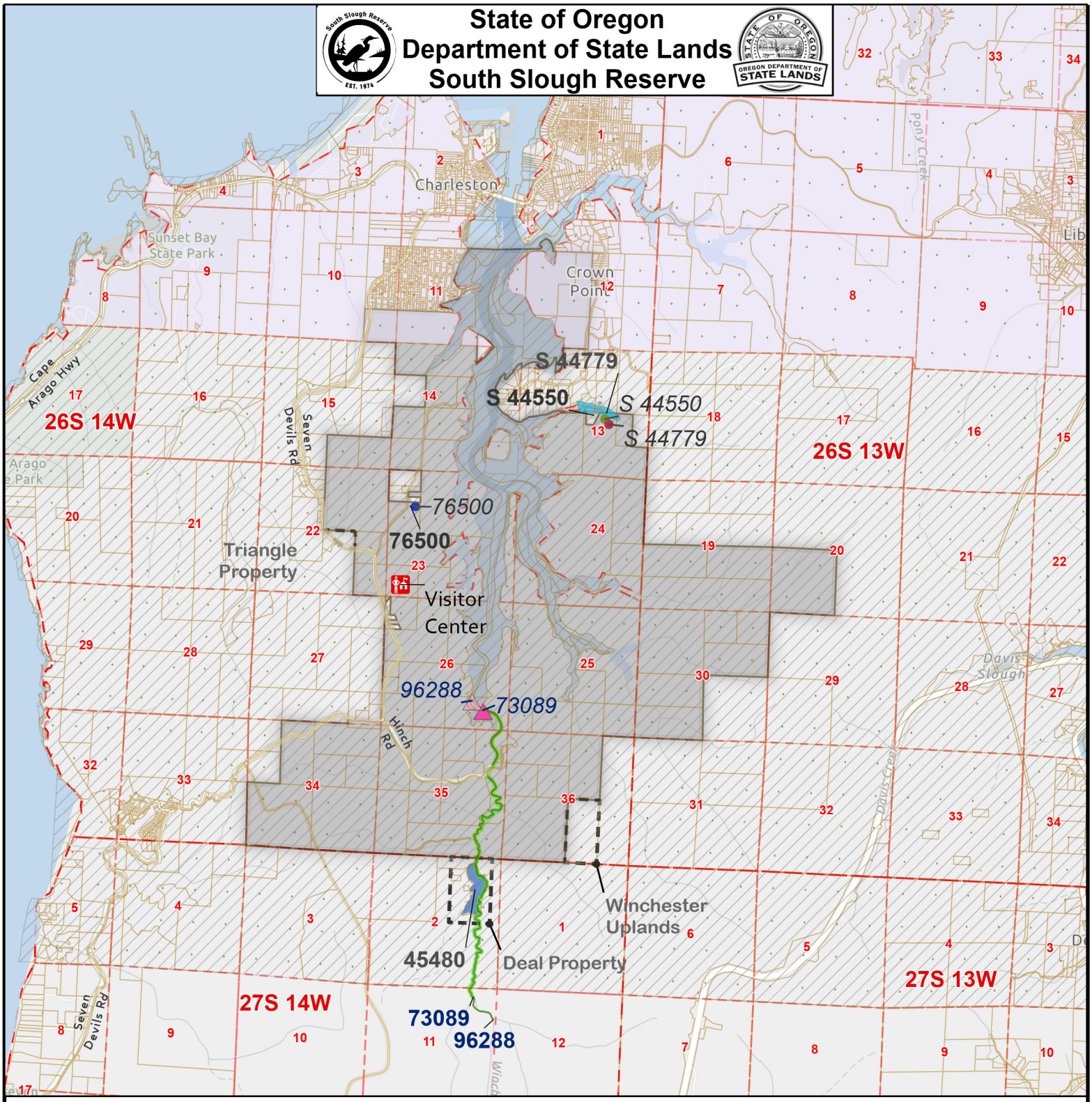
- Boardwalk_ExportFeatur
- Label
- Frederickson Marsh
- UnNamed Loop
- Road
- Fred Shed
- Parking Area
- Paddle Launch
- Reserve Roads
- Roads
- Creeks
- Marsh





Visitor Information 541-888-5558
www.southsloughestuary.org

State of Oregon
Department of State Lands
South Slough Reserve



Map of Water Rights in Reserve

- Reserve Boundary
- Parcels of Interest
- Tax Lots
- Townships
- Visitor Center

Points of Diversion Domestic
- 76500
- S 44550
- S 44779

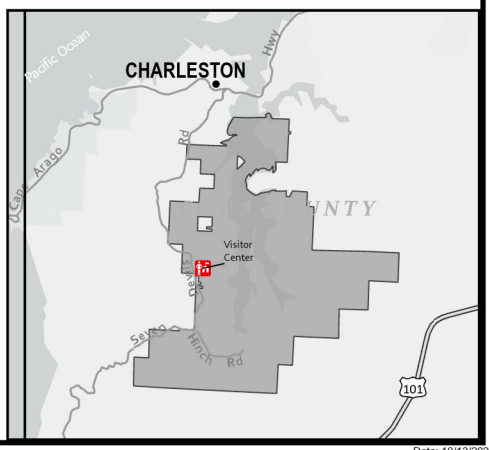
Points of Diversion Instream
- 73089
- 96288

Places of Use Domestic
- 76500
- S 44550

0 2,250 4,500 Feet

N

Map Projection:
Oregon Statewide Lambert
Datum NAD83
International Feet



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State of Oregon
Department of State Lands
South Slough Reserve
61907 Seven Devils Rd.,
P.O. Box 5417
Charleston, OR 97420
541-888-5558
www.oregon.gov/DSL/ss

13

Date: 10/13/2025

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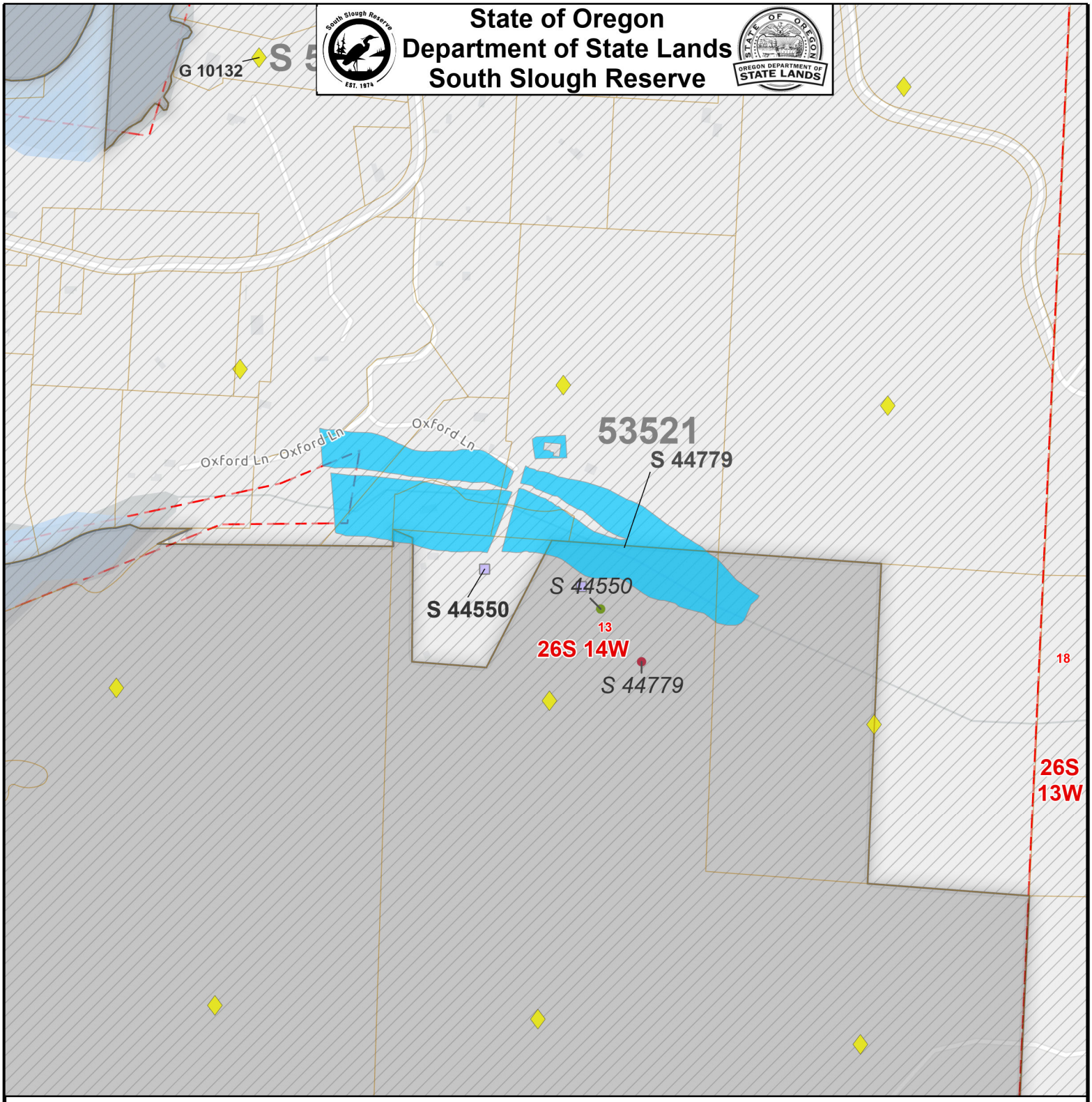
South Slough Reserve



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Places of Use Domestic
- S 44550

Places of Use Irrigation
- S 44779

Places of Use Municipal
- G 10132

Places of Use Municipal
- 53521
- S 50155

0 225 450 Feet

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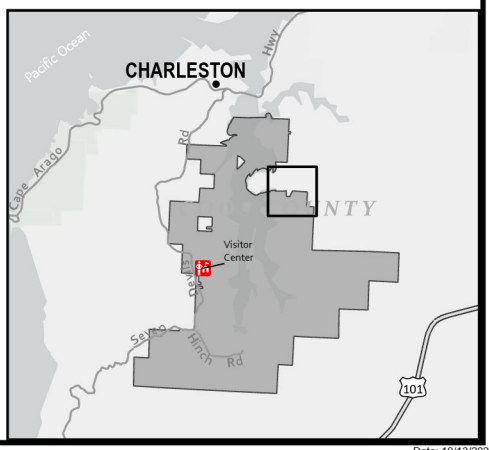

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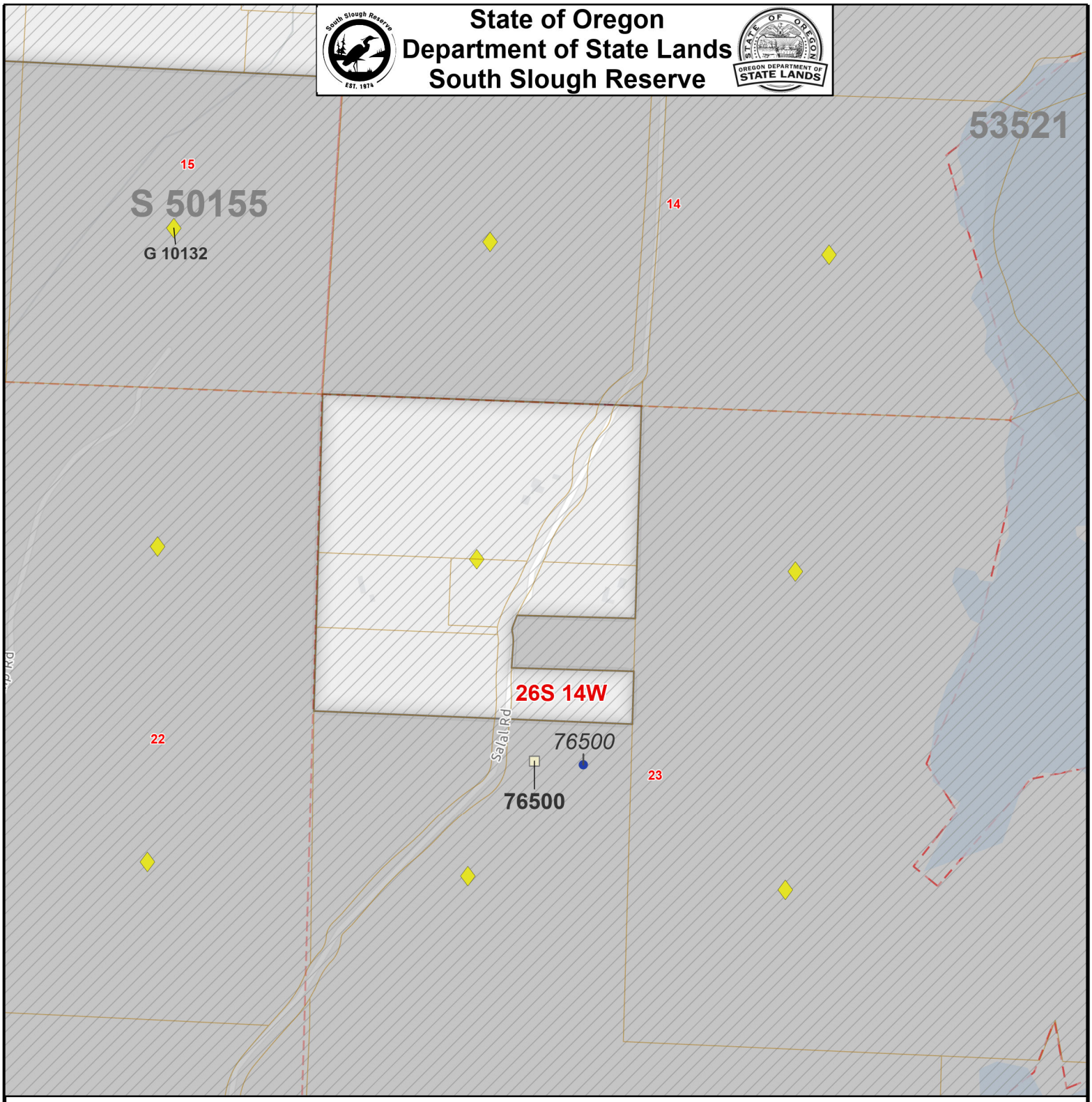

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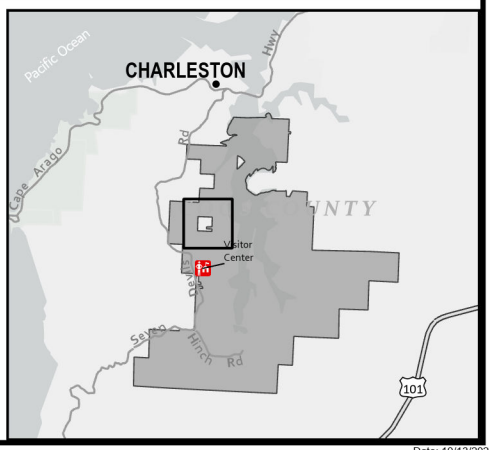

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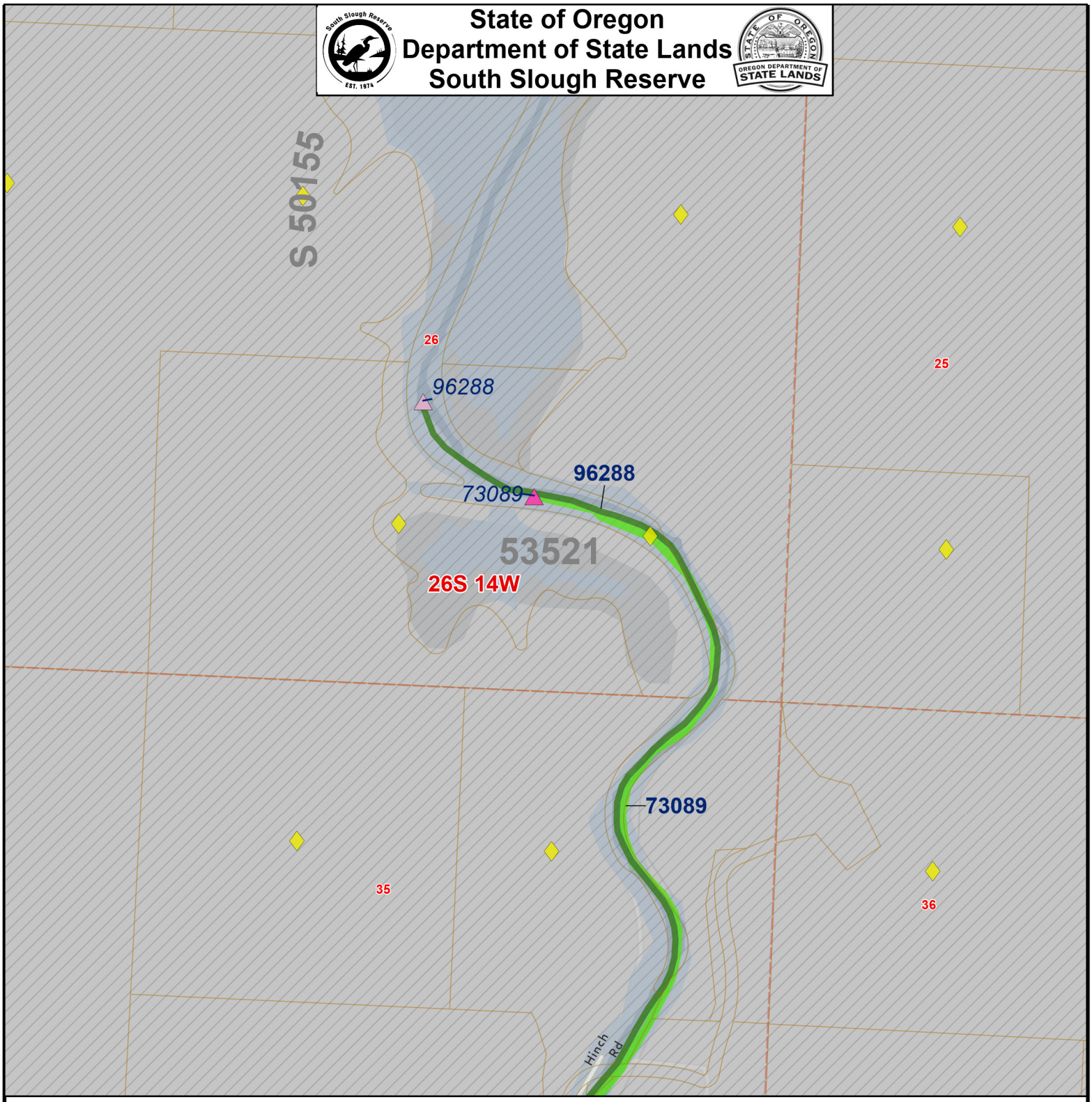

Map of Water Rights in Reserve

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Points of Diversion Instream
- 73089
- 96288

Places of Use Instream
- 73089

- 96288

Places of Use Municipal
- G 10132

Places of Use Municipal
- 53521
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0 225 450 Feet

N

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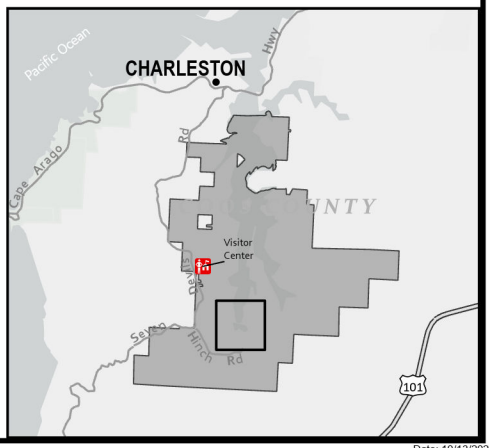

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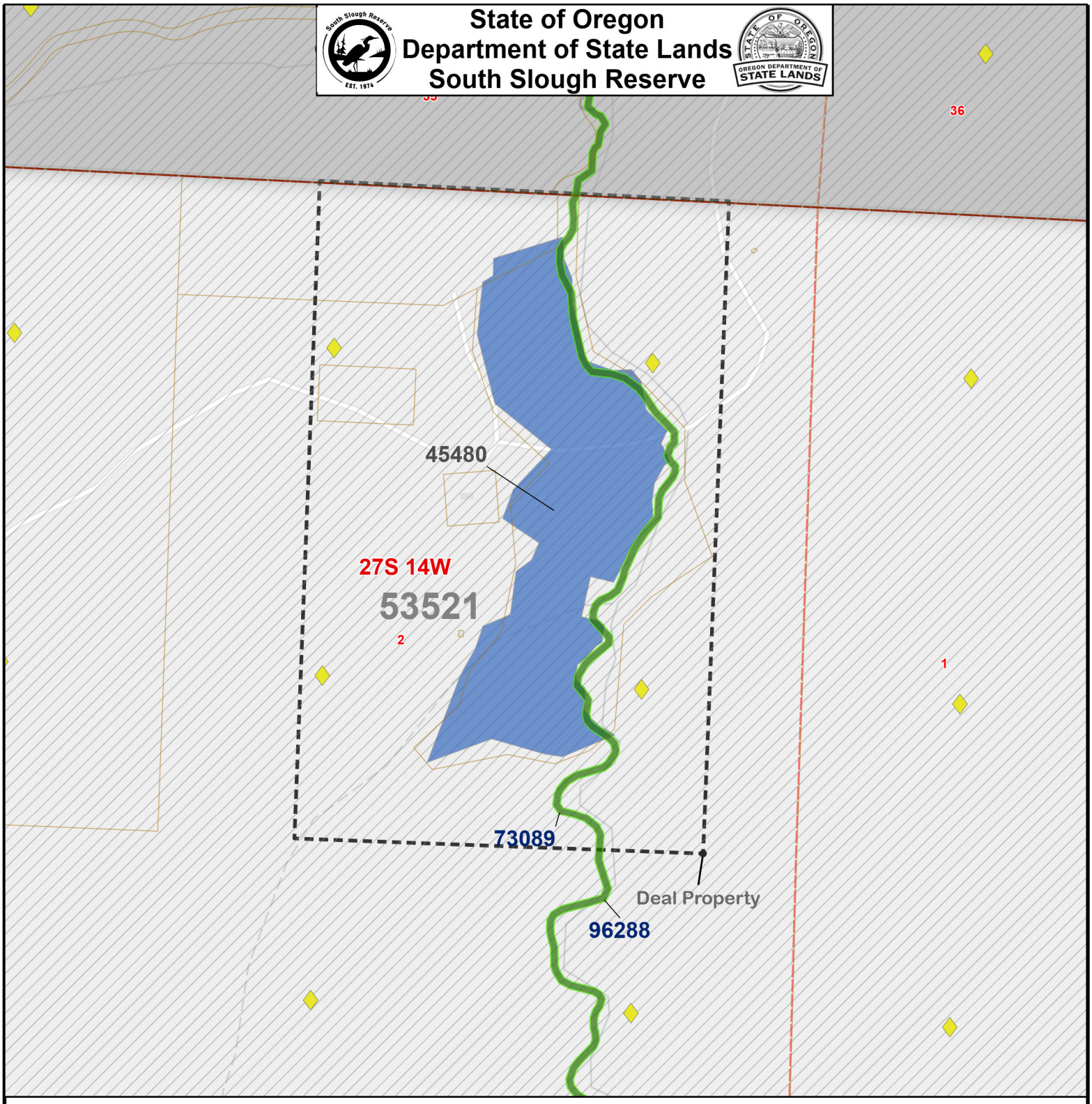

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Places of Use Municipal
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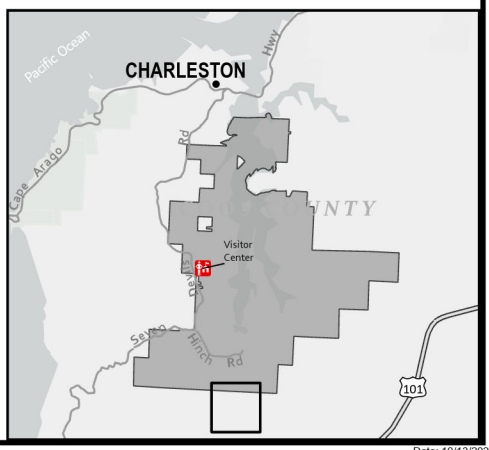

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Date: 10/13/2025

Administrative/Facilities Report

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

Staffing updates

During the spring of 2025, federal administration canceled funding for the AmeriCorps program. The AmeriCorps program has been a huge part of the year around education programming for Coos County schools for several years as this position was the primary position supporting the Estuary Explorers program which is an after-school program in schools throughout the county. We were lucky when the funding was canceled that our Friends of South Slough stepped up to support the existing position to finish out the season which ends at the end of July every year. When this happened, staff and management started looking for other funding opportunities and a plan for how we would continue this work through the 2025/2026 school year and beyond.

Staff applied for and were awarded $50,000 grant from the Judith A. Mogan Foundation to support our current seasonal educator with year around funding at 40 hours/week to continue the after-school programming. We originally applied for a full 2 years' worth of funding but subsequently only received 1 year. This funding will allow us to do two things: give full time hours to our seasonal educator, Cherie Turner, and continue to offer after school programming to schools throughout the county for another year.

We will continue to look for options for year-to-year funding so that we do not have a gap in services to Coos county schools.

Also welcome to Veronica Graves, who is in a temporary position to assist with our backlogged IT needs and started at the beginning of October. This position is shared with Elliott State Research Forest, they are covering 40% of the position. The position is currently in place for 6 months and can be extended for additional time on an as needed basis. Veronica has been a huge help in working through some of the onsite IT issues we have been having.

Administrative

Attached are the state budget reports for the 2025-2027 biennium through September 2025.

Operations Manager Muse is monitoring the federal grants we currently have and working on getting costs spent and reimbursed quickly. Daily monitoring of the ASAP and grants system to ensure funding is still available will continue until the new administration ensures the funding availability is stable. There was a yearly maintenance shutdown on ASAP at the end of September into October so there was a gap in time where we could access the information. We have been assured by NOAA liaisons that all awarded funds will be accessible.

Operations Manager Muse submitted our FY25 Operations Award through NOAA in June. NOAA approved funding with the same amount as FY24, $880,967. Due to timeline delays with the new administration, Operations awards kicked in on 10/1 instead of the normal 7/1 date. Due to this delay NOAA has approved the Reserve to receive 90 pre-award costs back to 7/1 so that payroll can be reimbursed which is the largest line item in this budget. Operations Manager Muse will be working with Fiscal for reimbursement of these funds once the government shutdown ends and NOAA staff are available for these tasks.

Operations Manager Muse continues to submit the required progress reports on multiple federal grants per usual timelines.

These progress reports are required for every 6-month period and at the end of a grant for closeout. At the end of October, grants included close out of the FY21 PAC for Exhibits, Restrooms and ADA door upgrades as well as the Wasson Restoration report.

Facilities/Trails

Staff continue working on the trail system and facilities doing routine maintenance. Maintenance was short staffed in this quarter since one of the two staff being out on extended leave.

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

Operations Manager Muse has started to research and plan around updating our very outdated trails plan. We are interested in contracting a consultant to do most of the work and pulling together an advisory group due to internal capacity limitations. Our trails plan has not been updated since the late 1980- early 1990s. There is potential that we will be applying for grants to fund the work around the plan. More details to come as we are working through the needs on this task.

Grant updates

Land Acquisition grants -

The NOAA grants kicked off for the Deal/Triangle and Winchester acquisitions. Both grants were competitive BIL funded acquisition grants. We have already been working on due diligence tasks so are farther along than normal. Management has been working with DSL Lands staff from Bend for the due diligence tasks. So far appraisals have been received in draft form, surveys completed for part of the parcels and mineral rights research have started. We also have started the process to decertify the Winchester parcel from the Department of Forestry.

The Winchester 80-acre property is a Common School fund, managed by Oregon Department of Forestry, property that will be

transferred to SSNERR management for conservation. The grant will compensate the Common School fund for the transfer.

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

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

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

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

Civil West/HGE completed the project drawings and specifications in July. The project documents were submitted to DSL Procurement on August 6th. Due to the anticipated cost of the project, this bid and contract is being managed by DAS Procurement and their often-lengthy processes, which includes a Dept of Justice (DOJ) review. DAS Procurement received the project documents on August 14th. DOJ completed their review of the project documents in October. The project was put out to bid on October 23rd, only one week later than our original timeline. We expect to close bids on 11/18/2025 with hopes of issuing an intent to award in early December. PM Ruble has been pushing hard on getting all the forms, scope of work and engineering in place so that this project can be awarded prior to the holiday season. Additionally, OR DEQ approved our 1200-C permit application for this project in October

The contractors arrived onsite on 10/23/2025 to start conduit installation in preparation for having an internet service provider pull fiber optic wire to the Visitor Center. They finished the horizontal directional drilling and conduit installation on 10/28/2025. Utility boxes are ordered and will be installed when they arrive in November thus completing the conduit installation project. The work was completed with minimal impact on programming and Visitor Center operations. This portion of the entrance improvement project was initiated ahead of the main project in hopes of installing hard-wired fiber optic service to the Visitor Center before most of the winter storms hit for safety, security and improved efficiency.

BIL IRA Grant Infrastructure – returning access to Wasson and SWMP Piling replacement

This grant was funded by NOAA under the BIL/IRA grant program for infrastructure upgrades to return public access to the Wasson Valley after the restoration and replace 2 existing SWMP Pilings in the Slough that were at the end of their lifespan.

The replacement pilings for the Charleston and Valino Island SWMP stations are scheduled to be installed by our contractor on November 4 and 5, 2025.

TrailKeepers of Oregon (TKO) volunteers, SSNERR staff and our contractor have all be working hard on building the new trail to be added to the South Trail system sometime in the Spring of 2026. The alignment and initial path are established, and gravel has been added to ramp over large roots in certain areas. Wherever the topography allowed, we tried to reduce the steepness of the trail and make it a minimum of the 36” wide to enable broader public use of the trail. TKO is scheduled to do an assessment of the trail in December. The trail will now go through a winter and SSNERR and TKO staff will continue to monitor it for drainage, structure and tread issues. Included in your packet is a map of the associated area and new trail.

The contractor started work on the new boardwalk in the Wasson Valley August 2025. They came back and installed the framework in September and are expected to complete the project by the end of November 2025. This new infrastructure showcasing the restoration work in the Wasson Valley while protecting the fragile ecosystem.

32007 SSNER O/F

Report for September-2025 ***Biennium Remaining: 87.50%***

		Biennium To June	July	August	September	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining
1010	TRANSFER IN FROM OTHER FUNDS	0	200,000	200,000	200,000	600,000	0	0	NA	NA
Total:	**TRANSFER IN**	**0**	**200,000**	**200,000**	**200,000**	**600,000**	**0**	**0**	**NA**	**NA**
Grand Total: Transfer In		**0**	**200,000**	**200,000**	**200,000**	**600,000**	**0**	**0**	**NA**	**NA**
0355	FEDERAL FUNDS	0	0	0	1,911	1,911	0	0	NA	NA
0410	CHARGES FOR SERVICES	0	0	0	6,948	6,948	0	0	NA	NA
0510	RENTS AND ROYALTIES	0	0	710	0	710	0	0	NA	NA
0975	OTHER REVENUE	0	4,993	11,663	4,665	21,321	0	0	NA	NA
Total:	**REVENUES**	**0**	**4,993**	**12,373**	**13,525**	**30,891**	**0**	**0**	**NA**	**NA**
Grand Total: Revenue		**0**	**4,993**	**12,373**	**13,525**	**30,891**	**0**	**0**	**NA**	**NA**

32007	SSNER O/F				*Report for September-2025*				*Biennium Remaining: 87.50%*	
		Biennium To June	July	August	September	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining
3110	CLASS/UNCLASS SALARY & PER DIE	0	94,151	94,718	87,544	276,413	1,973,745	0	1,697,332	86.00%
3160	TEMPORARY APPOINTMENTS	0	0	0	0	0	7,651	0	7,651	100.00%
3170	OVERTIME PAYMENTS	0	100	298	0	398	0	0	-398	NA
3180	SHIFT DIFFERENTIAL	0	165	197	171	533	0	0	-533	NA
3190	ALL OTHER DIFFERENTIAL	0	1,158	1,158	1,164	3,479	9,794	0	6,315	64.48%
3210	ERB ASSESSMENT	0	35	36	35	106	787	0	681	86.58%
3220	PUBLIC EMPLOYES' RETIREMENT S	0	21,220	21,364	19,623	62,207	424,963	0	362,756	85.36%
3221	PENSION BOND CONTRIBUTION	0	4,589	4,627	4,268	13,484	75,217	0	61,733	82.07%
3230	SOCIAL SECURITY TAX	0	7,252	7,312	6,739	21,303	155,102	0	133,799	86.26%
3240	UNEMPLOYMENT ASSESSMENT	0	0	0	0	0	7,139	0	7,139	100.00%
3241	PAID FAMILY MEDICAL LEAVE INSU	0	379	382	352	1,114	8,081	0	6,967	86.22%
3250	WORKERS' COMPENSATION ASSES	0	17	17	16	50	458	0	408	89.15%
3260	MASS TRANSIT	0	0	0	0	0	11,433	0	11,433	100.00%
3270	FLEXIBLE BENEFITS	0	20,073	20,275	20,127	60,475	463,591	0	403,116	86.96%
Total:	**PERSONAL SERVICES**	**0**	**149,138**	**150,384**	**140,039**	**439,561**	**3,137,961**	**0**	**2,698,400**	**85.99%**
4100	INSTATE TRAVEL	0	0	104	3,135	3,239	27,410	0	24,171	88.18%
4125	OUT-OF-STATE TRAVEL	0	0	0	364	364	9,031	0	8,667	95.97%
4150	EMPLOYEE TRAINING	0	170	19	584	773	24,210	0	23,437	96.81%
4175	OFFICE EXPENSES	0	499	382	739	1,620	28,371	0	26,751	94.29%
4200	TELECOMM/TECH SVC AND SUPPLI	0	2,759	654	3,778	7,191	19,531	0	12,340	63.18%
4250	DATA PROCESSING	0	0	0	0	0	661	0	661	100.00%
4275	PUBLICITY & PUBLICATIONS	0	0	0	0	0	614	0	614	100.00%
4300	PROFESSIONAL SERVICES	0	0	0	0	0	531,208	0	531,208	100.00%
4315	IT PROFESSIONAL SERVICES	0	0	0	0	0	5,000	0	5,000	100.00%
4325	ATTORNEY GENERAL LEGAL FEES	0	0	0	0	0	10,460	0	10,460	100.00%
4375	EMPLOYEE RECRUITMENT AND DE	0	48	681	0	729	3,057	0	2,328	76.14%
4400	DUES AND SUBSCRIPTIONS	0	15	15	0	30	15	0	-15	-100.00%
4425	LEASE PAYMENTS & TAXES	0	0	0	0	0	57	0	57	100.00%
4450	FUELS AND UTILITIES	0	652	618	578	1,848	10,231	0	8,383	81.94%
4475	FACILITIES MAINTENANCE	0	1,076	536	1,853	3,465	33,839	0	30,374	89.76%
4650	OTHER SERVICES AND SUPPLIES	0	8,592	3,781	4,189	16,563	66,120	0	49,557	74.95%
4700	EXPENDABLE PROPERTY $250-$100	0	0	0	978	978	4,248	0	3,271	76.99%
4715	IT EXPENDABLE PROPERTY	0	0	149	4,668	4,818	58,097	0	53,279	91.71%
Total:	**SERVICES AND SUPPLIES**	**0**	**13,812**	**6,940**	**20,866**	**41,618**	**832,160**	**0**	**790,542**	**95.00%**
5200	TECHNICAL EQUIPMENT	0	0	0	0	0	48,801	0	48,801	100.00%
5600	DATA PROCESSING HARDWARE	0	0	0	0	0	20,407	0	20,407	100.00%
Total:	**CAPITAL OUTLAY**	**0**	**0**	**0**	**0**	**0**	**69,208**	**0**	**69,208**	**100.00%**

32007 SSNER O/F				*Report for September-2025*				*Biennium Remaining: 87.50%*	
	Biennium To June	July	August	September	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining
Grand Total: Expense	**0**	**162,950**	**157,324**	**160,906**	**481,179**	**4,039,329**	**0**	**3,558,150**	**88.09%**

62007 SSNER F/F				Report for September-2025				Biennium Remaining: 87.50%		
		Biennium To June	July	August	September	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining
0995	FEDERAL FUNDS REVENUE	0	0	115,982	36,939	152,921	0	0	NA	NA
Total:	**REVENUES**	**0**	**0**	**115,982**	**36,939**	**152,921**	**0**	**0**	**NA**	**NA**
Grand Total: Revenue		**0**	**0**	**115,982**	**36,939**	**152,921**	**0**	**0**	**NA**	**NA**

62007	SSNER F/F			Report for September-2025				Biennium Remaining: 87.50%		
		Biennium To June	July	August	September	Biennium To Date	Budget	Adjustments	Remaining Balance	% of Budget Remaining
3110	CLASS/UNCLASS SALARY & PER DIE	0	60,705	56,629	57,864	175,198	1,389,874	0	1,214,676	87.39%
3160	TEMPORARY APPOINTMENTS	0	0	0	0	0	88,505	0	88,505	100.00%
3170	OVERTIME PAYMENTS	0	0	0	0	0	3,811	0	3,811	100.00%
3180	SHIFT DIFFERENTIAL	0	72	123	74	269	8	0	-261	-3256.25%
3190	ALL OTHER DIFFERENTIAL	0	629	614	905	2,148	0	0	-2,148	NA
3210	ERB ASSESSMENT	0	25	24	25	74	638	0	564	88.34%
3220	PUBLIC EMPLOYES' RETIREMENT S	0	12,409	12,636	12,932	37,977	309,015	0	271,038	87.71%
3221	PENSION BOND CONTRIBUTION	0	2,701	2,752	2,823	8,276	56,137	0	47,861	85.26%
3230	SOCIAL SECURITY TAX	0	4,839	4,356	4,461	13,656	119,128	0	105,472	88.54%
3241	PAID FAMILY MEDICAL LEAVE INSU	0	253	228	233	714	5,874	0	5,160	87.84%
3250	WORKERS' COMPENSATION ASSES	0	12	11	12	35	373	0	338	90.69%
3270	FLEXIBLE BENEFITS	0	12,590	12,488	12,537	37,615	375,734	0	338,119	89.99%
Total:	**PERSONAL SERVICES**	**0**	**94,234**	**89,862**	**91,865**	**275,961**	**2,349,097**	**0**	**2,073,136**	**88.25%**
4100	INSTATE TRAVEL	0	0	0	546	546	25,759	0	25,213	97.88%
4125	OUT-OF-STATE TRAVEL	0	0	0	0	0	15,913	0	15,913	100.00%
4150	EMPLOYEE TRAINING	0	0	347	786	1,132	60,000	0	58,868	98.11%
4175	OFFICE EXPENSES	0	0	0	0	0	24,141	0	24,141	100.00%
4200	TELECOMM/TECH SVC AND SUPPLI	0	0	0	0	0	10,954	0	10,954	100.00%
4250	DATA PROCESSING	0	0	0	0	0	12,441	0	12,441	100.00%
4275	PUBLICITY & PUBLICATIONS	0	0	0	0	0	1,818	0	1,818	100.00%
4300	PROFESSIONAL SERVICES	0	0	0	15,750	15,750	1,684,728	0	1,668,978	99.07%
4315	IT PROFESSIONAL SERVICES	0	0	0	0	0	5,000	0	5,000	100.00%
4375	EMPLOYEE RECRUITMENT AND DE	0	24	0	0	24	7,204	0	7,180	99.67%
4400	DUES AND SUBSCRIPTIONS	0	15	15	0	30	1,017	0	987	97.05%
4450	FUELS AND UTILITIES	0	0	0	0	0	31,147	0	31,147	100.00%
4475	FACILITIES MAINTENANCE	0	0	0	729	729	37,139	0	36,410	98.04%
4575	AGENCY PROGRAM RELATED SVCS	0	649	3,375	0	4,024	6,658	0	2,634	39.57%
4650	OTHER SERVICES AND SUPPLIES	0	5,153	11,489	9,340	25,983	13,624	0	-12,359	-90.71%
4700	EXPENDABLE PROPERTY $250-$100	0	0	0	0	0	26,195	0	26,195	100.00%
4715	IT EXPENDABLE PROPERTY	0	4,941	0	0	4,941	1,785	0	-3,156	-176.79%
Total:	**SERVICES AND SUPPLIES**	**0**	**10,781**	**15,226**	**27,151**	**53,158**	**1,965,523**	**0**	**1,912,365**	**97.30%**
5200	TECHNICAL EQUIPMENT	0	0	0	0	0	11,353	0	11,353	100.00%
5650	LAND IMPROVEMENTS	0	65,532	0	13,170	78,702	0	0	-78,702	NA
Total:	**CAPITAL OUTLAY**	**0**	**65,532**	**0**	**13,170**	**78,702**	**11,353**	**0**	**-67,349**	**-593.23%**
Grand Total: Expense		**0**	**170,547**	**105,088**	**132,186**	**407,821**	**4,325,973**	**0**	**3,918,152**	**90.57%**

SSNERR Education Program Update

Staff: Jaime Belanger, Education Coordinator/Lead

Eric Dean, Education Specialist

Deborah Rudd, Public Involvement Coordinat

Cherie Turner, Seasonal Education Specialist

2025 Salmon Celebration, Malia (HS intern), Cherie

August 1 – October 31, 2025

Throughout this three month period the Visitor Center operated on the usual schedule, open to the public Tuesday-Saturday from 10 AM – 4 PM. Education activities proceeded as usual, comprised of programs and events for students, teachers and general audiences on site at the Reserve, in and near schools, online and in locations around the community. Overall activities were slightly reduced compared to the summer as it takes schools several weeks to begin field trips and community events wind down after September. Programming will continue to slow down through the rainy winter months, though community programs and after school activities are scheduled through the end of the year.

The four regular education staff worked as normal through this period. The Reserve was successful in receiving funding from the Judith Ann Mogan Foundation to support Estuary Explorers by extending Cherie's salary through the winter. Cherie will continue to build on the foundation developed by AmeriCorps members to strengthen this afterschool program, as well as continue supporting other education programs. In November the education team will meet for their annual reflection and planning meeting. They will discuss program challenges,

successes and participant evaluations. This will help inform planning for the 2026 program year.

Two interns, Stacie Strombom and Olivia Mendoza, wrapped up their service on July 31st, while three college interns, Katie Damman, Catelyn Toney and Annika Vikstrom, as well as one high school student, Malia Mosely, remained through the middle and end of August. Additional details about the internship program are provided in the Public Involvement section below.

Staff Training, Innovations

Deborah Rudd contributed to a range of cross-program activities in addition to her usual work that supported stewardship, research, and additional education initiatives. Tasks included Saturday Stewards volunteer coordination, fish seining on August 16th, delivering a school program August 5th, monitoring GPS equipment August 8th, eelgrass surveys October 8th, OMSI video support October 23rd and grant writing for the Recreational Trail Program proposal to fund an accessibility assessment for Reserve trails. She is continuing to look for additional funding options for the Seasonal Education Specialist. These collaborative efforts enhance cross-program understanding and strengthen the Reserve's capacity to deliver high-quality services across its mission areas. Deborah actively participates in four committees and has attended several professional development training courses focused on conservation communication, inclusive recreation, grant writing, and responsible messaging. She serves on the following committees:

- Coos Hispanic Allies
- DSL Diversity, Equity, and Inclusion (DEI) Committee
- Octoberfish Planning Committee

- South Slough Reserve DEI Committee

She participated in the following training during this period:

- Sea Grant Summer Scholar Symposim, 8/22/2025
- DEI Dialogues: Inclusive Access to Outdoor Recreation in Oregon, 9/4/2025
- Changing Human Behavior to Secure Conservation Outcomes, 9/16/2025
- People's Coast Summit, 10/21-10/22/2025, including the following sessions:
    - *Grants 101: Crafting Compelling Proposals (Travel Oregon)*
    - *Content Strategies: A guide to Starting and Elevating Your Content*
    - *Leveling Up with AI: Smarter Tools for Tourism*

Jaime Belanger contributed to an Oregon Heritage Grant proposal submitted by the Coquille Indian Tribe in partnership with the Confederated Tribes of Coos, Lower Umpqua and Siuslaw Tribes and Confederated Tribes of Siletz Indians to develop and install interpretation around the native canoe fragment at the Visitor Center. She is helping write a Recreational Trail Program proposal to fund an accessibility assessment for Reserve trails and continuing to look for funding options for the Seasonal Education Specialist during the winter of 2026. The Market Analysis Needs Assessment proposal she submitted with Sabra Comet to the NERRS Science Collaborative was not awarded; they will continue to look for other funding sources. Jaime has been working with Cherie to schedule Estuary Explorers in local schools and begin high school intern recruitment for the program. She and three other educators submitted an abstract to present the results of their Teachers on the Estuary survey data analysis at the 2026 Ocean Sciences meeting, which was accepted for the poster session. During this time Jaime also served on the interview committee for Coos Watershed Association's Community Engagement Specialist and gave a presentation about the Estuary Education Workgroup to new NERRS Education Coordinators. She continues to serve on the following groups:

- Oregon Coast STEM Hub Leadership Council
- Coos Watershed Association's Outreach and Education Committee
- Oregon Natural Resources Education Program (ONREP) Facilitators
- NERRS Estuary Education Resources Working Group
- Reserve DEI Committee.
- Oregon Coalition to Combat Marine Debris

She attended the following meetings and trainings:

- Sea Grant Summer Scholar Symposim, 8/22/2025
- DEI Dialogues: Inclusive Access to Outdoor Recreation in Oregon, 9/4/2025
- A Roadmap for Addressing Marine Debris in the NERRS webinar, 9/4/2025
- Engaging with Cultural Ecosystem Services webinar, 9/23/2025

Eric Dean worked on expanding estuary paddle trips to new locations. During this period, he led three kayak tours on the Siltcoos River estuary, with the help of Cherie Turner. This system winds through old growth forest to a spillway that provides a first-hand look at how fish ladders work, creating a perfect opening for participants to learn about salmon and lamprey lifecycles. The paddle moves into dune habitat as it nears the ocean, which offers an excellent opportunity to talk about the threatened Western Snowy Plover and the need to protect essential habitat. These discussions are different than interpretation in South Slough estuary due to the unique features of the Siltcoos.

Cherie Turner has been attending various professional development trainings in preparation for Estuary Explorers program for the 2025-2026 school year. She has been visiting and meeting with educators at Coos Bay and North Bend school districts to set-up and begin the Estuary Explorers afterschool program. She has started recruitment for high school interns to assist with the program. Training courses she took during this time include:

- Oregon Natural Resource Education Program: Science with a Side of Art, 8/20/2025 DAS- Preventing Discrimination and Harassment, 8/28/2025
- DAS-Information Security Training: Foundations, 8/28/2025
- Oregon Natural Resource Education Program: Cultivating Curiosity and Wonder with Nature Journaling, 10/18/2025

Intern and Volunteer contributions

- **Catelyn Toney** created and delivered an interactive lesson for middle or high school students about eDNA. She also developed a tag game for all ages related to the same topic.
- **Annika Vikstrom** developed and delivered an interactive lesson for high school students about ocean acidification.

Education Program Metrics

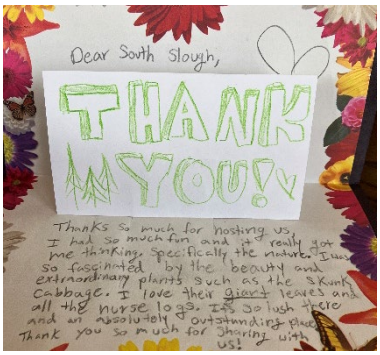
1,763 people interacted with Reserve education, science and stewardship staff between August and October. There were xx programs attended by people of all ages from the local area and beyond. In total this led to 2,389 hours of learning about estuaries and coastal watersheds. Planning, reflection, and post-program work amounted to about 121 hours. These numbers include all student education, interpretation, teacher training, outreach, and public stewardship delivered directly by Reserve staff. Including self-lead learning in the Visitor Center, the Reserve engaged 3,025 people in an education capacity.

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

Visitation and Visitor Services

The Visitor Center operated on the usual schedule, open to the public Tuesday-Saturday from 10 AM – 4 PM with no closures. The Reserve Visitor Center was open for 66 days during this period. Trails and waterways were open from dawn to dusk daily, apart from some closures in the Wasson Valley due to restoration and trail construction. 1, 262 visitors were counted entering the building, averaging 19 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



Thank-you card, TRAILS Outdoor School student

The Reserve categorizes education program types based on audiences and learning goals, aligning with NOAA Education groupings 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 NERR 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 included elementary school and university field trips, and classroom visits. 16 formal education programs reached 348 students, providing 1,003 hours of learning. Student grade levels ranged from third through sixth grades, undergraduates and graduates. Estuary learning activities were comprised of watershed hikes, science camp, restoration and Wetlands and Water Levels/SWMP.

"I had so much fun and it really got me thinking, specifically the nature. I was fascinated by the beauty and extraordinary plants such as the skunk cabbage." – 6th grade TRAILS Outdoor School student

Community Education & Interpretive Activities

Siltcoos River Kayak, 10.14.25, photo by paddle participant Susan

Community and interpretive education at the Reserve encompasses the informal learning opportunities that include classes and estuary activities, information tables at events, programs presented with partner organizations, activities outside of school for children and stewardship actions. Community education is offered to all ages in a variety of places around the region.

39 community programs and events for 1,405 people provided 1378 hours of public learning about the Reserve and coastal habitats. Programs included weekly community education activities like birding in various locations, a clamming workshop, guided kayak tours, and mushroom identification classes. There were two Saturday Stewards events, numerous community events (listed below),

summer science camps and the first session of Estuary Explorers afterschool program. The mushroom identification classes continue to be popular, usually filled with a waitlist. Summer science camps also have long waitlists and the primary request the education team hears from families with children is a wish for the Reserve to accommodate more kids in camps.

"My camper had such a blast at camp, I just want to thank everyone for putting it on!" - 2025 Summer camp feedback

Public Involvement

Interns / Volunteers

During the fall season things slow down a bit in comparison to the busy summer season. Interns and volunteers contributed to the South Slough Reserve's research, education, and stewardship efforts. From August 1 through October 31, 2025, an average of 6 interns and volunteers per month contributed 598 hours, valued at $20,037.67

South Slough Reserve Internship Program Summary

The South Slough Reserve Internship Program offers hands-on experience in estuarine science, education, and natural resource management. The program emphasizes stewardship and supports Reserve operations through intern contributions in habitat monitoring, species inventory, GIS mapping, education, trail maintenance, and communications. All interns complete a structured onboarding process that outlines policies, procedures, and performance expectations.

This fall, the Reserve hosted one intern, Konnor Howell, who is earning course credit through a hybrid internship under the guidance of Dr. Alice Yeates. Konnor is analyzing data related to tidal forested swamp restoration at the Wasson Valley restoration site. The internship began with a four-day onsite component involving both office and fieldwork, followed by remote work and virtual meetings continuing through mid-November.

On Friday, September 5, Reserve staff held a planning and review session to evaluate and improve the internship program. Key topics included housing, recruitment, orientation, and program development. Recommendations for improvement included:

- Prioritizing intern housing at Spruce Ranch for summer placements
- Providing clear protocols for reporting maintenance issues
- Increasing efforts to recruit local interns and collaborate with job placement programs, while aligning with grant requirements
- Emphasizing communication expectations, task variability, and mentor-defined schedules during orientation
- Clarifying distinctions between internships and volunteer roles
- Formalizing credit-based, unpaid internships
- The team also committed to developing onboarding resources, strengthening collaboration with other programs, and planning strategically for future internship cycles. This includes potentially hosting a funded intern in 2026 and exploring potential GIS-focused placements through Oregon State University.

"This has been an incredible internship experience. I have been blown away by South Slough as an organization and the space that it fosters for the community. I have learned so much in both the research and educational spheres that I will carry with me for the rest of my career. This has reaffirmed for me that coastal and marine science and outreach are my passions!" – 2025 Summer Intern

Volunteer Engagement

During this reporting period, volunteers contributed to a variety of activities supporting field research, stewardship, science camps, and outreach. Notable efforts included invasive weed removal, marsh plant inventory, and assisting children with t-shirt painting during summer camp.

Octoberfish 2025, Lori (volunteer), Deb, youth volunteer

Several new Estuary Ambassadors have begun participating in outreach events. Although a training session was scheduled for early September, it was canceled due to both registrants withdrawing. A broader recruitment campaign and training session is planned for early 2026 to strengthen the program and expand volunteer involvement.

Community Outreach

Interns and volunteers played a key role in supporting the Reserve's outreach efforts by staffing booths and leading activities at a variety of community events, which help raise public awareness of the Reserve's mission and programs to foster meaningful community engagement and support. Outreach events this period included Coos Bay Farmers Market, Bandon Walk for the Wild, Salmon Festival, Bay Area Hospital Wellness Fair, Coos Watershed Outdoor Movie, Stand Up for the Bay/Estuaries Week, Hispanic Heritage Movie at the Egyptian Theater and Octoberfish.

*Communications**

Communications efforts are led in partnership with the DSL Communications Officer. This period they included social media, web page updates, signage,

newsletters, and responding to public inquiries. A strategy is underway to improve photo storage and content organization. Newsletter performance averaged 150–240 opens per issue. Social media reach and engagement continue to grow across Facebook, Instagram, Google, and YouTube.

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

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

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

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

Overall Channel Analytics (last 90 days):

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

*Terms:

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

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

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

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

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

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

Training & Engagement Program, July-October 2025
Sabra Comet, TEP Coordinator
TEP Knowledge Transfer Events
The Training & Engagement (TEP), formerly Coastal Training Program, is no longer required by NOAA to provide 5 trainings per fiscal year; instead, the TEP sector is expanding its metrics to include 'knowledge transfer events', which can be workshops/trainings, end product user development, communication products, and more. The new minimum is four of these 'events' per fiscal year.

No trainings were conducted during the reporting period; the Biochar workshop in November will be reported out at the next commission meeting.

Technical Assistance

Market Analysis and Needs Assessment (MANA) part 2, ongoing. Funding for the second phase of the MANA project was not granted via the NERRS Science Collaborative this funding cycle. Feedback on the application was received and will inform other funding efforts going forward. Due to the rapid fluctuation of funding available for this type of project other funding sources will be explored but no clear leads are on the docket as of October 2025.

Indigenous Data Sovereignty project, ongoing. The Indigenous Data Sovereignty report, written in partnership with the NERRS Science Collaborative, has now expanded to 6 modules, one more webinar (in addition to the short interview-style webinar released fall 2024) and at least 2 more planned 'modules' expanding the discussion to include Hawai'i and Alaska indigenous communities. The core six modules are slated for public release on the NERRS Science Collaborative website before the end of calendar year 2025. There has been interest shown from various partners, stakeholders, and other Reserves to expand the current end products as more applications are brought forward.

Pacific Marine and Estuarine Fish Habitat Partnership Involvement, ongoing.

Communications Committee – the TEP Coordinator is on the PMEP Communications Committee and has been assisting with gathering background information and input on an upcoming story map of the Yaquina Bay, slated for release in early 2026.

Annual meeting – the TEP Coordinator was invited to do a lightening talk at the annual PMEP meeting (attending virtually) September 9-10, 2025. The talk

covered the Reserve and T& E Program mission, scope of projects (of interest to PMEP), and highlighted the Wasson restoration project.

Teachers on the Estuary (assisted) workshop, July 14-17, 2025. The TEP Coordinator assisted the Education Coordinator Jaime Belanger in hosting the Oregon cohort of the Teachers on the Estuary workshop in July 2025. There was a focus on indigenous knowledge and co-stewardship per the participant's request. Jesse Beers of the Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians came to the Reserve and delivered a talk on his Tribe's history, traditional activities (then and now) and the ongoing cultural revitalization. The TEP Coordinator gained insight into additional education techniques, resources for creating curriculum, and networking for future workshop support.

Coos Bay heritage resilience project, August 20, 2025-present. The Reserve received an invitation to participate (as part of the wider Coos Bay area community) in the 'Community-wide disaster resilience planning group for heritage and cultural services', headed by the Institute for Policy Research and Engagement (IPRE). Coos Bay is the last community (of five) in Oregon to go through this planning process. The TEP Coordinator attended the kickoff meeting and after learning more about the program decided that the Reserve will only be involved as an end-user (interested in reading the findings of the project) as the project scope is outside the Reserve's jurisdiction and assets.

SCIENCE and STEWARDSHIP PROGRAM UPDATE
August 1st, 2025 – October 31st, 2025

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

MONITORING

NERRS System-Wide Monitoring Program (SWMP)

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

SWMP Data:

Science staff completed monthly field and lab work associated with the water quality, meteorological and nutrient long-term primary monitoring stations. This included monthly and quarterly station maintenance, data uploads, instrument cleanings and calibrations, and data submissions to the NERRS SWMP Centralized Data Management Office (CDMO). Quarterly submissions for water quality and meteorological data were submitted 8/1/2025 and 11/1/2025. Annual submissions for 2024 data were completed on 4/17/2025 (water quality) and 5/15/2025 (weather). Annual submission for nutrient data were due on 6/17/2025; however, the nutrient data results continue to be delayed from University of Washington Marine Chemistry Laboratory. Spring 2025 meetings with UW attributed delays to UW oceanography cruises with grants, prioritization of UW academic/student samples, and lack of laboratory assistant (no FTE). In addition, some samples had to be rerun due to processing issues. In June 2025, SSNERR received nutrient results for August, September, November, and December 2024. These four months for 2024 have been converted to final units (mg/l) and qa/qc'd for submission. 2024 field grab data, bacteria, total suspended solids, and chlorophyll a parameters have been entered and verified. There are still 8 months of pending nutrients results for 2024. Beginning August 2025, staff have been sending nutrient samples to Moss Landing Marine Lab

(MLML) chemical oceanography lab in Moss Landing, CA with a one year contract in place. SWMP data submissions include data that have undergone several levels of quality assurance and quality control (QA/QC) procedures, metadata development, calibration and field logs, and instrument and sensor inventories. After annual data reviews are completed, datasets are authenticated, having undergone tertiary review and are available as final authoritative data. SWMP data for the SSNERR and other Reserves are accessible online at nerrsdata.org.

Staff are working on installing new pilings for Charleston Bridge and Valino Island water quality stations with funds from NERRS IRA. The Reserve is working with contractor, Oregon Marine Construction with steel pilings procured and installation planned for November 4-5, 2025. Staff acquired all the permits with partners, including ODSL, US Army Corp of Engineers, tribal preservation officers, NOAA Office for Coastal Management, and National Marine Fisheries Service for environmental compliance. Staff prioritized spend down of the remaining NERRS IRA funds.

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

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

Science staff are collaborating with education and tribal partners on a new 7,000 square feet Natural Sciences exhibit with Oregon Museum of Science and Industry about climate change and wetland restoration for Spring 2026. Project partners conducted on site interviews, and eelgrass monitoring and restoration lab and fieldwork demonstration 10/23/2025 with science staff and tribal partners from CTCLUSI, CIT, and CTSI along with OMSI exhibit developers and film producer Julianne Sato-Parker.

CDMO Data Management:

The Centralized Data Management Office (CDMO) is the technical support team dedicated to data management activities associated with the SWMP data collected at the 30 reserves. Recent activities of the CDMO include supporting data management for Wetlands and Water level vegetation and sediment monitoring datasets, including standardized templates for Surface Elevation Table (SET) data, nutrient laboratory intercomparisons, and implemented a new SWMP data DOI for citations (https://doi.org/10.25921/vw8a-8031).

SWMP Status Reports:
The Reserve system developed tools for creating Annual Status Reports on water quality, nutrient, and weather summaries for each Reserve. The CDMO provides the R software package for download and updates files annually. Matt Dornback, Environmental Scientist with the Office of Coastal Management prepares the status report files for the Reserve system. The Reserve completed a SWMP status report for 2024 data in October 2025, after receiving the 2024 annual package from OCM mid-September.

NERRS SWMP Syntheses:
South Slough participated in a NERRS wide SWMP data synthesis project. The synthesis project team was led by Kait Reinl (Lake Superior), Robert Dunn (formerly North Inlet-Winyah Bay), and Kim Cressman (Catbird Stats, contracted through OCM) to understand trends and drivers of change in hypoxia and eutrophication across the NERRS, with a manuscript submitted to Nature, Communications Earth & Environment in August 2025. A multi-Reserve (21 Reserves, including SSNERR) collaborative research proposal, *SWMP SURGE: SWMP Synthesis for University Research Graduate Education* was funded by the NERRS Science Collaborative in August 2025 then funding was rescinded for all NERRS Science Collaborative projects due to funding cancellation for the NSC program. The He‘eia Reserve is continuing work on swmp analyses with Reserve partners participating in a pilot version of the course for working with graduate students conducting time-series and statistical analyses using SWMP data to investigate research questions submitted by participating Reserves. SSNERR staff will mentor two pairs of graduate students, with one pair studying impacts of restoration and the second pair looking at impacts of storm pulses.

Climate Reference Network:

The NOAA Climate Reference Network station at Frederickson Marsh collects air temperature and precipitation data as part of a US network of over 130 climate monitoring stations. Staff completed maintenance for the station rain gauges in March 2025 and for air temperature sensors in August 2025. Power to the station was turned off late July 2025 due to helicopter log placement for the Wasson restoration project on 7/25/25. NOAA staff completed annual station maintenance October 2025. Two of three air temperatures sensors were not functioning, and NOAA staff replaced sensors. Data are available for this station (OR Coos Bay 8 SW) at: ncdc.noaa.gov/crn/current-observations.

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

Volunteers from the Surfrider Foundation use the lab for their monthly monitoring of fecal indicator bacteria (*Enterococcus sp.*) at four local beach sites (Miner Creek -Bastendorff Beach, Bastendorff Beach primary, Big Creek - Sunset Bay, and Sunset Bay primary. One additional site was added in Fall 2025 – Lighthouse Beach.

Eelgrass Monitoring:
SSNERR science staff, interns and volunteers conducted quarterly eelgrass sampling at Valino Island in October 2025 using the SeagrassNet sampling protocol. MarineGeo/SeagrassNet is an international monitoring program established to document the status and health of seagrasses. Eelgrass abundance declined at the permanent monitoring plots at Valino Island in 2015 with little natural recovery; however, plots at the lowest depth transect have shown an increase in abundance with some evidence of natural recovery at depth. Staff observed *Zostera japonica* (non-native eelgrass) in one of the shallow depth plots, for the first time. Science staff and collaborators completed projects to investigate environmental factors contributing to the declines, with air and water temperature, watershed disturbance and turbidity found to be primary drivers of eelgrass declines. Staff are working on collaborative projects to understand seed-based restoration methods, develop national Submerged Aquatic Vegetation

protocols and data syntheses, and plan for pilot seed-based and vegetative restoration projects for Summer 2026.

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

The NANOOS 5-year award (FY21-25) to sustain the Pacific Northwest component of the US IOOS, includes funding to support South Slough, OR Estuary Observations. Staff submitted Year 5/FY2025 Scope of Work, Budget and Justification, Indirect Cost Rate Agreement (nothing requested for SSNERR), and signed institutional letter on 9/22/2025.
South Slough received additional funding from the NOAA Inflation Reduction Act for replacement of a piling, sensors, and boat trailer. Since both of the pilings could be replaced with NERRS IRA funds, staff have re-prioritized these funds for water quality equipment and station hardware, boat trailer, and UAS sensors. The IRA progress report for 2/1/2025-7/31/2025 was submitted August 2025.

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

SSNERR is partnering with the Southeast Coastal Ocean Observing Regional Association (SECOORA) on their Web Camera Observation Network to host a beach webcam at Bastendorff Beach County Park overview for recreational beach use (surfing, boogie boarding, beach combing, razor clamming, fishing off jetty), and shoreline change. Staff met with Bastendorff county park stakeholders and Oregon Coast Security on 10/14/205 to understand site logistics for the web camera installation and future maintenance.

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

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

Biomonitoring (precent cover, stem density and height) for herbaceous vegetation began in the previous reporting period. Between the two periods, all data were collected at MM, VM, HC, DP, FS and WM. Data related to sediment dynamics are collected annually at all eight marsh and one forested swamp sites. Staff completed quarterly eelgrass monitoring in October 2025 at the Valino Island long term monitoring plots with data collection including cover of macroalgae and eelgrass, vegetative and flowering shoot density, canopy height, sediment cores, and the exchange of Hobo temperature sensors at two transects.

In this reporting period, deep rod surface elevation table (RSET) and soil accretion data were collected at three of the marsh sites (DP, WM, FS) and the forested swamp site (Winchester Spruce Swamp (WS)). New marker horizon plots were installed at MM, FS, WM and VM using feldspar.

Elevation data (via real time kinematic (RTK) GPS or laser level) is collected at all RSETs (29 total) annually, and groundwater wells and biomonitoring plots where data was collected that year (including eelgrass plots). In this reporting period, elevation data was collected at VM, Valino Island (VI), FS, WS, HC, WM, DP, and Danger eelgrass bed.

A tide gauge with water level sensor will be deployed in Winchester Creek, near the Hidden Creek marsh sentinel station to collect high-precision (mm) water level data to meet requirements of South Slough Reserve's Sentinel Sites project goals. Staff have received the NOAA Nile microwave radar sensor and telemetry system, worked with NOAA National Ocean Service, CO-OPS for assistance with a custom data logger program and system configuration with help from the Chesapeake Bay, MD and Pacific Operations Branch, Seattle, WA, and are planning for sensor installation this fall. In July 2025, staff met with NOAA Tides and Currents, Pacific Operations Branch Scientist to see the Charleston National Water Level Observation Network station and sensor. The Charleston NWLON is collecting data with an AquaTrak acoustic sensor side by side with a Nile microwave sensor as they phase out of the acoustic sensors. Staff acquired a system use agreement and real-time platform transmission information for the tide gauge station data management. Staff are working with the NANOOS data management team for real-time hosting of the tide gauge station as an asset on the NANOOS Visualization System. Staff completed reconnaissance for planning leveling surveys using Hidden Creek marsh benchmarks on 9/29/25 at Hidden Creek. Staff are planning for the Nile sensor installation Fall 2025.

In October, staff hosted an Estuarine Ecology class from Oregon State University with 27 students, to learn about the SWMP and WWL programs. This took place at the Hidden Creek watershed and demonstration marsh for hands on learning related to vegetation cover and species composition, and wetland sediment dynamics, followed by presentations in the SSNERR Visitor Center auditorium.

In addition to the Wasson Restoration Project, SSNERR Wetlands and Water Levels data are being used in three National Estuarine Research Reserve System Science Collaborative projects: "National Synthesis of Tidal Marsh Response to Sea Level Rise", "Drone the NERRS" and "Understanding Tidal Wetland Restoration at the Oldest Projects Along the West Coast". See partner projects below for more details.

Wasson Watershed Monitoring:

The Wasson Monitoring Plan outlines the research questions, hypotheses, parameters and methods recommended to understand the Wasson Ridgetop to Valley Restoration Project. During this reporting period, the monitoring team met approximately monthly to provide technical assistance to leads responsible for implementing actions within the plan, prioritize areas for future research publication, and organize tasks for the 2026 field season.

Monitoring efforts at Wasson and nearby reference sites in this reporting period include the following data collection and processing activities: quarterly downloading of data loggers at 35 groundwater wells (which collect groundwater depth, temperature, and salinity (tidal areas only)), quarterly download of 12 stream temperature data loggers, monthly download and battery exchange of 40 wildlife camera traps, monthly stream nutrient grab samples (for quantifying nitrogen and phosphorous) at two locations, continuous (15-minute) data sonde turbidity, conductivity and temperature measurements at two sites, including monthly instrument recalibrations, biweekly soil moisture readings (x132 measurements each time), nurse log crib monitoring (crib volumes, elevations and condition, and woody plant survival and basal branching), lamprey population surveys, mosquito population surveys, channel morphology measurements, downloaded and serviced soil temperature loggers, vegetation cover and species composition data collection, real-time kinematic GPS elevation data collection, collected photopoint images, greenhouse gas chamber measurements, forest plot re-establishment and monitoring following thinning implementation, maintenance of upland microclimate stations, and high-precision elevation measurements of various infrastructure throughout the Wasson valley, and UAS work. GIS staff, using Uncrewed Aerial Systems (UAS) and high precision GPS data collection have additionally collected multispectral, thermal infrared, and lidar data to assist with monitoring changes to vegetation, surface temperature, wetland elevation, and channel morphology. This reporting period, images were analyzed for log placement, channel density, spatial heterogeneity, thermal, UVVR and elevation.

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

Western Lily 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. During this monitoring period, science staff and interns conducted the annual population count and collected images at permanent photopoints.

Lamprey Monitoring:
The South Slough watershed hosts at least two native species of lamprey (western brook and Pacific). We have been collecting annual abundance data at three permanent sites in the Winchester Creek basin since 2018 to evaluate status of lamprey in the watershed. Population surveys were conducted August 2025 at three permanent plots (West Fork Winchester Creek, Winchester Creek mainstem, and Wasson Creek). Staff are beginning to analyze the data to determine population trends.

RESEARCH

SSNERR Projects

Studying the Changes in the Fish Community of the South Slough Estuary:
South Slough Research Coordinator Shon Schooler is working with a University of Oregon Clark Honors School undergraduate student, Jade Peairson, on a project looking at how the South Slough fish community has changed over 40 years. We are replicating methods that were conducted in 1987 and 2016-2017. We found a large decrease in diversity, abundance, and biomass from 1987 to 2016 and are interested to see how the community has changed since 2017. We have completed 30 fish seines at 6 locations in the estuary from June through October 2025. Jade, with assistance from Shon, will analyze the data and complete a dissertation by May 2026. Jade will present preliminary research results at the Oregon State of the Coast conference November 14-15, 2025, Southwestern Oregon Community College, Coos Bay, OR.

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

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

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

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

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

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

We are also partnering with Dr. Cat De Rivera (PSU) on a project studying predation rates of 5-spine crabs on juvenile Dungeness crabs. This involves

tethering juvenile Dungeness crabs in areas with varying abundance of 5-spine crabs and recording the number of crabs removed. We completed this experiment at 4 sites in July and August and are now analyzing the data and working on a research paper.

Shon was invited to organize a green crab breakout session at the 2025 Oregon State of the Coast conference (November 14-15, 2025, Southwestern Oregon Community College, Coos Bay). He has solicited presentations from nine researchers (PSU, OSU, ODFW, UO-OIMB, DSL-SSNERR) who will give updates on the ecology, impacts, and management of 5-spine green crabs along the Oregon Coast.

Margaret A. Davidson Fellow Research:
Lizzie Diehl is our 2024-2026 Margaret A. Davidson Graduate Fellow. She is a graduate student at the Oregon Institute of Marine Biology (OIMB) and Dr. Aaron Galloway is her university advisor. She started her Fellowship with South Slough on August 1, 2024 and plans to finish her dissertation in 2027. She is studying the food webs associated with 5-spine green crabs using novel lipid analysis and eDNA metabarcoding.

Eelgrass Pilot Transplant at Valino Island, South Slough Estuary:
In October 2025, science staff completed quarterly monitoring of eelgrass transplanted from Clam Island to Valino Island in plots along an elevation gradient (deep, low, mid) and planted during different seasons to understand the potential to restore intertidal eelgrass to Valino Island using adult vegetative transplant methods. Transplanted plots at the lowest elevation transects have higher eelgrass abundance with deep and low elevation plots maintaining planting densities. The highest elevation plots (mid intertidal) are bare or have low eelgrass densities. As of October 2025, plots planted in the summer and fall have higher eelgrass abundance while winter and spring plots have lower abundance. Staff are planning for project statistical analyses with eelgrass restoration spanning 5 years, for effects of temperature and depth on eelgrass restoration abundance.

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

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

Partner Projects

The Partnership for Coastal watersheds

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

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

- The PCW continues to be a proponent and supporter for local governments to update the Coos Bay Estuary Management Plan.
- The PCW continues to be a sounding board for researchers doing work around the Coos estuary. Dr. Matt Brand (Louisiana State University) is leading a NOAA-funded project to enable our community to understand how much effect tidal wetland restoration might have on reducing storm- and extreme tide flooding in the Coos Bay area. Dr. Brand is currently working to quantify costs and benefits various scenarios for Coos Bay adaptation actions, including enhancement of levees, dredging, and dike removal scenarios. The PCW is acting as a local technical advisory group and will assist with hosting an in-person workshop in early 2026.

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

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

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. The project wrapped up during this reporting period. Staff have received final products and have helped with a formal publication.

Native Olympia Oyster Collaborative (NOOC):
This collaborative group, led by Kerstin Wasson and April Ridlon (Elkhorn Slough NERR), completed a synthesis of success of past Olympia oyster

restoration projects to share lessons learned and to identify the practices and environmental conditions that predict the best restoration outcomes. The NOOC developed oyster mapping tools and continues to serve as a useful networking group for Olympia oyster updates, collaborative research opportunities, and conferences. West Coast Reserves, including participation by South Slough NERR and NOOC collaborators completed an oyster elevation distribution project to understand how and why the upper intertidal limit of Olympia oyster distribution varies across its range. A manuscript including data from British Columbia to Mexico was published in April 2025 in Marine Environmental Research by project lead Kerstin Wasson, Elkhorn Slough Reserve, five Reserves, and 20 additional collaborators: *Setting the Limit: Cold Rather Than Hot Temperatures Limit Intertidal Distribution of a Coastal Foundation Species* https://doi.org/10.1016/j.marenvres.2025.107149.

Staff are participating in the NOOC Steering Committee meetings in October and November 2025 for planning future collaborative grant funded research projects. More information about oysters can be found at the Olympia & Pacific Oyster Data Portal and the Native Olympia Oyster Collaborative.

Eelgrass Biophysical Model and Ocean Acidification and Hypoxia Vulnerability:

The Reserve collaborated on a research project funded through the Oregon Ocean Science Trust (OOST) to evaluate the interaction of water quality and eelgrass in the Coos estuary using a biophysical model. The project was led by University of Washington (Tarang Khangaonkar, Caitlin Magel, and Adi Nugraha) with collaborators at the University of Oregon (Sutherland), CTCLUSI (Niessner), and South Slough Reserve (Helms, Belanger). Magel and the project team published a manuscript *Biophysical model of eelgrass and water quality in Coos Bay,OR shows greater mitigation potential for ocean acidification than hypoxia* in Frontiers in Marine Science https://doi.org/10.3389/fmars.2025.1585621. Project partners and NERRA completed an outreach story *Modeling the Power of Eelgrass in Coos Bay* for the model results, and NERRA featured the article in the August newsletter.

Understanding Tidal Wetland Restoration at the Oldest Projects Along the West Coast:
This NERRS Science Collaborative-funded project, nicknamed MAREA (Mature Restoration Analysis) led by Dr. Chris Janousek from Oregon State University (OSU), is a collaboration across California, Oregon, and Washington, and includes four west coast Reserves. The project is researching the status and trajectory of the oldest regional tidal wetland restoration projects to better understand restoration efficacy and outcomes to inform future restoration efforts. During this reporting period, staff provided comments on publication revisions and were accepted to present this work at the Oregon State of the Coast conference in November.

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

Seagrass Seed-based Restoration
The Reserve was a partner on a NERRS Science Collaborative transfer project *Communication and assessment of seagrass seed-based restoration techniques* being led by Torrance Hanley at Sacred Heart University in CT with additional partners at Padilla Bay NERR, WA, Long Island NERR, CT, University of Oregon, Oregon State University, and Washington Department of Natural Resources. The project informed seed-based restoration of

eelgrass through surveys and interviews of restoration practitioners, a workshop to exchange information and establish a network of restoration end users, and a StoryMap of the outputs and seed-based restoration project examples. Results from surveys to gather input on seagrass restoration using seed-based methods along with two virtual workshops to understand priorities around seagrass restoration in the Pacific Northwest led to collaborative grant funded research through Oregon Sea Grant and intern projects for Summer 2026. Results from this NERRS science collaborative catalyst are being synthesized for a manuscript, led by project PI Hanley.

Research Support

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

Measuring Greenhouse Gases:
South Slough staff are working with researchers at the University of Oregon (led by Dr. Lillian Aoki) on a project titled Convergence to Accelerate Research on Biological Sequestration (CARBS). The CARBS research project aims to better understand how carbon flows across coastal landscapes with the goal of using this information to inform restoration, conservation, and management strategies. In summer 2025 we worked with the project team to install an eddy covariance tower at a coastal marsh (Toms) within the South Slough Reserve, with the goal of improving understanding of carbon fluxes (including carbon dioxide and methane). Eddy covariance (EC) towers are instruments used to measure land-atmosphere fluxes of carbon across different ecosystems. The system will measure greenhouse gases in South Slough marshes until 2028.

Marsh Carbon Sequestration Calculator:
The Reserve is collaborating on a NERR Science Collaborative project that continues carbon flux research, called Phase 2 Blue Carbon Research. The project is being led by Craig Cornu (Institute of Applied Ecology) with numerous collaborators from Oregon State University, University of Oregon, Western Washington University, Pacific Northwest National Laboratory, and the Padilla Bay NERR. This research is primarily aimed at

measuring methane emissions from estuarine wetlands along salinity, temperature, and land-use gradients. It also includes assembling a database of carbon stocks for west coast tidal wetlands. The study includes sites in South Slough and Coos estuary. An internet-based carbon sequestration calculation tool has been developed for natural and restored marshes and is currently being tested and finalized.

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

Fish and Invertebrate Population Dynamics in Restored, Natural, and Mudflat Habitats:
The Reserve is providing technical assistance to Oregon State University PhD graduate student Olivia Boisen (Heppell lab, 2023-2027), who is researching ecosystem functions of restored eelgrass beds with two sites in the Coos estuary, North Bend Airport and Valino Island, South Slough. The project received funding from PMEP, Assessing Seagrass Restoration Effectiveness on Fish Communities, OR (2025) with the Reserve as a project collaborator. Boisen is presenting preliminary research results for Oregon State of the Coast conference November 14-15, 2025, Southwestern Oregon Community College, Coos Bay, OR.

STEWARDSHIP

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

- Invasive plant management
    - Volunteer stewards, Coos Watershed Association, Swanson Ecological (contractor) and OIMB students (Coastal

Environmental Science Class) helped manage invasive plants in restored wetland, riparian and upland forest sites. Species include cotoneaster, Himalayan blackberry, thistles, foxglove, Scotch broom and reed canary grass.

- Nurse crib completion
    - A total of 33 nurse cribs have been created in zone 1 tidal area to reestablish tidal forested swamp in this low salinity tidal wetland. Cribs made during this period will be planted at a volunteer stewardship event on November 8th.
- Cultural or Traditional Garden planning
    - Staff are working with Confederated Tribes of the Coos, Lower Umpqua and Siuslaw Indians (CTCLUSI) to plan, develop and co-steward an area of the Wasson restoration site. This cultural or traditional garden will have a high diversity of culturally important species and will be used to practice co-stewardship and provide tribal members access to plants for cultural use and education. The Coquille Indian Tribe has requested that the Reserve provide regular updates and shares opportunities for involvement, which the Reserve has done and will continue to do.
    - CTCLUSI are advising on potential agricultural contaminant testing, which the Reserve is planning to move forward with.
- Upland implementation completed to date:
    - 199 acres thinned; thinning releases competition for trees to grow faster and healthier
    - 31 forest gaps created; forest gaps provide important habitat and food for wildlife and pollinators
    - 38 habitat piles created; habitat piles provide benefits for wildlife such as shelter, cover from predators and areas for nesting
    - Research access trails opened. These are unimproved trails that allow access for research and stewardship to monitoring and planting locations. Without this access these tasks would be impossible (e.g., lop and scatter forestry methods result in downed wood that is difficult and unsafe to traverse)

Stewardship Collaboration Within the NERRS and Meaningful Co-stewardship and collaborations with Tribes:
The Reserve Stewardship Coordinator (SC), Alice Yeates continues to engage with the NERRs through collaborative research projects (e.g., National Marsh Synthesis Team) and working groups (e.g., Uplands Working group, Estuaries and Sovereignty Working Group). Alice attended the sector meeting, held in Weeks Bay, Alabama, Oct. 21-23rd. This was the first year that the annual NERR wide meeting was separated into sector meetings. The meeting provided a space for collaboration with experts across the country, problem solving to tackle local challenges, the sharing of new ideas and lessons learned, and building relationships which sustains peer support.

The Staff continue to work with THPO prior to new soil disturbance activities, minimizing the likelihood of damaging cultural resources in the Reserve. The NERR Science Collaborative Catalyst Grant Proposal (Lead Reserve Waquoit Bay NERR) "Re-igniting fire stewardship across the reserves and local landscapes," was recommended for funding. Unfortunately, the NERR Science Collaborative subsequently lost funding to support any grants. This project was to support SSNERR, CTCLUSI and Coquille Indian Tribe in fire stewardship in our community. The Reserve will continue to look for ways to support this.

Invasive Species:
The SSNERR South Slough Stewards program is partnering with the Friends of South Slough (FOSS) in 2025 to co-lead Saturday Stewards Program. In August, stewards conducted the annual removed of purple loosestrife plants from Barview (620 plants removed). Removal from this site reduces risk of invasion in the South Slough watershed. There is a population of purple loosestrife in the above drainage area that is not managed by the Reserve and is on Port owned lands. Future collaborations with the Port would help in managing this site. During the September program, stewards removed invasive thistles from the Wasson Creek restoration project area.

INTERSHIPS

Irelyn Gibbs and Justin Gray (Southwestern Oregon Community College, Agroecology Program, Oregon Sea Grant Funded Interns) are interns working with Shon Schooler to develop potential commercial uses of 5-

spine crabs as a management method and draft a business plan. Their internships were completed on August 30, 2025.

Olivia Mendoza (Smith College, NOAA's College-Supported Internship Program) was an intern splitting her time working with Jenni Schmitt on estuary research and monitoring, and Jaime Belanger to implement education and outreach programs. Her internship was completed on August 1, 2025.

Annika Vikstrom (Middlebury College, NOAA's College-Supported Internship Program) was an intern splitting her time working with Jenni Schmitt on estuary research and monitoring, and Jaime Belanger to implement education and outreach programs. Her internship was completed on August 15, 2025.

Catelyn Toney (Oregon Sea Grant Internship Program) was an intern splitting her time working with Jenni Schmitt on estuary research and monitoring, and Jaime Belanger to implement education and outreach programs. Her internship was completed on August 29, 2025.

Isaac Adams (North Bend Highschool, Oregon STEM Hub Program) will be working with Jenni Schmitt on estuary research and monitoring activities this summer. His internship was completed on September 12, 2025.

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

COMMITTEES AND WORKGROUPS

Local (Oregon)

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

Coastal Native Seed Partnership Committee:

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

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

Coos Bay Estuary Management Plan (CBEMP) Technical Advisory Committee:
Shon serves on the CBEMP Technical Advisory Committee (TAC) which provides scientific, regulatory, and professional expertise to support land use planning and policy updates. Its role is to review technical studies, data, and regulatory requirements, and to advise decision-makers on whether proposed plans and updates are consistent with environmental standards, best practices, and legal mandates.

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

Coos Watershed Association Technical Advisory Committee:
Jenni Schmitt, Alice Yeates, Shon Schooler, and Ali Helms participate on this committee to provide technical feedback on a variety of restoration and monitoring projects.

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

Oregon Coast Artisan Trade Education Collective (OCATEC):
Shon Schooler is on the board of OCATEC. This organization develops training around trade skills, including aquaculture, with a focus on sustainability, community resilience, and circular economic principles.

Oregon 5-spine Crab Management Plan Steering Committee:
Shon Schooler is assisting on this committee which is overseeing the development of Oregon's green crab management plan. The committee is led by Dr. Catherine de Rivera (PSU).

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

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

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

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

South Coast Lamprey Working Group:

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

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

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

Local (SSNERR)

SSNERR Diversity, Equity, Inclusion Committee:
There is one science or stewardship staff representative on the Reserve's DEI Committee. This committee is assessing and identifying ways to improve diversity, equity and inclusion in all areas of the Reserve. The committee's goals focus on dismantling systemic racism and increasing the inclusion of underrepresented and marginalized communities. In October 2025, the committee submitted a Letter of Intent to Oregon Parks and Recreation Department, which was accepted for developing a proposal for Advancing South Slough Reserve Trail Improvement.

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

Regional

Pacific and Estuarine Research Society (PERS) and Coastal and Estuarine Research Federation (CERF):
Jenni Schmitt is the Oregon at-large representative for PERS. PERS is the regional chapter of CERF. The PERS board meets regularly to plan the annual PERS conference. Due to travel restrictions and loss of federal funding, the spring 2025 in Florence, OR was canceled. The board is in the process of planning a mini-meet up for Oregon PERS members this fall.

Pacific Marine and Estuarine Fish Habitat Partnership (PMEP) Data and Science Committee:
Ali Helms joined this regional workgroup for providing technical input and expertise from an Oregon perspective related to eelgrass habitats. Staff virtually attended the Data and Science committee meeting September 4, 2025 and the annual meeting September 10 and 11, 2025, hosted in Bellingham, WA. PMEP is hosting a Data Tools training with the Tijuana River NERR on November 4 and 5, 2025.

National

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

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

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

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

NERRS Restoration Monitoring Team
Alice Yeates, Jenni Schmitt, and Ali Helms participate in this workgroup that meets monthly, led by Becky Swerida (Cheasapeake Bay, MD) to share information about restoration monitoring protocols, restoration projects implemented across the Reserve system, and plan for 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, 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 Workgroup received funding for a NERRS Science Collaborative Catalyst proposal to develop national monitoring protocols for SAV and pilot data syntheses in August 2025; however, the funding was rescinded.

The workgroup met in September to strategize plans to move forward with advancing SAV through other avenues until additional funding opportunities become available.

NERRS Upland Stewardship and Monitoring Working Group:
Alice Yeates co-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. During the SC Sector Meeting in October this group met and shared upland monitoring protocols and challenges. This will inform NERR wide upland monitoring protocols.

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

Research Papers

Janousek C, Williams T, **Schmitt J**, Poppe K. 2025. Elevation, vegetation, and soil salinity in restored and reference tidal marshes in California, Oregon, and Washington, 2023-2024. Dataset. *Knowledge Network for Biocomplexity*. doi:10.5063/F12V2DMG

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

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

Reinl, KL, Dunn, R.P., Cressman, KA, Collins, T, DeBose, JL, Friedrichs, CT, **Helms, AR**, Kinkade, C., Krask, JL Parrish, DB, Nicklay, HN, Justin

T. Ridge, JT, Sanger, DM, Jacob A. Cianci-Gaskill, JA, Dix, NG, Grothues, TM, McMurray, SE, and C. Peter. 2025. In Situ Observations Reveal Continental-Scale Warming, Oxygen Decline, and Eutrophication in U.S. Estuaries. *Communications Earth & Environment,* (in review, submitted 6 October 2025).

Presentations

Helms, A. System-Wide Monitoring Program Overview and NERRS Data Access through the Centralized Data Management Office and NANOOS Visualization System. OSU Estuarine Ecology class. October 11, 2025.

Helms, A. Eelgrass and Oyster Declines: Restoration and Recovery Potential in the South Slough estuary, OR. OIMB Habitats of the Oregon Coast course. September 12, 2025.

Kirkland, J. Using drones for environmental monitoring, Coos Chapter Zonta GRITT camp for girls, STEM. August 13, 2025.

Schmitt, J. Wetlands and Water Levels: Understanding how wetlands will respond to climate change. OSU Estuarine Ecology class. October11, 2025.

Schmitt, J., Belanger, J., and Helms, A. Wetlands and Water Levels field-based outreach and data collection methods for OSU Estuarine Ecology undergraduate course, Hidden Creek, South Slough estuary. October 11, 2025.

Schmitt, J. South Slough Reserve – Project Updates. Coos Basin Partnership fall meeting. October 21, 2025.

Schmitt, J. Winchester Tidelands Acquisition Update. Coos Basin Partnership fall meeting. October 21, 2025.

Yeates, A. Wasson Creek watershed restoration and monitoring. OIMB Coastal Environmental Science course. September 18, 2025.