



DEPARTMENT OF
ECOLOGY
State of Washington

Puget Sound Nutrient Forum

July 25, 2023

Agenda

- 1 Overview of Ecology's strategy for reducing nutrients
- 2 Updates
- 3 Water Quality Nutrient Trading Report
- 4 Questions and Answers

The top half of the slide features a background of dark blue, rippling water. The text "Why we're here:" is centered in this section.

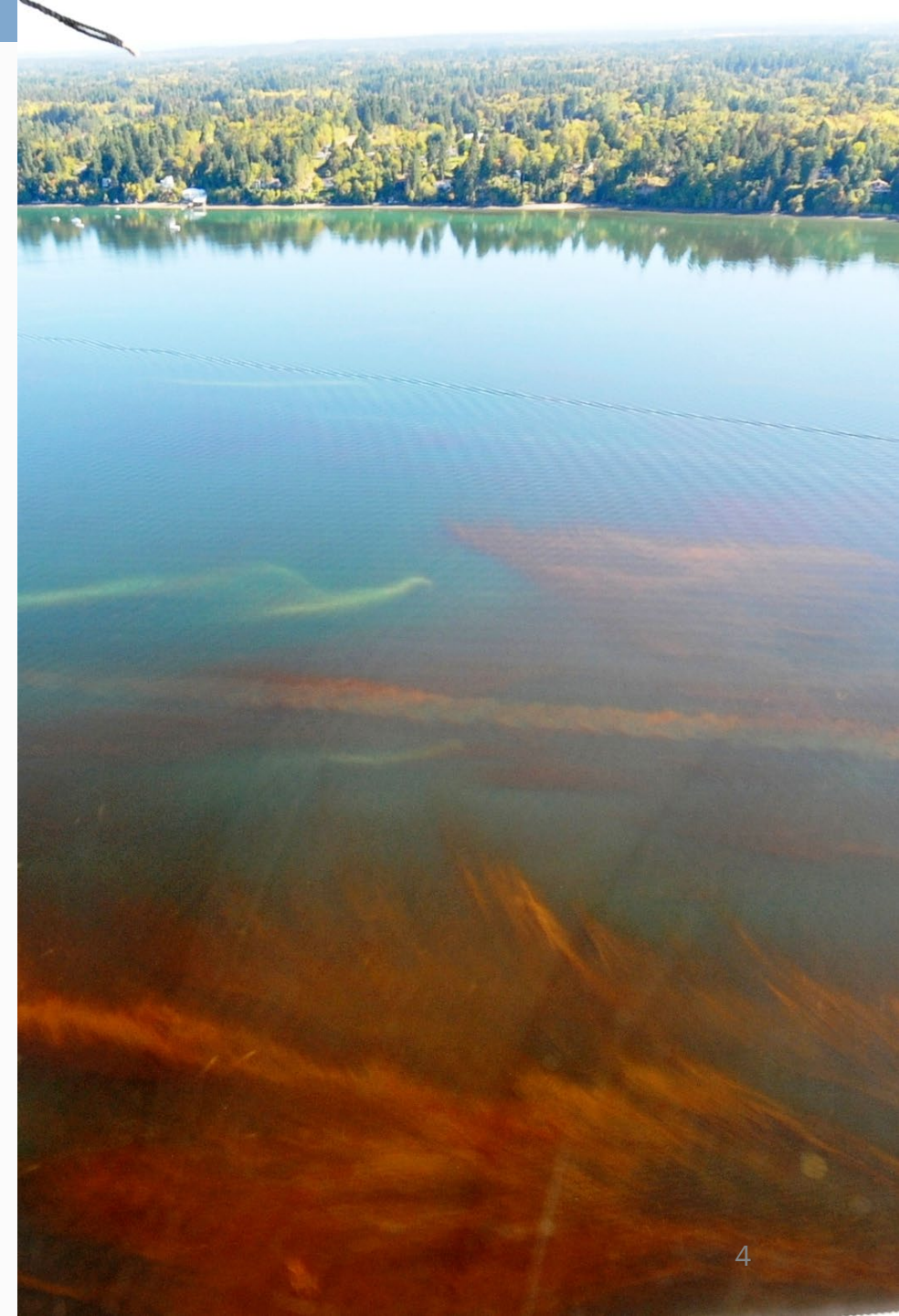
Why we're here:

to restore Puget Sound.

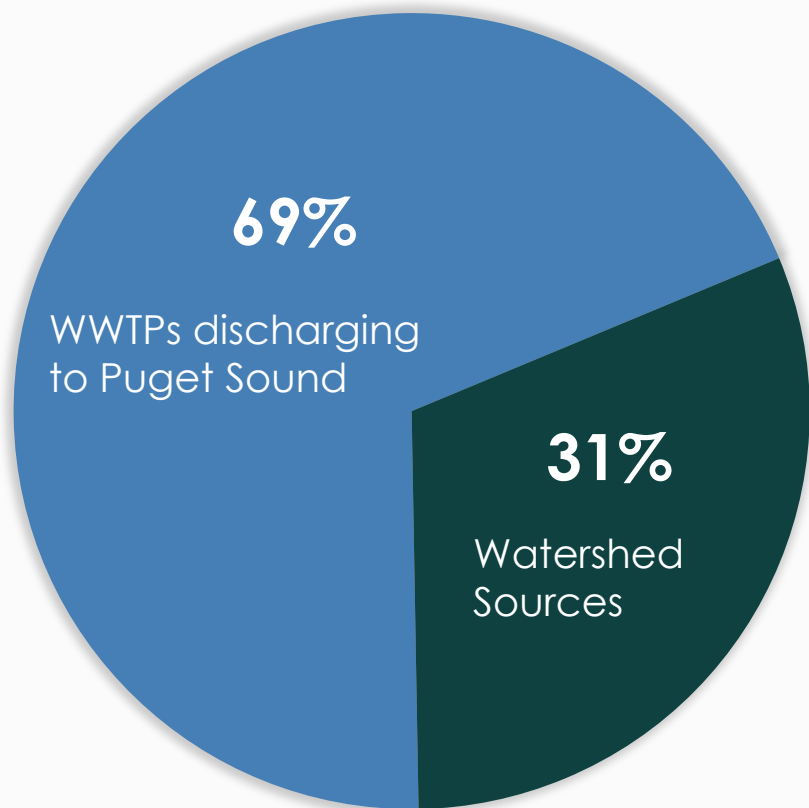
Puget Sound Nutrient Reduction Strategy

reduce human sources of nutrients

- Focus on where we can make biggest and fastest impact to meet standards
- Identify areas most sensitive to human actions
- Define reductions needed from WWTPs and watersheds



Focus on where we can make biggest and fastest impact to meet standards



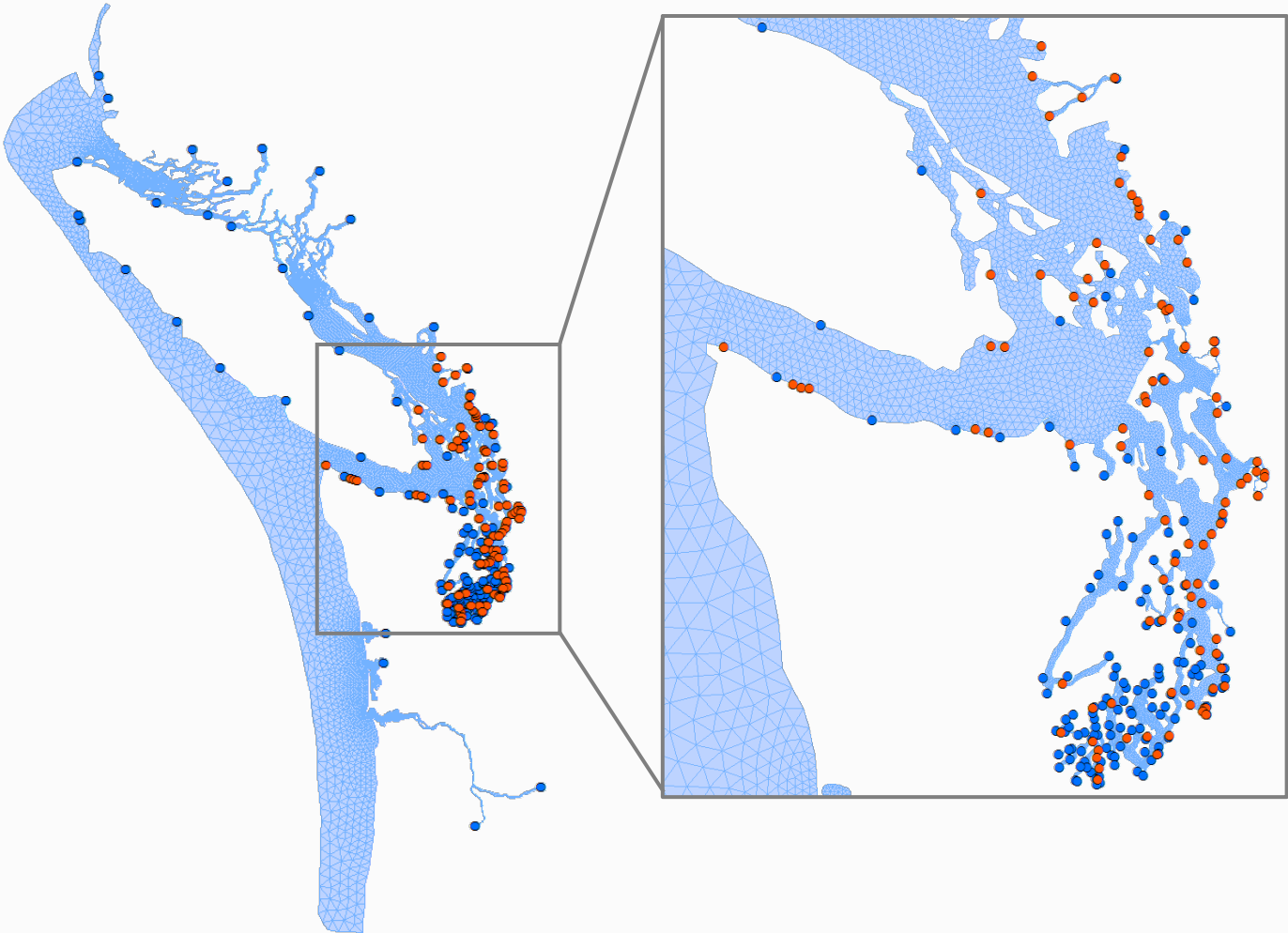
What we learned from Bounding Scenarios Report (2019):

- Confirmed human sources of nutrients exacerbate low DO
- WWTP discharges contribute most to low DO
- Watershed nutrient loads also contribute to low DO



Clean Water Act Responsibility

Define levels of reductions needed to meet standards



Marine point sources



NPDES permit limits



Watersheds



Point source targets
Nonpoint source targets

Where we're going: defining levels of reductions needed



2018 - 2019

**Bounding
Scenarios
Report**

Human sources
causing water
quality impact



2019 - 2021

**Year 1 SSM
Optimization
Tech Memo**

Findings from 1st
set of refined
model runs



2022 - 2024

**Next phase of
modeling**

Happening now-
More nutrient
reduction
combinations to
develop reduction
targets

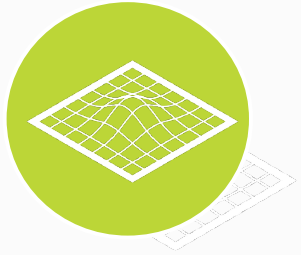


2024 - 2025

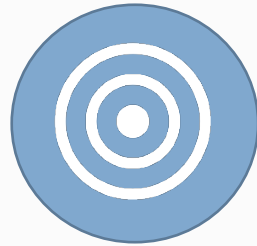
**Salish Sea
Modeling Report**

Findings from the
second set of model
runs and summary of
all the model run
findings.

Puget Sound Nutrient Reduction Plan



Modeling informs
nutrient targets



Nutrient limits
(NPDES) for
WWTPs



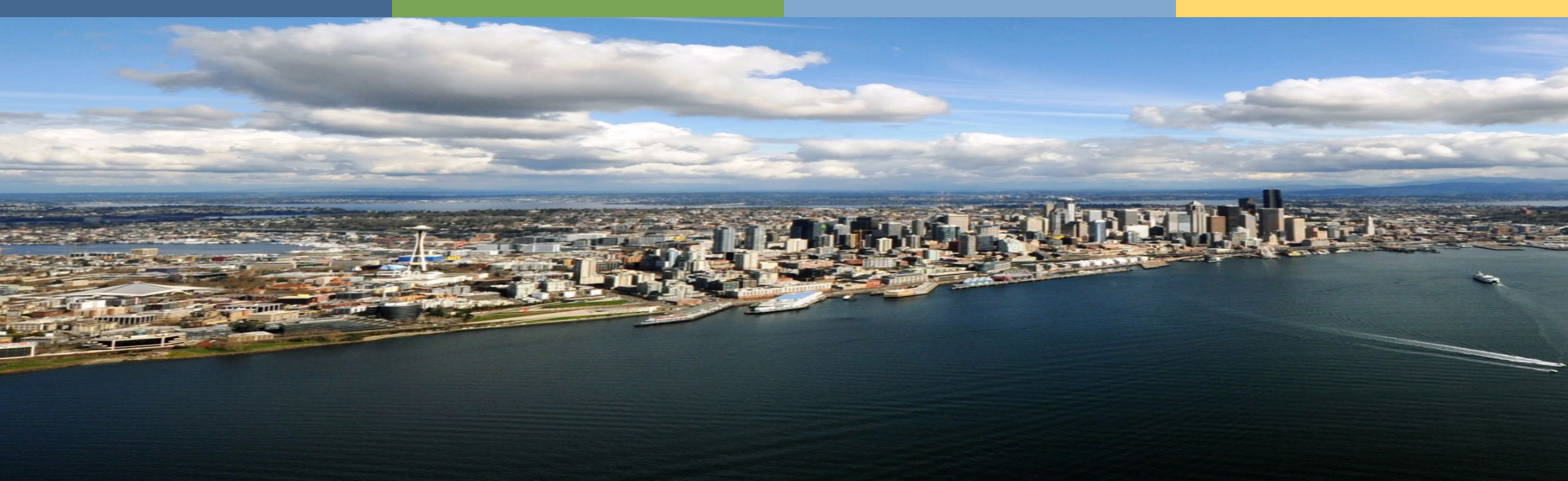
Watershed
targets



Financial &
technical
assistance



Effectiveness
monitoring &
adaptive
management



Updates

Ben Rau and Lucienne Banning

For More Information:

- www.ecology.wa.gov/nutrientpermit
- www.ecology.wa.gov/reducingnutrients



Questions?

- Raise hand or use the chat feature
- Identify yourself and your organization
- Reminder – you can rename yourself in Zoom



DEPARTMENT OF
ECOLOGY
State of Washington

Puget Sound Nutrient Credit Trading Legislative Report

Jeremy Reiman

Trading Team!



Adrien Carroll-Perkins
Former Nutrient General
Permit Lead



Melissa Gildersleeve
Watershed Management
Section Manager



Ben Rau
Watershed Planning
Unit Supervisor



Jeremy Reiman
Environmental Planner

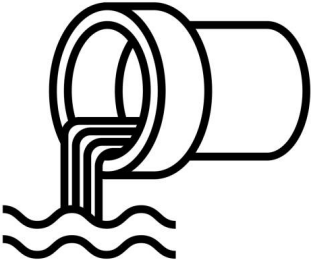
Agenda

- 1** Background
- 2** Approach to legislative report
- 3** Report recommendations
- 4** Next Steps

Water Quality Trading

- A market-based approach to meeting **water quality goals**
- Assigns **pollution reduction** activities a “credit”, which can be traded on a local market
- **Goal:** cost-effective alternative to meeting **water quality goals**
- **Objective:** facilitate exchanges of credits which can more quickly **reduce pollution and clean-up waters**

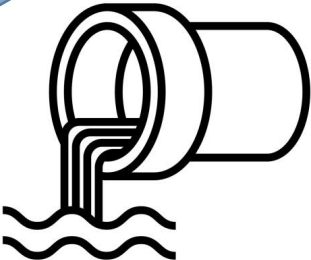
WWTP A



Permit Loading Limit

3 lbs N/day

Goal:
Attain designated uses (WQS)

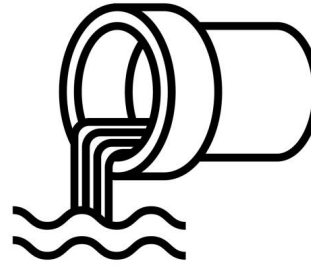


Permit Loading Limit

5 lbs N/day

WWTP B

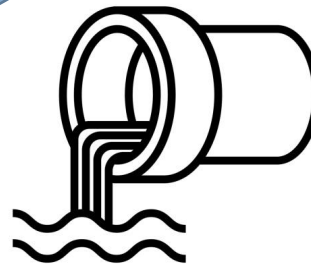
WWTP A
IN COMPLIANCE



Permit Loading Limit	3 lbs N/day
Current Loading	2 lbs N/day
Net Loading	1 lbs N/day

Goal:

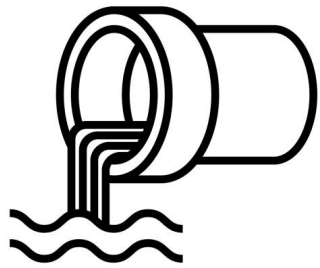
Attain designated uses (WQS)



Permit Loading Limit	5 lbs N/day
Current Loading	6 lbs N/day
Net Loading	-1 lbs N/day

WWTP B
OUT OF COMPLIANCE

WWTP A
IN COMPLIANCE

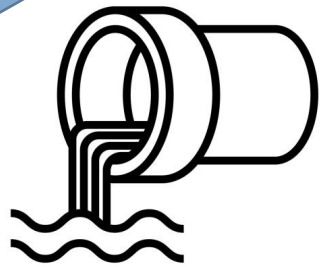


Permit Loading Limit	3 lbs N/day
Current Loading	2 lbs N/day
Net Loading	1 lbs N/day

“1 lbs N/day”
credit



\$\$\$



Permit Loading Limit	5 lbs N/day
Current Loading	6 lbs N/day
Net Loading	-1 lbs N/day

WWTP B
IN COMPLIANCE

Goal:
Attain designated uses (WQS)

WWTP A
IN COMPLIANCE

Permit Loading Limit	3 lbs N/day
Current Loading	2 lbs N/day
Net Loading	1 lbs N/day

“1 lbs N/day”
credit

\$\$\$

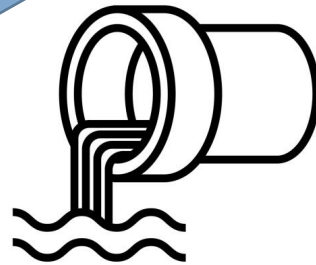
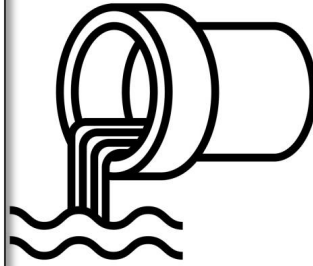


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Current Loading	6 lbs N/day
Net Loading	-1 lbs N/day

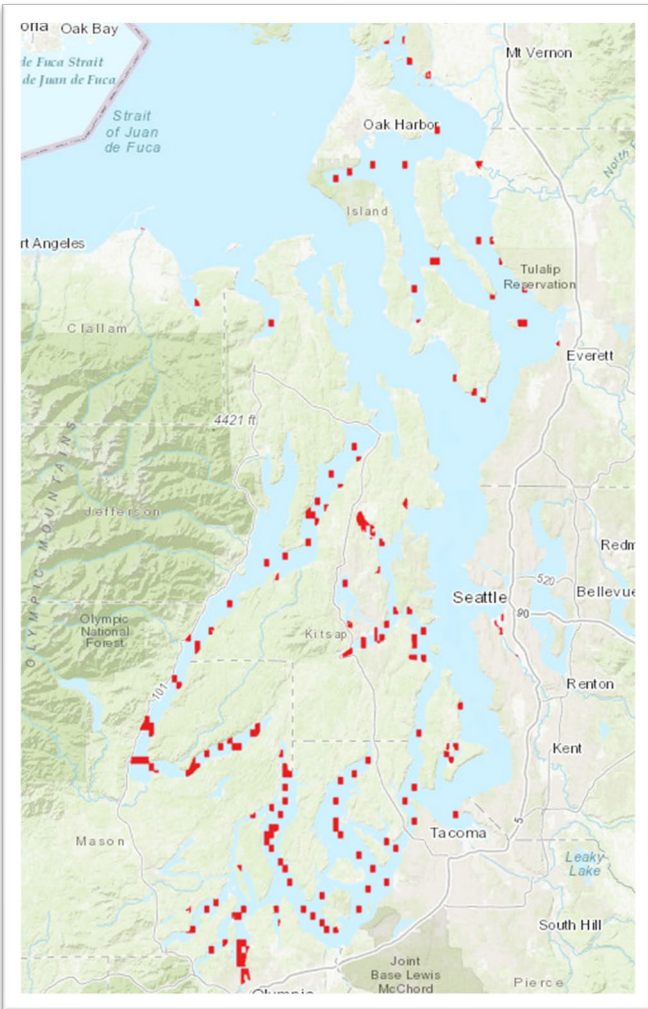
WWTP B
IN COMPLIANCE

Essential Elements

- Eligible entities
- Geographic boundaries
- *Minimum control levels* for buyers
- *Baseline* for sellers
- Credit transaction, certification, and tracking mechanisms
- Risk and uncertainty mechanisms



Puget Sound

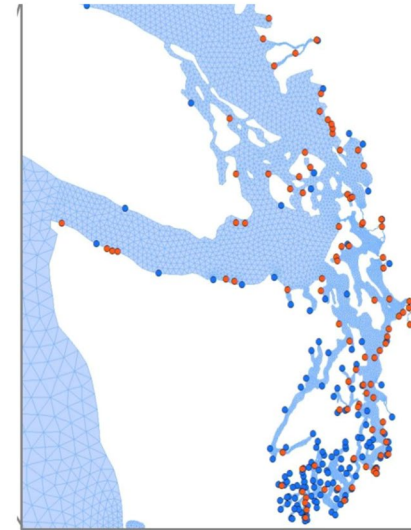


2018 DO 303(d) listings

Human nitrogen sources

69% WWTPs discharging to Puget Sound

31% watershed sources



● Point-Sources (incl. WWTPs)
● Rivers (Watersheds)

What is the Puget Sound Nutrient Reduction Plan?

Establish nutrient load allocations for both marine point sources and watershed inflows

Strategy to implement actions necessary to achieve dissolved oxygen criteria

Monitor for effectiveness and adaptively manage the plan

Ecology, Puget Sound Nutrient Forum May 7, 2020

Issuance Date: December 1, 2021
Effective Date: January 1, 2022
Expiration Date: December 31, 2026

PUGET SOUND NUTRIENT GENERAL PERMIT

A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM AND STATE WASTE DISCHARGE GENERAL PERMIT

State of Washington
Department of Ecology
Olympia, Washington

In compliance with the provisions of
The State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington
and
The Federal Water Pollution Control Act
(The Clean Water Act)
Title 33 United States Code, Section 1251 et seq.

Until this permit expires, is modified or revoked, Permittees that have properly obtained coverage under this general permit are authorized to discharge nutrients in accordance with the conditions, which follow.




Vincent McGowan, P.E.
Water Quality Program Manager
Washington State Department of Ecology

Engrossed Substitute Senate Bill 5693, Section 302 (46)

- “... **recommend one or more draft structures** for nutrient credit trading that could be used to efficiently and quickly achieve nutrient discharge reductions for point source **dischargers covered under the Puget Sound nutrient general permit.**”
- “...submit a report...summarizes the draft structure or structures and **describes a tribal consultation and a stakeholder engagement process** to solicit feedback on the draft structure or structures and any necessary statutory changes and funding.”
 - June 30, 2023

Strategy for Developing Leg Report

Research Report

- Lead: PG Environmental
- Technical research & initial recommendations
- Informs legislative report
- Completed March 2023

Legislative Report

- Lead: Ecology
- Recommended program components
- Lays out next steps
- Submitted June 30

Strategy for Developing Leg Report

1. Identify existing programs for research

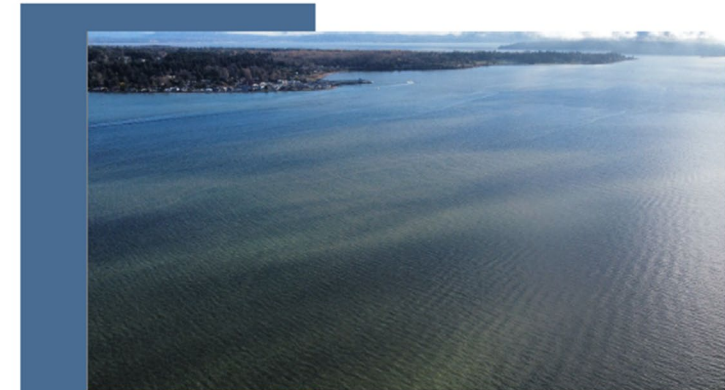
Program	Types of Trading	Pollutants	General Permit?
CT Nitrogen Credit Exchange Program	P-P	TN	Yes
MD Water Quality Trading Program	P-P, P-NP	TN, TP, sediment	No
MN Statewide Water Quality Trading Program	P-P, P-NP	TP	Yes
NC Nutrient Strategies and Water Quality Trading Program	P-P, P-NP	TN, TP	Yes
PA Nutrient Credit Trading Program	P-P, P-NP	TN, TP	No
VA Nutrient Credit Exchange Program	P-P, P-NP	TN, TP	Yes
WI Nutrient Credit Exchange Program	P-P, P-NP	TP	Yes

Strategy for Developing Leg Report

1. Identify existing programs for research
2. Research and interviews with programs
 - i. Program Structure
 - ii. Operational Processes
 - iii. Funding
 - iv. Statutory considerations

Strategy for Developing Leg Report

1. Identify existing programs for research
2. Research and interviews with programs
3. Finalize research report
 - i. Program structure/operations
 - ii. Funding
 - iii. Statutory considerations
 - iv. Uncertainties



**Research & Recommendations
for Water Quality Trading for
Permittees Under the Puget
Sound Nutrient General Permit**

By
PG Environmental

For the
Water Quality Program

Washington State Department of Ecology
Olympia, Washington

March 2023, Publication 23-10-006

Strategy for Developing Leg Report

1. Identify existing programs for research
2. Research and interviews with programs
3. Finalize consultant report
4. Draft and submit Ecology report to legislature
 - Several review stages
 - June 30th



Puget Sound Nutrient Credit Trading

Recommendations for Program Implementation

Prepared for
Washington State Legislature

By the
Water Quality Program
Washington State Department of Ecology
Olympia, Washington

June 2023
Publication 23-10-007

Leg Report

Recommendations

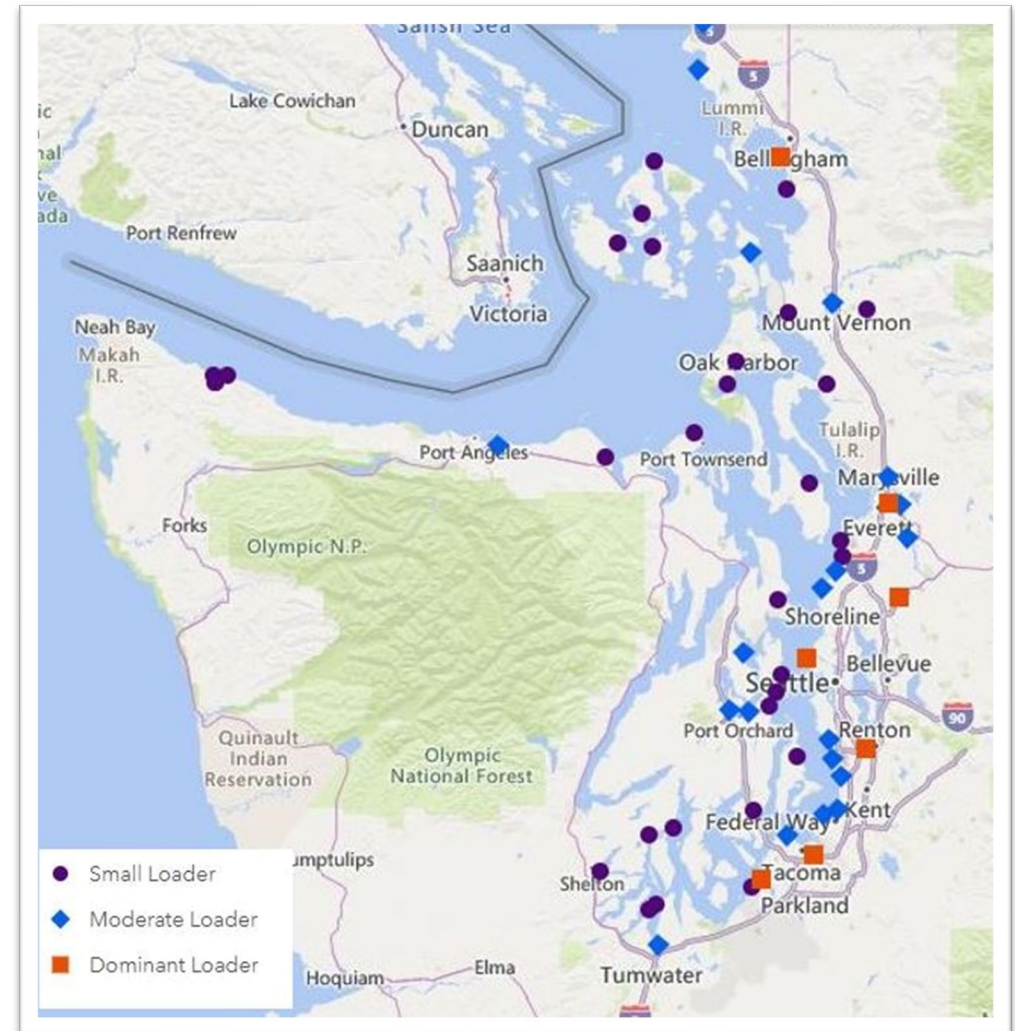
- Trading Program Structure
- Statutory & Regulatory Considerations
- Tribal consultation & engagement
- Stakeholder engagement
- Funding
 - Near & Short-term

Next Steps

Trading Program Structure

Only WWTPs covered under PSNGP

- Simplicity
- Total Inorganic Nitrogen



Trading Program Structure

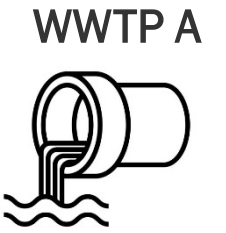
Mechanisms to mitigate risk and uncertainty

- Geographic boundaries for trading
- Trade ratios
 - Delivery ratios
- *Reserve pool of credits/offset fund?*

Compliance Point

1 lbs @ CP
= 2 lbs WWTP A (2:1)
= 4 lbs WWTP B (4:1)

WWTP A wants to purchase credits from B
(4:1/2:1) = 2:1 trade ratio



Trading Program Structure

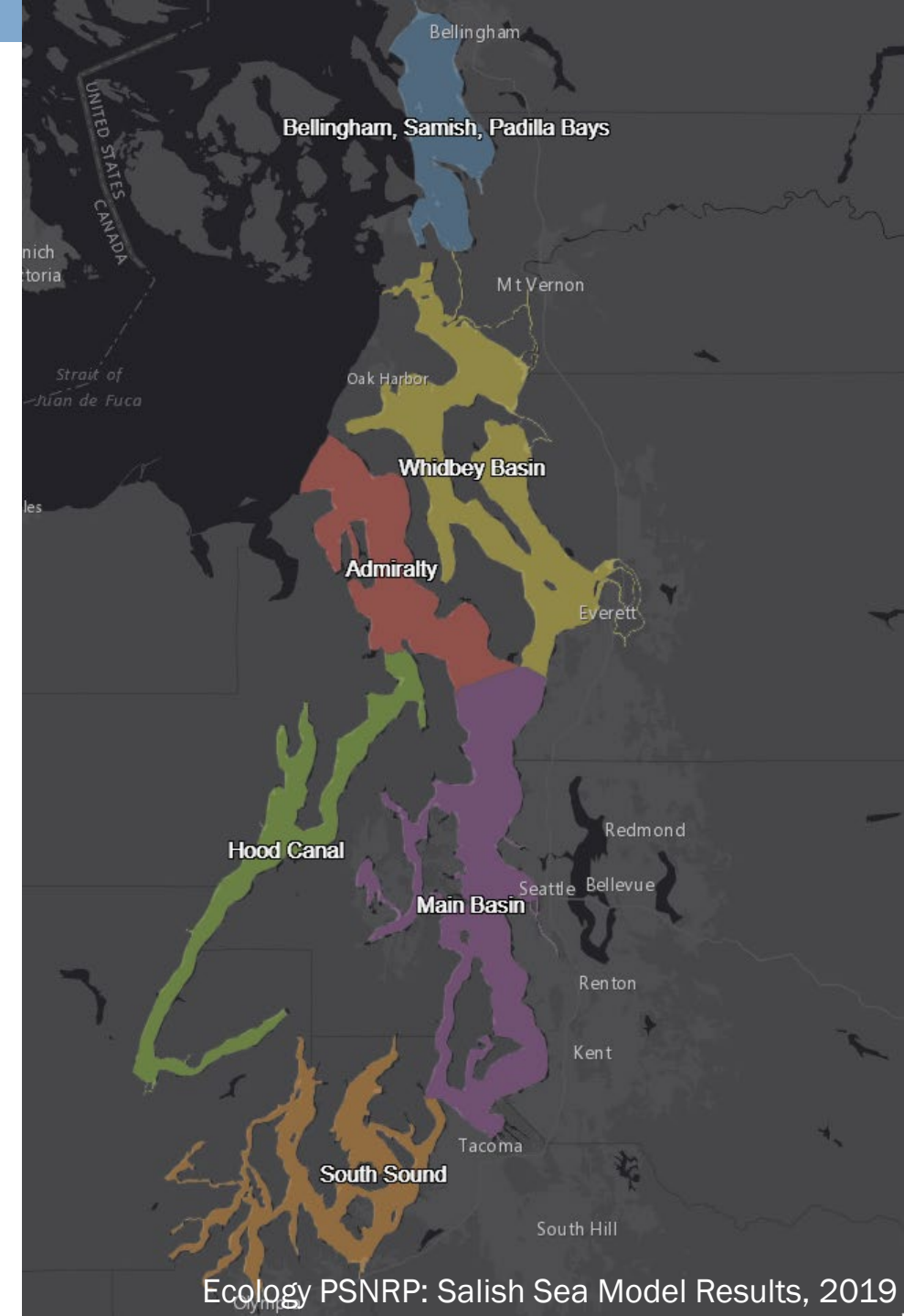
Limit trading geographically

- Within basins, OR
- Between only certain basins

Table 4. Number of potential trading partners (number of permittees) per basin

Basin	Potential partners
Admiralty Inlet	1
Whidbey Basin	12
Main Basin	22
South Sound	8
Hood Canal	0
Northern Bays	3
Strait of Juan de Fuca	6
Strait of Georgia	6

PG Environmental, 2023



Trading Program Structure

Permittees negotiate trades

- Ecology in oversight role
- *Consider: Discharger led organization*

Procedures for determining permit compliance

Credit verification before exchanges occur

RIBITS - WQT
Regulatory In-lieu Fee and Bank Information Tracking System - Water Quality Trading Program

log in | Home | Help Desk | Webservices | » WQT Projects

TRACKING

- Mitigation
- WQT**
- Both

MENU

Water Quality

- WQT Concepts
- WQT Programs
- WQT Projects
- WQT Project Establishment
- Public Notices

Knowledge

- Related Resources
- Credit Classifications

Tools

- Reporting
- WQT Assessment Tools

Training

- Help / User Guides

FILTER

- USACE District**
- State
- FWS Field Office
- NMFS Region
- BLM State Office
- BLM District Office

ALL DISTRICTS

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WQT Projects

To filter this report, choose from the dropdown or enter a search word in the box below and click search. See Actions menu for formatting options.

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Search

Select Report: 1. Primary Report

Rows: All Actions

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Project Name ↑	Status	State List	Zoom
19400 River Road	Pending	VA	📍
3 Creeks	Approved	VA	📍
Albemarle Chesapeake	Approved	VA	📍
Albemarle Sound	Approved	VA	📍
Amothill	Approved	VA	📍
Antonia	Approved	VA	📍
Appomattox River	Approved	VA	📍
Aquila Farms	Approved	VA	📍
Autumn Lane	Approved	VA	📍

Google Map

Last Transaction: Oct 10, 2019
The credit totals shown on the ledger do NOT reflect any credit reservations or pending transactions. It is the responsibility of potential purchasers to contact the Sponsor and obtain written confirmation of credit availability.

Name	Pending Sales	Available Credits	Sold Credits	Released Credits	Potential Credits
Group					
Group: Grouped Total Nitrogen	67.237	281.77	3.55	285.32	0
Group: Grouped Total Phosphorous	7.39	30.97	.39	31.36	0
Credit Classifications					
Total Phosphorous					
Total Nitrogen					

Disclaimer in most cases, RIBITS geospatial data limits are only approximate (not surveyed property limits).

Statutory & Regulatory

No statutory/regs action needed

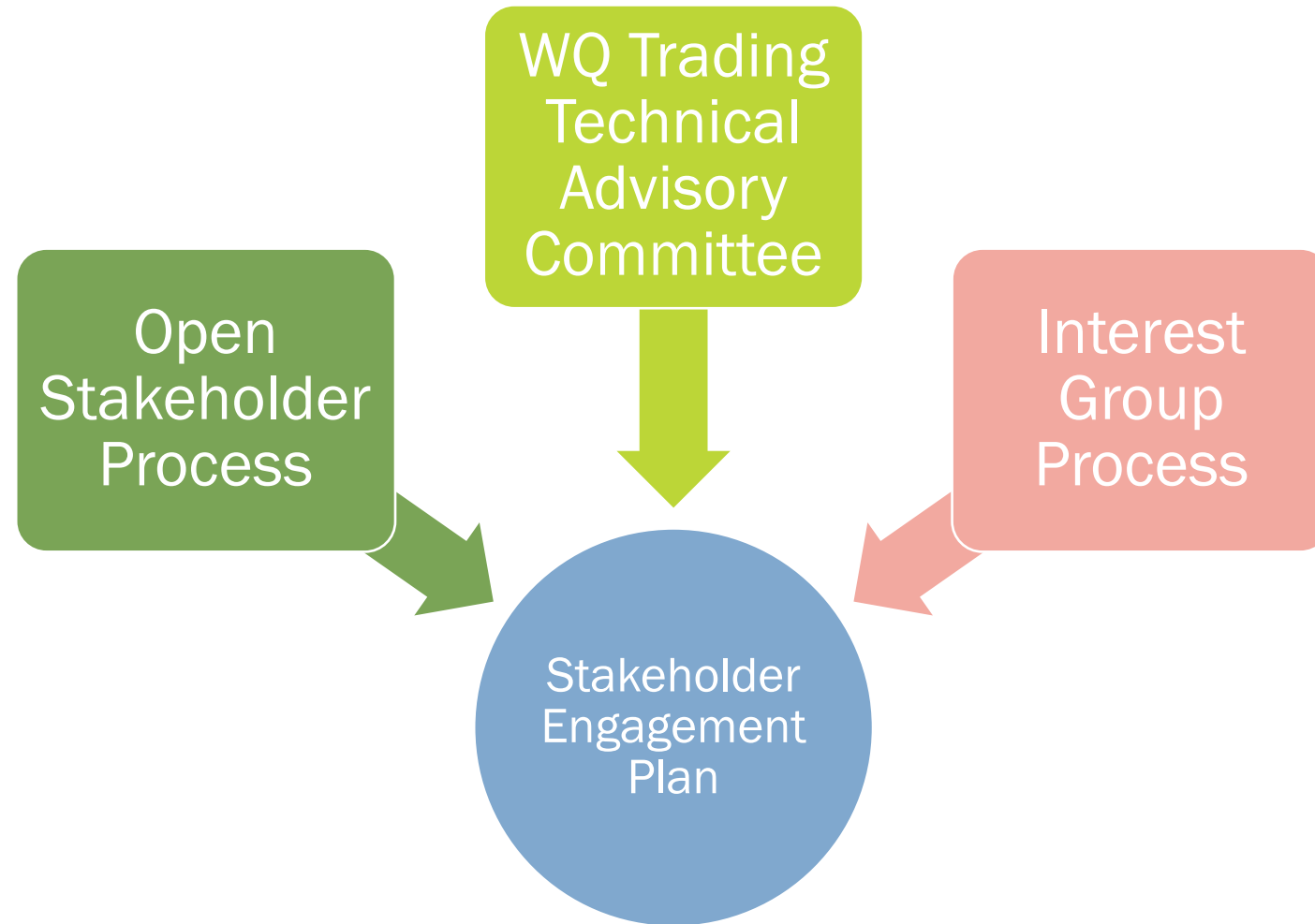


Tribal Consultation & Engagement

Develop tribal engagement plan

- Offer tribes seats on a Water Quality Trading Technical Advisory Committee
- Commitment to offer a tribal pre-view period
- Commitment to engage Tribes early and often regarding any new program developments
- Invite tribal consultation at any point

Stakeholder Engagement



Funding

Near-term Next ~2 years

- **Market feasibility analysis**
- Stakeholder outreach
- Continued funding nutrient reduction grants program

Future To fully implement program

- Ecology staff
- Research/develop technical & policy components
- Tracking system

Next Steps

- Request Legislature **funding**
 - **Market Feasibility Analysis**
 - Develop formal stakeholder engagement plan
 - Technical research
- Establish **numeric nitrogen effluent limits** in next PSNGP
- Develop **tribal engagement plan**
- Begin stakeholder & tribal **outreach**



Next Steps (for report)

More Outreach!

Thank you

- Jeremy Reiman
- Environmental Planner
- Jeremy.reiman@ecy.wa.gov
- 360-819-0197



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Wrap up and next steps

Melissa Gildersleeve



Thank you

Lucienne Banning

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Jeremy Reiman

- WQ Nutrient Trading
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- 360-819-0197

Ben Rau

- Puget Sound Nutrient Reduction Project
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- 360-742-6529



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