

October 9-11, 2024

Portland, Oregon

OLA/WALPA Joint Conference



Limnology – The Next Generation

OREGON LAKES ASSOCIATION

WA STATE LAKE PROTECTION ASSOCIATION

Conference Events & Info:

Meeting Space

The conference sessions from Wednesday to Friday will take place in the Columbia Falls Ballroom on the second floor of the University Place Hotel and Conference Center.

Early Career & Mentorship Program Lunch

Are you a student? Early career or young professional? Did you participate in WALPA's mentorship program or are interested in participating next year? Join us at one of our reserved tables for a networking lunch designed just for you! Connect with peers and mentors to exchange insights, build relationships, and explore career development opportunities in a relaxed, supportive setting. No additional sign-up required; just grab your plate and get ready to meet some cool, new people!

Business Meetings

OLA and WALPA will have concurrent business meetings on Wednesday from 4:30-5:30 pm. OLA's meeting will take place in the Coos Bay meeting room (first floor); WALPA's will take place in the Columbia Falls Ballroom (second floor). All are welcome to join!

Wednesday Evening Social, Poster Presentations, & Fundraiser

Please join us on Wednesday night for posters, appetizers, drinks, and good company. It's a great time to unwind and network with fellow attendees. During the social, WALPA and OLA will be holding a joint raffle & auction to raise funds for student scholarships, research, and outreach. The silent auction and raffle will also have a variety of items including outdoor gear, sports swag, artwork, books, beer and wine, and gift certificates from local breweries and restaurants. You must be present for the raffle, but not for the silent auction. We hope to see you there!

Thursday Evening River Cruise

Get ready for an unforgettable evening on the Willamette River! Sponsored by AquaTechnex and Herrera Environmental Consultants, WALPA and OLA are pleased to host a privately chartered boat cruise on Thursday, October 10th. We'll be cruising in style aboard the Willamette Star, a two-level yacht with spacious decks and panoramic views of the Willamette River and the Portland cityscape. It is the perfect setting for a fun-filled evening whether you're taking in the sights from inside or feeling the breeze on the open-air

top deck. During the tour, local experts Desiree Tullos (Oregon State University & OLA board member) and Kurt Carpenter (US Geological Survey) will dive into the hot topic of harmful algal blooms in the Ross Island Lagoon.

Expect a delicious buffet dinner, a cash bar to toast the night away, and plenty of time to mingle and enjoy the river vibes. We'll set sail at 5:30 pm (boarding starts at 5:15 pm) from the Portland Spirit company dock at Caruthers Landing, and we'll be cruising until 8:00 pm. This is a ticketed event; prior purchase required through the conference registration portal.

— Thanks to our sponsors —

PLATINUM RIVER CRUISE SPONSORS



PLATINUM COFFEE BREAK SPONSOR



GOLD SPONSORS



a xylem brand



SILVER SPONSORS



SESSION SCHEDULE

WEDNESDAY OCT. 9

7:30-9:00am

REGISTRATION

9:00am

WELCOME AND OPENING REMARKS

9:05-10:15am

SESSION 1: NEW TECHNOLOGIES

Moderator: Rob Zisette

Keynote: Exploring Aquatic Biodiversity with eDNA

- Brooke Penaluna, *USDA Forest Service, Corvallis*

Remote Sensing As a Tool To Understand Harmful Algal Blooms in Western Washington Lakes

- Gopal Mulukutla, *University of Washington Tacoma*

- Co-authors: Violette Lafferty, Josh Heinlen, James Gawel, Emese Hadnagy, Rhonda Harris and Joan Hardy

Conceptual Model for Taste and Odor Compounds in Lakes and Reservoirs

- Scott Wells, *Portland State University*

10:15 - 10:40am **BREAK**

10:40am – 12:00pm

SESSION 2: HAB SCIENCE

Moderator: Theo Dreher

Synthesizing 35 Years of Water Quality Data from Willow Creek Reservoir, OR

- Sarah Burnet, *U.S. Army Corps of Engineers, University of Idaho*

- Co-authors: Frank Wilhelm

Cyanotoxins in Upper Klamath Lake, OR

- Megan Skinner, *U.S. Fish and Wildlife Service*

Investigating Cyanotoxin Drivers in Detroit Lake, OR

- Norman Buccola, *U.S. Army Corps of Engineers, Portland District*

- Co-authors: Theo Dreher and Kurt Carpenter

Two Species of *Dolichospermum* Define the Cylindrospermopsin and Microcystin Toxicity in Detroit Reservoir, OR

- Theo W Dreher, *Oregon State University*

- Co-authors: Norman Buccola and Kurt Carpenter

12:00 – 1:15pm **LUNCH**

Event: Early Career & Mentorship Program Lunch

1:15 – 2:45pm

SESSION 3: HAB MANAGEMENT 1

Moderator: Will Hobbs

Keynote: Columbia River HABs

- Patrick Moran, *U.S. Geological Survey*

A Lake That Flows Both Ways Part 2: The Implementation Game

- Katie Sweeney, *Herrera Environmental Consultants*

- Co-author: Tim Clark

A Lake-Scale Test of Using Zero Valent Iron for Mitigation of Hazardous Algal Blooms, Lake Steilacoom, WA

- Jeffrey Tepper, *University of Puget Sound*

- Co-authors: Kyle Steelhammer and Don Russell

Oxygen Saturation Technology for HAB Control in Washington Lakes

- Rob Zisette, *Herrera Environmental Consultants*

- Co-authors: Timothy Clark and Katie Sweeney

2:45 – 3:10pm **BREAK**

3:10 – 4:30pm

SESSION 4: WATER QUALITY

Moderator: Toni Pennington

Decreasing Fecal Indicator Bacteria in Lake Union and the Lake Washington Ship Canal

- Curtis DeGasperi, *King County Water & Land Resources Division*

The King County Conundrum: Statistical Analysis of Long-Term Trends in Water Quality throughout Streams in King County, WA.

- Emily French, *University of Washington (student)*

- Co-authors: Michael Brett, Curtis DeGasperi and Jeremy Walls

A Spatial Screening Model for Identifying Priority Road Segments for Managing a Toxic Tire Chemical (6PPD-q)

- Tim Clark, *Herrera Environmental Consultants*

How Algae Sensors Work

- Bill Mann, *In-Situ Inc.*

4:30 – 5:00pm **BUSINESS MEETINGS**

(separate, concurrent for OLA and WALPA)

5:00 – 7:00pm

SOCIAL, AUCTION, & POSTER PRESENTATIONS

THURSDAY OCT. 10

8:30am **ANNOUNCEMENTS**

8:35 – 10:05am

SESSION 5: AIS MANAGEMENT

Moderator: Angela Strecker

Keynote: Zebra-Quagga Mussel Monitoring and Planning in Washington State

- Brian Turner, *Washington Department of Fish and Wildlife*

Prioritizing Early Detection Work for Aquatic Nuisance Species

- Jacob Rose, *Center for Lakes & Reservoirs - Portland State University*

Sequential Use of Multiple Methods to Control of Aquatic Weeds in the Tahoe Keys, South Lake Tahoe, CA

- Toni Pennington, *Environmental Science Associates*

Online Boater Led Check-In/Check-Out AIS Prevention Tool

- Jacob Utrie, *CD3 General Benefit Corporation*

10:05 – 10:30am **BREAK**

10:30 – 11:50am

SESSION 6: LAKE ECOLOGY 1

Moderator: Curtis DeGasperi

Effects of Reservoir Type (Run-of-River vs. Storage) on Native and Invasive Zooplankton Assemblages

- Jess Mitchell, *Washington State University Vancouver (student)*
Co-authors: Stephen Bollens and Gretchen Rollwagen-Bollens

SESSION SCHEDULE

- McKenzie Frazier, *Washington State University Vancouver (student)*
- Co-authors: Gretchen Rollwagen-Bollens and Stephen Bollens

Non-Native Fish Removal: Macroinvertebrate Community Response in Historically Fishless Mountain Lakes

- Ty Stephenson, *Western Washington University (student)*
- Co-authors: Angela Strecker, Ashley Rawhouser, Hugh Anthony, Carmen Archambault, Rebecca Lofgren, John Boetsch, Kristen Bonebrake and Katherine Braun

Terrestrial Carbon Linkages to Aquatic Communities Following the 1980 Mount St. Helens Eruption

- Katey Queen, *Western Washington University (student)*
- Co-author: Angela Strecker

11:50am – 1:05pm LUNCH

1:05 – 2:25pm

SESSION 7: LAKE ECOLOGY 2

Moderator: Katey Queen

Monitoring Change Over Time Through Paleolimnological Reconstruction of Cultural Eutrophication and Recovery in Medical Lake, WA

- Crysta Gantz, *Portland State University (student)*
- Co-author: Angela Strecker

Estimating Decomposition Rates of Water Stargrass (*Heteranthera dubia*), A Potential N Sink in a Lowland Agricultural River

- John P. Buster, *Washington State University Tri-Cities (student)*
- Co-authors: Aaron C. Pelly and Sarah S. Roley

Integrating Diverse Resources to Better Understand and Manage the Aquatic Ecology of Multiple Water Bodies in a Private Community

- David Scheirman, *Birch Bay Village Community Club Association*

Gaming the Grit: Societal Engineering in the era of Drying Lakes and the Dust Bowl Apocalypse

- Todd Jarvis, *Institute for Water & Watersheds, Oregon State University*

2:25 – 2:45pm BREAK

2:45 – 4:20pm

SESSION 8: HAB MANAGEMENT 2

Moderator: Tim Clark

Lake Stevens - A Restoration Journey

- Marisa Burghdoff, *Snohomish County*

Advancing Sediment Analysis for Phosphorus Mitigation in Lakes

- Ryan Van Goethem, *EutroPHIX*
- Co-authors: Scott Shuler and Byran Fuhrmann

Mitigating External and Internal Phosphorus Loading on Moses Lake, WA

- Ben Casscles, *Aquatechnex*
- Co-authors: Bradley Roth and Terry McNabb

Panel on Lake Alum Treatments in Washington

- William Hobbs, *Washington State Department of Ecology*
- Co-author: Shawn Ultican

5:15-8:00 PM RIVER DINNER CRUISE

FRIDAY OCT. 11 WORKSHOPS

WORKSHOP: HARMFUL ALGAL BLOOMS PROGRAMS AND STRATEGIES IN OR & WA

8:30-8:45am

Introductions; goals for workshop (Dan Sobota)

8:45-9:05am

HABs research, policy, and management efforts in OR and WA from EPA Region 10 (Rochelle Labiosa)

9:05-9:25am

Overview of HABs work in Washington (Cecilia Welch, Will Hobbs)

9:25-9:45am

Overview of HABs work in Oregon (Dan Sobota, Nathan Reetz, Linda Novitski, Julie Harvey, Gregg Baird)

9:45-10:00am

Break

10:00-11:00am

Panel discussion of overlap, potential synergies, and outstanding issues on HABs in OR and WA (all)

11:00-11:10am

Break

11:10-11:40am

Overview of HABs research from the USGS (Kurt Carpenter)

11:40am-12:00pm

National Nutrient Inventories, Harmful Algal Blooms, and Risks to Drinking Water Systems (Michael Pennino, Robert Sabo)

12:00-12:20pm

Review of genetic and toxigenic data and connection with other HABs data in OR and WA (Theo Dreher)

12:20-12:30pm

Wrap-up

WORKSHOP: AQUATIC INVASIVE SPECIES IDENTIFICATION, PREVENTION, & CONTROL

8:30-8:45am

Introductions, goals for workshop (Ben Peterson, Brian Turner)

8:45-10:15am

Introduce participants to invasive aquatic plants and common native aquatic plants in Washington and Oregon (Ben Peterson, Jacob Rose, Wes Glisson, Gabriel Campbell)

10:15-10:45am

Break

10:45am-12:15pm

Introduce participants to invasive aquatic wildlife & their threat to Oregon and Washington native species and habitat (Keith DeHart, Brian Turner)

12:15-12:30pm

Wrap-up

OLA/WALPA JOINT CONFERENCE SCHEDULE 2024

| | |
|--|--------------------------|
| 7:30-9 am Registration | WED |
| 9 am Welcome & Opening Remarks | |
| 9:05 – 10:15 am Session 1: New Technologies | |
| 10:15 – 10:40 am Break | |
| 10:40 – 12 pm Session 2: HAB Science | |
| 12 – 1:15 pm Lunch & Mentor Event | |
| 1:15 – 2:45 pm Session 3: HAB Management 1 | |
| 2:45 – 3:10 pm Break | |
| 3:10 – 4:30 pm Session 4: Water Quality | |
| 4:30 – 5:00 pm Business Meetings | |
| 5:00 – 7:00 pm Social, Auction & Posters | THURS |
| 8:00 – 8:30 am Registration | |
| 8:35 – 10:05 am Session 5: AIS Management | |
| 10:05 – 10:30 am Break | |
| 10:30 – 11:50 am Session 6: Lake Ecology 1 | |
| 11:50 am – 1:05 pm Lunch | |
| 1:05 – 2:25 pm Session 7: Lake Ecology 2 | |
| 2:25 – 2:45 pm Break | |
| 2:45 – 4:20 pm Session 8: HAB Management 2 | |
| 5:15 – 8:00 pm River Dinner Cruise | |
| Workshop: Harmful Algal Blooms Programs and Strategies in OR & WA | FRI WORKSHOPS |
| 8:30 – 9:45 am Intro and Sessions 1-3 9:45 – 10:00 am Break 10 – 11 am Panel Discussions 11 – 11:10 am Break 11:10 – 12:20 pm Sessions 4-6 12:20 – 12:30 pm Wrap Up | |
| Workshop: Aquatic Invasive Species Identification, Prevention, & Control | |
| 8:30 – 10:15 am Intro and Session 1 10:15 – 10:45 am Break 10:45 – 12:15 pm Session 2 12:15 – 12:30 pm Wrap Up | |

POSTERS – ON DISPLAY THROUGHOUT THE CONFERENCE

Using Lanthanum Modified Bentonite to Immobilize Arsenic in Lake Sediments

- Sasha Vinogradova, *University of Washington Tacoma (student)*
- Co-authors: Riley McElroy & Jim Gawel

Assessing the Efficacy of the Washington Ban on Phos- phorus Fertilizer

- Pilar Deniston, *Institute for Watershed Studies, Western Washington University (student)*
- Co-author: Angela Strecker

Predicting Rate of Unreported Exogeneous Nutrients Contributing Lake Eutrophication: Using Hybrid ML Model

- Kunal Rathore, *Oregon State University (student)*
- Co-author: James Watson

Predicting Algae Blooms by Remote Sensing in Washing- ton Lakes

- Violette Lafferty, *University of Washington Tacoma (student)*
- Co-author: Josh Heinlen

Dynamics of Integrated Socio-Environmental Systems: Dams as Adaptive Management Systems (DISES: DAMS)

- John A. Harrison, *Washington State University Vancouver*
- Co-authors: Stephen Bollens, Michael Brady, Kirti Rajagopalan, Gretchen Rollwagen-Bollens & Jon Yoder

Excel Spreadsheet Equivalent of Appendix B, Atlas of Oregon Lakes

- David R. Sherrod, *USGS (retired)*

Restoring Oregon Spotted Frog Habitat: Satellite Data as a Tool to Monitor Oxbow Hydrology in Floodplains of the Little Deschutes River

- Baxter Millsap, *Northwest Youth Corps/Americorps*
- Co-authors: Wesley Noone, Lawrence Ashton & Kevin Weldon

Distribution, Abundance, & Ecological Associations of the Western Ridged Mussel, Western Pearlshell, & Asian Clam in the Columbia River Basin, USA

- Nathaniel Neal, *Washington State University Vancouver (student)*
- Co-authors: Stephen Bollens, Gretchen Rollwagen-Bollens, Alexa Maine & Tim Counihan

A Design for a Mesocosm Array to Simulate Thermally Variable Pond Environments

- Danny Gibson, *Reed College, Department of Biology (student)*
- Co-authors: Jay Ewing & Samuel Fey

Investigating Environmental Controls on the Growth & Toxin Production of *N. pruniforme*

- Harrison Jones & Miranda Kubek, *Reed College, Department of Biology (students)*
- Co-authors: Miranda Kubek, Naoyuki Ochiai & Samuel Fey

Sensitivity & Uncertainty of Parameters in Cyanobacteria Models

- Zoe Chavis, *Oregon State University (student)*
- Co-author: Desiree Tullus