

PACIFIC NORTHWEST REGIONAL CONFERENCE

North American Lake Management Society, Oregon Lakes Association,
and Washington State Lake Protection Association

Research and Management Trends in the Pacific Northwest

Portland State University
Smith Memorial Student Union Building
Portland, Oregon

September 13-15, 2006

The Oregon Lakes Association (OLA), the Washington State Lake Protection Association (WALPA), and PSU Center for Lakes & Reservoirs will be co-hosting their annual conference with support of the North American Lake Management Society (NALMS) and in conjunction with the Western Regional Panel on Aquatic Nuisance Species.

The Pacific Northwest Regional Conference will be held at Portland State University in Portland, Oregon on September 13 and 14. The meeting location will be at the Smith Memorial Student Union Building. Field trips will be offered to conference participants on Friday, September 15.

Sponsored by:



Oregon Lakes Association
a voice for quiet waters



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Pacific Northwest Regional Conference Program

Wednesday, September 13, 2006

8:00 – 8:30 a.m. Welcome Speaker - Smith Ballroom

Dr. Roy Koch, Portland State University Provost and Vice President for Academic Affairs

Welcome by NALMS Representative Harry Gibbons

Plenary Session: 8:30 - 10:00 a.m. Smith Ballroom

Lake Trophic Condition: Striving to achieve nutrient “balance” and “optima” production for multiple-use in the 21st century

Dr. John Stockner, Principal Limnologist/Oceanographer, Eco-Logic, Ltd.

Break: 10:00 - 10:30 a.m. Smith Ballroom - Visit exhibits, posters and displays

Session 1: 10:30 a.m. – noon

Session 1-A: Cyanobacteria - Vanport Room

Chair: John Rueter, Portland State University

The Occurrence and Management of Toxic Cyanobacteria in the Pacific Northwest

Jean Jacoby and Jacob Kann, Seattle University, Civil and Environmental Engineering

Toxic *Microcystis aeruginosa* and *microcystin* trends in Copco and Iron Gate Reservoirs on the Klamath River

Jacob Kann and Susan Corum, Aquatic Ecosystem Sciences

Screening for Algal Toxins in Volunteer-Monitored Lakes

Gene Williams, Snohomish County Public Works

Session 1-B: - Lake Models #1 - Room 327/328

Chair: Curtis DeGasperi, King County Dept. of Natural Resources and Parks

Developing an Ecosystem Model for Waldo Lake

Robert Annear and Scott Wells, Portland State University, Department of Civil and Environmental Engineering

Lake Whatcom Water Quality Model

Chris Berger and Scott Wells, Portland State University, Department of Civil and Environmental Engineering

Monitoring and Modeling Climate Change Impacts on the Temperature of Lake Washington

Curtis DeGasperi, King County Department of Natural Resources and Parks, Water and Land Resources Division

Lunch: Noon-1:30 p.m. - Smith Ballroom

Tracking the post eruption recovery of Spirit Lake at Mount Saint Helens, Washington, 1980-2005

Dr. Douglas W. Larson, retired limnologist, US Army Corps of Engineers and adjunct faculty member, Portland State University, Environmental Sciences and Resources Department

Session 2: 1:30 - 3:00 p.m.

Session 2-A: Macrophytes - Vanport Room

Sponsor: Washington State Department of Ecology

Chair: Kathy Hamel, Washington State Department of Ecology

Aquatic Vegetation Studies in Coeur d'Alene Lake: Species Presence, Biomass, and Estimated Nutrient Loading

Dave Lamb, Coeur d'Alene Tribe, Lake Management Department

Overview of Aquatic Weed Control Research Conducted by the Washington Department of Ecology

Jenifer Parsons and Kathy Hamel, Washington State Dept. of Ecology

Physiological Responses of the Invasive Macrophyte *Egeria densa* (Brazilian elodea) from Two Populations in California and Oregon

Toni Pennington and Mark Sytsma, Portland State University, Center for Lakes and Reservoirs

Eradication of Milfoil from Walsh Lake in Seattle's Cedar River Municipal Watershed

Josh Wozniak and Rob Zisette, Herrera Environmental Consultants

Session 2-B: Lake Models #2 - Room 327/328

Chair: Robert Annear, Portland State University

Examining the Hydrodynamic Effects of Reservoir Operations on Water Quality and Fish Growth in Franklin D. Roosevelt Lake, Wash., Using the Hydrodynamic and Water Quality Model CE-QUAL-W2

Michael McKillip and Scott Wells, Portland State University, Department of Civil and Environmental Engineering

Inference of Early-European Settlement, Total Phosphorus Concentrations in 20 Western Washington and Oregon Lakes Using Sediment Diatom and Morphoedaphic Index Models

Rich Miller, Mark Sytsma, Aaron Hook and Richard Petersen, Portland State University, Center for Lakes and Reservoirs

Experimental Determination and Modeling of the Effects of Mixing and Concentration Gradient on Sediment Oxygen Demand and Sediment Nitrate Demand in Lakes

Marc Beutel, PhD, PE, Water Resources and Environmental Engineering, Department of Civil and Environmental Engineering, Washington State University

Break: 3:00 - 3:30 p.m. - Visit exhibits, posters and displays

Session 3: 3:30 - 5:00 p.m.

Session 3-A: Invasive Species - Vanport Room,

Chair: Mark Sytsma, Portland State University

Zebra mussel *Dreissena polymorpha* in El Dorado Reservoir, Kansas - Monitoring, Containment/control Strategies, and Lessons Learned

Jason Goeckler, Kansas Department of Wildlife and Parks

What factors mediate the impacts of introduced species? Investigating the Success of Kokanee since Establishment of Lake Trout and *Mysis relicta* in a Large, Oligotrophic Lake

Erik Schoen, David Beauchamp, Nathaniel Overman, and Christopher Sergeant, University of Washington, Washington Cooperative Fish and Wildlife Research Unit, School of Aquatic and Fishery Sciences

Controlling the Spread of the New Zealand Mudsnail (*Potamopyrgus antipodarum*) from Field Gear with Dry Ice in Portable Coolers

Scott Weidemer and Samuel Chan, Oregon State University, College of Oceanic and Atmospheric Sciences

Modeling Dispersal of New Zealand Mudsnails (*Potamopyrgus antipodarum*) in Oregon

Chi-Chang Liu, John Chapman, Hang-Kwang Luh, and Selina Heppell, Oregon State University

5:00 - 7:00 p.m. Smith Ballroom

No-host social gathering, view posters and vendor exhibits

Session 3-B: Lake Surveys - Room 327/328

Chair: Beth Cullen, King County Department of Natural Resources and Parks

Proposed Survey of the Nation's Lakes

Maggie Bell McKinnon, Washington State Department of Ecology

A Survey of Encyclopedic Lakes Websites on the Internet

Richard Lycan, Portland State University

Waterway Boundaries: Title and Ownership Issues

Jennie Bricker, Stoel Rives, LLP

5:00 - 7:00 p.m. Smith Ballroom

No-host social gathering, view posters and vendor exhibits

Thanks to our sponsors

- North American Lake Management Society
- Washington State Lake Protection Association
- Oregon Lakes Association
- PSU Center for Lakes and Reservoirs
- Pacific States Marine Fisheries Commission
- OTT
- Hydrolab
- HACH Environmental
- Western Regional Panel on Aquatic Nuisance Species

Thanks to our session sponsors

- Washington State Department of Ecology
- Terra Graphics

Thursday, September 14

Session 4: 8:30 - 10:00 a.m.

Session 4-A: Lake Treatments #1 - Vanport Room

Sponsor: Terra Graphics

Chair: Darren Brandt, Terra Graphics

Short-term Effects of an Aluminum Sulfate Treatment on Green Lake Sediment Phosphorus Speciation

Rebecca Dugopolski and Michael Brett, Herrera Environmental Consultants/University of Washington

Improving Raw Water Quality via Hypolimnetic Oxygenation in a Water Supply Reservoir

Paul Gantzer and John Little, Virginia Tech

Long-term Reduction in Internal Phosphorus Loading through Hypolimnetic Oxygenation and Alum Applications in Newman Lake, Washington

Barry Moore, Mike Biggs, Dave Christensen, and Kevin Anderson, Washington State University, Department of Natural Resource Sciences

Session 4-B: Lake Classification - Room 327/328

Chair: Rich Miller, Portland State University

Ecological Characterization and Comparison of Lake Types in the Columbia National Wildlife Refuge

Justin Bader and Anthony Gabriel, Central Washington University, Department of Geography and Land Studies

Classification and Distribution of Lake Types in Washington State

Anthony Gabriel, Karl Lillquist, Andrew Perkins, and Janet Rhoades, Central Washington University, Resource Management Program

Wetlands as Regulators of Lake Water Quality

Stan Geiger, Aquatic Scientific Resources

Break 10:00 - 10:30 a.m. - Visit exhibits, posters and displays

Session 5: 10:30 a.m. – noon

Session 5-A: - Lake Treatments #2 - Vanport Room

Chair: Mark Rosenkranz, Lake Oswego

Cottage Lake Phosphorus Reduction Project: A community approach to controlling non-point source pollution

Beth Cullen, King County Department of Natural Resources and Parks, Lake Stewardship Program

Alum Treatment at Lake Hicks: Controlling Phosphorus Concentrations in a Small Urban Lake

Michael Murphy, King County Department of Natural Resources and Parks, Lake Stewardship Program

Worldwide Use of Alum to Control Phosphorus Internal Loading in Lakes

Gene Welch and Harry Gibbons, Tetra Tech, Inc.

Session 5-B: Food Webs and Microbials - Room 327/328

Chair: Lee Mellish, Liberty Lake Sewer and Water District

Differential Prey Selectivity of Largemouth Bass Functional Feeding Groups in Twin Lakes

David Christensen, Barry Moore, Washington State University, Dept. of Natural Resources, and Dan Fairbank, Colville Confederated Tribes

Effects of Shoreline Development on the Nearshore Food Web of a Large Deep Nutrient-poor Lake-Lake Crescent, WA

Elizabeth Seminet-Reneau and Stephanie Hampton, University of Idaho, and Steven C. Fradkin, Olympic National Park

Ten year review of King County Freshwater Swimming Beach Monitoring

Jonathan Frodge, King County Department of Natural Resources and Parks, Water and Land Resources Division

Thorton Creek and Matthews Beach Microbial Source Tracking Study

Rob Zisette, Herrera Environmental Consultants

**Lunch: Noon - 1:30 p.m. - Smith Ballroom. WALPA and OLA Business Meetings and Photo Contest Awards
OLA meets in Vanport and WALPA meets in Room 327-328**

Session 6: 1:30 - 3:00 p.m.

Session 6-A: Exhibitor Session - Vanport Room

Chair: Bijay Adams, Liberty Lake Sewer and Water District

Optical Dissolved Oxygen Sensors: Maximizing Accuracy and Precision While Minimizing Maintenance

Randy Glover, Electronic Data Solutions

IN VIVO Monitoring of Cyanobacteria Using Turner Designs' Cyclops Fluorometer integrated into Multiparameter Hydrolab Series 5 Sondes from Hach Environmental

Lawrence Younan, Turner Designs

Non-turbulent, Long-distance Circulators as a Bio-manipulation Strategy to Prevent Cyanobacteria Blooms and Improve Lake Ecology

Ray Smith and Christopher Knud-Hansen, Solar Bee

Poster Presentation During Conference

Relational Database for Limnological Data

Thea Cook, John Salinas, David Pawelek, and Jesse Ford, Oregon State University

Preliminary Results of Light Transmission Under Residential Piers in Lake Washington, King County, Wash.; A Comparison Between Prisms and Grating

Perry Gayaldo and Kitty Nelson, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Office of Habitat Conservation, Northwest Region

Session 6-B: Stump the Experts - Topics include: Cyanobacteria, New Zealand Mud Snails, and Zebra Mussels, Room 327/238

Chair: Sally Abella, King County Dept. of Natural Resources and Parks

Panel: Gene Welch, Harry Gibbons, Jean Jacoby, Mark Sytsma, Jonathan Frodge, and Jenifer Parsons

Friday, September 15 - Tours / Field Trips

Details are available at the registration desk.

Tour A: Guided tour of Lake Oswego

Tour B: Guided tour of Roslyn Lake

Tour C: Self-guided trip to Mount Saint Helens Spirit Lake

Tour D: Self-guided trip to Waldo Lake

Volunteer TMDL Monitoring of a 303d Salmon Stream

Chris Goodman, Pierce County Conservation District Stream Team

Investigation of the "Humic Hypothesis" for the Control of Algal Growth in Upper Klamath Lake

John Rueter, Rich Miller, Kit Rouhe, and Stan Geiger, Environmental Sciences Program, Portland State University

Garden Loosestrife (*Lysimachia Vulgaris*) a Spreading Threat in Western Waterways

Katie Sauter Messick, King County Noxious Weed Control Program