PORTLAND STATE UNIVERSITY

LAKE WISE

Summer 2001

NEWSLETTER OF THE CENTER FOR LAKES AND RESERVORIS AND THE OREGON LAKES ASSOCIATION

Wyden Sponsors Invasive Species Appropriation

Senator Ron Wyden has announced that the U.S. Senate has approved $500,000 in federal funds to support the Columbia River Aquatic Nuisance Species Initiative (CRANSI), an innovative project to study and combat the effect of invasive species that destroy native habitats and could inhibit maritime commerce along the Columbia River.

Wyden brought together officials from Portland State University and the ports of Portland and Astoria to proactively address the problem of nonnative species before it becomes unmanageable. The groundbreaking, cooperative endeavor will enable Oregon to provide a national model to help freshwater port communities protect water quality, habitat and maritime commerce from the damaging impact of nonnative species introduced when vessels release ballast water at port.

"By working together, the ports of Portland and Astoria and Portland State University are hatching a win-win approach to dealing with the invasive species that threaten our environment and our economy," Wyden said. "Final approval of this funding will support important research that will help Oregon take

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Diamond Lake Closed by Toxic Algae

Algae blooms have been a problem at Diamond Lake this summer; the main culprit – the toxin-producing Anabaena flos-aquae. Anabaena is one of several species of algae (actually a cyanobacteria) that grow in Cascade lakes. It is common for algae populations to rapidly increase (called an "algae bloom") when certain conditions exist in the lakes (usually in mid to late summer). The blooms die off and subside when conditions change. Anabaena, which is actually a cyanobacteria, is typical "bloom-former" in Diamond Lake and was common in Diamond Lake previously.

This year, the proportion and abundance of Anabaena in Diamond Lake is significantly higher than last year. Drought conditions and food web impacts of the tui chub, which was illegally introducted to the lake, may explain the unusually dense bloom. Toxicology tests conducted on algae confirmed the presence of the neurotoxin anatoxin-a. The toxin can be released when dense populations of blue-green Anabaena flos-aquae form. As a result of the toxic bloom, the lake was closed to all activities that involve contact or potential contact with water including swimming, wading, and all forms of boating. In addition, pet owners have been advised to keep dogs away from the water as they are likely to drink lake water or lick algae from their fur.

Forest Service officials issued a precautionary closure of two swimming areas at the lake on August 10, after high levels of Anabaena were found. The closures will remain in effect until the toxin clears. Anatoxin-a clears more quickly from the water than other types of algae toxin.

All other facilities around the lake have remained open and activities such as camping, bicycling, and hiking were not affected. Drinking water in Forest Service campgrounds, Diamond Lake Resort, Diamond Lake RV Park, and other public facilities comes from deep-water wells and was not affected by the algae bloom in the lake. Nearby Lemolo Lake remained open for boating and swimming.

Continued on page 4

Oregon Lakes and Reservoirs Symposium Information

September 21-22
Portland State University

Register Early and Save
Information inside!

Oregon Lakes and Reservoirs Symposium and Oregon Lakes Association Annual Meeting

21 September 2001

Room 107 • Science Building 1 • Portland State University

Hosted by the
Center for Lakes and Reservoirs, Portland State University
and the
Oregon Lakes Association

8 AM to 8:45 AM
Registration and coffee

8:45 AM – 9:10 AM
Welcome and Keynote (TBA)

9:10 AM – 5:00 PM
Technical Presentations
Regional Coordination of Aquatic Nuisance Species Management
The Oregon Aquatic Nuisance Species Management Plan
Lake Lytle Milfoil Control
Modeling Macrophytes of the Columbia Slough
The Propagule Bank in Devils Lake: Implications for Management
Lake Law: Real or Imaginary? (Who Can Help?)
The Talent Irrigation District Case: Aquatic Herbicides and the Intersection of the Clean Water Act and the Federal Insecticide, Fungicide, and Rodenticide Act
Lake Sampling for Nutrient Criteria Development
Living with Mud, Exotics, and Toxins at Tenmile Lake, Oregon
The Bull Run River-Reservoir System Model
Aeration for Management of P-cycling of Oswego Lake
A Comparison of Two of Oregon's Largest Clearest Lakes: Crater and Waldo
Preliminary Observations of the Benthic Cyanobacteria of Waldo Lake
Reservoir Limnology in Oregon: 1950-2000
Diamond Lake Anabaena Bloom 2001
Physiology of Aphanizomenon— what little we know
Evaluation of Proposed Lake Management on Hydrodynamics, Water Quality, and Eutrophication in Upper Klamath Lake
Reassociating Wetlands with Upper Klamath Lake to Improve Water Quality

Immediately following the Technical Session
Please join us for food and beverages at an
Open House at the Center for Lakes and Reservoirs

Saturday, 22 September 2001

Metro lake tour
See and hear about what is happening at
Smith and Bybee Lakes, Blue Lake, Fairview Lake, and Oswego Lake on a full-day tour.
Vans leave PSU at 9 AM

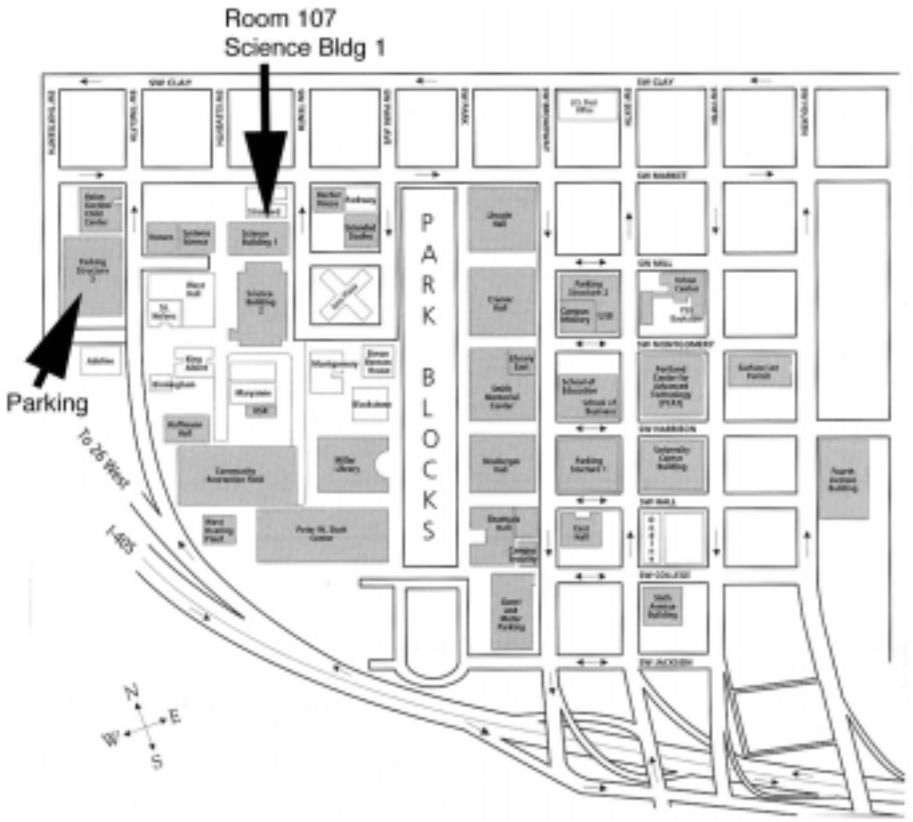
LakeWise is published quarterly by the Center for Lakes and Reservoirs at Portland State University with funding provided by the Oregon Lakes Association, PSU, and the Oregon Watershed Enhancement Board.
LakeWise is available in alternate format (e.g., large type or braille) by contacting the Center for Lakes and Reservoirs, Portland State University, PO Box 751, Portland OR 97207-0751 or 503-725-3834

Oregon Lakes and Reservoirs Symposium
and
Annual Meeting of the Oregon Lakes Association

September 21, 2001

Science Building 1
Room 107
at
Portland State University

Contact the Center for Lakes and Reservoirs for additional information at 503-725-3834



REGISTRATION INFORMATION:

Name:_____ Affiliation:_____

Address: _____ Phone:_____

_____ Fax: _____

_____ Email: _____

REGISTRATION FEES & PAYMENT INFORMATION:

Friday technical session (includes refreshments, lunch, and 2002 membership to OLA):.

- ❑ $35, Individual before September 4th
- ❑ $45, Individual after September 4th or at the door
- ❑ $25, Student (anytime)
- ❑ $75, Corporate, before September 4th
- ❑ $90, Corporate, after September 4th

Saturday tour: ❑ $10/person (includes transportation and lunch, leave PSU at 9 AM return by 4 PM)

If you are unable to attend but would like to become a member of OLA for 2002, send the following:

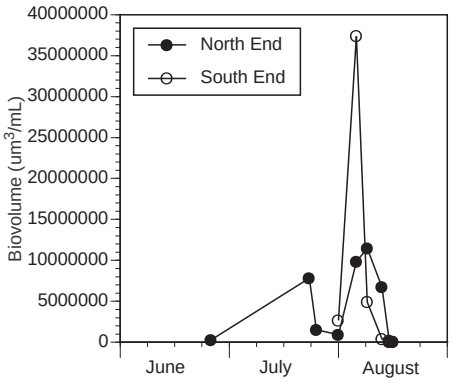
❑ Student ($15) ❑ Individual ($25) ❑ Family ($35) ❑ Corporate ($65) ❑ Sustaining: ($100)

_____Total Enclosed

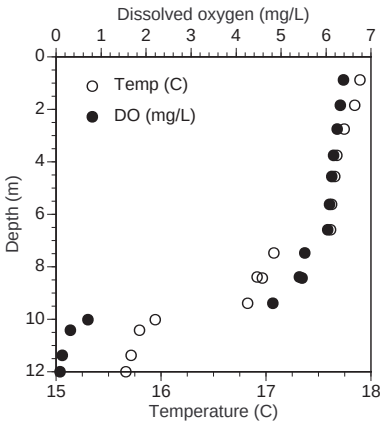
Please send payment and registration form to:
Oregon Lakes Association, P.O. Box 345, Portland, OR 97207-0345

Diamond Lake continued

For further information contact David Bussen, Douglas County Health & Social Services at (541) 440-3571. For information on the Diamond Lake recreation facilities contact the Diamond Lake Ranger District at 541/ 498-2531.



Anabaena biovolume in Diamond Lake in 2001
data provided by Mikael Jones, US Forest Service



Oxygen and temperature profile in Diamond Lake in July 2001, midlake station
data provided by Dennis Ades, ODEQ

Senator Wyden continued

critical steps to protect the Columbia River while establishing our state as a national leader in the fight against the devastating effects of these unwelcome guests."

Wyden won approval for the funding as part of the FY2002 Transportation Appropriations bill that passed the Senate in August. Wyden is now working to see that funding is included in the final conference agreement with the House of Representatives; that bill, when completed, will go to the President for his signature. Portland State University's Center for Lakes and Reservoirs plans to conduct an extensive study of the organisms found in the ballast water of ships entering the Columbia River and the role barge traffic plays in linking coastal/estuarine and inland biological invasions. This collaboration between PSU, CRANSI and the ports of Astoria and Portland is the latest in an ongoing effort to better understand the nonnative bacteria, flora and fauna in the Columbia River.

Center for Lakes and Reservoirs
Environmental Sciences and Resources
Portland State University
Portland, OR 07207-0751

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