



WATERLINE

DEC 2009

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For information about the organization, call **1-800-607-5498** or visit the WALPA website

www.walpa.org

Please save *WATERLINE* issues for future reference.

Scholarships awarded to two impressive students again this year

Please join the Scholarship Committee and the WALPA Board in congratulating this year's winners of the Nancy Weller Memorial Scholarship and the WALPA Scholarship. Candidates for the 2009 scholarships – offered to university and college students in Washington and Idaho whose studies relate to WALPA's mission -- studied topics ranging from the structure of fish populations to the effect of riparian ecosystems on hormone levels in runoff. The scholarship committee was hard-pressed to choose just two winners from this year's pool of well-qualified applicants.

Although only two students could receive scholarships this year, we invite all applicants -- and all students -- to present their research findings at next year's WALPA conference, where student presentations always receive an enthusiastic hearing. Read on to learn more about this year's scholarship winners.

Nancy Weller Memorial Scholarship

Mary Sutton Carruthers is currently working on her MS in Environmental Science at Western Washington University. She spent last summer wading salmon streams to measure habitat characteristics for Skagit County. At the University of Vermont, where Mary Sutton completed her undergraduate studies, she fell in love with skiing. Like many before her, she was lured west by the mountains, where she can be found with her dog on her days off. Her thesis work examines the viability of replacing salmon carcasses with dried fish pellets in streams where carcasses are not available or can't be used due to pathogen concerns. Mary Sutton's research compares nutrient movement and assimilation by periphyton, bryophytes, and leaf pack communities in streams treated with carcasses and with fish pellets. Mary Sutton plans to stay in the Northwest after graduation to pursue research work with state and county programs that restore and preserve freshwater ecosystems. She is particularly interested in projects that involve salmon habitat restoration and forest stream interactions.



Mary Sutton Carruthers

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President's Message: Lakes need your help in the winter too!



Jacob McCann

Greetings WALPA members! As the snow begins to accumulate on the Cascades and Olympics in the West and the Selkirks and the Blues in the East, our minds turn from the kayak to the skis and from lemonade by the shore to cocoa by the fire. But our lakes remain, though with less traffic. During these colder months, much of the summer field work is compiled and analyzed; this is also our time to prepare for the coming year.

It is no different for WALPA, as these months find us reigniting our efforts in Olympia to bring positive change for our lakes. In 2010, WALPA will again be working to create a statewide lakes program and, in another bill, to ban phosphorus in residential lawn fertilizers. Both initiatives are vital to healing our damaged waterbodies and preserving our pristine ones.

Plan to join us for the second annual Lakes Day January 28th (see related article p.7), when board members will

gather in Olympia with lake residents and environmental scientists. We will meet our elected officials and explain the importance of these bills to the health of Washington's waters. Watch your e-mail for updates and announcements asking for your help; we will need it!

Despite cold winds and sparse sunshine, our lakes need us more than ever. Find out more at www.walpa.org and let your voice be heard on the issues important to you. Keep lakes in mind and enjoy the holidays!

Jacob McCann, WALPA President.

Should **WATERLINE** go digital?

Since more than half of WALPA members already request Waterline as an email, and since money and trees would be saved if the newsletter went paperless, the Board is considering changing to an online-only format. We want your feedback before we change anything, so please send any comments to beth.cullen@kingcounty.gov.

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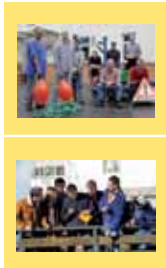
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Washington's Department of Ecology reports on this year's freshwater algae identification and toxicity testing

To address the concerns of lake residents and users, and provide information to health and environmental agencies, Washington State Department of Ecology (DOE) continued its freshwater algae program in 2009. Preliminary results of freshwater algae identification and toxicity testing can be found to the right.



*Blue-green bloom on Jameson Lake.
Photo: Courtesy of Tim Behne*

Every year, lake residents want to know whether blue-green algae blooms occur in their lakes, pond, and rivers – is it safe for them or their pets to swim in or drink the water? Citizens and local health districts need to know if a bloom is producing toxins and at what concentrations. The public often asks local health authorities and environmental agencies what to do if a toxic bloom occurs.

Laboratory tests are the only way to tell if a blue-green algae bloom is producing toxins. Because a single species of blue-green algae can have toxic and non-toxic strains, it isn't possible to predict a bloom's toxicity based solely on algae identification or on how the bloom looks. Furthermore, a bloom that is not toxic one day may become toxic the next.

Most algal scums are composed of several genera of blue-green algae, including *anabaena*, *microcystis*, *aphanizomenon*, *oscillatoria*, *lyngbya*, and *gleotrichia* (see chart below). *Woronichinia* is not known to produce toxins, although it occurs during many toxic blooms. Most times, blooms have several potentially toxic genera in one sample.

Summer 2009 may have been less toxic – why?

Fewer lakes had extreme concentrations of freshwater biotoxins last summer, though some fall results indicated higher toxicities. Marine waters saw fewer concentrations of the toxins that cause Paralytic Shellfish Poisoning this year, too. We do not yet know what causes this annual variability in toxin production in Washington's waters. As of November 1, 2009, samplers collected bloom samples from 70 water bodies in 20 counties for algal identification and blue-green algae toxin testing.

2009 Microcystins

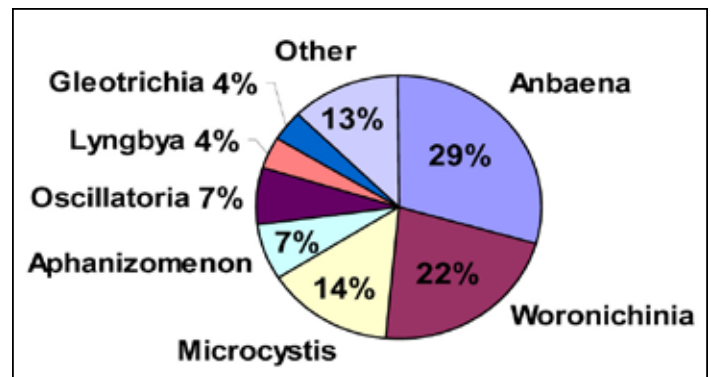
Of the 67 lakes tested for microcystin through November 2009, 42 lakes had detectable concentrations (> 0.05 µg/L). Eight lakes had levels above the state recreational guidance level of 6 µg/L but lower than 50, and 12 lakes had levels higher than 50 µg/L. Lake Spokane had the highest microcystin concentration detected this year -- 18,700 µg/L.

2009 Anatoxin-a

Of the fourteen lakes tested for anatoxin-a in 2009, eleven lakes had detectable levels of anatoxin-a and three lakes had levels over the state recreational guidance level of 1 µg/L. The highest anatoxin-a concentration detected was 144,000 µg/L in Anderson Lake.

2009 Illness Reports

During summer 2009, Washington's Department of Health (DOH) was asked to help determine the cause of more than 100 lake-related illness reports, though not all were HAB (Harmful Algal Bloom) related. While DOH is the only agency that can close a lake, toxicity data from the Freshwater Algae Control Program allowed local health jurisdictions and lake managers to focus their investigations appropriately.



Percentage of blue-green genera identified in algal samples since 2006

Scholarships awarded to two impressive students

Continued from front page

WALPA Scholarship

Timothy Caldwell is currently pursuing an MS at the University of Idaho. Originally from Pennsylvania, he holds an undergraduate degree in biology with a minor in environmental science from Lycoming College in Williamsport, PA. Most of his course work involved aquatic ecosystems in one way or another; Tim also completed a semester abroad at New Zealand's University of Waikato. His current research examines the role of the non-native opossum shrimp, *Mysis relicta*, in the nutrient dynamics of Lake Pend Oreille. He hopes that his work contributes to recommendations that help restore the lake's ecosystem. Tim enjoys fly fishing and hopes to spend some time after graduation continuing to work in the Northwest on issues related to lakes and fishing, including possible doctoral studies.



Timothy Caldwell

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Annual conference in Spokane includes call to action

At Spokane's Doubletree Hotel on September 22nd and 23rd, WALPA members gathered to catch up with colleagues and fellow members and learn from speakers on a variety of topics. Citizens, tribal staff, consultants, lake association members and government officials—more than 110 people altogether—attended the annual conference, this year called "Healthy Watersheds and Clean Lakes--Working for a Sustainable Future."

Jonathan Frodge, outgoing WALPA President, kicked off the event with a welcome and a call for WALPA members to be more engaged in lake issues. Ideas included leading an effort to reinstate a statewide lakes program and promoting lawn fertilizer legislation to keep lakes clean. Andy Dunau of The Spokane River Forum followed up on Jonathan's suggestions with a "tough love" pep talk about the need to follow up on research with action. NALMS President Harry Gibbons broke the exciting news that Spokane will be the site of the 2011 NALMS (North American Lake Management Society) International Symposium!

At Tuesday's lunch, Glen Rothrock from the Idaho Department of Environmental Quality and Dale Chess from the Coeur d'Alene Tribe discussed the Coeur d'Alene Lake Management Plan (LMP) and the multi-faceted approach its large scope requires. The history of the Coeur d'Alene basin, where once-thriving mining and timber industries have left a legacy of nutrients and minerals throughout the ecosystem, illustrates clearly that lakes can be the repositories of watershed activities. Dale also described a new model developed for the LMP that is designed to improve our understanding of the entire lake ecosystem and to predict water quality trends under various management strategies.

Other conference sessions covered topics from community and volunteer work to aquatic invasive species to toxic cyanobacteria. Members gathered for cocktails, snacks and networking Tuesday night and for

a business meeting at Wednesday's lunch. Members at the meeting selected new board members and discussed WALPA's public relations efforts to ban phosphorus from dish detergent.

Conference sponsors this year included Hach Hydromet, Earth Friendly Products, Clean Lakes LLC, AquaTechnex, Aquatic Environments Inc., Northwest Aquatic Management, LLC, Electronic Data Solutions, Cygnet Enterprises NW Inc., and Lakeland Restoration. The Washington Department of Ecology also provided important support. We sincerely thank these generous sponsors, who helped make the 22nd annual conference a great success.

The Board is still in the early stages of planning for WALPA's 2010 conference, but rumor has it we will be heading to the west side of the state. Stay tuned and save space on your fall calendar!



WALPA members do a little networking in Spokane

Join us in Olympia on January 28 to support clean lakes!

WALPA is promoting phosphorus lawn fertilizer legislation again this year; help us take it to Olympia one more time! Please join us on Thursday, January 28th for our second annual Lakes Day in the state capital.

This is our chance to turn out as a group and educate our elected officials on the importance of lakes and how we can protect them by reducing phosphorus use. Contact your representatives now to set up a meeting for

January 28th; this is the most effective way to convey your message.

To make an appointment, go to www.leg.wa.gov, look up your elected officials' e-mail, and request an appointment on the 28th. Last year we had a great turnout – let's keep the momentum going!

For more information on Lakes Day, contact Beth Cullen at beth.cullen@kingcounty.gov.



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Beaver dams may offer a natural solution to water storage

The staff of the Lands Council, based in Spokane, has been busy studying beaver dam complexes and identifying suitable habitat for beavers in twelve counties in Eastern Washington. They are working to make the case for “The Beaver Solution” – an innovative way to use nature’s engineers to store spring runoff in the upper Columbia River Basin as an alternative to building expensive new water storage dams. The Council’s report to the Department of Ecology (DOE) will estimate how much water beavers can store naturally, propose possible locations for beaver reintroduction, and address social and economic benefits.

Water stored behind beaver dams, including the surrounding groundwater, is released naturally and slowly, increasing flows in the late summer. Beaver dams create wetland areas that retain rain and snowmelt, improve water quality by trapping sediment, increase groundwater levels, and create fish and wildlife habitat. Historically, Washington was home to millions of beaver, but trapping nearly wiped them out by the late 1800’s and populations remain low. The Lands Council hopes to begin restoring beavers to suitable Eastern

Washington streams next year.

The study, partially funded by DOE, has taken Council staff all over the state, including a beaver dam complex at Sacheen Lake in Pend Oreille County. Beaver have maintained this complex for more than 20 years, storing over 50 acre feet of above-ground water each year and providing valuable rearing habitat for juvenile fish. While staff measured water depths behind most other beaver dams using chest waders, water in this complex is so deep that a boat was used to survey the ponds and surrounding wetlands. The Sacheen Lake complex is a prime example of the beneficial role beaver play in lake as well as river ecosystems, though it is important to note that this dam complex does require active management.



Beavers in the beaver dam complex at Sacheen Lake in Pend Oreille County.

For more information on The Beaver Solution, visit www.landscouncil.org.

or email aparrish@landscouncil.org. Don’t miss The Lands Council’s video on The Beaver Solution, produced by Hamilton Studio and Klündt | Hosmer and funded by Temper of the Times Foundation, Inc. You can promote The Beaver Solution by sharing the video with family, friends and colleagues.