

WATERLINE

JUNE 2008

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www.walpa.org

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WALPA Profiles: 2007 Scholarship Winners

With this issue of *Waterline* we kick off a new section called "WALPA Profiles." This section will focus on outstanding individuals and associations devoted to lake management and stewardship. Our first WALPA profile features our three 2007 WALPA scholarship winners: Brittany Wilmot, Melanie Johnson and Kelly Turner, who report on their lake research below. Come to WALPA's fall conference to hear more from these scholars!



Brittany Wilmot

Brittany Wilmot

WALPA scholarship winner Brittany Wilmot has just finished her junior year at Western Washington University-Huxley College of the Environment, where she is working toward a B.S. degree in Environmental Science-Watershed Ecology.

"The research I have been working on has to do with the dam removal on the Elwha River in Port Angeles Washington. I am studying microbial functional diversity in a lake created by one of two dams on the Elwha River. I have also done microbial genetic research on the periphyton found in the Elwha River, testing for microbial species, diversity, and abundance. Samples have been collected and I have performed test analyses on them. I am now inputting the data that will then need statistical analysis. My goal is to collect baseline data before the dams are removed so it can be compared to

post-dam removal data. This study is important because it will increase our understanding of how disturbances like dams can alter a watershed's ecosystem."

Melanie Johnson

Melanie Johnson, University of Idaho, received WALPA support for her work on "Protecting corridor function: the role and influence of zoning and stakeholder education."

As she describes her project, "The strong desire for people to live near open water, coupled with the ecological requirements of many plant and animal species to access this same water, means that lakeshore environments must be managed with great care. Commonly this is done through zoning regulations. To determine the impact of zoning regulations on maintaining habitat, I am examining



Melanie Johnson

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Join Us at the WALPA Conference in Snohomish County this September!

This year's WALPA conference, focusing on "The Science of Lakes," is scheduled for September 30 and October 1st at the Hawthorn Inn & Suites in Arlington. Session topics will include everything from Toxicity in Lakes to Citizen Activism to WALPA's Legislative Efforts: 2008 and Beyond. At a session on Aquatic Plant Management projects, we'll hear from Bijay Adams about managing milfoil in Liberty Lake and from Dan Smith about noxious weeds in Federal Way's North and Steel Lakes. Learn about phragmites, garden loosestrife, flowering

rush and more at the Emerging Aquatic Plant Issues session. Read the article on the next page for more conference details.

Register before September 15th and pay only \$130 for both days of the conference including lunch. Reserve your room at the Hawthorn Inn and Suites right away by calling 1.360.657.0500; mention the WALPA conference for a rate of \$90 per night. Contact Kelly McLain at kelm461@ecy.wa.gov or 360.407.6938 to learn more. We look forward to seeing you this fall!



WALPA Profiles

Continued from cover

an area in northern Minnesota where new zoning regulations were implemented to protect sensitive rural lakes in a landscape experiencing high development pressure. I will be investigating whether wildlife connectivity between habitat patches is maintained as use patterns change near lakeshores. I am examining connectivity in terms of a large mammal species, moose (*Alces alces*), and a bird species, wood duck (*Aix sponsa*). Each of these has life cycle needs for both aquatic and terrestrial environments, but their overall habitat requirements are very different. By identifying and examining the impacts associated with development, we can identify and prioritize conservation needs to address through zoning regulations and stakeholder education. Combining sound policy with the promotion of personal responsibility and sustainable use can protect both public and private natural resources."

Kelly Turner

WALPA scholarship winner Kelly Turner is an M.S. graduate student at Western Washington University studying freshwater ecology under Dr. Robin Matthews.

"Alpine environments represent the upper limits of terrestrial and freshwater ecosystems in both a physical and biological sense, generally characterized by exposed rock surfaces, steep gradients, extreme seasonality and highly specialized biotic communities adapted to these conditions. Within these environments, between the permanent snowline and treeline, three general types of stream systems have been defined based on their primary water source: krenal streams are glacially-fed; rhithral

streams are dominated by seasonal snowmelt; and krenal streams are groundwater-fed. The difference in water source affects these streams' physical and chemical properties as well as their resident organisms. Of the three, glacial streams embody the harshest, most unstable alpine environment for biota, especially in the summer when water temperature, flow, and concentrations of suspended solids fluctuate significantly each day as glaciers melt during the day and refreeze at night. To better understand the differences between glacial and non-glacial aquatic systems, my thesis research will compare aquatic invertebrate assemblages between glacial and non-glacial lake outlets in Washington's North Cascades.



Kelly Turner

Last summer, I collected aquatic insect and water quality samples from several glacial and non-glacial lake outlet streams in the western part of North Cascades National Park between August 31st and September 20th. I have processed the water samples and am currently in the lab sorting and identifying the aquatic invertebrate samples in Western's Institute for Watershed Studies lab. I am excited to present my results at the WALPA conference next fall."

Here's What's in Store at "The Science of Lakes" 9/30-10/1/08

After a pre-conference workshop by Hach Environmental on Monday afternoon, September 29, the conference kicks into full gear on Tuesday with a plenary session, followed by your choice of Aquatic Plant Management projects, chaired by Kathy Hamel of the Washington Department of Ecology; or Lake and Reservoir Science chaired by Karl Mueller from ENVIRON International.

The choices only get harder after Tuesday's lunch: should you discuss emerging Aquatic Plant issues chaired by Jenifer Parsons of the Washington Department of Ecology? Or investigate Citizen Activism with King County's Michael Murphy? Later Tuesday afternoon, tune into a session on WALPA and the Legislative Process led by Jonathan Frodge from King County, or learn more about lake modeling/data from Joe Ravet of the University of Washington.

Wednesday's sessions will look at Lake Monitoring with Norm Dion, or Student Work chaired by Bijay Adams. Next comes Urban and Suburban Lake Issues chaired by Gene Williams of Snohomish County or Toxicity in Lakes led by Shannon Brattebo from Tetra Tech. After lunch, the

business meeting, scholarship awards, and more, comes the final joint session that everyone's been waiting for: Blue-Green Algae by Jean Jacoby of Seattle University.

You won't want to miss a minute of the conference – plan now so you can join us in September!

Are you a WALPA member?

Annual dues rates:

\$15 - students

\$20 - individuals

\$30 - professionals

\$40 - organizations & lake associations

\$10 - individuals who belong to lake associations that are WALPA members

The membership year runs between annual conferences or from April 1 through March 31 if the conference schedule changes.

Send your membership dues to: WALPA, P.O. Box 4245
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Have You Seen this Snail?

The Chinese mystery snail (*Cipangopaludina malleata* var. *chinensis*) was first documented in the Pacific Northwest more than forty years ago, but very little has been written about its introduction or its impacts on local fauna and ecosystems since then. In the 1960's the snail was reported in Seattle's Green Lake and a lake in the San Juan Islands. Recently, the mystery snail has been identified in at least 12 King County lakes, raising concerns about how widespread it may actually be in our region.

Anecdotal reports from as long ago as 1892 maintain that the snail was sold for food in Chinese markets in both San Francisco and Vancouver, BC. It is equally likely, though, that the mystery snail was introduced into our waters from hobby aquariums emptied into ponds and lakes. Because of their eating habits, the snails have been marketed by pet stores as a way to control algal growth and reduce bottom litter in aquariums.

Some hobbyists prefer the Chinese mystery snail because their large size makes them more conspicuous and less likely to be eaten by aquarium fish, especially compared with the much smaller native freshwater snail species.

Their size also makes them easy to see in the shallow water of lakes. They seem to prefer the warmer water near shorelines

and can be seen inching along soft sediments, looking for food in clear water.

In addition to their large size, Chinese mystery snails can be identified by their smooth, thin, greenish-brown shells and the hard covering over the shell opening called the operculum.

A similar species about which even less is known is the Japanese mystery snail (*Cipangopaludina japonica*). It may also be present in some local lakes; very similar in appearance to the Chinese mystery snail, it can be distinguished by subtle differences in shell characteristics.

While they may be eaten in some parts of Asia (one website offers a recipe for Mystery Snails in Wine Sauce), eating these snails is not recommended. In their native habitat, mystery snails are known to harbor parasites like flukes and schistosomes (the parasite group responsible for swimmer's itch in our area).

If you see a snail in a Washington lake that looks like the one

pictured here, please report it to the Washington State Department of Fish and Wildlife's invasive species program. To report sightings of the snail or any aquatic invasive species or to talk about related issues, contact Pamala Meacham at 360.902.2741, meachpmm@dfw.wa.gov



The Chinese mystery snail
(*Cipangopaludina malleata* var. *chinensis*)

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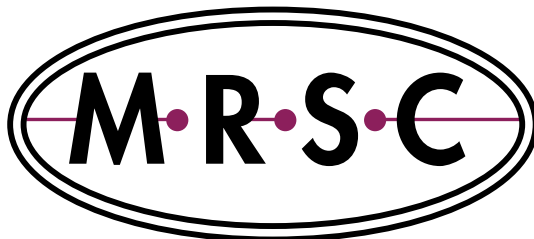
Non-profit Offers Free Help to Lake Management Districts

The Municipal Research and Services Center is a non-profit organization created in 1969 to “work together for excellence in local government through professional consultation, research and information services.” MRSC provides local government entities with advice and information about legal and policy issues to help them run smoothly. In 2007, special districts, including Lake Management Districts, were added to their client base. MRSC services are funded through a biennial contract with the Municipal Research Council, so individual cities, counties, and special districts pay no fees.

If your special purpose district has an inquiry about governance, visit MRSC’s website (www.mrsc.org) and select “Research Request” under the Research Tools heading. The website links to more than 200,000 documents about local government in Washington State: weekly news, sample documents, responses to

common questions, state statutes and administrative rules, court decisions, and more.

Many MRSC publications are on the web, too, and may be downloaded. Of particular interest to special purpose districts is the recently updated *Knowing the Territory – Basic Legal Guidelines for Washington City, County and Special Purpose District Officials*, which includes an overview of key legal doctrines that apply to elected local government officials. You may want to look at its sections on the Open Public Meetings Act, Public Records Act, Conflict of Interest, Appearance of



Fairness and more.

MRSC staff are also available to help with training in these areas. If you would like them to visit an upcoming association conference, or want any other information, please contact MRSC staff at **206.625.1300** or www.mrsc.org

Dangerous Aquatic Weeds

Continued from back page

many of us learned in school, the Greek philosopher Socrates died by drinking poison hemlock. A related species, water hemlock, is a native plant and thus not listed as noxious, but is equally poisonous, if not more so. In March 2008, a Talent, Oregon newspaper reported that several elementary and middle school students were hospitalized after being told that water hemlock was wild parsley and safe to eat. They experienced extreme vomiting, hallucinations, and numbness, but all recovered. Both poison and water hemlock are common in wet areas around lakes.

Giant hogweed is another weed to watch out for – it looks like the native cow parsnip on steroids. Each plant can grow to 15 feet tall and has huge leaves topped with large white flower clusters (umbels). Avoid giant hogweed’s clear, watery sap. It contains toxins that, combined



The sap of the beautiful but poisonous yellow flag iris can cause severe blistering or irritation

with sun exposure, can produce painful, burning blisters that may develop into purplish or blackened scars. Blisters can occur as much as two days after exposure to the sap. There have been reports of children playing with the hollow stems of giant hogweed and suffering severe skin reactions. The sap can also cause temporary or even permanent blindness.

Parents – and all of us – should learn to recognize poisonous noxious weeds, educate children and others about them, and remove them – carefully. For information about how to identify, control and remove noxious weeds, visit the Washington Noxious Weed Control Board site: <http://www.nwcb.wa.gov/> which includes links to county weed boards and other useful sites.

(Iris and milfoil photos courtesy of Washington State Department of Ecology)

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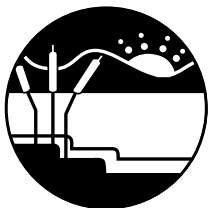
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Watch for Dangerous Aquatic Weeds this Summer

Noxious weeds are non-native, invasive, and problem-causing plants listed on Washington's Noxious Weed list – think Scotch broom, tansy ragwort, and Canada thistle. In addition to these familiar terrestrial weeds, increasing numbers of freshwater, wetland, and wet-area noxious weeds grow in Washington. All noxious weeds cause environmental and/or economic problems, but some of them can also be downright dangerous to human health and safety. Eurasian watermilfoil is a notorious plant invader – and grows underwater in more than 100 of Washington's lakes and rivers, forming dense surface mats in the summer. Other noxious weeds that form mats in many Washington lakes include parrotfeather milfoil and Brazilian elodea.

Dense vegetation and swimmers are not a good mix. Plants can tangle around swimmers' arms and legs, and in rare circumstances a weak swimmer or a child may panic and drown. If a swimmer gets into trouble underwater,

dense vegetation makes it hard for lifeguards to spot him below the surface mat. People and even animals

have drowned in areas with dense surface vegetation. In addition, dense plants slow water movement and create stagnant areas – perfect mosquito habitat. Mosquitoes are a real nuisance, but can also carry diseases like the West Nile virus.

Many lakeshores are lined with the beautiful but invasive yellow flag iris – also a state-listed noxious weed. Most people do not realize that yellow flag iris is poisonous – its sap can cause severe blistering or irritation and if ingested, it can cause vomiting and diarrhea. Yellow iris roots are toxic to humans and livestock; it causes gastroenteritis in cattle even when dry.

Other poisonous noxious weeds that thrive in wet areas include poison hemlock and giant hogweed. Poison hemlock, which looks like Queen Anne's lace (also a noxious weed) or parsley, is very toxic. Any part of the plant is poisonous; as



Eurasian watermilfoil grows in more than 100 Washington lakes and can form dense surface mats each summer.

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