President’s Corner

By Colin MacLaren, PNW Chapter President

PNWSWS: Past Presidents’ Poll

Several months ago I sent a questionnaire to the 14 individuals that once served as President of our Pacific Northwest Chapter. The intent was multifaceted. I asked them to describe and reflect on past achievements, to provide insights into how past boards functioned, and to contribute ideas and concepts that the current board might act upon. The responses, received by 12 of the 14, were thought provoking, insightful, and both inspirational and cautionary.

The questions:

1. What is the most lasting memory of your term?
2. What achievement are you most proud of?
3. What do you wish you had done……or could do now?
4. What is the most important function or role for SWS?
5. Are you currently a member of SWS? Are you involved with SWS?
6. In your view, is SWS improving, remaining static, or losing ground?
7. Are there other comments you wish to include?
8. Are there other questions I should ask?

Responses to the first two questions, almost uniformly, revolved around planning, organizing, and carrying out annual chapter meetings. Many took pride in the effort and organization needed to pull off successful meetings; just as many expressed what loosely could be described as post-traumatic syndrome from the hours committed and stress endured. This issue prompted action well before I joined the board, which resulted in biennial meetings (previously annual) and assistance from professional meeting organizers. Both are, in my opinion, positive moves that have helped maintain the high quality on display at chapter events.

One of the more interesting responses came from Dyanne Sheldon. During her term, the Chapter held a professional ethics workshop. Dyanne’s words tell the story best:
“We hosted a discussion on “ethics” facilitated by a professional…and one of the most enlightening findings of that workshop was how much distrust and lack of mutual respect there was between the private sector and public sector staff. The two groups were nearly perfect mirror images of each other’s perceptions and pre-judgments. To the point that some of us attending the workshop laughed at how similar the feelings were from one side about the other side….the mutual distrust, sense of not being respected, sense of being harshly judged…

The ensuing discussion was insightful for all of us and for a time, helped to open a better dialogue between agency staff and the private sector staff. That was so long ago that several generations of staff on all sides have come and gone…and I suspect a very small minority of those still practicing in the field were present and participated and still carry the message of commonality from that day.”

One of SWS’s goals is to nurture engagement and communication. To me, Dyanne’s anecdote embodies the potential benefits that may be gained simply through such ‘mixing.’ Learning from this, the SWS board is promoting a series of locally sponsored events, formal and informal, to help increase collaboration opportunities throughout our region. If you wish to host an SWS mixer in your local area and would like chapter support, please don’t hesitate to contact a board member to discuss your idea. Be on the lookout for announcements on the web site of upcoming events.

In response to other president’s comments, the current board is taking steps. We are laying the groundwork for subcommittees to address member diversity, early career support, and ‘emerging issues,’ we are stepping up student-oriented services, and we are considering ways to bridge the gap between academicians and practitioners. This last issue will be tested at the upcoming Joint Aquatic Sciences Meeting to be held in Portland in May 2014.

And finally, Suki Cupp posed a question that I now put to you:

If there is interest from the membership, SWS may post the complete responses to the chapter web site. In the interim, below is my attempt at summarizing and organizing responses into general categories.

SWS’s Most Important Role:
Teaching, training, and promoting wetland science

Ideas for achieving those ends:
1. Engage students/young scientists – mentoring programs, orientation
2. Committees populated by experts in focused fields – would hold training/lectures/socials
3. Larger role in advocacy for wetland causes – representation before legislation, etc…

1. Cautions for the Board: Too large of a gap between practitioners and academia
2. Incredible effort needed for/pride in pulling off chapter/national meetings
3. Too little understanding/commonality between private/public entities

Inspirations:
1. Ethics panel’s discovery of private/public rift
2. Opportunities to interact in ways other than as professionals on projects – relationship-building opportunities
3. “All about the people”

*List of Past Presidents
7. Emily Roth 1998 – 1999
12. Dana Field 2003- 2004

http://www.sws.org/about/sws_history.mgi

Cheers
Colin MacLaren, President
Linking SWS-PNW to Local Universities

By Nate Hough-Snee, Executive Vice President

The SWS-PNW is trying to improve our outreach and recruitment efforts across Washington, Oregon and Idaho. A large part of this is in recruiting students and recent graduates to become involved in the Society and local chapter. To this end, the board has created a brief online survey designed to help connect the Chapter to local colleges and universities. We would like to identify SWS-PNW members who are actively involved with their current college or university, alma mater or otherwise work or volunteer within Pacific Northwest institutions of higher education. If you are currently attending, working at or volunteering with a college, university, junior or technical college, please consider taking a brief survey. Participation is non-binding and may help the Chapter to provide better student outreach for scholarship, grant and conference opportunities.

You can link to the survey at: http://tinyurl.com/swspnw

American Carbon Registry Approves Restoration of Degraded Deltaic Wetlands of the Mississippi Methdology for Greenhouse Gas Emission Reduction Accounting

The American Carbon Registry (ACR), a non-profit U.S. carbon market standard and registry, has approved deltaic wetland restoration in the Mississippi Delta area for carbon offsetting utilizing methods developed by Dr. Sarah K. Mack of Tierra Resources LLC, with contributions from Dr. Robert R. Lane and Dr. John W. Day. While the methods were approved specifically for the Mississippi Delta region, it may eventually be expanded to other regions and utilize other wetland restoration practices.

The ACR provides certification of volunteer carbon sequestering projects and methodologies, and provides technical assistance in the development of standards, methodologies, tools, and protocols.

Methodologies approved by the ACR include such methods as, Conversion of High-Bleed Pneumatic Controllers in Oil and Natural Gas Systems, Emission Reduction through Truck Stop Electrification, and Improved Forest Management on U.S. Timberlands.

According to the ACR website, Restoration of Degraded Deltaic Wetlands of the Mississippi Delta quantifies increases in carbon dioxide, methane, or nitrous oxide are quantified and reduced from the calculated net emissions reductions.

The methodology provides all the tools and formulas to determine quantifiable carbon sequestration. Details about the methods and documentation can be found here: http://americancarbonregistry.org/carbon-accounting/carbon-accounting/restoration-of-degraded-deltaic-wetlands-of-the-mississippi-delta.

Society of Wetland Scientists Offers Student Research Awards SWS-PNW Awards Committee

By Nate Hough-Snee, Executive Vice President

Each year the SWS and SWS regional chapters collectively sponsor student grant awards to undergraduate and graduate-level student researchers. The 2013 student grant competition is now open. Students may submit proposals for awards of up to $1,000. The Pacific Northwest Chapter is sponsoring three awards: a $1,000 award and two runner-up $500 awards. Preference for SWS-PNW national awards will be given to applicants performing research, attending school or residing in the Pacific Northwest. Students who apply will be considered for the national awards and regional awards, but may only receive one award. Grant applications will be accepted online through February 15, 2013, with recipients being notified by April 30, 2013.

Details on award requirements and how to apply may be found at: http://www.sws.org/studentgrants/index.mgi

Second Annual Chapter Photo Contest

By Karla Van Leaven, Co-Secretary

Photo by 2012 contest participant/winner, Jared Kinnear.

The Pacific Northwest Chapter of the Society of Wetland Scientists will be hosting its second annual wetland
photograph contest this spring/summer. Thanks to all those who submitted photos last year…we are enjoying our 2013 calendars!

In April 2013, SWS members will be informed of the photo contest details. Entries are expected to be collected from June through August, and then online voting will take place for one month. At least twelve winning photos will be selected by online voters and displayed in a beautiful, full-color, high-quality calendar available for sale on the PNW Chapter website. Winners will receive a FREE calendar.

Start snapping! Subjects should be wetland-related and located in the Pacific Northwest region. Photos must be in digital format, 11 x 8.5 inches with at least 300 dpi resolution (approximately 3300 x 2550 pixels), and in landscape (horizontal) orientation. Cell phone photos typically do NOT have high enough resolution. Please e-mail darcey.miller@otak.com if you have any questions.

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**Call Before You Dig: Washington State Law**

*By Scott Luchessa, Chair Ethics and Policy Committee*

The Underground Utility Damage Prevention Act became effective in Washington on January 1, 2013. The law found at RCW 19.122 (http://apps.leg.wa.gov/rcw/default.aspx?cite=19.122) requires you to call at least two days before excavating any holes more than 12 inches deep with few exceptions. Failure to call before digging that results in damage to underground utilities may make you liable for damages. Excavation is defined as moving or displacing earth, rock, or other material on or below the ground by any means. Unless exempt, you must provide notice of proposed excavation to all owners of underground utilities by calling the locator service (see below). Following receipt of the notice from the locator service, the owner of the underground utility is required to provide “reasonable accurate information” regarding the location of its locatable underground utilities by surface marking the location. The utility owner is required to respond within two business days of receiving a notice before the proposed excavation date and time, but the excavator is required to have locatable utilities marked on the ground before digging (see RCW 19.122.030 for more details). In general the onus is on the excavator. The Utilities and Transportation Commission is responsible for implementing this law and the one-locator telephone number service for locating underground utilities. You can have underground utilities located for free by calling the Utilities Underground Locations Center at (800) 424-5555 or by visiting www.callbeforeyoudig.com. You will need to provide the address where the work is taking place (or township, section and range), a description of the work being done, the area where the utility lines need to be located, and the date(s) work will be taking place. According to the one-page fact sheet published by the commission (http://www.utc.wa.gov/consumers/Documents/2008-9-UTCFactSheet-CBYD.pdf), you will be provided a tracking number for your locate request that should be kept. The call center then notifies the companies that may have lines in your work area and you will be notified if they will not be marked within two days of the date work is scheduled to begin. If you have any problems getting utilities located, call the commission at (800) 562-6150. There are some limited exemptions to this call before you dig process, but these are quite narrow. The law states that an excavation of less than 12 inches in depth on private noncommercial property is exempt, if the excavation is performed by the person or an employee of the person who owns the property on which excavation is being performed (see RCW 19.122.031 for exact language and other exemptions most of which do not appear to be applicable to investigations likely to be conducted by wetland scientists). The locator service is supposed to provide an excavation confirmation code. Any excavator (that includes a person using a shovel or auger to investigate whether hydric soils are present on a site) that fails to notify one-number locator service and causes damage to a hazardous liquid or gas pipeline is subject to a civil penalty of up to $10,000 for each violation (RCW 19.122.055). There are other potential penalties too. More information is available on the Washington Utilities and Transportation Commission webpage at http://www.utc.wa.gov/publicSafety/pipelineSafety/Pages/CallBeforeYouDig-DigLaw.aspx or by calling the general information number at (360) 664-1160.

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**Invasive Species Corner: New Zealand Mud Snail (Potamopyrgus antipodarum) Invasion in the Pacific Northwest**

*By Lizbeth Seebacher, Program Vice-President*

New Zealand Mud Snail (*Potamopyrgus antipodarum*)

Synonyms: *Potamopyrgus jenkinsi*, *Hydrobia jenkinsi*

Phylum: Mollusca

Class: Gastropoda

Order: Mesogastropoda

Family: Hydrobiidae
The New Zealand Mud Snail (NZMS) is here in the Pacific Northwest and this highly invasive species is spreading, invading new waterbodies. Found in both freshwater and brackish environments, this nocturnal grazer feeds on plant and animal detritus, algae, sediments and diatoms.

**Description**
The mature NZMS is very small, typically three to six mm long (1/8 of an inch) in its introduced range with a shell that is elongated and dextral (with whorls leaning to the right). The shells usually have five to eight whorls and are light to dark brown, sometimes grey. The operculum (round plate sealing the mouth of the shell when body is inside) is thin, covering the oval aperture and is noticeable on live snails but not on dead snails. The New Zealand Mud Snail shells are typically narrower, longer and have more whorls (5 - 8) than most native snails. Another distinction that can be used in the field or back at the lab could be the fact that this invasive are live bearers, releasing embryos, not eggs and therefore, the presences of newly released live young may indicate an infestation or crushing a few of the larger snails to examine for embryos can give you an idea. There are, however, a few other native genera that are live-bearing snails in the western U.S. (*Tryonia, Eremopyrgus* and *Melanoides*).

**History**
The NZMS is native to streams and lakes in New Zealand and has naturalized in Australia and Europe. It is believed that the populations currently found in west were introduced via rainbow trout eggs from New Zealand or Australia. It is now found in ten western states and Canada. This invader was first discovered in Idaho’s Snake River in 1987 and by 1995 had invaded the Madison River in Montana and into the Yellowstone National Park shortly thereafter. In 1997, this invader was found at the mouth of the Columbia River in Oregon and in the Owens River in California. Currently, the NZMS is found in the Colorado River in Arizona, in Utah, Lake Ontario and Lake Erie, and Lake Superior.

In the Puget Sound region, the snails were found in Capitol Lake in Olympia in 2009 and have now infested Valley and Kelsey Creek near Bellevue and Lake Washington and Thornton Creek near Matthews Beach on Lake Washington (see figure 1). In Oregon, the NZMS is found throughout western Oregon, and in Central and Eastern Oregon in the Deschutes River, Flat Trout Creek, Mecca Flats, the Snake River, the Malheur River near Ontario and the Owyhee River.

The NZMS is considered a prohibited species in Washington State and in Oregon are not classified. Live snails cannot be possessed, imported, purchased, sold, exchanged, etc. without a state permit. Idaho requires a permit for any wildlife or wildlife eggs, however the NZMS are not specifically regulated.

**Impacts**
Some infested streams in North America have reached up to ¼ million mud snails per square meter! In some western streams, densities of 300,000 snails per square meter altering the nitrogen and carbon flows in a system and consuming huge amounts of gross primary production. The operculum also allows for the snail to pass from the gut of fish undigested and alive and therefore, providing no nutrition to the fish. The densities in which this species obtains causes the possible displacement of native invertebrates. An article from the Corps of Engineers states that five native mollusks in the Snake River have been listed as endangered, partly due to the establishment of the NZMS. The native fauna is impacted by a decrease in herbivorous invertebrates and the invertebrates most preferred by salmonid species, mayflies, stoneflies, caddisflies and chironomids have been shown to have a negative correlation with NZMS densities. Domestic water supplies can also be impacted by the buildup of the snails in the water supply. In the same Corps of Engineer article, it was noted that Australia has had issues with the snails emerging from the water taps!

**Ecology**

The NZMS prefers littoral zones of lakes and streams and can tolerate siltation and high flow environments where it digs into the sediment. This snail is not picky with regard to the type of sediment or water body it will occupy. From eutrophic lakes, ponds, streams, lagoons, estuaries (0-15 ppt), ditches etc with silt, sand, mud, concrete or vegetation to clear running water with rocky, cobble or gravel, it loves it all. It has a temperature tolerance of up to 28°C to near freezing and a salinity tolerance of up to 30-35 ppt for short periods of time. These snails can survive passing through the digestive tracts of many fish. It has been noted as moving at > 1 m/hr on its own and up to 60 meters upstream in three months through positive rheotactic behavior. Control measures do not exist at this time. Killing the snails is very difficult once released into the environment. Subjecting them to heat, desiccation and/or a hard freeze can kill them, although they can withstand short periods of desiccation, especially in moist conditions. A potential biological control measure, the Trematode from New Zealand is a possible biocontrol, but a lot more research is needed.

**Biology and Reproduction**

The NZMS snacks on diatoms, plant and animal detritus, epiphytic algae and periphyton, resulting in the reduction in biomass of the periphyton impacting the stream ecosystem processes and interactions. In the western U.S., the most common mode of reproduction is from triploid, parthenogenetic females. These are asexual females born with developing embryos in their reproductive system. These females typically produce twice the number of daughters as sexual females do. Diploid, sexual female and male populations are very rare in the western U.S.

A more mature female is able to brood from 10 to 90 embryos (larger females producing more embryos, beginning when shells reach 3 mm) and produce throughout the year in favorable conditions, with reproduction taking place predominantly between March and October. Each female can produce up to 230 young per year. Females are able to reach maturity at a ripe young age of three to six months of age!

**What are the pathways of introduction and spread?**

It was more than likely introduced into North American Great Lakes via ballast water from ships from Europe. In the western U.S., it is thought to have been introduced with the live eggs of trout from Australia. The other means of introduction to new streams and lakes could be you! The small size and presence of the operculum that covers the opening of the snail, allows the snail to survive out of water for a period of time, hitchhiking on recreational equipment and field gear, and on the fur and feet of wildlife and domestic animals.
What can you do?

We need your help! Many of the new infestations in King County are thought to have been spread by biologist and others via their field gear. The best way to control the spread of the New Zealand Mud Snail is to prevent them from entering a water body in the first place. Familiarize yourself with which streams and lakes are infested and stay out of those infected lakes and streams. Do not go from one stream or lake into another without going through the decontamination procedures listed in the documents below. If you have to enter infected water bodies, use dedicated gear for those streams that is not used anyplace else. Scrub your gear using the procedures described here, allow to dry out and freeze for a minimum of six hours between uses. Keep your dogs out of infected streams and spread the word to your colleagues about where the snails are found and what they can do to stop spreading them.


If you think that you have found NZMS, please verify with the Washington Invasive Species Council (Hotline 1-877-9-INFEST) [http://www.invasivespecies.wa.gov/report.shtml](http://www.invasivespecies.wa.gov/report.shtml) if in Washington and in Oregon call 1-866-INVADER to report it.

References:

Aquatic Nuisance Species Task Force (ANS) New Zealand Mudsnail (*Potamopyrgus antipodarium*)

Environmental Protection Agency (EPA) Region 10: the Pacific Northwest. New Zealand Mudsnail (*Potamopyrgus antipodarium*)

Aquatic Nuisance Project Fact Sheet, Species: New Zealand Mudsnail (*Potamopyrgus antipodarium*)


Colorado Parks & Wildlife – Colorado Dept of Natural Resources. New Zealand Mudsnail [http://wildlife.state.co.us/WILDLIFESPECIES/PROFILES/INVASIVESPECIES/Pages/NewZealandMudsnail.aspx](http://wildlife.state.co.us/WILDLIFESPECIES/PROFILES/INVASIVESPECIES/Pages/NewZealandMudsnail.aspx)

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Aquatic Nuisance Species Task Force (ANS) New Zealand Mudsnail (*Potamopyrgus antipodarium*)

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Aquatic Nuisance Project Fact Sheet, Species: New Zealand Mudsnail (*Potamopyrgus antipodarium*)


Colorado Parks & Wildlife – Colorado Dept of Natural Resources. New Zealand Mudsnail [http://wildlife.state.co.us/WILDLIFESPECIES/PROFILES/INVASIVESPECIES/Pages/NewZealandMudsnail.aspx](http://wildlife.state.co.us/WILDLIFESPECIES/PROFILES/INVASIVESPECIES/Pages/NewZealandMudsnail.aspx)

Lies: Wetlands, Development, and the Ethical Dilemma of the Consultant/Client Relationship

By James Guzman, Co-Secretary

It seems every profession has its share of individuals that are willing to utilize questionable means to accomplish some goal or another. If you want to know why we have so many laws you need only to remind yourself that there is no shortage of individuals more than willing to ignore ethical, social, and even legal obligations in order to maximize profit margins.

The shopping list of incidents over the course of just my lifetime is both long and disturbing, not to mention extraordinarily damaging to individuals, communities, and
even whole global economies and the environment. Enron, J.P. Morgan, Bernie Madoff, and the home mortgage crisis are just a few large scale examples of questionable business practices that have saturated the headlines over the past couple decades.

Dishonest actions and behaviors can be found in any profession at any time in history. Anyone working in wetland science for any length of time has probably witnessed such behaviors at one time or another. I know I have.

Some years back I was called by a potential client to take a look at a property that the landowner wanted to subdivide and develop, but was asked to provide a wetland report as there was at least one stream and wetland on the property clearly visible from the main highway. I showed up to the site armed with my usual arsenal of shovel, Munsell, and other wetland related paraphernalia. Half the property was in the process of being logged, and he used a nice little loophole that allows one to build a logging access road through a wetland to conduct the logging, and then would use that same road for his subdivision. Problematic to say the least, but that’s another issue.

I explored the property, placed flags, took data, and conducted myself in all the normal ways in which someone of my profession should conduct himself. Specifically, I was hired to look at two of the proposed lots only. Contractually, this is all I was asked to look at, and thus would have to state clearly in my report where the study area was and what the limitations of the report were due to the limited study area. This happens frequently enough that I wasn’t surprised by it, and most people only want to pay for the exact minimum of what the jurisdictional agencies will accept to approve a project.

The landowner stated during my site visit that he hired someone else to do the work, but didn’t like her report. Far from me to turn down work, I took the job and started my own delineation. I noted during my site visit that the person that did the work before me still had her flags up. As much as I tried to ignore her flag placement, I found myself placing my flags to within about three feet of her wetland boundary during the entire process. Shocking I know, that two trained professionals using the same Army Corps methods would come to the same conclusions.

I finished my field work and let the landowner know that I didn’t think my study would be any different accept in one small area where I felt there was a break in the wetland and the water followed a short stream drainage into a second wetland, whereas she just called it all one unit. From a buffer perspective, it didn’t make much of a difference. I told him if he already had a report he might as well just use it. He thanked me and said he just liked me better and that it was worth it to have my report instead.

A few days later I received a phone call from the landowner asking if I had come back to the property to take pictures. I said no. The tone of his voice suggested that he was very concerned about this mystery photographer and the potential problems the photographer could cause. He asked if I could come down to the property and look at something with him. I said sure, then asked my boss if he’d join me on this little jaunt as I suspected trouble of some kind and felt like I could use some back-up.

We pull into the site where the logging is taking place and he takes me to a part of the property I didn’t conduct my study and he tells me this was the area the mystery photographer was taking pictures. I knew from his discussions that we were standing in an area he intended to develop. The ground was torn up from the logging activities, but it also appeared that soil was moved and roughly graded over the area. I looked down and could see slough sedge (Carex obnupta) leaves sticking out from the freshly placed soil. Things were becoming very clear now.

The landowner didn’t like the other person’s report because she came out to the property before it was logged, did a study of the whole property, and discovered this wetland in the process. The location of the second wetland conflicted with his development plans, so he hired me, shrunk the study area, and was going to try and use my report for him to develop in the wetland. Nice try buddy.

I politely explained that I now knew about this wetland. It’s within 300 feet of my study area, and I would have to include it in my report. He promptly paid me for the work I did to date and asked me not to write the report. I drive by this location sometimes now, and marvel at the notion that the landowner may very well have found someone to write a report favorable to his intentions, whether it was to the delineator’s knowledge or not. Sometimes I wonder if I should have reported the individual. At times I have informed regulators of landowners that were overtly lying and/or were trying to hide information necessary to make informed property planning decisions.

As a consultant, it is my job to assist landowners in developing properties in ways that cause the least environmental impact. At what point on the tipping scale does my client relationship loyalty shift towards my commitment to do what’s right for the greater good of
society and the environment? That question is not easy to answer, but is worth evaluating on a regular basis if consultants are to fulfill our ethical duties as wetland scientists.

Chapter Board Meetings

By James Guzman, Co-Secretary

The PNW Chapter Board conducts quarterly board meetings via conference call. These meetings are open to the general membership and you are encouraged to attend. If you have questions, concerns, want to get involved or are just curious please feel free to attend the meetings. Our last meeting was held on January 30, 2013 from 6:00pm to 7:00pm, and our next meeting is scheduled for April 24, 2013. If you are interested, please contact Colin MacLaren at cmaclaren@parametrix.com or Nate Hough-Snee at nate@natehough-snee.org to receive the agenda and conference call information.

SWS 2013 Annual Meeting, June 2-6 in Duluth, Minnesota: Call for Abstracts and Travel Grants Available

By SWS Staff

It's not too soon to start making plans to attend the 2013 SWS Annual Meeting, June 2-6 at the Duluth Entertainment Convention Center in downtown Duluth, Minn. Checkout the meeting website for details!

Abstract collection site now open
All individuals working in ecological, hydrological, biogeochemical and social sciences pertinent to wetland ecology, management and policy are invited to submit an abstract describing the results of their studies by Friday, March 8. Instructions, guidelines and important dates are available online through our recently enhanced abstract platform. Create an account to get started! SWS student members are invited to compete for the best student oral and poster presentation awards. Simply indicate your interest in participating through your online submission!

Travel grants available
International travel awards provide financial assistance to wetland scientists from developing countries that are disadvantaged through regional economic conditions to enhance their participation in Society activities through a travel grant to the Annual Meeting and a three year complimentary SWS membership. Apply online by Friday, March 8.

Student travel grants available

The Pacific Northwest Chapter of the Society of Wetland Scientists would like to encourage student participation at our regional and national meetings. Currently, the chapter is sponsoring student participation at the annual meeting in Duluth, MN June 2-6, 2013. We would like to announce the availability of funds to assist students with the costs associated with traveling to and from the meeting to present their research.

The Award: The PNW Chapter will make one award for the upcoming annual meeting. The award includes meeting registration fee and a cash stipend of $1,000 to help offset travel and lodging expenses.

Eligibility: This competition is open to all currently registered graduate and undergraduate students regardless of location. However, preference will be given to students living, researching or attending a university within the Pacific Northwest chapter region (Washington, Oregon, and Idaho). Students need to submit their conference abstract with their application. The deadline for abstract submittal for the international meeting is March 8, 2013.

- The deadline to receive student scholarship applications for the International meeting is April 15, 2013.

To Apply: Submit proof of current student status (photo copy of a university ID or letter from academic advisor), a copy of your submitted SWS abstract, a one-page resume and a short (1-2 page) letter describing your studies, your career goals and why you would like to receive this award. Applications can be mailed or emailed to Nate Hough-Snee (nate@natehough-snee.org), c/o Utah State University Dept. of Watershed Sciences 5210 Old Main Hill Logan, UT 84322-5210 (435-755-3584).

Non-Regional Conference Calendar

By James Guzman, Co-Secretary

Conferences occur all over both in and outside the United States that are associated to wetland or related sciences. Provided here is a list of conferences and associated important dates. If you know of other conferences that should be included in this section in future editions please forward the web link to jguzman@earthworkse nv.com.

International Association of Hydrological Sciences (IAHS)

February 15, 2013: Deadline to Register at the EARLY Discounted Registration Fee
March 21, 2013: Deadline to make hotel reservations at the Reitz Union Hotel.

March 31, 2013: Deadline to make hotel reservations at the host hotel Holiday University Center

Website: [http://www.conference.ifas.ufl.edu/gq13/](http://www.conference.ifas.ufl.edu/gq13/)

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**Calendar of Wetland Classes and Workshops**

*By James Guzman, Co-Secretary*

To better serve our members we have included a list of wetland related classes and workshops occurring in the Pacific Northwest. If you know of other organizations that offer classes please forward the web link to jguzman@earthworksenv.com.

**Coastal Training Program**

Contact: [http://www.coastaltraining-wa.org/](http://www.coastaltraining-wa.org/)


**Northwest Environmental Training Center**

Contact: [http://nwetc.org/](http://nwetc.org/)

- Nearshore Ecological Restoration, Protection, and Enhancement: March 5-6, 2013. Seattle, WA
- Aquatics Permitting: March 7, 2013. Seattle, WA
- Introduction to ArcGIS10 and Environmental Applications: March 28-29, 2013. Olympia, WA
- Aquatics Permitting: April 11, 2013. Portland, OR

**Portland State University Environmental Professional Program** ([http://epp.esr.pdx.edu/](http://epp.esr.pdx.edu/))

- Environmental Planning, Permitting, and Project Management: February 21, 2013. Portland, OR
- Basic Wetland Delineation: March 18-22, 2013. Portland, OR
- Grasses, Sedges and Rushes of the Pacific Northwest: April 2-3, 2013. Portland, OR
- Hydric Soil Indicators for Regional Supplements: April 17-18, 2013. Portland, OR
- Principals of Streambank Analysis and Stabilization: May 14-16, 2013. Portland, OR
- Wetland Plants of the Pacific Northwest: June 10-14, 2013. Portland, OR
- Wetland Hydrology Indicators and Problem Situations: June 19-20, 2013. Portland, OR


- Wetland Mitigation, Construction, and Installation Series: April 8-12, 2013. Everett, WA
- Assessing Wetland Functions and Mitigation Credits: May 6-8, 2013. Coeur D’Alene, ID
- Grass, Sedge, and Rush Identification for Puget Sound Lowland Habitats: June 24-26, 2013. Seattle, WA

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**SWS Funds Available for Wetlands Workshops**

*By Jeff Walker, Past Newsletter Editor/Secretary*

The PNW Chapter Board is encouraging applications for SWS support to conduct workshops on relevant topics. The application can be found on the chapter website: [http://www.sws.org/regional/pacificNW/workshop.html](http://www.sws.org/regional/pacificNW/workshop.html)

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**SWS PNW Consultant Directory**

*By Karla Van Leaven, Co-Secretary*

The PNW Chapter hosts a quarterly updated consultant list on the website:


The only requirement to be on this list is current SWS membership. If you would like to be added to the list or have your information updated, contact Karla Van Leaven at KarlaVanLeaven@gmail.com and James Guzman at jguzman@earthworksenv.com.
Thank you!

**Update your contact information**

The Chapter uses the current SWS membership list to email newsletters. Make sure your information is current to receive a copy:

http://sws.org/
Site=SWS&WebCode=LoginRequired

**Ooze News Corrections**

The article titled, *Wetland Vegetation Reestablishment Following Large Sedimentation (Burial) Events*, should have listed Dennis Albert as Todd J. Lemein’s advisor, not John Harrison.

**Ooze News Deadlines for Articles**

Articles and announcements are welcomed and appreciated for the winter edition of the Chapter newsletter, Volume 23 Number 2, no later than April 15, 2013. Please send associated documentation to co-secretary's Karla Van Leaven at KarlaVanLeaven@gmail.com and James Guzman at jguzman@earthworksenv.com. We will review your information for submission to the Ooze News.

Thank you.