



# Ooze News



Society of Wetland Scientists – Pacific Northwest Chapter – [pnw.sws.org](http://pnw.sws.org)

Late Summer 2010

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## President's Corner

*By Leandra Cleveland, PNW Chapter President*

Greetings to everyone,

I realized while watching the news recently that it is a relief to no longer see pictures of oil spilling freely into the Gulf on the television or in the paper. But what now? A recent (early August) estimate reports that nearly 206 million gallons were released into the Gulf of Mexico. Far bigger than the 1989 Exxon Valdez tanker accident (11 million to 35 million gallons) or the 1979 Mexican Ixtoc I well blowout (150 million gallons). Yet, many reports have noted that nearly all of the oil has disappeared from the Gulf waters (captured, evaporated, skimmed, dissipated, or eaten by microbes).

For the coastal marshes and wetlands along the coast, the damage has been done and the oil remains. So how will these unique and important wetlands fare in the months and years to come? As wetland scientists we understand the importance of wetlands in the greater ecosystem. Along the coast those wetlands also provide a vital buffer against hurricanes and support a rich bounty of marine species. BP estimates that 108 square miles of marshland has been hit by the oil. This may account for only 2% of Louisiana's coastal wetlands, but that doesn't diminish the importance of the damaged wetlands to local ecosystems and economies.

What I find most interesting is the resilience these wetlands have shown thus far. The wetlands are not a dead wasteland as many predicted. There are still marine species in the waters and beneath the oil there are sprigs of green as the marshes slowly recover. In a recent *USA Today* article, Karen McKee, an active SWS member and research ecologist at the National Wetlands Research Center in Louisiana stated that the marshes actually resist oil because of the hydrocarbon-metabolizing microbes found in these systems. If the oil doesn't penetrate the soil then the rhizomes and life blood of the vegetation remain largely unaffected even as the leaves and branches above ground die back. But a major storm or underwater oil plumes could move the oil into the soils and affect the long term resilience of these species. There are still many

unanswered questions about long term effects, not just from the oil but from the various treatments used to remove it, as well as unknowns about how wetlands will react to emulsified oil (most studies to date have been on crude oil).

I don't know how the coastal marshes will weather this storm but our colleagues in the Gulf States and around the world are chiming in and conducting research to try to understand these effects and develop creative solutions for minimizing the effects. There does appear to be some hope on the horizon or at least the glimmer that the worst case won't come to fruition. Past President Andy Baldwin started a webpage on SWS (<http://sws.org/oilspill/>) to track articles and other information related to this spill and I encourage all of you to take time to read the many articles. Oregon and Washington are just as likely to have a tragedy similar to this occur. What we learn today may just be useful tomorrow in our own backyard.

### ***Fairy Shrimp in Washington***

*By Vikki Jackson, Northwest Ecological Services and Elizabeth Binney, Pacific Ecological Consultants*

Fairy Shrimp in Washington?

Yes, and what an amazing sight they are.

We have found these graceful macroinvertebrates within a number of wetlands in Western Washington. Frequent encounters with anostracans (fairy shrimp) have led us to begin a research project to find out which species are present and where exactly they are living.

Fairy shrimp (or tadpole shrimp) are well known in California and on the east coast, however documentation in Washington is lacking. The only review of anostracans in western Washington is by Raymond Coopey, published in 1950 in which he describes records from Seattle of the Oregon fairy shrimp (*Eubbranchipus oregonus*). We are in our second year of study documenting anostracan species presence and habitat associations.

Fairy shrimp are a smallish freshwater crustacean in the class Brachiopoda (which translates to gilled feet). They have been placed in the order Anostraca shared with the more familiar brine shrimp. Many remember brine shrimp from our childhood "Sea Monkey" experiences. Brine shrimp occur in non-marine saline habitats; whereas fairy shrimp occur in freshwater pools. The anostracan order is made of many genera and occur world wide. Fairy shrimp are designated as "obligate" indicators of vernal pool habitats.

Fairy shrimp have interesting life histories that are specifically adapted to seasonally inundated habitats. They emerge from a cyst that protects a pre-developed larvae or nauplii. The cysts are highly resistant to wide temperature swings, desiccation for long periods, and other environmental insults. The cysts hatch and release larvae very soon after the habitat is inundated. We have observed visible nauplii within days of wetland inundation. The newly hatched nauplii mature quickly. The mature fairy shrimp life cycle is dependent on the length of time their wetland remains inundated, this may range from a couple of weeks in the most extreme desert areas to up to six months or more in our region. The adults mate and the fertilized egg, now referred to as a cyst, develops internally within the female. The female lays the cysts throughout her short life. Some cysts may hatch out immediately resulting in multiple generations during a season; whereas other species will only have a single generation. Unhatched cysts present in the wetland will remain until the wetland is inundated again. The cysts are adapted to irregular inundation and can remain viable for many years while they wait for their wetland to fill again. They will even pass through the digestive tract of animals and survive to hatch.

Our work has started in northwestern Washington in Whatcom, Skagit, Thurston and San Juan Counties. To date we have only detected a single species of anostracan, the Oregon Fairy Shrimp (*Eubbranchipus oregonus*). Currently we have positive identification of shrimp in 31 wetlands at 24 sites. Our current focus is on documenting what species are present in Washington and Oregon and what habitats they use. As the data build we hope to work on future questions such as habitat characterization, life history, sensitivity to habitat disturbance, predators, and climate change effects.

As part of our study we would like to reach out to the membership for assistance. We have posted a data form on the Pacific Northwest Chapter of SWS website <http://www.sws.org/regional/pacificNW/>. If any of you happen to come across fairy shrimp in your work and/or travels we would very much appreciate it if you could take the time to download, complete a data form and send it to us. We will be acknowledging everyone giving us a hand. Anyone wishing to discuss our project more please contact us at [vikki@nwecological.com](mailto:vikki@nwecological.com), [ebinney@pacificecologic.com](mailto:ebinney@pacificecologic.com).



Photo by E. Binney

**Invasive Species Corner – Knotweed**

*By Lizbeth Seebacher, Secretary/Newsletter Editor*

Non-native invasive plants are generally the biggest hurdle to successful restoration in our mitigation sites. The knotweed species (Japanese, giant, and Bohemian, the hybrid of Japanese and giant knotweeds in the genus *Polygonum*) are increasingly becoming the most difficult species to control. If any of these species are found on or near your mitigation site, it is imperative that eradication measures take place as soon as possible.

Japanese and giant knotweeds are perennial, originally from Asia, and spread primarily by vegetative means. Contrary to popular belief, knotweeds do also reproduce sexually in the U.S. and are able to produce inter- and intra-specific hybrids. It has turned out to be a formidable invasive plant based on the depth and extent of the large, robust rhizomes and its ability to propagate from stem or rhizome fragments as small as 1 cm. The Washington State Knotweed Control Program (<http://agr.wa.gov/PlantsInsects/Weeds/Knotweed/Knotweed.aspx>) has spent over 4 million dollars in just five years, from 2004 to 2008, on control measures (Oregon spent \$60,000 last year on knotweed control; Idaho does not track knotweed control costs).

Knotweed species are found in a wide range of habitats, yet are generally found in riparian areas and floodplains. The impacts of this invasive species are extensive; not only do the knotweeds form dense monocultures, excluding native species, the rhizomes release allelochemicals impacting the availability of nutrients to surrounding vegetation. Recent research at the University of Washington found that giant knotweed (*Polygonum sachalinense*) communities also significantly impact the quality of litter at leaf fall and therefore the amount of foliar nitrogen transferred to the riparian environment.

Due to the dominance of the rhizomes, providing efficient control and eradication of the knotweeds relies on the ability to poison the storage parenchyma in the rhizomes and to have the herbicide of choice infiltrate into the rhizomes. From a recent journal article by Bashtanova et al. (2009) on chemicals used for knotweed control, it was noted that imazapyr (Habitat®) provided over 90% control (97% in one study) when compared to glyphosate (AquaMaster), which provided 56% control. Synthetic auxins commonly used in herbicides were studied and yielded a wide array of results.

Unfortunately, the rhizomes buds can be “weak sinks” for a greater part of the year and herbicides work best when applied while rhizome buds are growing, or are considered “strong sinks” (see tables below). To break the dormancy, one possible approach is to clip the shoot apices to overcome the apical dominance. Other suggestions for this are to use phytohormones, sugars and light regulation. Xylem-mobile herbicides are another alternative allowing the herbicide to be transported with the flow of water during times of bud dormancy or early in the growing season when the rhizome is rich with resources.

Conclusions from Bashtanova et al. (see tables below) suggest techniques such as cutting shoot apices, phytohormones, sugar, or light to activate dormant rhizome buds in order to increase the distribution of the herbicide to the rhizome via the phloem; using xylem-based herbicides to eradicate the older dormant rhizomes that may help the plant to recover during other control measures; and using phloem-mobile herbicides during certain seasons to completely stamp out the knotweed community.

<b>Beginning of the growing season</b>
Rhizome resources depleted (intensive growth of shoots)
Rhizome = strong source
Application of xylem-mobile herbicide to poison rhizome parenchyma OR contact herbicides to kill leaves, but preserve apical buds

<b>Middle of the growing season</b>
Protein synthesis in the rhizome (developing storage capacity)
Rhizome = weak sink
Application of phloem-mobile herbicide to interrupt protein synthesis (glyphosate and imazapyr)

<b>End of the growing season</b>
Allocation of nitrogen and carbon from shoots to the rhizome
Rhizome = strong sink
Application of phloem-mobile herbicide to interrupt phloem transport (imazapyr and synthetic auxins)

Bashtanova, Uliana B., Beckett, K. Paul, and Timothy J. Flowers. *Weed Science* – 2009 57:584-592  
 See also Urgenson, Lauren S., Reichard, Sarah H., and Charles B. Halpern. *Biological Conservation* – 2009 142:1536-1541



Japanese knotweed photo from <http://www.co.stevens.wa.us/weedboard/>

## ***Soil and Wetland Scientist Certification in Washington – Update***

*By Scott Luchessa, Immediate Past President*

On the morning of July 14, proponents of the proposed legislation SSB 5698 to certify soil and wetland scientists in Washington held a meeting at the WSU Puyallup Research and Extension Center. In addition to the proponents, eleven people attended the meeting to review and work through concerns on the current bill language. The purpose of the meeting was to provide an overview of the process to date, major changes in the bill made in response to comments from other stakeholders, and review/discuss any concerns with the revised language. A revised bill reflecting revisions from this and other meetings will be introduced in the 2011 legislative session.

### ***Overview***

Dan Ufnar, current President of the Washington Society of Professional Soil Scientists (WSPSS), provided a brief presentation on the background and need of certification efforts for soil and wetland scientists. Scott Luchessa, Immediate Past President of the PNW SWS, outlined the major changes that were made between the 2009-2010 legislative sessions to the wetland scientist provisions of the bill. These changes were made based on comments and concerns provided by wetland scientists during 2009 testimony and previous meetings. There has been little change to the soil scientist provisions of the bill. Lisa Palazzi and Jim Wiggins also provided additional information and perspectives. All but one of the attendees, excluding the bill proponents, were primarily interested in the wetland scientist certification. Therefore, almost all of the discussion focused on provisions pertaining to wetland scientist certification and issues and concerns raised by the participants. More than two hours were spent listening to the comments of the attendees and answering questions and addressing comments. Below is a brief summary of the major topics and items discussed at the meeting. For a more complete discussion of topics covered and a current version of the bill go to <http://www.soilandwetlandscientistcertification.net/>.

### ***Title Act vs. Practice Act***

The difference between a Title Act and Practice Act was explained by the proponents of the bill. A title act results in certification for those who wish to call themselves “state certified soil scientist” or “state certified wetland scientist.” It was acknowledged that should the legislation pass, at least some municipalities would likely adopt this certification in some form as a way to identify individuals qualified to carry out wetlands-

related work necessary to comply with Critical Areas Ordinances (CAOs). It was pointed out that many municipalities already define who can conduct this work within their jurisdictions, such as Pierce, King, and Thurston Counties, and some have adopted the SWS Professional Wetland Scientist (PWS) standard (e.g., Cities of Anacortes and Bellingham). The proponents pointed out that one of the benefits of a title act vs. a practice act is that instead of regulating a narrowly defined practice, the title act allows us to regulate the entire profession of soil and wetland science. For example, instead of limiting regulation to only wetland delineation or soil mapping (as is the case in a few other states), a title act regulates all professional work performed by someone using the title of state certified soil or wetland scientist. This provides stronger consumer protection as well as recognition for the full range of work carried out by our professions.

### ***Minimum Amount of Experience***

At least some participants were concerned about the minimum amount of experience necessary to qualify for wetland scientist certification. Some thought that the minimum amount of 3 years experience was not enough, and in fact fell below the 5 year standard of most comparable certification or licensing programs. Proponents explained that past comments from other colleagues in the industry indicated that they thought that 5 years was too much, so the requirement was dropped from 5 to 3 years in an earlier draft.

Those certified by the SWS Professional Certification Program (PCP) as PWS will meet the minimum education and experience requirements stipulated in the bill. Past versions of the bill specifically included this as an alternate pathway to certification, but the Department of Licensing (DOL) asked that we remove any reference to PWS [as well as any reference to Certified Professional Soil Scientist (CPSS), Certified Professional Soil Classifier (CPSC), and Registered Professional Soil Scientist (RPSS)] out of concern that the definition in the private organizations could change in the future.

### ***Business and Professions Account***

Concern was raised about why we are lumped in with the business and professions account with so many apparently unrelated professions. Proponents explained that DOL placed us in this group. Initial costs of beginning to set up the Board and certification process would borrow from this account. Then once application and renewal fees are received as part of operating the certification program, the account would be paid back with interest. In other words, professions in this account have the benefit of being able to borrow against this account in order to obtain the initial

seed money for beginning the soil and wetland scientists' certification program. Otherwise, we would have to ask the legislature for seed money from the general fund, and in this economy, that would not be approved.

### *Letters of Reference*

Letters of reference are also required as part of the application process. It was asked what kind and how many references would be required and perhaps a number should be stated. Proponents explained that DOL prefers to retain flexibility and did not want a number specified initially. Following passage of legislation, existing programs would be researched to come up with a standard that makes sense. The SWS PCP program could be a relevant example of the types and number of reference letters that might be required for wetland scientists if this legislation passes.

### *Exemptions for Public Agency Employees*

Some concerns were raised that public employees would be exempt, which was perceived to be unfair. However, public employees are not exempt. The exemptions to the lawful use of "certified wetland scientist" or "certified soil scientist" (rather than "State-certified" wetland or soil scientist) are actually added for clarification, but even so do not apply to all public employees. Only federal employees and people carrying out research and writing papers associated with their work at academic institutions are listed. And even they would not be allowed to use the title "state-certified..." It is important to recognize that certification is voluntary and **not required** and only applies to use of the titles "state certified soil scientist" or "state certified wetland scientist." Those that choose not to become state certified will not be prevented from continuing to practice their professions and make a livelihood for themselves unless and until local municipalities choose to adopt state certification as the sole definition of what level of accreditation is necessary.

### *Grandfathering*

Concern was expressed that some practitioners with many years of experience but no formal college degree might not be grandfathered (i.e., meet the minimum specified education and experience requirements). Proponents explained that the Director of the Department of Licensing (Director) and Board that would be established if the legislation passes would have a certain amount of discretion to evaluate each case to determine if certification is warranted. At any rate, an applicant will have to make a case for why they should qualify for certification, but every effort will be made to certify qualified individuals even if they have non-standard training. Assuming passage of legislation in the

2011 session, the initial grandfathering period would end July, 2014 (i.e., a three year grandfathering period).

### *Professional Exam after Grandfathering Period*

Questions were raised about the type and content of an examination. Those that apply after the grandfather period ends will be required to take an examination. An applicant must pass an examination developed or accepted by the Board. The bill now indicates that an examination will be held at least annually "at such time and place as the board determines."

### *Costs*

At this meeting and others, practitioners have raised concerns about costs. Cost is not significant for any individual client but part of overhead born by any firm whether a sole practitioner or larger entity. For firms with multiple practitioners (soil or wetland scientists), it was clarified that not everyone practicing soil or wetland science would need to be certified even if it were to become a regulatory requirement at the local government level (i.e., CAO). If there were a regulatory requirement, comparable to firms that have a P.E. who signs design work carried out by people under their supervision, at least one senior person or the head of the company would need to become certified. Uncertified individuals would need to have their work overseen by a certified individual.

As per WA State law, any kind of certification or licensing program must be self-sustaining. By combining both soil and wetland scientists together, there is a bigger pool of potential participants which will reduce the per-participant costs of administering the program (i.e., the fiscal note). The 2010 fiscal note was based on a smaller number of potential participants (455); application cost for initial application and certification was \$600, and annual certification renewal fees were \$400. Surveys completed last legislative session by proponents indicated that there were significantly more (825) potential participants. The larger the pool of applicants, the smaller the costs - as fees are shared equally. With double the number of potential participants the proponents would anticipate the original fiscal note costs to decrease by as much as half. A new fiscal note will be prepared by DOL next session, when requested by the legislature when the new bill is brought before Committee for a hearing. Costs are thought to be comparable to becoming a certified PWS, CPSS, or CPSC.

### *Value of Certification*

Some folks have questioned the value of certification when they are already a certified PWS. Though there is a complaint process, it was noted that SWS PCP has never revoked an individual's PWS certification. Even if PWS certification was revoked, it would not affect an

individual's ability to continue to do wetlands work. By contrast, if this proposed legislation passes and an individual wants to call themselves a state certified wetland scientist or state certification becomes a de facto standard, losing it becomes more meaningful. An individual that lost state certification from a sustained complaint could no longer use that title or practice wetland science should this certification become a de facto standard. An ancillary benefit of a de facto standard would be greater parity with other professions, some of which now try to practice wetland or soil science but are doing a poor job and giving those of us that do consistently good work in these fields a bad name.

### ***Liability***

Individuals at this and past meetings have raised questions about whether passage of this legislation would establish a new standard by which liability of practicing wetland or soil scientists would be judged, or potentially increase liability. Perception of the proponents and others appeared to be that certification would neither create a new standard nor increase potential liability. We live in a litigious society. If a state certified soil or wetland scientist is hired and the client does not like the outcome, there is always potential for a legal claim. Industry standards do not change as a result of passage of this legislation. The standard used is whatever common practice is for those in the industry at the time work is completed. So, should a claim be filed, the legal standard is and would remain for a hearing examiner or judge to determine whether the practitioner used methods commonly applied for similar situations at the time such work was completed. Practitioners were recommended to carry liability insurance, which helps reduce liability and protect against such claims.

### ***Certification Renewal Frequency***

It is unclear what the renewal frequency is in the bill. The current bill provides discretion for the Director to establish renewal frequency and establishes clear financial penalties for late renewal but no clear renewal frequency. Based on other programs it is likely that renewal would be required on an annual basis. This is an issue that would be resolved during rule making.

### ***Continuing Education Requirements***

The continuing education program requirement will be developed later. DOL has indicated a preference for maintaining some flexibility and not stipulating any particular program. Following passage, existing example programs, such as the SWS PCP or SSSA, would be examined to provide a possible template. The SWS PCP continuing education credit requirements might be a

model of what might be expected for wetland scientists; or conversely, the system used by the SSSA might be used as a template for soil scientists, or a completely separate program might be developed. The state will make every effort to simplify, but to also ensure that the certified individual is seeking out regular professional training and interaction with peers.

### ***Suggested Language Revisions***

Proponents requested that if attendees had specific concerns that have not been addressed by these discussions to please consider providing suggested language revisions to improve the bill. Please send suggested revisions for alleviating concerns to Dan ([ufnar@hotmail.com](mailto:ufnar@hotmail.com)), Scott ([sluchessa@environcorp.com](mailto:sluchessa@environcorp.com)), Lisa ([lisa@pacifricrimsoilandwater.com](mailto:lisa@pacifricrimsoilandwater.com)), or Jim ([atsi@fidalgo.net](mailto:atsi@fidalgo.net)).

## ***Call for Volunteers – Let's go to Boise!***

*By Greta Murdoff, Program Vice President*

Volunteers are needed to help organize the Fall 2012 Pacific Northwest Chapter SWS Conference in Boise, Idaho. If you find yourself with a few extra hours this year, what could be more fun than spending time helping your local wetland society plan for the next conference?! Or maybe you've been pondering some different ideas you'd like to see incorporated into the next conference. Now is your chance to make a difference! We need volunteers to help organize a number of important conference activities such as: planning or leading field trips and workshops, and organizing special sessions. We also need help in contacting potential local sponsors for this event. Most of the organizing activities and coordination are done via regularly scheduled conference calls. If you have ever helped to organize a technical meeting and can pitch in or if you are interested in learning how to organize a meeting, this is your chance to contribute. Please e-mail me if you'd like to join in the fun ([greta@murdoffcs.com](mailto:greta@murdoffcs.com)).

## ***Speaking of Meetings – What Happened in SLC?***

*By Leandra Cleveland, PNW Chapter President*

Annual International Meeting in Salt Lake City

From June 27 to July 2, the annual international SWS meeting took place in Salt Lake City, Utah. The theme this year was Playas to Peaks and the nine field trips highlighted the diversity of Utah's wetlands from the Great Salt Lake system to the mountains. Several workshops and a host of technical sessions including climate change, biogeochemistry, nutrient loading, wetland functions and assessment, remote sensing, estuarine wetlands, mitigation, policy and regulations, and hydric soils, to name a few, provided a full agenda of interesting wetland

topics. Check out the abstracts on the international website for more exciting details.

Several plenary speakers including Nikolay Aladin, Terry Chapin, Ross Coleman, Duncan Patten, Wendy Fisher and Arthur Morris provided intriguing talks to start off each day of the conference. Nikolay Aladin spoke about the changes, both positive and negative, of the rapidly disappearing Aral Sea in the former Soviet Union as part of his lifelong research of the Aral Sea through the communist years, and the new governments of the various countries surrounding this resource. See *Reclaiming the Aral Sea* at <http://www.wioc.wisc.edu/pac/readings/reclaiming-aral-sea.pdf> or Google Nikolay Aladin for more information about this interesting story.

Terry Chapin, a Professor of Ecology at the University of Alaska Fairbanks discussed his research about the effects of changes in climate and wildlife on Alaskan ecology and rural communities and integration of native peoples' traditional knowledge into the science of ecology. Terry is President of the Ecological Society of America (ESA) and will be working with SWS officers and the SWS Human Diversity Committee members to help expand the human diversity program of SWS based on ESA SEEDS program – see ([http://www.esa.org/education\\_diversity/](http://www.esa.org/education_diversity/)).

Wetland mitigation in the West was the main focus of Ross Coleman's presentation. Similarly, Duncan Patten spoke about his research on the ecology of wetland and riparian ecosystems in the intermountain west. Rounding out the plenary speakers, Wendy Fisher and Arthur Morris discussed the effectiveness of conservation easements on wetland protection and restoration in the west.

You may recall that one of the functions of the Chapter President is to represent the membership at the SWS Board Meetings, one of which occurs during the annual international meeting. Although not an all-inclusive summary, the following are the highlights from the board meeting. Once meeting minutes are available they will be posted to the Chapter webpage.

#### Meeting Highlights:

- Two elected positions were officially announced at the meeting: President Elect – Ben LePage (Scott Luchessa lost in a close election by a few percentage points) and Secretary General Elect – Kim Ponzio from the Southeast Atlantic Chapter.
- The 2010 budget is on track. There were a few years in which the budget dipped into the red

and it was nice to see that 2009 finished up in the black and 2010 is slated to do the same.

- Chapter reports were provided by the various chapter presidents in attendance. Our chapter remains one of the most active chapters. Keep up the good work!
- Human Diversity Committee continues to promote the undergraduate mentoring program for students of underrepresented groups. Seven students were awarded for the Salt Lake Program. I had the opportunity to mentor one of those students and I found it to be a very rewarding experience and would highly recommend it to anyone interested in doing so in the future.
- Publications Committee is looking for a new editor for the Wetlands Science and Practice publication.
- Ways and Means Committee proposed a recommendation to the board to increase the cost of Life Memberships from \$1,000 to \$1,500. This motion was passed and was based primarily on rising maintenance costs as this fee has not changed since 2006.
- Education and Outreach Committee is looking for additional volunteers.
- The next international meeting is scheduled for July 3-8, 2011, in Prague, Czech Republic. The 2012 meeting is still being finalized but is slated for Orlando, Florida as part of a joint meeting with WETPOL.
- A new strategic plan for 2010-2015 was adopted. This plan can be viewed on the international website.
- A Ramsar Section was created to make it the sixth section available to the membership (see below).
- A South American Chapter was created.
- Lastly, the Governance Restructuring which would have modified our current representation on the international board was not approved by the board.

### ***SWS Sections – Ramsar***

*By Leandra Cleveland, PNW Chapter President*

Over two years ago SWS embarked on a new venue – Sections – for collectively sharing and collaborating on important issues to wetland scientists. Sections allow SWS members to network and promote activities that address subject areas ranging from science to policy. To date, there are six active sections: Biogeochemistry, Global Change Ecology, Peatlands, Wildlife, Women in Wetlands, and the newest section Ramsar. To highlight the new Sections and gain greater exposure, the next several newsletters will

provide an overview of each section. This edition will highlight the Ramsar Section.

At the International SWS meeting in June this year, the creation of the Ramsar Section was approved by the international board. A Ramsar Section aims to facilitate the transfer of scientific information and technical advice between the bodies of the Ramsar Convention and SWS as well as to facilitate the development of joint educational activities and community programs. The section will also promote a better understanding among SWS members of the Ramsar Convention and promote the involvement of SWS members in the development of research, management, and educational programs at Ramsar sites and other wetlands. The Ramsar Section goals include:

- Encourage scientific and technical collaboration between bodies of the Ramsar Convention and SWS.
- Stimulate discussions of Ramsar related issues via symposia, Internet discussion and informal networking.
- Provide opportunities and support for students working on Ramsar-related issues through granting of research awards and educational outreach at special symposia and poster sessions at the annual meetings of the SWS.

This section is new enough that the website has not yet been developed so check back for updates on this new and exciting addition to the Sections. As a SWS member you can join one or more sections. For more information visit the SWS Sections webpage at:

<http://www.sws.org/sections/>

### **Wetland Podcasts**

*By C. Mirth Walker, Secretary/Newsletter Editor*

The SWS PNW Chapter is sponsoring a link on our website to wetland-themed audio podcasts developed by Per Johnson of Shannon and Wilson. These audio podcasts will cover a variety of topics affecting natural resource professionals and will showcase projects and lessons learned by Shannon & Wilson and others. Check out Episode 1: Mitigation Banking in Washington State. Kim Harper and Christina Merten with the Washington State Department of Ecology and Gail Terzi with the U.S. Army Corps of Engineers participate on the Interagency Review Team and discuss the development of mitigation banking in Washington State. Victor Woodward with Habitat Bank, LLC also takes us on an audio tour of the Snohomish Basin Mitigation Bank.

Submit ideas for future podcasts to Per Johnson at [pcj@shanwil.com](mailto:pcj@shanwil.com).

### **Calendar of Wetland Classes and Workshops**

*By Leandra Cleveland, PNW Chapter President*

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 [leandra.cleveland@hdrinc.com](mailto:leandra.cleveland@hdrinc.com).

#### **Portland State University Environmental Professional Program**

**Contact:** <http://epp.esr.pdx.edu/>

- Stream Reconnaissance and Assessment Tool:  
September 21-24, 2010. Portland, OR
- River Restoration and Analysis Tool:  
October 19, 2010. Portland, OR
- River Restoration Design:  
November 1-5, 2010. Portland, OR

#### **Wetland Training Institute**

**Contact:** <http://wetlandtraining.com/>

- Oregon Rapid Wetland Assessment Method:  
September 13-15, 2010. Portland, OR

#### **Washington Department of Ecology Training Opportunities:**

<http://www.ecy.wa.gov/programs/sea/wetlands/education.html>

#### **Richard Chinn Environmental Training, Inc.**

**Contact:** <http://www.richardchinn.com/>

- Wetland Delineation and Management Training:  
September 13-16, 2010. Eugene, OR
- Regional Supplement Wetland Delineation Training:  
September 16, 2010. Eugene, OR
- Wetland Delineation and Management Training:  
February 8-11, 2011. Seattle, WA
- Regional Supplement Wetland Delineation Training:  
February 11, 2011. Seattle, WA

#### **Coastal Training Program.**

**Contact:** <http://www.coastaltraining-wa.org/>

- Using the Revised Washington State Wetland Rating System in Western Washington:  
October 5-6, 2010. Lacey, WA
- How to Determine the Ordinary High Water Mark  
October 20-21, 2010. Lacey, WA
- How to Use Wetland Bank Credits for Mitigation:  
December 8, 2010. Bellevue, WA

#### **The Seminar Group**

**Contact:** <http://www.theseminargroup.net/>

- 19<sup>th</sup> Annual Oregon Water Law  
November 4-5, 2010. Portland, OR

**Facebook**

*By Ralph Garono, PNW Past President*

The PNW Chapter of SWS is now on FACEBOOK at [www.facebook.com](http://www.facebook.com). Look for the PNW SWS Group.

**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 form can be found on the chapter website:  
<http://www.sws.org/regional/pacificNW/workshop.html>

**SWS PNW Consultant Directory**

The Chapter posts a consultant list on our website:  
<http://www.sws.org/regional/pacificNW/SWSConsultantList.pdf>  
The only requirement to be on this list is current SWS membership. If you want to be added or need to update your information, please contact Mirth Walker at [cmwalker@swca.com](mailto:cmwalker@swca.com) with SWS Consultant List in the subject line. The list will be updated quarterly.

**Update your contact information at the Society of Wetland Scientists website:**  
<http://www.sws.org/login.mgi?r=address>

The Chapter requests an updated membership list prior to each newsletter mailing.

**Ooze News e-Newsletter**

*By Andrew Ray, Executive Vice President*

The SWS PNW Chapter board of directors discussed ways to reduce our ecological footprint while improving our operational efficiency. To that end, we proposed to convert the *Ooze News*, our quarterly newsletter, from a paper format to a completely electronic version or e-newsletter. For those members without access to email or the internet, we will mail you the newsletter in paper format. We are confident that this change will not only reduce our overall ecological footprint but will improve the speed and success of newsletter delivery and reduce overall publication costs. These costs represent a significant amount of the annual operating budget and an e-newsletter will not only decrease our growing demand for paper but reduce costs associated with printing services, toner, ink, electricity, and postage that are part of our current newsletter process. Our goal is that savings realized through this change will be used to strengthen our outreach efforts to engage new members

and the citizens of the Pacific Northwest into the world of wetlands.

**Ooze Newsletters are available online:**  
<http://www.sws.org/regional/pacificNW/>

**Ooze News Deadlines for Articles**

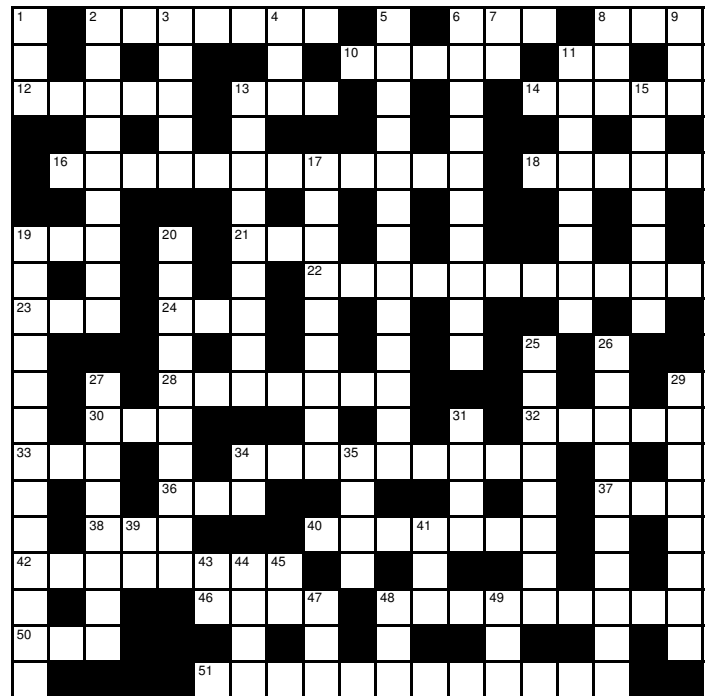
October 15, January 15, April 15, July 15  
Please send articles, items of interest, announcements, or research needs to Mirth at [cmwalker@swca.com](mailto:cmwalker@swca.com) or to Lizbeth at [Lizbeth.A.Seebacher@usace.army.mil](mailto:Lizbeth.A.Seebacher@usace.army.mil).

**Membership Statistics**

*By C. Mirth Walker, Secretary/Newsletter Editor*

SWS PNW Chapter membership, as reported by Burk, Inc. on August 23, stands at 372, with 196 Washington, 110 Oregon, and 15 Idaho members. Other members hail from Alaska, Alabama, California, Colorado, Delaware, Florida, Georgia, Louisiana, Maryland, Minnesota, Montana, North Carolina, New Hampshire, New Jersey, Ohio, South Carolina, Virginia, West Virginia, and Wyoming. International members reside in Australia, Canada (British Columbia and Ontario), the Czech Republic, and Nigeria.

**Animal Botany Crossword** by C. Mirth Walker 8/2010



**Across**

- 2 "Felix's" hearing organ
- 6 crow call
- 8 insect used as bait in fishing, or, ending for butter, dragon, fire, and may
- 10 type of bat or plant covered with grayish white hairs

- 
- 11** Ducks Unltd.  
**12** plankton eaten by whales  
**13** what a beaver builds  
**14** "flocks" of hoofed mammals  
**16** mustelid kale  
**18** beloved amphibians  
**19** side away from the wind  
**21** ocean  
**22** hare + hair comb  
**23** wet dirt  
**24** lion (zodiac)  
**28** feline ending  
**30** laugh out loud (abbr.)  
**32** eucalyptus leaf-eating marsupial  
**33** utilize  
**34** kitty digits  
**36** cultivated edible plant (abbr.)  
**37** life-giving star  
**38** honey-loving insect  
**40** coyote-relative tree material  
**42** amphibian dash  
**46** Ponderosa \_\_\_\_ and \_\_\_\_ warbler, grosbeak, or siskin  
**48** equine appendage  
**50** bread or whiskey cereal plant  
**51** bony framework + troublesome plant
- Down**
- 1** grouse breeding display ground  
**2** young hen + unwanted plant  
**3** claw
- 4** also known as (abbr.)  
**5** *Vulpes* hind end + cultivated cereal grass  
**6** heron's monthly statement  
**7** yes (variant)  
**8** mammalian hair  
**9** affirmative  
**11** antlered spore-producing frond  
**13** waterfowl's webbed appendage  
**15** canine fragrant typically thorny bush  
**17** *Ursus* graminoid  
**19** young sheep's 25-cent pieces  
**20** nocturnal bird's legume  
**25** Wapiti *Carex*  
**26** horned ruminant's chin hair  
**27** blood-sucking jumping insect + poison or source of harm or ruin  
**29** young deer + white fragrant bulbous flower  
**31** extinct flightless bird  
**34** Parental Guid.  
**35** not fast  
**39** editor (abbr.)  
**41** homonym for nocturnal bird call  
**43** not down  
**44** threadlike corn stigmas  
**45** Top RN (abbr.)  
**47** snakelike fish  
**48** not cold  
**49** plant seeds (in a garden)
- For the solution, go to the PNW SWS chapter website