



# Ooze News



Society of Wetland Scientists Pacific Northwest Chapter

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<http://www.sws.org/regional/pacificNW/>

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## President's Corner

By Colin MacLaren, PNW Chapter President

Hello all,

I hope you were able to celebrate this past Earth Day in whatever way you deemed most appropriate. I didn't get to amble barefoot through an alpine peat bog at sunrise but I did take a moment to look around the web for ideas and programs that preserve and promote wetlands. I was encouraged by what I found. For example, EPA recently announced a program to restore Great Lakes wetland habitat through a civilian conservation corps-like program. The program would hire the unemployed to undertake wetland restoration activities among other actions to benefit lake ecology. The International Union for Conservation of Nature recently developed a system to recognize endangered ecosystems, modeled in part after our own ESA. The intent of the IUCN system is to give policy makers worldwide a scientific basis for protecting ecosystems in contrast with individual species. Wetland ecosystems figure prominently in the IUCN program. New York announced a post-Sandy hurricane policy of reimbursing coastal homeowners for losses, then removing structures and infrastructure to preserve and restore near shore habitat - finally. My favorite article reported on the interplay of wetlands, electoral politics, transportation, keystone species access, and economics – familiar themes but with a different flavor:

[http://zeenews.india.com/news/general-elections-2014/lok-sabha-polls-threat-to-wetland-an-election-issue-for-fishermen-farmers\\_926273.html](http://zeenews.india.com/news/general-elections-2014/lok-sabha-polls-threat-to-wetland-an-election-issue-for-fishermen-farmers_926273.html) .

Happy Earth Day, today and every day.

On a somber note, we mark the passing of Andy McMillan on March 6, 2014. To say Andy was a key influence in forming wetland profession and practice in the northwest would be an understatement. Andy was a person of rare and undeniable quality, kindness, and character. He will be remembered and missed.

Cheers,  
Colin MacLaren

***New Waters of the United States has been Published by Environmental Protection Agency***

*By SWS Staff*

Resulting from the U.S. Supreme Court decisions in SWANCC and Rapanos, the scope and nature of "waters of the US" under the Clean Water Act (SWA) programs has been under scrutiny and has required revisiting for clarification. Since all CWA components operate under the umbrella of the Act's definition of "waters of the US," further guidance was deemed necessary. SWANCC and Rapanos did not invalidate regulatory definition of "waters of the US." Instead, the decisions have required the federal government to examine and clarify how those regulations are interpreted. To address the concerns outlined by the court decisions, EPA have identified areas that could use some additional clarification. U.S. EPA and the U.S. Army Corps of Engineers are in the process of drafting regulatory language that would determine whether an aquatic area is protected by the CWA. This rule would clarify which bodies of water are protected by the CWA and which bodies of water are not.

EPA are currently taking comments on these proposed rules, which can be submitted here:

<http://www.regulations.gov/#!docketDetail;D=EPA-HQ-OW-2011-0880>

The comment period is open until July 21, 2014.

***Andy McMillan***

*From: Inside Ecology*

Andy McMillan

Recently, we lost one of our most respective leaders in wetlands and wetland management. Andy McMillan lost his 9 year battle with multiple myeloma on March 6, 2014. During his 27 years at Ecology, Andy took the wetland program from its infancy into a robust, science-based program. Andy sought and attained over \$2 million dollars in federal grants to support the wetland program. He was passionate about wetlands and he shared that passion with others. He was well respected in the wetland community; the environmental, agricultural and business communities; and by local government staff. Andy built bridges between opposing views by listening to all parties and acknowledging the disparate viewpoints. He was able to build consensus and explain the intricacies of wetlands in easy to digest language. As with any regulatory program, there was often confusion and consternation over why we were protecting and regulating wetlands. Andy, in his usual articulate and respectful manner,

helped people see why wetlands are important and why we need protect them as a society.

Andy created a safe and supportive work environment. He started the WetlandsTAG group. His leadership built it into a highly functioning group that helps bring together all wetland staff (HQ and the regions) to problem solve and maintain statewide consistency. A strong supporter of diversity, Andy developed a training course on GBLT people in the workplace in the late 90's. He was recognized for his leadership in diversity in 1997.

Many of us were touched by Andy's passion for wetlands and wild places. He traveled regularly to the Columbia River Gorge, the north Cascades and Mount Rainier to enjoy the open spaces and wildflowers. Although he was not a direct supervisor, he provided guidance and insight to management and he mentored many staff in their professional development. In recognition of all his contributions, Andy was awarded the Director's Lifetime Achievement award.

Many of us will miss his passion, guidance and friendship. Farewell Andy.



Photo: Scott Luchessa

## Seattle Public Utilities Wetland Exemption

By Tasha Bassett, Seattle Public Utilities

Do you have a wetland on your property inside the City of Seattle? You could save money on your drainage fees. Seattle Public Utilities (SPU) has a new wetland exemption program that provides savings on the drainage fee on your King County property tax statement. Wetlands help to manage stormwater runoff from private property before it reaches the City systems, which helps SPU achieve its goal to protect water quality and reduce flooding. Effective January 1, 2014, wetland portions of properties, which meet specified criteria are exempt from drainage service fees. Property owners must submit a completed application, including a report prepared by a qualified wetland professional. Requirements are specified in:

[http://www.seattle.gov/util/groups/public/@spuweb/@policy/documents/webcontent/01\\_028576.pdf](http://www.seattle.gov/util/groups/public/@spuweb/@policy/documents/webcontent/01_028576.pdf).

To learn more, visit Seattle Public Utilities Drainage Rates website at [www.seattle.gov/util/drainagerates](http://www.seattle.gov/util/drainagerates). Click on “Understanding Your Drainage Bill FAQ” and scroll down to Exemptions. Requirements for supporting documents can be found on the City’s Department of Planning and Development (DPD) director’s rule website at <http://bit.ly/1i8txBk>.

Still have question? contact Tasha Bassett, program coordinator at 206-615-0550 or email at [Tasha.bassett@seattle.gov](mailto:Tasha.bassett@seattle.gov)

## Amphibian Disease and Controlling a Vector

By Vikki Jackson, PWS, Northwest Ecological Services and Project Manager for the Whatcom County Amphibian Monitoring Project

As wetland professionals, many of us spend time in the field moving between wetlands on a given site or between sites within one field day. These wetlands often provide habitat to a variety of amphibian species either as primary habitat or as travel corridors between habitats. Amphibian populations are currently at risk from a variety of sources, one of which is disease. Disease has been a major contributor to species decline over the past 20 years. Amphibian diseases range from viral, bacterial, fungal and parasites.

### Amphibian Diseases

A variety of factors have been implicated as factors in the decline of amphibian populations including habitat loss and fragmentation, chemical pollution, climate change,

invasive species, increased ultraviolet radiation and disease. It is believed that several of these factors work synergistically with disease in affecting amphibian health. (Fellers et al. 2001, Blaustein et al. 1994)

### Viral

Notable viral diseases include Ranavirus. Ranaviruses are often highly virulent and cause systemic infections in amphibians. Ranaviral disease is emerging globally as it is being detected wide range of amphibian species (Padgett-Flohr, G. E. 2004). USGS scientists have isolated ranaviruses associated with die-offs in over 25 states involving more than 20 species of turtles and amphibians in mortality events ranging from one to thousands of individuals affected. Some events may involve a single species others may involve multiple species. Frogs and salamanders in the same pond, for example, may die from ranaviral infections at the same time (USGS 2014).

Ranaviruses are robust and can withstand periods of desiccation. Disease movement is likely due to movement of infected organisms and/or equipment. Ranaviruses can survive in the environment without a host, but cannot multiply (Padgett-Flohr, G. E. 2004).

### Bacterial

A variety of bacteria infections may infect amphibians. Bacterial septicemia appears to be the only bacterial disease associated with significant mortality in wild amphibians and can cause significant mortality in captive animals. Bacterial septicemia is an infection of the blood stream by bacteria. It is often caused by *Aeromonas hydrophila* or other gram negative bacteria. Bacterial septicemia leads to high mortality rates in captive amphibians and has been tied to the massive declines of the mountain yellow-legged frog (*Rana mucosa*) in California (USGS 2014)

### Parasites

In the past parasites weren’t considered too detrimental to amphibian health, but compounding factors within the environment may be disabling the immune system and making frogs more susceptible to parasitic invasions. Parasites can dissolve tissue and/or cause damage to internal organs. Potential parasite groups that can infect amphibians include: pathogenic protozoa, helminthes, and arthropods. Tremotode infections have been implicated in limb deformations of the Pacific chorus frog ([Pseudacris regilla](#)) (USGS 2014).

### Fungal

There are a number of fungi that are pathogenic on amphibians, however Amphibian Chytridiomycosis (*Batrachochytrium dendrobatidis*) has done the greatest harm and appears to be the current greatest risk to amphibian health. Chytridiomycosis is a fatal disease of

post- metamorphic frogs. It affects a wide range of genera and species and can be carried by otherwise healthy tadpoles. It is transmitted via a zoospore that requires water as a medium and moves through the environment at a rate of approximately 100km/year (Padgett-Flohr, G. E. 2004)

### Disease Transmission and Control

The above groups of diseases are transmitted by a variety of vectors, both natural and anthropogenic. Natural vectors cannot be controlled, but transmission by humans can be controlled if some standard decontamination protocols are followed. These are not difficult to institute, but require diligence by wetland professionals.

The first step comes with selection of gear. Avoid absorbent materials where you have the choice. Clearly some things are not optional; such as nets, but footwear do provide options. When selecting footwear avoid felted soles, there are very difficult to disinfect.

You can make simple (and portable) disinfection kit. To assemble a portable disinfecting kit you would need the following materials:

- Disinfectant. For non-absorbent materials (boats, rubber waders and other “hard- sided” objects), use either a 2% household bleach solution (3 oz bleach per gallon of water) or a 2.5% Quaternary ammonia (Sani-Care Quat-128, etc.) solution (3.5 oz quaternary ammonia per gallon of water). For absorbent materials (nets, felt-soled waders, life jackets, sandals with fabric straps and other “soft-sides” objects), use a 2.5% Quaternary ammonia (Sani-Care Quat-128, etc.) solution (3.5 oz quaternary ammonia per gallon of water) (Connors 2008).
- Garden hose for cleanup prior to disinfectant
- Scrub brush
- Plastic container(s) large such as a large Rubbermaid type container with a lid
- Rubber gloves.

### Quaternary Ammonia

Disinfects can be as simple as household bleach, but quaternary ammonia is often preferred for the following reasons:

- They are less irritating and relatively non-toxic compared to chlorine.
- Biodegradable and fewer concerns about environmental damage in low concentration.
- Not corrosive to metals, fabrics and other materials used in amphibian enclosures.

- Effective against the amphibian chytrid fungus in low concentrations. This is useful for field work since it allows small volumes of stock solution to be easily transported to remote locations.
- Inexpensive and good for general facility and surface cleaning.
- It has a long shelf life of over a week once mixed.

Disadvantages include:

- May become inactivated by soap residues or by organic materials (i.e., dirt).
- Efficacy of quaternary ammonia against ranaviruses has not been determined (although they are effective against other large DNA viruses such as herpes viruses).

### Bleach

Bleach has several advantages, but is outweighed in most cases by its short shelf life and because it is hard on equipment and more toxic.

Advantages of bleach include:

- It is widely available.
- It has a low cost.
- Active against the amphibian chytrid fungus and ranaviruses at relatively high concentrations.

Disadvantages of bleach as a disinfectant are:

- Easily inactivated by organic materials (i.e., dirt).
- Corrosive to metals, fabrics and silicone sealants especially at higher concentrations.
- Concerns that bleach may result in damage to aquatic environments.
- Chlorine is highly irritating to amphibians and other aquatic organisms, and at high levels can lead to toxicosis and death. Thorough rinsing of objects is required after disinfection. Avoid exposing animals to chlorine fumes during disinfection.
- May not be effective on ranaviruses on dry surfaces.

A simple way to clean up equipment and footwear is to take a large Rubbermaid type container and put measured disinfectant in it so it is about 4 to 6 inches deep. Rinse your equipment and footwear with clean water and scrub off mud and plant material. Then step into the container fully geared up and rinse your gear down with the scrub brush. The disinfectant should stay on the gear for ten minutes for quaternary ammonia. You don't need to rinse afterward, you just let it air dry. After you are complete you can place a lid on the container and have it ready for the next cleaning.



Photo: Nate Hough-Snee

### When to Disinfect

Ideally we should disinfect between each wetland visited. This is not usually practical in our professional lives. We would highly recommend disinfecting gear between sites. This can be done by keeping a 5-gallon, lidded, bucket and stiff brush in the vehicle. Have disinfectant in the bucket and clean up before leaving the last site and prior to entering the next site.

### Summary

Amphibian populations are declining and as professionals we should do our part to minimize our potential impact on these important organisms. Many of the factors affecting the health of amphibian populations are difficult to control, but if we can take the time to clean our gear amphibians will be the better for our efforts.

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USGS. 2014. Website. Amphibiaweb: <http://www.amphibiaweb.org/declines/diseases.html>

### **SWS PNW Member List Serve**

*By Karla Van Leaven, Co-Secretary*

Of the many benefits of becoming a SWS PNW member, members enjoy being on an exclusive list serve which provides up to date information regarding events, workshops, news, etc. If you're not a member already, please consider becoming one or encourage your colleagues, employees, or the like to join. Thank you!

### 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 April 17, 2014 from 6:00pm to 7:00pm, and our next meeting is scheduled for May 22, 2014, at the JASM conference. If you are interested, please contact Colin MacLaren at [cmaclaren@parametrix.com](mailto:cmaclaren@parametrix.com) or Nate Hough-Snee at [nate@natehough-snee.org](mailto:nate@natehough-snee.org) to receive the agenda and conference call information.

### 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](mailto:jguzman@earthworksenv.com).

#### Coastal Training Program

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

- Puget Sound Coastal Processes, Shoreline Modifications, and Beach Restoration: June 4, 2014, Padilla Bay, WA.

#### Northwest Environmental Training Center:

**Contact:** <http://nwetc.org/>

- ArcGIS 10: An Introduction to Environmental Applications: June 16-18, 2014. Bellingham, WA.
- ArcGIS 10: Geoprocessing-Advanced Techniques for Environmental Applications: August 5-7, Olympia, WA.

#### Portland State University Environmental Professional Program:

- Wetland Plants of the Pacific Northwest: June 16-20, 2014, Portland, OR.
- Freshwater Mussels: August 26-27, 2014, Portland, OR.
- Site Evaluation and Assessment formerly Stream Reconnaissance and Assessment tools: September 23-26, 2014, Portland OR.
- Grasses, Sedges, and Rushes of the Pacific NW: October 7-8, 2014, Portland, OR.
- Bioengineering: October 14-15, Portland, OR.

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

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

- Wetland Delineation Training: June 3-6, 2014, Portland, OR.
- Regional Supplement: June 6, 2014, Portland, OR.

#### The Seminar Group

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

- Floodplains: August 21, 2014, Portland, OR.
- Floodplains: October 31, 2014, Portland, OR.

#### University of Washington – Professional Development Program

<http://www.engr.washington.edu/epp>

No wetland related courses at this time.

#### Western Washington University:

<http://www.acadweb.wvu.edu/eesp/default.shtml>

Wetland Identification and Delineation: June 23-27, 2014, Bellingham, WA.

#### Wetland Training Institute: <http://wetlandtraining.com/>

- Basic Wetland Delineation: August 18-22, Arlington, WA.
- Wetland Delineation Field Session: August 14-15, Arlington, WA.
- Advanced Hydric Soils: August 25-26, Arlington, WA.

### 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>

### SWS PNW Consultant Directory

*By Karla Van Leaven, Co-Secretary*

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

<http://www.sws.org/regional/pacificNW/SWSConsultantList.pdf>

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](mailto:KarlaVanLeaven@gmail.com) and James Guzman at [jguzman@earthworksenv.com](mailto: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/>

<https://netforum.avectra.com/eweb/DynamicPage.aspx?Site=SWS&WebCode=LoginRequired>

***Ooze News Deadlines for Articles***

Articles and announcements are welcomed and appreciated for the winter edition of the Chapter newsletter, Volume 24 Number 1, no later than July 15, 2014. Please send associated documentation to co-secretary's Karla Van Leaven at [KarlaVanLeaven@gmail.com](mailto:KarlaVanLeaven@gmail.com) and James Guzman at [jguzman@earthworksenv.com](mailto:jguzman@earthworksenv.com). We will review your information for submission to the Ooze News.

Thank you.

