



# PNW-SETAC Newsletter

<http://www.pnw-setac.org/index.html>

P.O. Box 5331, Bellingham, WA 98227-5331

Spring 2013

*Pacific Northwest Chapter - Society of Environmental Toxicology and Chemistry*

## Officers

**Heather Henson-Ramsey**, President  
*Lewis-Clark State College*  
[hlhensonramsey@lcsc.edu](mailto:hlhensonramsey@lcsc.edu)

**John Stark**, Vice President  
*Washington State University - Puyallup*  
[starkj@wsu.edu](mailto:starkj@wsu.edu)

**Vicki Marlatt**, Past President  
*University of the Fraser Valley*  
[Vicki.Marlatt@ufv.ca](mailto:Vicki.Marlatt@ufv.ca)

**Ryan Loveridge**, Treasurer  
*CH2M Hill*  
[Ryan.Loveridge@CH2M.com](mailto:Ryan.Loveridge@CH2M.com)

**Teresa Michelsen**, Co-Secretary and  
Web Master *Avocet Consulting*  
[teresa@avocetconsulting.com](mailto:teresa@avocetconsulting.com)

**Maggie Dutch**, Co-Secretary and  
Newsletter Editor *Washington State  
Department of Ecology*  
[pnwsetac@comcast.net](mailto:pnwsetac@comcast.net)

## Board of Directors

**Patrick Moran**, At-Large (Gov)  
*US Geological Survey*  
[pwmoran@usgs.gov](mailto:pwmoran@usgs.gov)

**Jerome Laroulandie**, At-Large  
(Industry)  
*Maxxam Analytics*  
[JLaroulandie@maxxam.ca](mailto:JLaroulandie@maxxam.ca)

**Ruth Sofield**, At-Large (Academia)  
*Western Washington University*  
[Ruth.Sofield@wwu.edu](mailto:Ruth.Sofield@wwu.edu)

**Lindsay DuGas**, At-Large (Student)  
*Simon Fraser University*  
[lshelley@sfu.ca](mailto:lshelley@sfu.ca)

## Registered Agent

**April Markiewicz**  
*Western Washington University*  
[April.Markiewicz@wwu.edu](mailto:April.Markiewicz@wwu.edu)

## President's Address

**Heather Henson-Ramsey**  
PNW-SETAC President  
Lewis-Clark State College

Dear PNW-SETAC Members,

Thank you for your continuing support to our chapter and your dedication to conversing about the environmental chemistry and toxicology issues that affect our beautiful corner of the world. It has been an honor to work with all of you this past year as chapter president.

We had a very successful 22<sup>nd</sup> annual regional chapter meeting in Spokane, WA. The meeting theme was mining toxicity and included a tour of historic mining sites with discussion on remediation, a short course on the use of "omics" as a toxicological tool, and a wide variety of interesting research updates presented by you, our chapter members. I am especially thrilled that the meeting had the second highest attendance of our recent meetings and brought new members into the chapter. **The Northern Quest Casino and Resort** was an excellent venue, which allowed for some pampering in the form of amazing showers (just ask any attendee!), excellent food, and plenty of on-site social activities.

None of this would have been possible without the very engaged and creative group of people that currently serve as board members and officers of PNW-SETAC. Without all of their hard work, this chapter would not be nearly as successful. Special thanks go to the volunteers who worked to make this year's meeting so successful. **Ed Moreen**, US EPA, and **Roger Thomas**, **Tetra Tech**, organized and were the main speakers on the mining tour. **Amanda Carew**, **University of Victoria**, was the instructor for the short course on "omics". Having chapter members who can

contribute their expertise to short courses and tours is part of what makes each meeting unique. If you have an idea for a short course or event for a future meeting, we would love to discuss your ideas. Please contact myself or any board member/officer.

Corporate sponsorship and sustaining memberships are an invaluable asset to a successful meeting. I would especially like to thank **Julann Spromberg**, NOAA, who is our first individual sustaining member. We had quite a few corporate sponsors for this meeting, without whom, we would not be able to offer morning coffee breaks, as many student travel awards, and breakfasts. **The following corporations were our sponsors and sustaining members for this year:**

**ALS Environmental**

**Anchor QEA, LLC**

**Avocet Consulting**

**Azimuth Consulting Group**

**Maxxam Analytics**

**Nautilus Environmental (sustaining member)**

**Northwest Aquatic Sciences**

**Scientific Notations LLC**

**Teck America (sustaining member)**

I would like to thank incoming and outgoing board members and officers. **Vicki Marlatt**, **University of Fraser Valley**, is our outgoing past president. She has been a terrific role model for myself and I could not have done this job nearly as well without her support. **April Markiewicz**, **WWU**, stepped down this year from the secretary role, but continues to serve as "chapter mom". She is the heart of our chapter and we are grateful that she has chosen to remain unofficially involved. We thank **Lesley Shelley** for

her contributions as the outgoing At-Large (Student) this past year and **Kara Warner** for her many years of services in the At-Large (Industry) position. New board members for this year include: **Lindsay Du Gas** (At-Large Student), **Jerome Laroulandie** (At-Large Industry), **John Stark** (Vice-President), and our secretaries, **Maggie Dutch** and **Teresa Michelsen**. For 2014, we will be looking for two new board members, Vice-President and Student At-Large. If you are interested in either of these two positions, please contact myself or any other board member.

In closing, thanks to you all for your involvement over the years. Our 23<sup>rd</sup> annual meeting will be held in Tacoma, WA and will focus on urban waters. I look forward to seeing you all there!

---

## Past President's Farewell Address

### Vicki Marlatt

PNW-SETAC Past President  
University of the Fraser Valley  
Marlatt Environmental Consulting

Hello fellow PNW SETAC members. I hope that you enjoyed our 2013 annual meeting in Spokane, WA as much as I did (remember, what happens in Spokane, stays in Spokane)!

This is my final farewell address as the outgoing, Past PNW-SETAC President. It has been an educational and interesting journey working with the members and board of PNW-SETAC over the past 3 years. After my graduate studies I moved back out to British Columbia from Ontario in 2008, so this has been the most enjoyable and efficient way for me to familiarize myself with the scientists involved in the latest practices and research in environmental toxicology and chemistry.

I would like to especially thank all of the PNW-SETAC board members that I have had the pleasure of working with over the past 3 years. You have all been instrumental in making this experience so positive by sharing your knowledge so patiently, and working so hard to make

our annual conferences and PNW-SETAC overall such a success. It is inspiring to see with each new and existing board member the flow of ideas and enthusiasm aimed at continually improving PNW-SETAC, from being as environmentally conscious as possible at conferences to upgrading the website to maximizing student participation and funding.

So in closing, thank you all, members and the board of PNW-SETAC alike, it has been an honor serving you. I look forward to seeing you and continuing our exchange of ideas and information, and together working towards our common goal of progressing the complicated field of environmental toxicology and chemistry and translating it into an environmentally sustainable future.

---

## Call for New Officers and Board Members

We have 2 open positions, **Vice-President** and **Student At-Large**. If you are interested in either of these positions, please send a letter of intent and your CV to **Heather Henson-Ramsey** [hhensonramsey@lsc.edu](mailto:hhensonramsey@lsc.edu) by September 1<sup>st</sup>. We will have elections during September and announce new board members in October. Thanks!

---

## Chapter Survey

**Please complete by June 15, 2013!**

We have designed a survey to allow us to get your opinions about various topics, such as conference venues, social activities at conferences, and ideas for locations.

Please visit

[https://www.surveymonkey.com/s/PNWS\\_ETAC](https://www.surveymonkey.com/s/PNWS_ETAC) and fill out our survey. We will be closing the survey on June 15<sup>th</sup> and will provide the data to all chapter members by the end of June.

## 2013 Chapter Meeting Highlights

### Another Successful Meeting!

PNW-SETAC Treasurer, **Ryan Loveridge**, reports that our April, 2013 meeting was a huge success, generating more than \$11,500 in revenue for our chapter, before costs. The number of registrations (102) was the second highest in the past 5 years, of which 47 were students, 12 were affiliated with academia, 13 with government, and 30 with industry.

Breaking a long run of hosting the chapter meeting west of the Cascades, this meeting was held at the Northern Quest Casino and Resort in Airway Heights, WA, near Spokane. In addition to the excellent accommodations, this geographic change in venue provided chapter members the opportunity to focus on the toxicity and chemistry issues associated with the mining activities that are part of this region's industrial legacy.

A highlight of this year's meeting was the very successful mining tour. Organized and hosted by **Ed Moreen, US EPA**, and **Roger Thomas, Tetra Tech**, this tour was attended by 47 conference participants. **Abigail Curtin**, a student at **WWU**, captured her impressions of the tour, and shares them with the PNW-SETAC membership, below.

### Mining Tour

**Abigail Curtin**  
**Student**  
**Western Washington University**

The mine tour during the PNW-SETAC meeting was my first experience as a brand new student member. I had travelled there with several of my peers from Western Washington University to experience the atmosphere, and the people of SETAC.



Chapter members listening to speaker.

At our first stop Tony and Tim from the North Idaho Department of Fish and Wildlife showed us several deceased snow geese which were associated with lead contamination, a sobering first-hand look at the ecological effects of heavy mining. Another astonishing feature of the tour was the sheer size of the area. As Jerry Cobb described the accomplishments with respect to human health, he was able to point out some areas of contamination that were once a contributor of elevated blood lead levels, but are now capped, removed, or covered with infrastructure. One area in particular has 25 to 30 feet of deposited mine waste material across thousands of acres. This was impossible to conceptualize when looking at a map.

Our next stop featured an example source of contamination; the Kellogg Tunnel of the Bunker Hill complex. I was startled to hear that the mine effluent had a pH of 2.6, my chemistry senses were tingling thinking about the fate and transport of metals under these conditions.

Another short ride brought us to the water treatment plant for the aforementioned mine effluent and my personal favorite stop; it was a chance to witness remediation firsthand.



Mine wastewater flocculation

As our knowledgeable narrator Ed Moreen from EPA wrapped up the tour, my feelings were mixed. Firstly, I was overwhelmed with how large and complex the clean-up is and, secondly, I had a sense of delight knowing that some clean-up has already been accomplished. With a remediation related career in mind, this tour only enhanced my interest in working on remediation projects like this and renewed my respect for the environmental impacts of producing materials we use every day.



Ed Moreen, EPA, discussing mining issues to tour participants.

## Short Course – An Overview of ‘Omics’ Technology

**Maggie Dutch**  
Washington State Dept. of Ecology



Amanda Carew teaching “Omics” short course.

**Amanda Carew**, a Master’s Degree graduate from the University of Victoria, gave an outstanding, 4-hour short course, providing participants with *An Overview of ‘Omics’ Technology*. Amanda expertly guided us through the intricacies of:

- Transcriptomics
- Proteomics
- Metabolomics

These are, respectively, the study of changes induced in the transcription of mRNA, in the translation and production of proteins, and in metabolism and production of metabolites at the cellular level induced by environmental changes and pressures to which a test organism is exposed.

Positive aspects of ‘Omics’ techniques are that they:

- are very sensitive
- generate vast amounts of data from limited tissue
- provide insight into the mechanism of action
- predict biological and toxicological responses

Amanda meticulously explained the “workflow” of each method, including exposure design and execution, details of the tools used for each, chemical processing, and data analysis.

By the end of the course, participants had a better understanding of the intricacies, use, and pros and cons of ‘Omics’ technology. I came away in awe of the depth and breadth of material Amanda covered in this short course. Thank you, Amanda, for sharing your knowledge of this fascinating topic! We will all look forward to hearing more from you at future PNW-SETAC meetings.

## 2013 Student Winners

**Ruth Sofield**  
Western Washington University



2013 Student Winners (left to right): Trey Saddler, Lorraine Brown, Daniel Lybbert, Allyson Jackson, Julie Fix, Lindsay DuGas

We had a strong showing of students at the conference, both as attendees (46% were students) and as presenters (8 posters and 9 platforms). The diversity and

quality of research students in our chapter is commendable. Their topics ranged from modeling to DNA expression to developing and applying analytical methods. The students are investigating toxicants such as oil dispersants, nanomaterials, mercury, pharmaceuticals, and pesticides.

Please join us in congratulating the following students on receiving the Chapter's Best Student Presentation Awards at our 2013 Annual Meeting:

#### **Best Platform Presentations**

**Ph.D.: Allyson Jackson**, Oregon State University, *Mercury Bioaccumulation in Songbirds: Using Findings from Eastern U.S. for Western Studies*.

**M.Sc.: Lorraine Brown**, Simon Fraser, *Effects of Ibuprofen Exposure on Underyearling Rainbow Trout and *Caenorhabditis elegans* – Exploring the Utility of RNA-SEQ in Ecotoxicology*.

**Undergraduate: Daniel Lybbert**, Lewis-Clark State College, *A 'Spaghetti Junction'? Combining Ecoimmunology & Disease Biology For Immunotoxicology's Sake*.

**Runner-up Undergraduate: Trey Saddler**, Salish Kootenai College, *Assessment of Methylmercury Exposure in Women of Childbearing Age on the Flathead Reservation, MT, USA*.

#### **Best Poster Presentations**

**Graduate: Lindsay DuGas**, Simon Fraser University, *The Effects of Current-Use Pesticides on Early Developmental Success, Timing and Growth to the Hatch Stage of Sockeye Salmon (*Onchorhynchus nerka*)*.

**Undergraduate: Julie Fix**, Western Washington University, *Investigation of Biochemical Responses of Lichens to Air Pollutants Originating from Trains in Northwestern Washington*.

Thanks to all of our judges and student presenters. We'll see you in 2014!

## **2014 PNW-SETAC Annual Meeting – Focus on Urban Stormwater**

### **SAVE THE DATES! APRIL 24-26, 2014**

Please mark your calendars for the 23<sup>rd</sup> Annual PNW-SETAC meeting April 24-26<sup>th</sup>. This event will be hosted at three venues located just off the I-5 corridor in Tacoma and Puyallup, WA, including:

- **University of Washington, Tacoma**
- **Center for Urban Waters, Tacoma**
- **Washington State University, Puyallup**

The focus of the 2014 meeting will be on urban stormwater issues, low-impact development, the impacts of urban contaminants on freshwater ecosystems and Puget Sound, and urban estuary restoration. Hands-on workshops and a short course will be hosted on Thursday at the WSU-Puyallup and the Center for Urban Waters in Tacoma, with our Thursday evening reception at WSU-Puyallup. Platform sessions will be held on Friday and Saturday at the UW Tacoma campus at Philip Hall. Our Friday evening dinner will be held at one of the many great restaurants in Tacoma or at the Pt. Defiance Zoo!

Additionally, the 2014 conference may be extended to include a Saturday afternoon session including presentations from the Urban Clean Water Technology Innovation Partnership Zone of Tacoma. This collaboration of business, research, education, and local government leaders was created to develop globally competitive, research-based urban clean water technologies and businesses in the Tacoma-Pierce County area.

## **Get to Know Your PNW-SETAC Officers**

**Maggie Dutch**  
**PNW-SETAC Co-Secretary**  
**WA State Dept. of Ecology**

Hi PNW-SETAC members,

I am one of your newest officers, and will serve as co-secretary for the next three years, sharing the position with Teresa Michelsen. I have been a member of PNW-SETAC, and attending chapter meetings since 2003. I have learned much from fellow members over the years, and am happy to have the chance to give back to the chapter by serving as an officer.

I grew up in the town of Peekskill, New York, on the Hudson River. In high school, I became interested in environmental issues when I learned about the problems caused by the dumping of waste chemicals, particularly PCBs, in the Hudson. After high school, I earned a Bachelor's degree in Zoology at the University of New Hampshire, with a focus on marine invertebrates.

After graduation, I worked for 2 years at the Battelle Marine Laboratory in Duxbury Massachusetts, sorting and identifying benthic invertebrates from Georges Bank, and learning the fundamentals of polychaete taxonomy from Jim Blake. I then moved to Honolulu and spent three years earning a Master of Science degree in Zoology at the University of Hawaii, with a focus on polychaete taxonomy and ecology.

Upon leaving Hawaii, I worked for two years at the City and County of San Francisco's wastewater treatment plant marine lab conducting monitoring of the sediments and benthic communities around their Pacific Ocean outfalls.

I then moved to Olympia, Washington in 1989, and for the past 24 years have been working for the WA State Department of Ecology's Marine Sediment Monitoring Team. We conduct status and trends sediment monitoring for the Puget Sound Ecosystem Monitoring Program, measuring chemical contamination and toxicity of the sediments, and the

condition of the benthic invertebrates, throughout Puget Sound. (<http://www.ecy.wa.gov/programs/eap/psamp/>)

My husband and I love living in the Pacific Northwest. We have a daughter in college at Western Washington University and a son who is just graduating from high school. We enjoy being surrounded by evergreens, Pacific Northwest rain, kayaking on Puget Sound, and ferry boat rides through the San Juan Islands. I, personally, also enjoy playing the clarinet and love Mozart concertos (a sentiment not shared by my pets or all family members!).



Maggie Dutch, PNW-SETAC co-secretary, sampling sediments in Budd Inlet.

---

## Tox Talks - Graduate Student Symposium

Simon Fraser University

October, 2013

This symposium will focus on graduate student research in environmental and human-related chemistry and toxicology.

Stay tuned for more details (see attached notice):

[www.sfu.ca/conferences/toxtalks.html](http://www.sfu.ca/conferences/toxtalks.html)

Contact: [toxtalks.sfu@gmail.com](mailto:toxtalks.sfu@gmail.com)

## SETAC 2013: Nashville, TN



November 17th –  
21st, 2013

Gaylord Opryland, Nashville, TN  
[nashville.setac.org](http://nashville.setac.org)

Late abstract submission open through June 6<sup>th</sup>!



(Source: [www.foreclosurelistings.com/list/TN/DAVIDSON/NASHVILLE/resources](http://www.foreclosurelistings.com/list/TN/DAVIDSON/NASHVILLE/resources))

---

## Salish Sea Ecosystem Conference

April 30 - May 2, 2014  
Washington State Convention & Trade Center, Seattle, WA

This conference, coming on the heels of our PNW-SETAC chapter meeting, assembles scientists, First Nations and tribal government representatives, resource managers, community/business leaders, policy makers, educators and students to present the latest scientific research on the state of the Salish Sea, and to guide future actions for its protection and restoration. Details will soon be posted at the following website:  
<http://www.wvu.edu/salishseaconference/>

---

## SETAC Snippets

SETAC Europe 24th Annual Meeting  
11–15 May 2014, Basel, Switzerland

SETAC Asia/Pacific 2014 Biennial Meeting  
September 2014, Adelaide, Australia

## SETAC North America 35th Annual Meeting

9–13 November 2014, Vancouver, British Columbia, Canada

## SETAC North America 36th Annual Meeting

1–5 November 2015, Salt Palace Convention Center, Salt Lake City, UT, USA

## 7th SETAC World Congress/ SETAC North America 37th Annual Meeting

6–10 November 2016, Rosen Shingle Creek, Orlando, FL, USA

Learn more at:

<http://www.setac.org/?page=AnnualMeetings>

---

## Coastal and Estuarine Research Federation



---

### 22nd Biennial Conference

### Toward Resilient Coasts & Estuaries, Science for Sustainable Solutions

November 3-7, 2013  
San Diego, California, USA

Abstract deadline extended through June 10, 2013. Learn more at:

<http://www.sgmeet.com/cerf2013/>

## Editors Corner



[www.ofrikanwriters.com/theheart.htm](http://www.ofrikanwriters.com/theheart.htm)

Articles for the newsletter or announcements for the membership may be submitted to me at [PNWSETAC@comcast.net](mailto:PNWSETAC@comcast.net) at any time.

**Maggie Dutch**  
**Washington State Department of Ecology**  
**PNW-SETAC Newsletter Editor**