

# PER Spectives

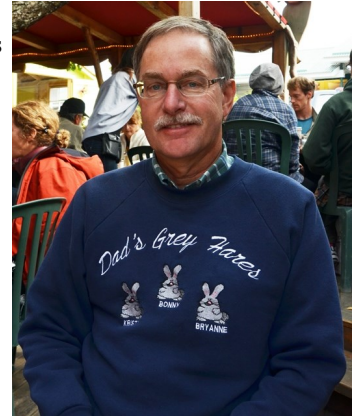
Newsletter of the Pacific Estuarine Research Society

Fall 2013

## PRESIDENT'S REPORT

In approximately a month many PER Sians will join with more than a 1000 other estuarine scientists from 30 different countries attending the 22<sup>nd</sup> CERF biennial conference in San Diego, CA. It offers a wonderful opportunity to take in "state-of-the-science" presentations, network with some of the best researchers in our field, and partake in a suite of great social activities. The full scientific program and conference activities can be reviewed on the CERF website at [www.sgmeet.com/cerf2013/](http://www.sgmeet.com/cerf2013/).

PER Sians has been active in conference preparations with Jan Newton serving as Vice-Chair; Steve Rumrill will be a Plenary Speaker in the Anthropogenic Facilitation of Species Invasions and is coordinating student judging; and numerous others leading sessions and/or making presentations. If you haven't already signed up for being a student judge, please do so and help evaluate student oral talks and posters.



CERF 2013 is also calling for Volunteer Mentors to participate in the following mentoring opportunities: **Student and Recent Graduate Career Networking Dinner** on Monday, November 4 from 7:30-9:30 to share experiences and help advise

students on career opportunities, and, **Mentoring an attendee new to CERF** to discuss the CERF conference, meet during the conference to reflect on their experience. Mentors should also plan to introduce their mentee to at least five colleagues during the meeting. Check out the Mentoring link at <http://www.sgmeet.com/cerf2013/mentoring.asp> to sign up for one or both the mentoring opportunities.

PER Sians are also needed as volunteers for the first ever **CERF Bowl**, which is a team based trivia competition that show cases the estuarine and coastal knowledge of society members. Modeled after NOAA's National Ocean Science Bowl, the event promises to be a fun and entertaining venue.

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### OCTOBER 2013

#### Special article of interest:

- \* President's Report
- \* Changing of the CERF Board
- \* Shoreline Restoration
- \* Student Profiles

## PERS 2013 MEETING- FINAL SUMMARY

I am pleased to report that the 2013 PERS Annual Meeting in Delta, BC, made a profit of \$3,063.36 (US). The total meeting expenses (converted to \$US) were \$13,175.02 while revenue from the meeting included \$9,272.55 from registrations and \$6,965.83 from corporate sponsors. This calculates to a profit of \$3,063.36. PERS also spent another \$925.00 providing student travel support, but these funds come from our student travel fund created from donations from the membership. The total attendance according to our registration spreadsheet was 98 people.

Sponsorship was a big factor in staying in the black and PERS greatly appreciates the support of the Port of Metro Vancouver, GL Williams & Associates Ltd., Hemmera Environmental, and Ducks Unlimited Canada. Sponsorship covered a little over 52% of the meeting expenses and with more

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### 1. CERF has moved to Twisp, WA

CERF has moved to its new headquarters to the Pacific Northwest. Mark Wolf-Armstrong, Executive Director, and Sarah Rudback, Communications and Events Coordinator are very busy in the new office in Twisp, WA. The new CERF office mailing address and phone number are:

Mailing address: PO Box 937, Twisp, WA 98856 USA

Telephone number: 509-997-0888

Mark can be contacted direct by calling his Skype number 509-557-3746 direct or by email [mark@erf.org](mailto:mark@erf.org). Sarah can be contacted at (509) 557-3716 or [sa-rah@erf.org](mailto:sarah@erf.org).

### 2. 2013 CERF Governing Board Elections

The CERF Governing Board will have an administration change at CERF 2013 in San Diego. The Boynton Administration ends immediately following the conference and Walter Boynton will move from President to Past President. Ken Heck will become President and begin the Heck Administration that extends to 2015. PERS would like to salute Walt for his superb leadership: it has been a wonderful experience serving on his administration!

Other changes include the leaving of Past President Susan Williams, who provided classy and inspirational leadership to the Board; Secretary Linda Blum who did a great job for the Governing Board; Member-at-Large Janet Nestlerode and Bob Diaz, both energetic scientists who provided exemplary service to CERF. Also leaving after many years of capable service in this important role is Treasurer Finance & Investment Committee Chair, Chris Tanner. He will be replaced by James Hagy, who also serves as a Member-at-Large.

The CERF elections are completed. The notice from the September CERF Newsletter has been included as the last page of this newsletter. This is just one page from the terrific newsletter produced by the National organization.

### 3. CERF 2015 - 23<sup>rd</sup> Biennial Conference in Portland, OR

The CERF 2015 biennial conference will be held in Portland, OR. A PERS scoop is that the conference will be co-chaired by PERSians Ron Thom and Walt Nelson.

*(2013 Annual Meeting Summary—Continued from page 1)*

concerted effort, the potential exists for covering most of the meeting expenses using donations from external supporters.

One of our prime objectives is to promote student participation and our 2013 Annual Meeting had strong student attendance. Approximately 40 % of the meeting registrants were students. Kudos go to Pascale Goertler, the PERS Student Representative to the Board of Directors, for promoting the meeting to her fellow students and securing a representation from Oregon, Washington and British Columbia. Most PERSians are in agreement that the student presentations are a highlight of our annual meetings, and we all certainly enjoy the interaction with our future estuarine scientists.

### Student Profile: Joel Harding

*From earth and ocean: Investigating the effects of upstream landscape and salmon subsidies on estuarine invertebrates.*

Joel Harding is a PhD student in Biology at Simon Fraser University. He is exploring the influence of nutrient export from coastal watersheds to estuaries and the relative importance of salmon as a nutrient subsidy in these habitats. Joel's work encompasses a range of salmon-bearing watersheds on the central coast of British Columbia, which allows him to consider site-specific traits that can mediate cross-ecosystem nutrient subsidies. His research goal is to evaluate the importance of nutrient linkages between estuaries, upstream landscapes and marine productivity by way of salmon runs, and to promote a more holistic understanding of the interdependence that can exist in these coastal ecosystems. Joel will be presenting a chapter from his PhD at the 2013 CERF meeting. He plans to complete his degree in the fall of 2014. He also won "runner up graduate talk" at the PERS 2013 annual meeting.

*(President's Corner continued from page 1)*

Five contestants are required representing 2 principal investigators or professionals, 1 post-doc, and 2 graduate students. The team will be mixed into eight, five-person teams to eliminate affiliate society size influences. Please email either Jeannie or myself, provide your affiliation and category. We need more contestants from the PI and graduate student sectors! The CERF Bowl will be held on Wednesday evening, November 6, from 7:30-10:00. See page 14 of the September CERF newsletter.

Another must attend function is the **PERS Business Meeting** to be held on Monday, November 4 from 6:30-7:30. The meeting room will be announced in the final program.

I look forward to a great conference and seeing you in San Diego!

Gary Williams, PERS President

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### **PERS Annual Meeting 2014**

Arrangements are underway for our 2014 PERS Annual Meeting to be held in Newport, Oregon. Our President-Elect, Tony D'Andrea, is busily looking into venues and scheduling for another great meeting in Oregon.

To assist PERSians begin planning and formulating schedules for, the unofficial date looks like April 10-13, 2014, subject to availability of a suitable meeting venue. Early April seems like good meeting time for most PERSians, as long as it does not coincide with low tides for low tide field research and avoids Spring Break vacations.



### **For a great time, seek the PERS President-Elect Position**

To paraphrase John F. Kennedy's call for public service, candidates for Pacific Estuarine Research Society (PERS) executive board should contemplate "Ask not what PERS can do for you, ask what you can do for PERS".

As a long standing member of PERS, I can think of numerous benefits that have accrued from my membership. Besides from offering interaction with some incredible researchers and notable mentors in the field of estuarine science, it also boasts a membership of wonderfully personal people, many of whom are friends - although we typically only meet once a year. So when I was approached to put up my name as a candidate for President Elect, I really didn't think twice about it and said "Sure". The PERS executive commitment includes 2 years as President-Elect, 2 years as President, and 2 years as Past-President.

After serving my two year term as President-Elect, and now well into my second year as President, I thought it would be useful to those considering running to have some background information on what is involved.

President-Elect for me was pretty easy, following behind the executive coat tails of Jim Brennan and Steve Rumrill, and having the support other established members of the PERS Executive Board. It really depends on how involved you want to get and what the roles the executive gives you. However, when you become President, things change substantially.

Firstly, you actually have two roles: President of the PERS Executive Board, and PERS representative, as the President of the Affiliate Society, to the Governing Board of the Coastal and Estuarine Research Federation (CERF). So for PERS you have a leadership role, and for CERF you are actually more of a member of the executive team for the parent society.

I should note that for me, my experience in the field of estuarine science has been as a Professional Wetland Scientist, with over 30 years experience in the private sector. As alluded to above, I am a very big fan of PERS and very proud of to be a PERSian. The Pacific Northwest is wonderfully interesting part of the world and I feel very fortunate to be practising as a wetland scientist and doing what I love to do in a location I love to be in. I do not have a PhD, having escaped academia with only a M.Sc., I am not a research scientist and do not have the backing of a university, large government agency, or even a large company. GL Williams & Associates Ltd. is the name of my legal corporation but it is actually a private practice where I am president, wetland scientist, accountant, and janitor. Unlike many of my famous friends, my resume does not include numerous publications in the top scientific journals, I have not written any text books, nor have I been awarded awards by NOAA or other premier agencies. So to take on the role of

President of a one of the premier estuarine research societies did give me chance to ponder whether or not this was a suitable endeavour.

### **1. Tasks as President of PERS**

As the President of PERS, your main task is to keep the society humming along, which includes administrative stuff like making sure there is money in the bank, chairing Board meetings, listening to the membership, and promoting communications through web, newsletter, social media. The most intensive time occurs around the PERS Annual Meeting. I have been very fortunate in that PERS has an exceptionally capable and dedicated Secretary/Treasurer, Jeannie Gilbert, who has a long history of “being there”. All the former Presidents and board members over the last decade or so will attest to how valuable she has been to keep us functioning.

Some of the main responsibilities and tasks of the President are:

#### **PERS Annual Meeting:**

- Jeannie has prepared a checklist of tasks and dates)
- get input from membership on setting date, etc.
- delegate stuff to members by forming committees
- line up student judges
- social mixer
- sponsorship

#### **Communications:**

- the prime method of communications are the web announcements handed by Jeannie
- PERS Perspectives, our newsletter, is still a prime communication method
- Encourage articles, notices, photos, etc., from our membership
- PERS social media are been initiated but need nurturing.

#### **Board Meetings**

- Schedule meetings/conference calls
- set meeting agendas

act on action items

#### **Administrative:**

- communicate often with Secretary/Treasurer (Jeannie and I met frequently in Bellingham for in-person meetings, as well as phone and Skype calls.
- Check in with student rep, Past President, President Elect, and other Board members as required to obtain wise counsel on various topics.

### **2. Tasks as PERS President to the CERF Governing Board**

Your term of office as a CERF Board member coincides with that of the current incoming CERF president’s administration, and runs from the UPCOMING biennial conference through the NEXT biennial conference. The new officers of the Federation and the incoming Affiliate Society Presidents are officially vested in their offices during the Federation’s business meeting at the conference.

#### **Governing Board meetings**

- The President is responsible for attending 5 Governing Board Meetings, held at six month intervals, including a half day meeting at the upcoming biennial conference; 2.5 day spring meeting in March or April; 2.5 day fall meeting in October or November; and one day meeting before the next biennial meeting.
- Affiliate Society Presidents are encouraged to obtain funding support for travel, meals, and lodging through their employer. If unable to do so, CERF and PERS split the costs 50:50.
- CERF expects the PERS President to attend the biennial conferences so will not fund registration fees, travel or accommodation to attend the conference, only expenses for attending the meeting.
- In 2012, CERF also sponsored the first international conference of the America’s in Mar del Plata, Argentina, which I also attended. No plans have been formulated for the next international conference, but there may be one in 2-3 years. This conference is optional.

Most of my travel expenses were covered by my company, although I did tend to bill CERF for some accommodation expenses.

#### **Committee Service:**

- There are several Governing Board committees (i.e. Policy, Membership and Communications; Publications, Education, etc.) and AS Presidents are required to serve on one. Steve and Jim served on the Policy Committee I believe and I was ap-

*(Continued on page 5)*



(CERF corner continued from page 4)

pointed to serve on the Membership and Communications Committee, chaired by President-Elect Ken Heck;

- My committee service included reminding membership to renew, analyzing membership data and identifying ways to increase new membership, reading related information and pertinent web information, and participating in several committee conference calls.

Of particular interest was analyzing general preferences and I contributed articles on generation analysis from local media.

#### **CERF Newsletter:**

- CERF publishes its newsletter three times a year and the PERS President is responsible for submitting PERS News. Usually I prepared it, but Steve Rumrill kindly wrote a great article on Japanese marine invasives as has Jim Brennan and others have contributed.
- Membership agencies also can promote new initiatives, people, and cool stuff.

#### **Administrative:**

- There are periodic requests from the CERF Office Manager for information on PERS members, insurance, financial data, etc., so the President is the initial contact

On administrative matters, often I consulted with Jeannie

#### **CERF Affiliate Society Consultations:**

- The affiliate societies are important feeders to CERF, and there was a committee of the Presidents that held pre-Governing Board meeting conference calls to formulate consensus on various issues for feedback to the CERF Executive
- One current issue, requested by some AS (not PERS), to develop closer ties to obtain better support for membership, financial, and other administrative support. This ranges to amalgamation with CERF to some undefined support function. PERS is quite strong and financially secure, so we would appreciate improvement in CERF administrative support (e.g. membership data). This will probably become a focus of the new board and it is important that the membership be fully briefed on the issues, options, and pros and cons.
- CERF has now moved its head office to Twisp, WA, so there may be more interaction with the Executive Director and CERF office staff, since PERS is the local AS.
- In keeping with PERS interest in promoting closer ties with the California Estuarine Research Society (CAERS), I attended their Annual Meeting in Long Beach. There is considerable value and interest in having joint meetings and PERS

membership would benefit with the high scientific content of work going on in Californian estuaries and coasts.

#### **CERF Biennial Conferences 2015:**

- CERF 2015 will be held in Portland and PERSians Ron Thom and Walt Nelson are co-chairs;
- So there will be some required support from PERS with the conference
- CERF 2013 was heavily supported by CAERS members, being held in San Diego

PERS has some unique aspects I have learned being on the CERF Board, such as our interaction with First Nations and connection to the Pacific Rim, particularly Asia. It would seem that fostering better associations with Ports would benefit the incorporation of estuarine and coastal science into more sustainable port development.

So I would strongly encourage PERSians to think about running for President-Elect. It has been a very positive experience for me!

#### **2013 Student Travel Grant / CERF Presentation**

##### **Courtney Hann**

##### **Masters Student, Oregon State University**

At the 2013 CERF Conference, I will be co-presenting a poster on a study that investigates how edaphic characteristic influence native Pacific Cordgrass restoration success across tidal elevations in San Francisco Bay.

The colonization, growth, and clonal morphology of Pacific cordgrass, *Spartina foliosa*, varies in marshes locally due to tidal inundation, and regionally due to geographic location. Understanding the environmental parameters that contribute to native cordgrass growth is vital to the success of large-scale reintroduction plantings that have been initiated by the California Coastal Conservancy's Invasive *Spartina* Project throughout the San Francisco Bay.

For this research, we ask how elevation, inundation, and site influence survivorship and growth of transplanted *S. foliosa* at three sites with dissimilar hydrology. Research sites include a young restoration marsh with muted tidal action, a high wave action shoreline, and a second order channel complex in a historic marsh. At each site, absolute elevation was correlated with inundation. Planting occurred along a gradient designed to test elevation limitations to survivorship. For all blocks, native cordgrass was planted in paired caged and uncaged plots, due to high rates of goose herbivory detected at one of the sites. Growth and edaphic characteristics were monitored on a quarterly basis. Preliminary results indicate inundation time and caging to be significant factors in survi-

vorship at two sites, but do not explain variation in survivorship at the third site. Analysis also shows variability in sulfide and salinity between elevations and between sites; however, neither of these factors contributed to initial survivorship rates of native cordgrass. Continuing research will likely detect an influence of salinity and sulfides by the end of summer 2013, as pilot plots had large spikes in mortality of plants correlated to August 2012 field soil conditions. Early results suggest that environmental differences between restoration marshes impact restoration success, and environmental parameters that limit growth may differ by marsh type.

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### **Restoring Private Residential Shore Land: A Case Example. By Jim Brennan**

Mankind has always had a strong desire to be by the water, for its aesthetics, proximity to natural resources, transportation, commerce, housing, and recreation. Similar to other coastal areas, human population growth and development in the Puget Sound region has primarily occurred along or near the shoreline. But placing structures near the waters edge comes with risks, particularly coastal erosion. In order to control erosion and to create more developable real estate, a substantial amount of Puget Sound's coastline has been filled and armored (a general term used to describe a vast array of structures, such as sea walls, bulkheads, revetments, etc). To date, approximately one third of Puget Sound's shoreline is armored, with a substantially higher proportion armored than unarmored in urbanized and urbanizing areas. Approximately 60-80 percent of shore lands along Puget Sound are highly valued private residential properties, but often purchased without knowledge or consideration of the intrinsic risks of landslides and coastal erosion. Most residential structures have been built without adequate setbacks or buffers, and when a bank or buff shows signs of erosion, the typical response is to build defensive structures. In a study conducted by Washington Department of Fish and Wildlife, a total of 980 permits were issued for shoreline armoring projects from January 2005 through December 2010, with almost a mile of new armor installed in 2010. The cumulative result is a substantial loss and/or degradation of marine near-shore habitat and a disruption of the natural ecological processes, structure, and functions that sustain nearshore ecosystems.

Shore armor has been at the center of controversy and debate about how to protect and restore Puget Sound shorelines, particularly for Endangered Species Act (ESA) listed salmon, forage fishes, and other fishes and wildlife. After decades of debate, analysis, reg-

ulatory reform, and efforts to develop alternatives to conventional armoring techniques, some walls are finally coming down.

While most efforts to remove shore armor have occurred on public lands, a few brave souls have agreed to remove the bulkheads on their residential properties. Most of these projects have resulted in removal of 50-100 feet of armor, illustrating that it can be done without threatening their homes. However, the greatest demonstration of faith, collaboration, good will, stewardship, and shoreline residential property restoration was recently conducted in Port Madison Bay, Bainbridge Island, where approximately 1500 lineal feet of armor was removed, along with invasive plants and replanting of the riparian area.

The property is a large estate, owned by the Powel family, which had established a conservation easement in 1993 with the Bainbridge Island Land Trust (BILT). The landowners approached BILT in 2008 for guidance when their ageing bulkheads showed severe signs of failure, asking if there was a more environmentally sensitive way to replace the armor. The BILT brought in a number of shoreline professionals to evaluate the site, and, seeing the potential, asked if the landowners would consider restoration.



**Powel site aerial photo. Photo credit:** Thomas Fenwick

Neither the Powel family or BILT had prior experience with restoration, so BILT turned to professionals (a number of them PERSians) to assist with the complex process of funding acquisition, project management, design, permitting, implementation, and monitoring. Educating the BILT Board of Directors, family members/property owners, and the local community

was also a critical element of achieving acceptance and support for taking the restoration approach. An important first step was establishing a common, overarching goal for the project: To restore the natural processes, structure, and functions of the shore in a manner compatible with the residential use of the property. Achieving this goal required input from a range of stakeholders, including the five family members, BILT, local Native American Tribes, State and Federal regulatory agencies, the City of Bainbridge Island, and interaction with adjoining neighbors. Once funding was acquired for the initial design phase of the project, and BILT retained professional services for engineering and design, the stakeholders met eight times during a 12-month period to evaluate proposed design options to arrive at a final design. The objectives of the final design included:

- removal of approximately 1500 feet of shore armor;
- reestablishing salt marsh and intertidal vegetation, and increasing intertidal habitat;
- restoring natural geophysical processes such as sediment erosion, transport and deposition;
- enhancing nearly 33,000 square feet of marine riparian area by removing invasive plants and placement of 2650 native trees, shrubs and ground cover;
- protecting existing infrastructure;
- engaging and educating partners and stakeholders;
- creating a showcase project;
- performing effectiveness and response monitoring.

A design report, available at [www.bi-landtrust.org/pdfs/Final\\_Report\\_V.14.pdf](http://www.bi-landtrust.org/pdfs/Final_Report_V.14.pdf), date May, 2011, was used as the basis of acquiring implementation funding.

After another round of grant writing, reviews, and evaluations, funding was acquired for implementation in August, 2012. Construction contractors accessed the site by barge, and hauled away tons of rock, concrete, creosote-treated wood, and fill (some of it comprised of varied garbage, ranging from glass and cans, to carpet and car parts). Little effort was given to contouring the bank, taking a

simplistic approach, allowing nature to finish the work (which always happens anyway). Similarly, it was determined that there was enough seed source available in the area, so that saltmarsh vegetation would recolonize naturally, rather than attempting to plant it, with the exception of one segment of shoreline, where pickleweed was transplanted experimentally. In other areas, the equipment operator was instructed to avoid existing salt marsh vegetation, which was successfully achieved and appreciated by the project management team. In one area, where saltmarsh vegetation had completely covered the fill, large mats of vegetation were scooped up, set aside, then replaced once the fill was removed. Excavation of armor and fill was completed by September 18, 2012, and, after invasive plant removal and ground preparation, the riparian area was replanted in November and December, 2012.

Over 1500 lineal feet of shore armor were removed, along with tons of fill material, resulting in a 163 percent increase in intertidal area; 33,000 square feet of riparian area were replanted with native vegetation and, existing infrastructure remains protected. This was all done on time and budget, and the landowners, neighbors, and visitors to the site have marveled at “how much better it looks”. To date, the restored shoreline is recovering nicely, with a healthy fringe of saltmarsh vegetation, including positive signs of growth in the experimentally planted area. Volunteers are monitoring the site to record the transition that will allow evaluation and learning from the approach taken. This will provide valuable guidance for future restoration efforts.



**Pickleweed (*Sarcocornia sp.*)**

Puget Sound salmon recovery goals and the protection and restoration of shoreline ecological functions will require actions on private residential shore



lands. In order to engage private landowners in these efforts, it is important to combine restoration actions compatible with residential living and that may include incentives. In this case, bulkhead replacement would have cost approximately \$300 per foot, plus the cost of debris removal and disposal, for an estimated total cost of \$512,000. At this site, restoration was not only less expensive, but provides many ecological benefits, for which it is difficult to assign a dollar value and will pay dividends over the long term.. The result is a more resilient, ecologically functioning shoreline that is aesthetically pleasing to the landowners and neighbors. It also serves as a demonstration of what may be accomplished with the proper project goals, people, location, and ethics.

In summary, there are many lessons to be learned from such restoration efforts, which require a vision, commitment, multiple disciplines and interests working collaboratively, an understanding of marine nearshore ecosystems (the natural sciences) as well as social sciences (especially when you are dealing with diverse interests – including those within a family), and having a great project team. Our hope is that this project may be used as an example of what can be done on residential shore lands to further the protection and restoration of Puget Sound.

For additional photos, information and other summaries of this project, visit the BILT website: <http://www.bi-landtrust.org/default.asp?ID=66>

You may download copies of a project summary brochure at: <http://wsg.washington.edu/powelbrochure>

*“I have to say that, of all the projects I’ve worked on in my career, this one is a shining star, which I hope will be used as an example for other restoration efforts”*

~ Jim Brennan

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## **Student Profile: Halley Froehlich**

*Distributional shifts and species composition during seasonal hypoxia.*

Halley Froehlich is a PhD Candidate and NSF fellow at the University of Washington, School of Aquatic and Fishery Sciences. Advised by Timothy Essington, Halley’s dissertation encompasses the investigation into the non-lethal threats of hypoxia to estuarine species. At CERF 2013 she will be presenting her research on demersal species movement patterns and nearshore community compositions in relation to seasonally hypoxia in the Hood Canal estuary of Puget Sound, WA. Her research objective is to increase knowledge on the potential secondary ecological effects of hypoxia that can be just as important as direct mortality (i.e., fish kills). Separate from her research being presented, Halley is currently working on the physiological component of her dissertation, processing liver tissue samples of Pacific herring to evaluate the genetic expression of a specific hypoxia-responsive gene known as Hypoxia-inducible factor 1 $\alpha$  (HIF-1 $\alpha$ ).

## **Student Profile: Stuart Munsch**

*Salmon, Seawalls, and Seattle: Assessing the effects of shoreline modifications on the ecology of fish in Elliott Bay, Washington.*

Stuart Munsch is a third year PhD student and NSF fellow in the Simenstad research group at the University of Washington. His research explores the effect of shoreline modifications on fish and macroinvertebrate assemblages in the urbanized estuary of Elliott Bay, Washington within Puget Sound. Utilizing snorkel and scuba observation methods, Stu’s research suggests shoreline modifications affect the distribution, assemblage structure, and behavior of fish and macroinvertebrates, including juvenile salmon. The Elliott Bay Seawall will be reconstructed in late 2013 and will include habitat enhancements to reduce its ecological impact. Stu is an active member of PERS participating in enhancing the groups social media presence, the winner of PERS 2013 best graduate talk and will be presenting preliminary results from this study at the 2013 CERF meeting.



**PACIFIC  
ESTUARINE  
RESEARCH  
SOCIETY**

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We're on the Web  
[www.pers-erf.org](http://www.pers-erf.org)

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## **PERS BOARD OF DIRECTORS**

### **PERS Executive Officers:**

**President: Gary Williams**  
GL Williams & Associates Ltd.  
Coquitlam, BC

**Past-President: Steven Rumrill**  
Oregon Department of Fish and Wildlife,  
Newport, OR

**President-Elect: Tony D'Andrea**  
Oregon Department of Fish and Wildlife,  
Newport, OR

**Secretary/Treasurer: Jeannie Gilbert**  
Western Washington University,  
Bellingham, WA

**Professional Member At-Large:  
Cynthia Durance**  
Precision Identification, Inc.,  
Vancouver, BC

### **Professional Member At-Large:**

**Jim Brennan**  
Washington Sea Grant  
Bremerton, WA

### **Student Representative:**

**Pascale Goertler**  
University of Washington  
Seattle, WA

### **PERS Administrators:**

**Newsletter Editor:** vacant

### **Annual Meeting Wrangler:**

**Stacey Galleher**  
Oregon Department of Fish and Wildlife,  
Newport, OR

### **List Serve Coordinator**

vacant

# 2013 ELECTION RESULTS ARE IN

The 2013 election results are in and CERF is pleased to welcome the following new members to the Governing Board. The new board members will take office following the CERF 2013 conference on November 8, 2013 and serve as part of Ken Heck's administration. We sincerely thank all of the highly qualified candidates and voting members who participated in the election.

## 2013-2015 President-Elect



### ROBERT TWILLEY

Executive Director,  
Louisiana Sea Grant  
College Program  
Professor, Department  
of Oceanography and  
Coastal Sciences  
Louisiana State University  
Baton Rouge, Louisiana

**EXCERPT FROM  
CANDIDATE'S  
STATEMENT:** *"The Coastal and  
Estuarine Research Federation has  
always been my professional base,*

*and I thoroughly enjoyed participating in the biennial meetings, including serving as Program Chair for the ERF 1999 meeting in New Orleans. CERF brings the balance of science and management to one of the most dynamic and human-impacted regions of the biosphere - estuaries."*

## 2013-2015 Secretary



### ENRIQUE REYES

Professor, Department  
of Biology Institute for  
Coastal Science and Policy  
East Carolina University  
Greenville, North Carolina

**EXCERPT FROM  
CANDIDATE'S  
STATEMENT:** *"I have been a  
member of the Federation since  
1989 and I have attended all but  
one of the biennial conferences and  
witnessed how ERF became the*

*premier conference in coastal and estuarine science. I have chaired special sessions and presented in general sessions, but it was not until I started collaborating with 2 exemplary individuals, Bob Christian and Linda Blum, that the commitment and passion to service to the CERF membership became evident to me. I take particular inspiration from both of them, and recognize the need to participate and collaborate on the service to our Federation."*

## 2013-2017 Members-at-Large



### ELIZABETH CANUEL

Professor of Marine Science  
Virginia Institute of Marine Science  
Gloucester Point, Virginia

**EXCERPT FROM CANDIDATE'S STATEMENT:**  
*"I work in estuaries and the coastal ocean because they  
are vital to society - providing food, energy, livelihoods,  
and a range of ecosystem services. However, coastal  
regions are also heavily degraded by excess nutrients,  
poor water management, overfishing, and development.*

*As Member-at-Large, I will emphasize CERF's role in fostering science and translating it to management and policy...Solutions to environmental problems require interdisciplinary approaches both across natural sciences as well as bridging the natural and social sciences."*



### SHARON HERZKA

Research Professor,  
Department of Biological Oceanography  
Center for Scientific Research and  
Higher Education of Ensenada (CICESE)  
Baja California, Mexico

**EXCERPT FROM CANDIDATE'S STATEMENT:**  
*"My vision for CERF's future emphasizes four aspects:*

*1) building and strengthening the invaluable services the federation provides for students and young scientists at all stages of their careers, (2) capitalizing on our knowledge-base to serve society's increasingly complex needs, (3) broadening the international scope and outreach of the federation, and (4) continuing to strengthen the relationship with the Affiliate Societies."*

## 2013-2015 Student Member-at-Large



### LEANNA HEFFNER

Ph.D. Candidate,  
Graduate School of Oceanography  
University of Rhode Island • Kingston, RI

**EXCERPT FROM CANDIDATE'S STATEMENT:**  
*"As a professional organization, CERF stands out in  
many ways. The CERF community is welcoming, colle-  
gial, energetic, adaptive, and I have always been impressed  
with the Federation's support for students...CERF has  
played a central role in my scientific career and I have*

*been fortunate to serve the Federation in several capacities over the years."*