If you have not seen PTMSC’s new exhibit, “Learning from Orcas – the Story of Hope,” please do so at your earliest opportunity. In it, an orca that died a decade ago symbolically swims again. The exhibit is stunning and beautiful, with activities for all ages.

The centerpiece is the skeleton of a female orca, named “Hope” by local school kids. What visitors find out quickly is that she is the poster child for the condition of our ocean and, by extension, the Salish Sea. Visitors draw links between her story and our lives on the shores of the Salish Sea, learning how many of our actions result in incremental changes to ocean health. That’s good to know because it helps us realize how we can influence a tip either way – towards improving health or declining health.

PTMSC has created a successful complement to our popular touch tanks on the pier. As the touch tanks are inviting, fun and hands-on, this new exhibit is dramatic, bold in content and experiential. Together the two exhibits align to deliver a moving conservation message.

Through investigation, inquiry and interaction, with knowledgeable docents in the marine exhibit, visitors gain a basic ecological understanding about Salish Sea animals and habitats. Furthering the investigation in Learning from Orcas, visitors absorb more in-depth information. Using science and stories, this exhibit urges people to take action to improve the health of our waters and suggests ways to do so.

Orcas represent different things to different people, but universally they seem to bring us joy, activate our imaginations and remind us of ancient kinships. Prior to the exhibit’s completion and again at the opening I witnessed two, deeply touching reflections about human bonds with orcas.

The first was a few months ago when PTMSC’s friend Pete Schroeder invited storyteller George Taylor of the Kwakwaka’wakw Nation, and living in Alert Bay, Canada, to share stories with regional groups working on orca recovery. In talking of his people’s strong connection with the sea, George said he never wants to see a killer whale in a museum. His words struck me deeply, knowing that PTMSC was preparing to do just that.

The second came from a note penned in a child’s hand during opening week-end of the exhibit. “I am sorry Hope.” Seven-year old Lorenzo also said, “I love everything [in the exhibit]” so in addition to being sad for Hope, he must have had fun crawling through the storm drain!

Like the Canadian First Nations elder and the young Port Townsend child - we also never want orcas to become relics that future generations talk about in the past tense. And, we don’t want to be apologetic about the legacy we are leaving future generations. We can start making a difference now. Learning from Orcas offers visitors inspiration and direction. You can see Lorenzo’s note posted in the exhibit as a reminder of our commitment.

PTMSC thanks the design and fabrication teams, along with “boneman” Lee Post, who transformed Hope’s story into this compelling exhibit. Pairing up with local designers, Walker, Johnson and Greene, and the fabrication firm, Atlas Fine Arts of Vashon Island, PTMSC has been very effective in reminding visitors of the power we have to both neglect and cherish the sea around us. It is clearly time to act from that place of cherishing!
The Toxics Project

It’s a blustery, gray, Pacific Northwest day in November. Winter is lurking just around the corner, like a predator waiting to pounce with relentless drizzle and darkness. Rain spatters against the warped window panes and I am enchanted by raindrops carefully choosing their path down the glass. I wonder where these droplets come from. What might be in them other than good old H₂O? Where will they go after trickling their way down the side of the Natural History Building? Will they join the approximately quattuordecillion water molecules in the world’s oceans? (That’s the number one with 45 zeros after it!)

Glancing back at my screen I see a tedious document called a QAPP - which in all honesty is a lot more fun to say than write! The acronym for this beastly report is pronounced ‘quapp’ (imagine a duck trying to say ‘clap’) and stands for Quality Assurance Project Plan. Required by the EPA’s grant program, it ensures research projects provide meaningful and accurate results.

After perfecting the QAPP, PTMSC will embark on our newest component of The Toxics Project – a scientific study of contaminants found in roof run-off water. There were many events inspiring this project including our own Story of Hope, the Dept. of Health’s publication Focus on Puget Sound, Puget Sound Toxics Assessment, and the emergent issue of toxics in the marine environment. Our research seeks to answer pressing questions about toxics in roof run-off by orchestrating PTMSC volunteers in the collection of samples from local Port Townsend homes.

As our newest Citizen Science project, we seek to involve the community in understanding what is in roof run-off and whether suspected contaminants are coming from rain, roofing materials, or both. The project contributes to our broader research questions - What makes its way to Puget Sound in storm water and what are the effects on the dynamic marine environment?

Stay tuned! You may find yourself crouching under the gutter of your home, eagerly awaiting the deluge of roof run-off with a collector in hand.

–Jamie Landry, Citizen Science Coordinator

Whales of the Salish Sea

Whales of the Salish Sea, a new education program made possible by a generous grant from an anonymous foundation, was piloted with Port Townsend School District 5th graders in Fall of 2011 and then offered to 6th graders from Neah and Clallam Bay Schools in Spring 2012. Students were immersed in orca education for three days, learning about plankton, marine food webs, orca communities, marine mammals, and more. Students engaged in classes which pushed them to think differently, ask questions, and form conclusions, much like real scientists. In the program’s final day, students used forensic techniques to determine the demise of PTMSC’s orca “Hope” and participated in a mock town hall meeting about tidal turbines in Admiralty Inlet.

This experience sparked curiosity about science with the children that attended. The experience equips students to participate in important decisions about their local environment and seek careers in science fields. Due to continued funds, provided in part by PTMSC’s Tides of March auction and a grant from the Discuren Foundation, this program was offered to Neah and Clallam Bay 6th graders in Fall 2012, and will be offered to the 5th grade classes from Blue Heron and Chimacum Middle Schools in Winter 2013.
Free Science Classes Continue

“Marine Mammals: Form Function and Food”

and

“The Diverse Ecosystems of the Salish Sea”

The Port Townsend Marine Science Center is proud to continue its tradition of getting kids outside and excited about learning. Now in its seventh year, the Free Science Classes program offers strapped schools the opportunity to bring students to the Marine Science Center for free hands-on, interactive, place-based science education. In February and March, 4th and 5th graders from all over the North Olympic Peninsula will participate in two classes: “Marine Mammals: Form, Function and Food” and “The Diverse Ecosystems of the Salish Sea.” Besides being fun, these classes help students meet the learning standards set by the State. The Marine Science Center even provides bussing stipends. Sponsorships, foundation support, and individual donors make these classes possible. This year, sponsorship is provided by Wells Fargo, USBancorps, and donors at the Tides of March Benefit Auction.

Volunteer Achieves Milestone

PTMSC Volunteer Moh O’Hanlon used his expertise to docent with visitors of all ages in the Marine Exhibit this past summer. On November 4th a Volunteer Gathering was held at the PT Yacht Club to recognize many outstanding PTMSC volunteers. Moh O’Hanlon hit a milestone this past season, acquiring over 5,000 volunteer hours.

New Year’s Eve Cruise

December 31st

We invite you to go on our annual New Year’s Eve Cruise around Protection Island or south toward Port Ludlow, weather permitting.

Cruise leaves from the Point Hudson Marina, 1-4 p.m.

Tickets: $55 per person
($50 for PTMSC, Burke Museum, Audubon or WOS members)

Reservations and information:
(360) 385-5582 ext. 104, (800) 566-3932 or cruises@ptmsc.org
When it comes to noisy, trashy neighbors, you can hardly come up with a better example than glaucous-winged gulls. In the course of their travels, gulls ingest all kinds of food and non-food items, including objects like whole paper towels, plastic bags, condoms, aluminum foil and ketchup containers. How do we know? All these and other human-made objects were ingested and regurgitated with food remains into pellets, or boluses, that were later dissected by hardy PTMSC volunteers as part of a project to understand more about how plastics intrude into the marine environment.

The project was started by Cinamon Moffett, former Marine Program Coordinator. From 2007 to 2010, staff members collected almost 600 boluses from Protection Island, where the appropriate gear for the task included head-to-toe foul weather gear, rubber gloves, boots, goggles and a hard hat. Gulls display their displeasure with unwelcome visitors by strafing them with well aimed “bombs” and by whacking them in the head with their big feet. It’s not a good idea to watch Alfred Hitchcock’s movie, ‘The Birds,” before collecting boluses!

AmeriCorps members Valerie Lindberg and Julia Ledbetter took on the challenge of finishing up this project during their second service year with PTMSC in 2010-11. Working with Jean Walat, they re-dried and re-weighed all the boluses, checked and re-checked dissections and data. With the help of retired oceanographers Rick and Debbie Jahnke, they analyzed the data and in collaboration with Rick, Debbie and Jean, drafted a scientific paper documenting their findings. The final result is PTMSC’s first peer-reviewed scientific paper, entitled “Plastic consumption and diet of Glaucous-winged Gulls (Larus glacescens).” (Marine Pollution Bulletin 64 (2012) 2351-2356)

The most important finding of this study is that more than 12% of boluses contained plastic. We also looked at whether boluses showed evidence of diet specialization (no), and whether there was any relationship between the type of plastic ingested and particular food items (no). The evidence that 70% of the plastic found was the film used in plastic bags and food wrappers helped support a plastic bag ban ordinance that was passed by the Port Townsend City Council this summer. A surprising finding was that almost half the boluses consisted of over 50% vegetation. Have you ever seen a gull grazing on grass? We hadn’t either.

There is still much to be learned. For instance, many people have seen photos of young albatross who starved after being fed a diet of plastic, but we don’t have evidence that ingesting plastic in the quantities seen harms gulls.

With less than a 2% volunteer error rate, this study also showed that “Citizen Scientists” can be very effective. That’s important evidence to traditional scientists who can be leery of trusting volunteers to collect good data. If you would like to get a copy of the paper, please contact Jean Walat at jwalat@ptmsc.org.

– Jean Walat, Program Director

PTMSC celebrates first published peer-review scientific paper
Welcome, New AmeriCorps!

Every year, PTMSC is blessed to welcome a new team of AmeriCorps to our staff for a brief ten-month period. Our crew this year are Danae Presler, Emily Neal, Megan Veley and Amber Heasley. We’d like you to get to know them better, so here are some thoughts on their goals and aspirations while they’re with us.

Danae: I was inspired to come to work at the PTMSC because I’ve fallen in love with the ocean. It is her beauty, complexity, and her pain that sent me ceaselessly scouring job boards in search of a position that would not just teach but show me what I can do to help her. Needless to say, I jumped at this opportunity!

My favorite thing about PTMSC is watching the orcas pass by Point Wilson, collecting plankton as a harbor seal swims under the dock and having 40 grandparents! I like looking at the same tank every day and finding something new each time and working with wildly passionate and driven individuals. When it comes down to it, my favorite thing about being part of the PTMSC is that I never know what the day will bring. I welcome the unknown with open arms.

A personal goal for my time here is to learn as much as I can and be able to disseminate my knowledge in the most impactful way possible. Sounds easy, right?

Emily: I came to the PTMSC because I knew I wanted to learn more about marine science, and I knew this would be a beautiful part of the world to live and study. I was also drawn by the variety of things I get to do – each day is different. My favorite thing about being here is that everyone is passionate about their job and the ocean and they’re excited to share their knowledge. I learn something new every day and my goal is to keep learning!

Megan: I’ve known for some time that I needed to live where the mountains meet the ocean. When I discovered this small, but prospering organization only an arms length away from both, I knew it was exactly where I need to start my career. PTMSC emphasizes the importance of educating for the future while having fun in everything that it does. What more of an inspiration could you ask for?

My favorite thing about being part of PTMSC is that there’s never a dull moment! Whether it’s changing your schedule around so you can spend the afternoon watching orcas swim by, or taking a lunch break to see a local salmon run, I realize everyone is included because we know that work can equal fun!

My personal goal for my time here at PTMSC is to leave something behind that will continue to teach and inspire others to care about and love the ocean as much as I do.

Amber: For my whole life I’ve been driven to explore new places and learn new things about the world around me, so moving to the tip of a peninsula on a peninsula to be immersed in an environment dedicated to the conservation of an ecosystem that’s mostly unexplored seemed like a natural fit.

I learn something new every day and I have just about the coolest job I could imagine, but my favorite part of PTMSC is all the wonderful people. I am fortunate to work with great role models and interact with passionate, engaged public and volunteers on a day-to-day basis.

My goal while I’m here? Well, I’ve already been suctioned by a Giant Pacific Octopus, been a snorkel-clad underwater barnacle-killing machine, helped put together the coolest puzzle in the world (a complete orca skeleton), been chef to the stars (sea stars that is!), assisted at a necropsy, and watched orcas swim by from right outside my office door. So my goal is to let the adventures continue!

If you haven’t already, be sure to stop by and meet these amazing young women. We’re so grateful they’re with us this year!

Wish List

- Ten 5-gallon clean buckets
- Medium sized boom box with radio and CD player
- Laptop computers (call PTMSC for required specs)
- Two sharp fillet knives
- Knife sharpening kit

Call Brian McKay at 360-385-5582 ext. 104 if you can help.
Many Ways to Inspire Kids and Help the Salish Sea

If you are reading this newsletter, it is likely that you love to see kids getting fired up about hands-on exploration of the marine environment. The Port Townsend Marine Science Center offers you a way to make this happen practically every day of the year. Your financial support constitutes approximately 44% of the annual budget. You make inspiring conservation of the Salish Sea possible. There are many ways to make a gift. Options exist for all pocketbooks, many with tax advantages.

- End-of-Year Gift. Respond to the annual appeal or renew your membership.
- IRA Charitable Rollover. If you are 70 or older, and are required to take a distribution that you do not need for personal use, consider making a gift to PTMSC with tax benefits.
- Endowment Fund. Help PTMSC achieve long-term financial stability. The fund pays out up to 5% each year, providing a sustainable, dependable source of revenue to fund education and conservation.
- Estate Planning. Work with your professional advisor to find the vehicle that is right for you. Options include making PTMSC the beneficiary of a retirement account, life insurance policy, or a charitable remainder trust or annuity. Some options provide you with income during your lifetime.
- Legacy Gift. Support the work you believe in for generations to come. A bequest in your will can be set up a number of different ways and can provide estate tax savings.

Tides of March Benefit Auction: Save-the-Date

Mark your calendar now for the 2013 Tides of March Benefit Auction on March 9th at the Jefferson County Fairgrounds. We are again planning a festive evening of warm camaraderie, delicious eats, fabulous shopping, and joyful giving in support of conserving the Salish Sea.

(Please Print)

YES, I WANT TO BE A MEMBER!

Check if this is a: ☐ New Membership or ☐ Renewal

Name_________________________ Phone_________________________ e-mail_________________________

Address_________________________ City_________________________ State_________________________ Zip_________________________

☐ $15 Student ☐ $30 Individual ☐ $45 Family ☐ $75 Friend ☐ $100 Sustaining
☐ $125 Business/Professional ☐ $250 Octopress Sponsor ☐ $500 Benefactor ☐ $1000 Sponsor

I’m paying by: ☐ Check ☐ Credit Card: ☐ Visa ☐ MasterCard

Name as it appears on credit card ____________________________ Credit Card # ____________________________ Exp. Date __________

Please mail this form to: PTMSC, 532 Battery Way, Port Townsend, WA 98368

“There is a lack of education as far as marine science and conservation and a real hunger in young people to learn. Why not leave a lasting impact on youth? I have no children; why not leave it to other children? I really appreciate [PTMSC’s] management and stewardship of their money and volunteers.” —Daphne Kilburn
Orca Bone Atlas

Visit www.ptmsc.org/boneatlas/ to see this very first free online research and education tool. Lee Post, master skeleton articulator, originally suggested the idea of a Bone Atlas to us. PTMSC volunteers and the Idaho Virtualization Laboratory worked together to produce the detailed digital images of every bone in the skeleton of CA189 (aka Hope). In describing the Atlas’ significance, Herbert Maschner, Director of the Idaho Museum of Natural History, said: “You are collaborating in what we call the ‘democratization of science’— bringing knowledge to anyone who wants it.”

Listening For Orcas online

PTMSC is proud to partner with NOAA, Killer Whale Tales, the Salish Sea Hydrophone Network and the Whale Museum on a new website called Listening For Orcas, located at http://listen.orcasound.net/. This unique site uses recordings from the Salish Sea’s three resident orca pods to teach many common orca calls. Users can then listen to live streams of local hydrophones and report their detections, adding valuable citizen science data to the study of local orca habitat.
PTMSC is sponsoring the showing of a new documentary on tsunami debris on the Olympic Peninsula. See the film and meet the filmmaking expedition team on Tuesday, January 15 at 7 p.m. at Quimper Unitarian Universalist Fellowship, 2333 San Juan Ave, Port Townsend. Tickets $8 adult / $6 PTMSC members / $3 youth.