The Vancouver Aquarium Marine Science Centre is hosting the: Northwest Aquatic and Marine Educators Conference from July 19 - 22, 2009. The Conference promises to be a fun and practical experience for educators AND green for the environment!

This year’s theme, Urban Waters, will focus on water issues facing cities. Topics will include:
- How are urbanites connected to the world of water and what choices can they make to minimize their impact?
- How are watersheds and coastlines affected by the presence of people?
- Where are the opportunities to connect with the world of water and effect aquatic and marine conservation?

There will be special guest speakers, field trips and workshops that will inspire you to bring conservation and sustainability into your classroom!

For more than 50 years the Vancouver Aquarium has dedicated its efforts to preserving our marine environments by creating awareness through world-class displays, providing excellent marine science education, and spearheading conservation efforts as well as conducting ground-breaking research.

The Marilyn Blusson Learning Centre, the education facility within the Aquarium where the conference will be held, contains state-of-the art classrooms and a Wet Lab complete with tanks containing a wide variety of inter-tidal marine animals. The Aquarium’s galleries focus on several regions: British Columbia Waters, the Tropics, the Arctic, and the Amazon, which includes a free-flight gallery.

The Aquarium is set in Vancouver’s beautiful Stanley Park, which is surrounded by Vancouver Harbour and is a comfortable twenty-minute walk along the waterfront to the bustling downtown. Downtown has something to offer everyone. Whether it’s 5-star dining or fish and chips on the waterfront, vibrant night-life or a sunset kayak trip around English Bay, you’re bound to find a few things to keep you busy and entertained. The city is within easy reach of North Shore Mountains, offering breathtaking views and hiking for all levels. Whistler, home of the 2010 Winter Olympics, is a short two hour drive away on the spectacular Sea-to-Sky highway. Join us in Vancouver for the Conference, and make a trip out of visiting the surrounding area!

For more information about conference registration, traveling to Vancouver and accommodation, visit the Aquarium’s Conference website at: http://www.vanaqua.org/education/name/index.html

We hope to see you in Vancouver for the NAME conference this July!
NAME Report—Spring 2009
by Deborah McArthur

Greetings NAME friends,

I’ve been busy since July in my new role as NMEA Chapter Representative. It’s been insightful learning about our national “mother” organization and responding to requests from the NMEA office and board. Chapter Reps participate in calls every other month to learn about each other's chapter activities (lots of conferences going on around the country!) Did you know there are 17 regional chapters of NMEA with fun acronyms including: GOMMEA, GLEAMS, TEAMS, and SAME??

The big buzz right now is planning for the annual NMEA conference which will be right here on the west coast in Monterey, CA from June 29-July 3. I encourage everyone to attend. The theme this year is “One World Conserving One Ocean.” Check out the website at: www.nmeaweb.org

There are scholarships available through NMEA (see the website to apply) and 21 different ways to register. The website even has a “Ways to Save” webpage! Advance registration is April 15, so start your planning now! I look forward to seeing you there!

To become a member of NMEA:
National Marine Educators Association
Visit their website at: www.marine-ed.org or contact Deb McArthur at 206.860.3430, deborah.mcarthur@noaa.gov

To become a member of NAME, please contact:
Mary Lou Peltier at: goseaslug@yahoo.com

READ Scuttlebutt ONLINE!
www.pacname.org
Anemones are spawning and grunt sculpin eggs are hatching, so spring must be just around the corner. We are busy preparing our exhibits and working on exciting new projects.

The Docks Project is our new monitoring program for local Middle and High school students. Students visit docks near their schools to gather information on nearshore water quality. They have also been putting down settling plates to monitor for invasive tunicates in local marinas. In future years the docks project will involve students in tracking changes in biodiversity in response to climate change and ocean acidification.

Third and fourth graders from around the Olympic Peninsula are attending our Free Science Classes this winter. Our AmeriCorps members have been working hard developing and teaching these interactive classes which explore sound underwater and orca communication. In February, a lucky third grade class helped detect an unusually large group of orcas heading into Puget Sound.

In March, our Plastics Project continues beach sediment sampling in seven Puget Sound counties. Working with volunteers from partner organizations, we are searching for the continued on page 8
Sea Star FLIP Experiment

submitted by GK12 Fellow and OIMB PhD student Maya Wolf

Target Age Group: Early Elementary

Goals:
- To get students to conduct their OWN experiment to answer a question.
- To introduce the terms experiment, hypothesis and results.
- To get students to share their results orally with the class.
- To give students writing practice.

Concept(s):
- Scientists design experiments to test/answer a question.
- It is important to record and discuss your results with other people.
- A hypothesis is an educated guess of what may happen in an experiment.
- Different types of sea stars may recover from being turned over at different speeds.

Lesson Plan:
Begin with a discussion of sea star parts, having the students help you label the parts of a sea star poster. Ask how many arms sea stars have, what helps sea stars to move, what is the importance of tube feet etc. Make a list of the common names of the different species of sea stars you brought in. Ask what would happen if you turned one upside down. Ask if someone can make a guess about which they think would be able to turn itself over again the fastest and why they pick the one they do. Discuss the term hypothesis as an educated guess. Use an example like a marker and have them guess what color it will write. Explain that this is an educated guess not a random guess (like the flip of a coin), and ask how you could test the marker hypothesis. Then discuss the sea star question again and ask them if they can think of a way to test the question. Explain the term experiment.

Lay out the plan for them. Then give them their handout and divide them into groups of four or five asking them specifically not to touch anything until you tell them to. Have them examine their sea stars and circle which two sea stars they have and have them make a hypothesis on which will flip over faster and why (more tube feet, more arms, bigger, smaller etc). Teachers and/or aides should work the timers and either have students go all together gently flipping the sea stars or, to preserve tube feet, teachers and aides may flip them and time only one or two groups at a time.

Have the students write down the time it took for each of the two sea stars to flip back over and circle which sea star was faster. Have each group come up to the front of the class and report on the results of their experiment. Make a bar graph on the board (time on Y, sea star type on X), explaining what a graph shows you. Discuss results.

Assessment:
Experiment data sheets, reporting in front of class and discussion of hypotheses.

Materials:
- 10 or more sea stars of different types
- 10 buckets or containers big enough to house sea stars
- Cold sea water, bubblers etc
- Experiment Handout (see attached)
- Stop watches
- Post-its
- Markers
- Butcher paper or white board
- Data sheet (see opposite page)
Sea Star Flip Experiment

Name________________________

**Identification**
(Circle your two sea stars)
- Sunflower Star
- Ochre Star
- Bat Star

- Long-armed Star
- Leather Star
- Blood Star

**Hypothesis**
(Circle the sea star that you think will flip the quickest)
- Sunflower Star
- Ochre Star
- Bat Star

- Long-armed Star
- Leather Star
- Blood Star

**Results**
(Circle the sea star that flipped the quickest)
- Sunflower Star
- Ochre Star
- Bat Star

- Long-armed Star
- Leather Star
- Blood Star

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Explore our nation’s estuaries -- Friday, May 1st & May 15th, 2009

On May 1st, join naturalists from around the country and explore one of our nation’s most precious resources. **EstuaryLive** is an annual, free, live, interactive, field trip through our nation’s estuaries.

What makes EstuaryLive interactive? Participants have an opportunity to submit questions directly to field trip leaders during the broadcast. Many of these questions are answered live during the broadcast. This year’s program will feature six 30-minute segments broadcasting LIVE from three of NOAA’s National Estuarine Research Reserves (NERR): Hudson River NERR in New York, South Slough NERR in Oregon, and Padilla Bay NERR in Washington. We will include a discussion of the impacts of global climate change on our coastal ecosystems.

**Register for the May 1st broadcast:** [http://www.estuaries.gov/estuaries101/EstuaryLive/Register.aspx](http://www.estuaries.gov/estuaries101/EstuaryLive/Register.aspx)

**Can’t make the May 1st broadcast?** Weeks Bay NERR will broadcast a local EstuaryLive program on May 15th.

For more information about estuaries, EstuaryLive, the Estuaries 101 Curriculum and other educational tools, please visit [http://www.estuaries.gov/](http://www.estuaries.gov/)

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This lesson was developed as a part of the University of Oregon Institute of Marine Biology Learning About Where We Live GK12 Program supported by NSF GK12 Grants DGE 0338153 and DGE 0638731
NAME-Oregon is alive and well, and we are looking forward to hosting the NAME Conference in 2010. We have found a “new” site for the conference and are very excited about the potential for a truly outstanding experience for marine and aquatic educators.

We welcome five new and returning members who have joined since the first of the year. An ongoing contest gives NAME-Oregon members a chance to win a gift certificate for enlisting new members.

NAME-Oregon members were busy the weekend of February 21. Some coached the NOSB Salmon Bowl teams in Corvallis while others served as officials at the competition. Still others elected to support the local economy by attending the popular Newport Wine and Seafood Festival.

As has been our practice for the past several years, NAME-Oregon presented the Salmon Bowl champions with suitably inscribed NAME Gear for them to wear at the national finals in Washington, DC. As of this writing, I am planning on being a volunteer at the DC finals.

NAME-Oregon is looking into the possibility of co-sponsoring a workshop with Ducks Unlimited. The site for the workshop has not been determined, but registration costs will be minimal, and attendees would receive valuable educational materials as well as membership in NAME. Watch for details.

Our second project is to begin laying the groundwork for the 2010 NAME conference in Oregon. We discovered that Florence, which is less than an hour south of Newport, has great potential as a conference site. Not only do they have multiple opportunities for field experiences, but they also have an excellent events center. Florence is not only located in the midst of some of the Oregon coast’s most beautiful scenery, but the prices seem very reasonable with camping options and lots of activities for families. We are looking at July for the conference. Keep your calendars open.

- Gene Williamson, NAME-Oregon Director

WOW! What a great winter in Washington!

In January, NAME—Washington participated in Storming the Sound North, a conference for environmental educators held in La Conner, WA. This gathering of teachers, informal educators, community members and volunteers was a great day of building community, sharing, and fun. Our own Alex Alexander and Deb McArthur led the conference goers in a lively sing along of the Tidepool Boogie.

As in years past, NAME—Washington co-sponsored the ORCA Bowl, Washington State’s regional competition for the National Ocean Science Bowl, in February. NAME members were well represented amongst the volunteers supporting this exceptional event. Thank you ALL! For the third year in a row, the team from ExCEL Academic League from Washougal took first place (and they were an entirely new group of students!). The ExCEL students will be competing in late April at the National Ocean Science Bowl. The event will be held at the new Ocean Hall in the Smithsonian’s National Museum of Natural History in Washington, D.C.

In March, NAME—Washington held its 3rd annual sleepover at the Seattle Aquarium. NAME members, family and friends had a great night exploring the aquarium, assembling an orca skeleton, dipping their fingers in the tide pools and serenading the fish with silly songs. Attendees can now answer such questions as - What do birds do at night in the aquarium? And How do those touch tanks stay so clean? Keep in mind we’ll be having another sleepover next spring and we’d love for you to join us!

NAME—Washington just participated in Storming the Sound Central on April 3rd in Seattle. The event was well attended, enthusiasm was high and the workshops and discussions engaging and inspiring. Storming the Sound South will take place this fall. Stay tuned!

- Amy Sprenger, NAME-Washington Director
Sea Anemones

Sea anemones belong to the phylum Cnidaria, which also includes the jellyfish, corals and sea pens. They live in all oceans from the intertidal zone to a depth of 10,000 metres and range in size from around a centimetre to almost two metres in diameter. Some attach themselves to rocks, wharves and other hard surfaces while others construct burrows in mud and sand.

The tentacles, surrounding the mouth, are used for capturing prey and defending against predators. Each tentacle is covered with thousands of tiny stinging capsules called nematocysts. These capsules each contain a tiny, coiled thread with a barb on the end. The hollow threads carry a minute amount of poison capable of paralysing or killing small animals. When a small fish, crustacean or other animal comes into contact with the tentacles, hundreds of these capsules burst open and fire their barbed threads like harpoons, which pierce the skin of the animal and inject their poison.

Once prey is contacted all nearby tentacles quickly move to hold and sting the animal while poison from the nematocysts is injected. Once subdued the prey is moved into the mouth, swallowed whole and digested. Any non-digestible parts such as bones or shell are later ejected through the mouth. (When I see people on the beach sticking their fingers down an anemone’s mouth I tell them that the hole is not only the mouth! They usually don’t do it after that.)

Although sea anemones have no visible sense organs they can distinguish between edible and inedible items. A small piece of paper dropped onto the tentacles of a sea anemone will be grasped, held briefly but then discarded. However if the paper is first soaked in a can of sardines the anemone grasps and then swallows the paper because it ‘tastes’ like food.

The stinging cells can also be used for defence - a mouthful of poisonous barbs being unappetizing to most animals. The nudibranch Aeolidia however is one animal that enjoys a good feed of sea anemone, sometimes eating 50 to 100 percent of its own body weight at one sitting. Attacks must be carried out carefully though, as Aeolidia is not immune to the anemone’s poison and a large anemone can seriously injure or kill the nudibranch. Mucus secreted by Aeolidia protects the nudibranch from the anemone’s sting and actually inhibits the nematocysts from discharging. To prevent injury from any unexploded nematocysts it consumes, Aeolidia’s digestive tract is lined with a protective coating.

Sea anemones are one of the most colourful groups of animals on our coast occurring in many shades of red, green, white, orange and pink. When seen in large colourful clusters it’s easy to see why they’re named after a flower.
Volunteer sampling for microplastics.

Did You Know?????

Scholarships are available to help with registration and some of the costs associated with attendance at the July NAME Conference in Vancouver, B.C.

Applications for scholarships will be announced on Flashmail.

Funding for scholarships and mini-grants comes from the NAME auction.

Communicating Ocean Science Workshop

The third annual Communicating Ocean Science Workshop drew more than 65 ocean scientists, community members, educators and communicators during the first day of the 2009 Alaska Marine Science Symposium in Anchorage, Alaska. The workshop, sponsored by COSEE Alaska, the Alaska Ocean Observing System and the North Pacific Research Board, networks ocean scientists with those who communicate about research in Alaska’s seas, including the media, educators and those living in remote coastal communities. Participants shared programs and events that communicate information to local, regional and national audiences.

Alaska NAME Director and workshop organizer Nora Deans began the session by sharing examples of outreach and communication efforts by the North Pacific Research Board and the Alaska Ocean Observing System. She also gave an overview of communicating science workshops being hosted at national science conferences, and shared resources for improving communication about climate change and ocean science.

Ocean scientist Dr. Lee Cooper of the University of Maryland talked about his experiences in working with teachers at sea during a presentation about the NSF-funded program PolarTREC with Janet Warburten and Kristin Timm of the Arctic Research Consortium of the U.S. (ARCUS), entitled, Communicating Ocean Science at Sea.

Marla Brownlee and Marilyn Sigman shared the latest news about the update of the “Alaska Seas and Rivers” curriculum and invited ocean scientists to share their research with teachers and students via this online, interactive case-study based ocean science curriculum for grades K-8.

Rob Bohanek, an information architect with Axiom Consulting and Design, dazzled the audience with three-dimensional data visualizations and plenty of tips for scientists to bring their data to life during his talk “Sharing Science by Visualizing Data.”

Port Townsend continued from page 3

presence of micro-plastics on local shorelines. Last season we found plastic at every site sampled. In addition, we continue to analyze gull bolus from Protection Island for plastic contents.

We are partnering with COSEE and Washington Sea Grant to host the conference, “Continuing the Conversation on Citizen Science”. We invite you to join your fellow scientists, volunteers, marine educators, resource managers and citizens on April 10th and 11th at Fort Worden State Park. Contact Jean Walat for registration information, jwalat@ptmsc.org.

A young volunteer analyzing the contents of a gull bolus.
Communicating Ocean Science Workshop

Deborah Mercy of Alaska Sea Grant answered questions from the audience about the challenge of taking videos while in remote field sites or onboard research cruises during her presentation “Don't Pan, Don't Zoom.”

Wrapping up the workshop, Nora Deans gave an overview of Alaska’s new Center for Ocean Science Education, one of twelve such centers around the country. She also invited all participants to join SEANET, a network of ocean scientists, communicators, educators and community members focused on sharing information about Alaska's seas. Further discussion about SEANET took place over lunch.

COSEE Alaska also helped the other twenty conference organizers sponsor two lunchtime presentations during the main symposium, including a very popular National Ocean Science Bowl competition between students from South Anchorage high school, and the winning team of scientists from a competition between academic scientists and NOAA scientists. The high school team won! On the second day, Geoffrey Haines-Stiles of Passport to Knowledge presented the popular NSF and NASA-funded IPY outreach campaign, Polar Palooza, featuring the hot new music video, “Take Aim at Climate Change,” which you can find on YouTube or at www.polarpalooza.com.

-Nora Deans, Alaska NAME Director
Mark Your Calendars NOW!

NAME 2010 is scheduled for Florence, Oregon, on the central Oregon Coast, July 7-10, at the Florence Event Center. Florence is a small coastal community situated at the mouth of the Siuslaw River. The area offers some unique attractions including Cape Perpetua, Heceta Head Lighthouse, Oregon Dunes National Recreation Area, Florence Old Town, and Darlingtonia Botanical Gardens, as well as miles of ocean beaches, freshwater lakes, wonderful trails, streams, waterfalls, and old growth forests.

Lodging in Florence is reasonable and camping is available at nearby Honeyman State Park, including yurts.

The hosting sequence for NAME conferences was altered by the NAME Board of Directors to accommodate the hosting of the National Marine Educators Annual Conference being held in Anchorage, Alaska in 2012. Washington—NAME will host the 2011 NAME Conference.

Welcome to Our NEW and RENEWING Members!

The Northwest Aquatic and Marine Educators (NAME) is a “family” of educators passionate about oceans and watersheds. We believe in the magic of the world of water and its ability to facilitate learning.

Submit Your Proposal Today!!

Share your Knowledge and Experience at the July 2009 NAME Conference in Vancouver, BC. Go to www.vanaqua.org/education/name/ and follow the link to Call for Proposals. Deadline is May 1st!