

## Coming Events

**May 16** – Volunteer training: topics include maritime heritage, ocean acidification, talking with guests, and review

**May 21-23** – North Olympic Tsunami Debris Symposium (details follow)

**May 26-28** – OCDC open for Memorial Day Weekend

**May 30** – Field trip to Makah Cultural Center and Cape Flattery

**June 1** – OCDC open daily through Labor Day

**June 25** – Celebrating the life and work of Jacques Cousteau in OCDC

## North Olympic Tsunami Debris Symposium

As we anticipate the arrival on our coast of debris pulled out to sea in the 2011 Japanese tsunami, many questions and concerns have arisen in the minds of the public. These deal with everything from derelict “ghost” ships to what they might do with items they could encounter while beachcombing. In an effort to encourage dialog between citizens and agencies about how to effectively deal with tsunami debris, Clallam Marine Resources Committee is partnering with Surfrider Foundation, hosting a Tsunami

Debris workshop series and planning session led by renowned oceanographer, Curt Ebbesmeyer, to share information and science about tsunami marine debris. The presentations and workshops will take place the week of May 21st in Port Angeles and Sequim. All events are free and open to the public.



### *Evening Presentation by Curt Ebbesmeyer*

Monday, May 21st, 7:00 PM in Port Angeles at Peninsula College Little Theater

### *Tsunami Debris Identification Workshop*

Tuesday, May 22nd, 9:00 AM-Noon in Sequim at the Transit Center

### *Tsunami Debris Identification Workshop*

Wednesday, May 23rd, 9:00 AM-Noon in Port Angeles at The Landing Mall, Conference Room

### *Tsunami Debris Planning Session*

Wednesday, May 23rd, 1:30 PM- 6:00 PM in Port Angeles at The Landing Mall, Conference Room



and consideration for our Ocean resources and the environment overall. An informative and inspiring interview of a Monterey Hometown Hero and a truly compassionate gentleman.



## Ocean Champions with Leon Panetta

In Carol Bernthal's presentation to volunteers on May 2 she identified Leon Panetta as one of her "ocean heroes" for his work in establishing National Marine Sanctuaries. She sent the link below and encourages all of us to watch this important 20-minute interview.

<http://www.youtube.com/watch?v=6hPeIJZtU7g&feature=youtu.be>

In this episode you'll see United States Secretary of Defense Leon Panetta discuss his early days in Monterey, the battle and process leading to the designation of Monterey Bay National Marine Sanctuary, and what steps should be taken to ensure our Oceans are protected and preserved for future generations. In this unique interview, Secretary Panetta exudes home town comfort and affability, while brilliantly articulating a perspective on Ocean Issues that would go far in the movement to create more Marine Protected Areas along the Nation's coastline. His views are thoughtful, insightful, and display care

## Volunteer Happenings

Many thanks to everyone who traveled to a beach to pick up trash on Earth Day. I do not have names of volunteers who helped on the outer coast, but a special thank you to **Elizabeth Clark** for joining me on Elwha West. In addition to picking up trash we enjoyed spectacular birding with geese, buffleheads, harlequins, loons, grebes, cormorants, terns, and even a tufted puffin in the bay on a beautiful sunny morning. Thanks also to **Carol Huard** and **Sue Griffith** for staffing the Olympic Coast Discovery Center on Earth Day and talking to more than 60 guests (including Tokyo Broadcasting System news crew!) about the first suspected tsunami debris arriving in our area.

**Jim Jewell** assisted Bob Campbell in leading a fabulous tidepool walk at Tongue Point last

Saturday. Once again the weather cooperated so we could spend hours searching tidepools for an amazing array of critters. Seemed as if sea stars were more abundant than usual: blood stars, ochre stars, six-ray stars, leather stars, painted stars, and sun stars were among the ones Jim pointed out to new and veteran volunteers from both OCDC and FMLC.



Kudos to **Gerri and Bruce Ferguson** for being first to sign up for summer shifts in the Discovery Center. In case you missed the earlier notice, sign-up sheets for the entire summer are now ready and waiting for you in the office. I'm sure you'll want to rush in to sign up for the shift of your choice!

Finally, thanks to **Lisbeth Jardine** for reporting on Dr. Sarah Sterling's presentation "Integrating the Seismic and Occupational Chronologies at Tse-whit-zen." Lisbeth did a great job of summarizing all the main points, and I apologize in advance for editing her work. Her original report, sources for further reading, and Dr. Sterling's powerpoint slides will all be available in the OCDC this summer if you missed the presentation but would like to learn more about

the record of tsunamis in our area over the last two thousand years or so.



### Integrating the Seismic and Occupational Chronologies at Tse-whit-zen

*Sarah L. Sterling, Ph.D., Adjunct Assistant Professor, Anthropology Department, Portland State University*

### Friday, April 27, 2012, Landing Mall Conference Room

In 2003, began on excavation for a dry dock in Port Angeles Harbor. Within weeks, this work uncovered portions of the ancient Klallam village of Tse-whit-zen, one of the largest known precontact villages in Washington State. The site was occupied beginning around 2,700 years ago, with largest populations from about 1800-150 years ago. Tse-whit-zen village is situated on the Cascadia subduction zone. What appear to be gaps in the radiocarbon [C-14] record of village occupation correspond to estimated dates of regional great earthquakes, particularly with the temblor and "orphan tsunami" of January 1700

# OLYMPIC COAST NATIONAL MARINE SANCTUARY OLYMPIC COAST DISCOVERY CENTER



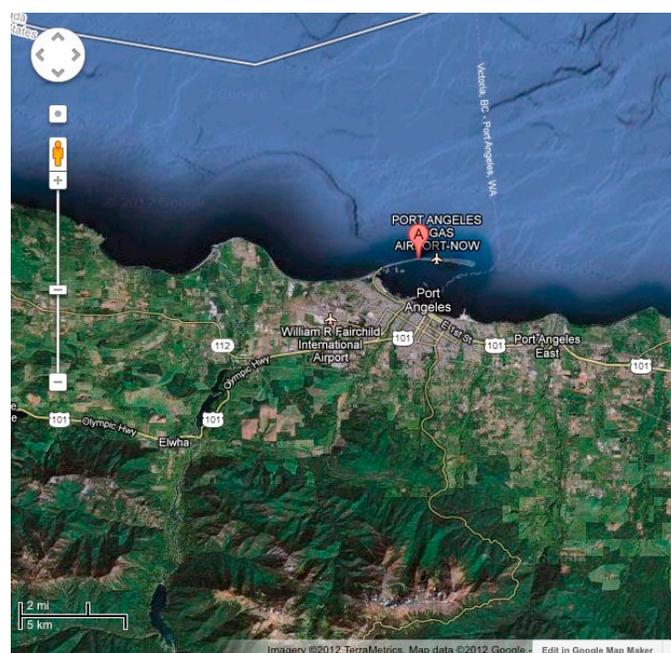
## V O L U N T E E R N E W S L E T T E R - M A Y 2 0 1 2

discovered to have been documented in official Japanese records of the time. Dr. Sterling discussed the current state of knowledge about the relationship between the occupational and seismic chronology at Tse-whit-zen, and how recent field work in the vicinity of the site adds to our understanding of this geologically dynamic shoreline.

Dr. Sterling states that Tse-whit-zen village is “one of the most fascinating archaeological sites I’ve ever seen, and I’ve worked in Egypt.” She directed members of the audience interested in further information about the context of the dig to the book by Lynda Mapes, *Breaking Ground*, with a Forward by Frances Charles.<sup>3</sup>

Dr. Sterling extended a warm welcome to Frances Charles, Tribal Chairwoman. Dr. Sterling extended a warm welcome to Frances Charles, Tribal Chairwoman, Lower Elwha Klallam, her husband Peter Charles, and Carmen Charles, who following the presentation spoke to the significance of the S’Klallam traditions and interpretations of aspects of the meanings of artifacts uncovered during this excavation.

Ediz Hook is a 5.5 kilometer long sand spit which started forming around 3,000 years ago from sediments eroding from the Elwha River delta and coastal bluffs. As the spit grew the harbor became more quiet, sediment within the harbor increased, and the beach grew. The landform under Tse-whit-zen evolved as a result of continued spit growth.



*Tse-whit-zen*, meaning “inside the harbor,” was a large precontact village spanning 2700 years situated on a series of beaches at the base of Ediz Hook. The village was known from oral tradition and historical documents to be one of the largest of approximately 33 Klallam villages distributed along the northern and southern shores of the Strait of Juan de Fuca. The excavation of 518 square meters of ground produced evidence of at least six structures with 150 fire hearths and 182 wood posts; 64,700 artifacts including harpoon points, adzes, etched stones; 200,000 remains of fish, mammals, birds and shellfish; and 335 Elwha burials.

51 radiocarbon dates collected from deposits at Tse-whit-zen show that occupation at the site spans the last 2700 years. Dr. Sterling put forward evidence of peaks and valleys in the site's occupation and that the valleys, or gaps, appear to correspond to known historical tsunamis (paleotsunamis). Evidences for tsunamis washing over Ediz Hook are in sand swashes, or anomalous beach sediments and organic backwash material, spread in a draping pattern over and across strata. Effects of tsunamis and earthquakes on ancient populations can include significant loss of life, disturbed or destroyed plant and animal resources, disrupted communication and travel, and loss or destruction to water transport on estuaries and along the coast. Any combination of these effects could have resulted in the temporary abandonment of Tse-whit-zen. At least three periods of abandonment can be related to known seismic events. But there might be any number other possible reasons for apparent population declines.

In order to resolve whether evidence from inhabited Tse-whit-sen village that population losses were a likely consequence of known historical tsunamis, independent evidence of dated seismic deposits from a non-cultural setting is needed. Dr. Sterling and Dr. Curt Peterson, Portland State University, are currently conducting field work funded by PSU to collect cores at Salt Creek Marsh, west of Port Angeles, on property owned by Nan Feagin.

Currently, the artifacts from this dig are being stored at the Burke Museum, University of Washington. As a result of a legal settlement, the Tribe received \$2.5 million to construct a cemetery and curation facility on the site. To date, this money has been used to construct a cemetery and reinter 344 Klallam ancestors. As of 2011 of the \$2.5 million settlement,

\$2.1 million has been spent solely for restoration of the archeological site, leaving a balance of \$400,000.



Dr. Sterling's PowerPoint slide presentation ended with a reproduction of a painting, "Interior of a Clallam Winter Lodge," by Paul Kane (1851) and a lengthy list of acknowledgements and thanks. This was followed by a lengthy question and answer session. Frances Charles and Carmen Charles addressed several topics concerning the history and traditions concerning the settlement of Tze-Whit-Zen village and its associated cemetery.

*- Reported by Lisbeth Jardine*