



**Education,
Research,
Stewardship**

Beach Log

FEBRUARY 2008



WASHINGTON STATE UNIVERSITY
ISLAND COUNTY EXTENSION

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Jellyfish Kill Salmon

Jellyfish love global warming, according to the Dec. 1, 2007 issue of *New Scientist*. Recently there was a swarm of baby mauve stinger jellyfish covering an area of 26 square kilometers by 10 meters deep. This mass was swept by currents into a salmon farm in the Irish Sea, killing the entire population of 100,000 fish.

The mauve stinger jellyfish is a Mediterranean species that is now appearing in vast numbers far north of its normal habitat. The warmer water has increased the survival of the jellyfish and also lengthened the breeding season, resulting in a population boom. CO₂ has made the sea water more acidic, harming the smaller animals with acid-soluble shells that compete with jellyfish, and over-fishing has removed many vertebrates that eat jellyfish.

According to the United Nations Food and Agriculture Organization, wild fisheries are at their limit, increasing our dependency on fish farming to meet the needs of a growing human population. And the growing human population exacerbates warming, causing inedible jellyfish to thrive.

Over-fishing means more fish farms and results in an increase in the population of jellyfish, which, in turn damage fish farms. Small plankton-eating fish, which compete with jellyfish, are also being over-fished, largely to make fishmeal to feed farmed fish. The situation is a vicious cycle.

Question: Does anyone know of an economic use for jellyfish?

Sandy Dubpernell, BW class of '93



Sustainable Living Workshops

Monthly lecture in 2008 on Tuesday nights 6:00-7:30pm, Hayes Hall-Room 137 at Skagit Valley College in Oak Harbor. Island Transit will swing by to pick up attendees at 7:35pm. Clock Hours will be offered for teachers who attend 2 classes on related topics. Skagit Valley College Continuing Ed. Credits offered for attending any 10 workshops. (\$79.70 for one hour of credit-must sign in at 10 out of 11 classes.) Sponsored by the City of Oak Harbor, WSU-Island County Extension and Whidbey Island Conservation District.

March 25, Green Building Rural, Residential and Commercial

LEED, Green Built, Energy Star and Low Impact Development – Panel: Eric Johnston, Oak Harbor city engineer, Rick Almborg, LID developer, Greg Cane, Cane Engineering, Chris Boroughs, Energy Star.

April, 29 Green Building Resources & Recycling

Ted Clifton, Coupeville Green Builder and instructor, Nicole Luce, Green Home project manager

May, 27 Reduce Your Carbon Food-Print

Farmer's Market coordinator, Peg Tennant and Sheila Case, Linda Bartlett on CSA Rosehip Farm, WSU Extension Agriculture Coordinator Olivia Forte-Gardner.

Look for the rest online at

<http://www.beachwatchers.wsu.edu/island/events/>

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Monitoring Highlights

Starlight and Moonlit Beach Walks

A People for Puget Sound's Starlight Beach Walk took place January 19 at Washington Park in Anacortes. A number of Skagit County Beach Watchers were in attendance acting as interpreters, to point out and explain what lives on that beach. Island County BW Pattie Hutchins was among the explorers as the rocky beach revealed brittle stars, a brooding star (*Leptasterias* sp.) hunched up over its young, and numerous small, red, sponge-loving *Rostanga* nudibranchs.

Beautiful clear skies greeted a group from Island County Beach Watchers' class of 2007 the following evening, giving them a wondrous view of a nearly full moon and the constellation Orion, as they explored Rosario's



The Rosario nighttime crew.

amazing rocky shore. Lanterns and headlamps lit up the beach revealing a host of fascinating organisms. Lee Chavez was checking out a tidepool when a well-camouflaged decorator crab, draped in a robe of red seaweed, blew its cover by moving. Judith Opheim broke in the macro feature of her new Christmas camera, snapping close ups of clown nudibranchs (*Triopha catalinae*), red sea cucumbers (*Cucumaria miniata*), and a leopard nudibranch (*Dialulu sandiegensis*). Monem Mahmoud Abdel appeared intrigued as a large kelp crab (*Pugettia productus*), with an olive brown dorsal surface, was turned over to expose its



The underside of a kelp crab

brilliant red underside, and Barry Dunn got a close look at a keyhole limpet (*Diodora aspera*) that had apparently lost its grip on its rock, landing upside down on the gravel below and exposing a first class view of the commensal scaleworm that shared its living space.

John Custer motored over from Camano Island on January 21, when Rosario's tide rolled back to the -2.4 foot level, and that was low enough to reveal a real bonanza of invertebrates. John spied a brooding anemone (*Epiactis prolifera*), with young attached to its stalk, in a tidepool. Because the anemone was submerged in the water, its tentacles and those of some of the babies were extended, a sight not often seen on tide walks. He also caught sight of several red sea urchins (*Strongylocentrotus*



The colorful red sea urchin.

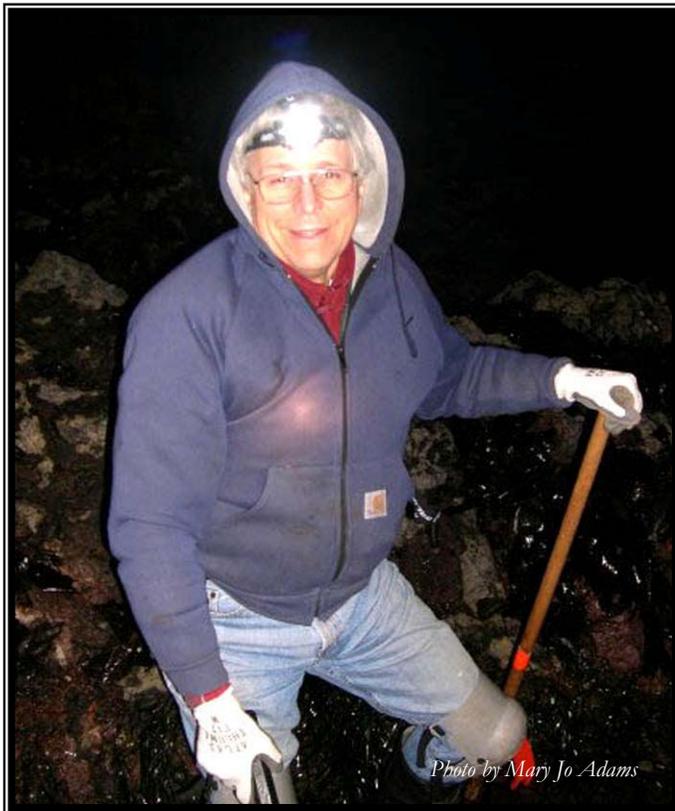
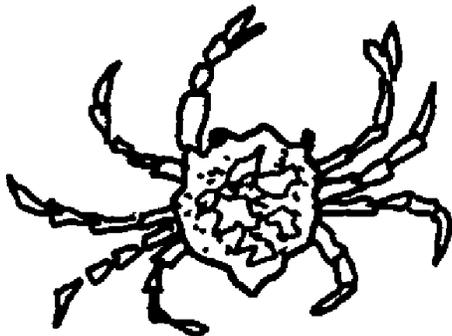


Photo by Mary Jo Adams

John Custer of Camano Island enjoyed the -2.4 foot tide.

franciscanus) tucked up beneath a boulder, and a leafy hornmouth (*Ceratostoma foliatum*). A number of nudibranchs also put in appearances, including chalk lined (*Dirona albolineata*), clown, leopard, sea lemon (*Archidoris montereyensis*), red sponge (*Rostanga*), Nanaimo (*Acanthodoris nanaimoensis*), and shaggy mouse (*Aeolidia papillosa*).

Mary Jo Adams, BW Class of 1999



Dates to Remember Upcoming Camano Island and Whidbey Island Events and Other Items of Interest

EVENTS ON CAMANO:

Feb 27 Water Resources in Island County

7:00 pm to 9:00 pm Camano Center, Presented by:

Doug Kelly, Hydro-geologist

March 3 Camano BW Monthly Meeting

9:00 am to 12:00 noon 141 N.E. Camano Drive,
Camano Island, 98282

March 7 View Concept Drawings

Camano annex View Concept Drawings for proposed Annex building. TBD

April 1 Camano Beach Watcher Training Begins

9:00 am to 4:00 pm at Camano Center, Tues. & Thurs through May 29th

EVENTS ON WHIDBEY:

Feb 19 Advisory Council Meeting

10:00 am to 1:00 pm call for location 360-679-7391

Feb 19 LEP Board Meeting

1:00 pm to 3:00 pm WSU Extension Office

Feb 21 Kathy Fletcher from People for Puget Sound

7:00 pm to 8:00 pm Coupeville Rec Hall

March 3 Whidbey Beach Watcher Training Begins

9:00 am to 4:00 pm at Race Rd Fire Hall, Mon & Wed through April 30th

March 9 Marine Mammal Stranding Network Training

2:00 pm to 5:00 pm, Race Road Fire Hall, Register first, \$20 cost

March 10 Breakfast w/ Beach Watchers

8:30 am to 9:30 am Neals Clover Patch in Bayview,

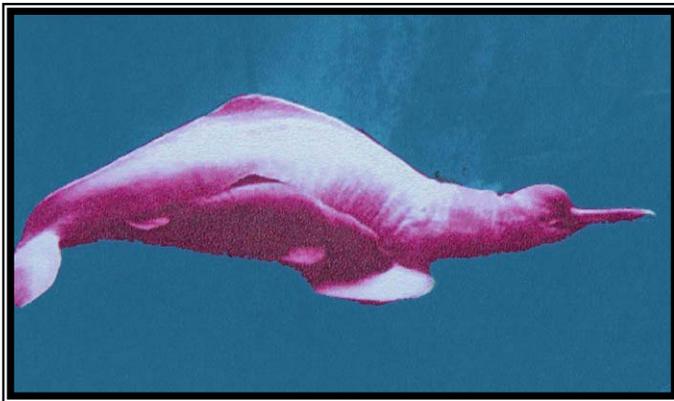




The Pink Dolphins of the Amazon River

In 2006, I went on the Beach Watcher riverboat trip on the Peruvian Amazon and became enamored of the elusive pink river dolphins. Upon my return I wrote this article for the Beach Log – but my poltergeist stole my notes (which she does frequently) and I didn't find them until now. Better late than never...

The pink river dolphin of the Amazon River is thought to be the most intelligent of the fresh water dolphins. The brain size is 40% larger than the human brain and about the same size as the bottlenose dolphin brain.



Pink dolphin of the Amazon

The pink dolphin has no natural predators, other than humans. Incidental mortality from being caught in gill nets used by commercial fishermen has taken a toll on the population. These animals are very curious and are known to associate with humans. In certain Amazon tributaries, the pink dolphin is threatened with extinction.

The "buoto," as it is called along the Amazon, grows to 8 to 9.5 feet in length and weighs up to 200 pounds. Males are generally larger than females. Calves are usually born about 30 inches long, weighing just over 2 pounds, after a gestation period of 9 to 12 months. They are born with dark gray coloration, but with age the skin becomes more translucent and capillary blood circulating close beneath the skin gives it a pinkish flush. The water content, temperature, and the animal's age are factors in the coloration.

Inia geoffrensis are generally solitary hunters, but are known to travel in family groups of 5 to 8 dolphins led by

a dominant male. Their diet consists mainly of small fish and crustaceans, which they crush with their back teeth. Unfused vertebrae in the neck allow the animal to turn its head 180 degrees, giving greater flexibility while feeding in the flood plain forests and shallow water. Instead of a dorsal fin there is a prominent hump on the back. The pink dolphin can paddle one flipper backward while paddling the other flipper forward. Their dives rarely last more than two minutes. The mouth has slightly upturned corners, giving the appearance of a smile. Like the beluga, the buoto can change the shape of its melon from flat to bulbous. With a long beak often lined with tiny hairs, large flippers, highly flexible bodies, and small eyes, they have adapted to their complex environment.

Fresh water dolphins may have entered the Amazon River from the Atlantic Ocean between 2 to 5 million years ago, and from the Pacific Ocean 15 million years ago.

In local mythology, buoto are considered unpredictable "wizards," while in other locations they are considered benign semi-divine beings. In the past 30 years, the relationship between humans and dolphins has been negatively affected by habitat degradation, deforestation, and urban pollution from chemicals. In some areas of the Amazon, buoto are hunted for their teeth, eyes and genitals, which supposedly have aphrodisiac powers. In certain Amazon tributaries they are threatened with extinction.

A recent article in *New Scientist* tells of studies being done on these "object carrying" dolphins. Objects being carried, mostly by adult males, are weeds, sticks or lumps of clay and are believed to be a form of sexual display. Genetic analyses show that the most frequent object carriers are the most successful fathers. Object carrying has been reported in isolated populations, leading to the belief that these animals are exhibiting "culture." Elsewhere social learning has been demonstrated by the use of sponge probes by bottlenose dolphins and in orca populations.

As a footnote, a Dec. 2007 article in *New Scientist* bid a last farewell to the Yangtse River dolphin "baiji," which has been driven to extinction in China. After extensive surveys in the past few years, not a single survivor has been found.

Sandy Dubpernell, BW class of '93



Central Puget Sound Marine Mammal Stranding Network

LEVEL A REPORT FOR 2007

Network Level A reports for stranded marine mammals are forms describing the initial response and evaluation of the animal. Beyond these are Level B and C reports, which cover necropsy results and collected tissue evaluations. Investigations in 2007 resulted in the generation of 93 Level A reports in our coverage territory: Whidbey Island, 66; Camano Island, 15; Skagit County, 10; and North Snohomish County, 2. The high numbers may be a reflection of our continuing responder training and public education efforts.

Harbor seals were responsible for 83 reports (88% for the coverage territory), with 5 reports for California sea lions, 5 for harbor porpoise and 1 each for Dall's porpoise and a healthy molting juvenile elephant sea.

Of the 83 seal reports there were 19 adults, 3 yearlings and 61 pups, including 4 lanugo (premature) pups and 2

fetuses. Seventy-five percent of the investigations were on dead seals and were entered into the NOAA National Marine Fisheries Service (NMFS) National Database.

Sixteen harbor seals were collected for veterinary examination, and/or partial or complete necropsy. Causes of seals' deaths were determined as follows: 8 abandonment/starvation, 1 bronchopneumonia, 2 ruptured intestine, 1 tears in liver (fetus), 3 head trauma and 1 undetermined. In addition, by *in situ* examination, one pup died of entanglement in fishing net and one was killed by dog attack.

One adult seal and 2 fetuses were retained for research purposes and the skulls on another 7 animals, possibly shot, are being cleaned to look for evidence of ballistic. To date, 3 have been verified as gunshot wounds.

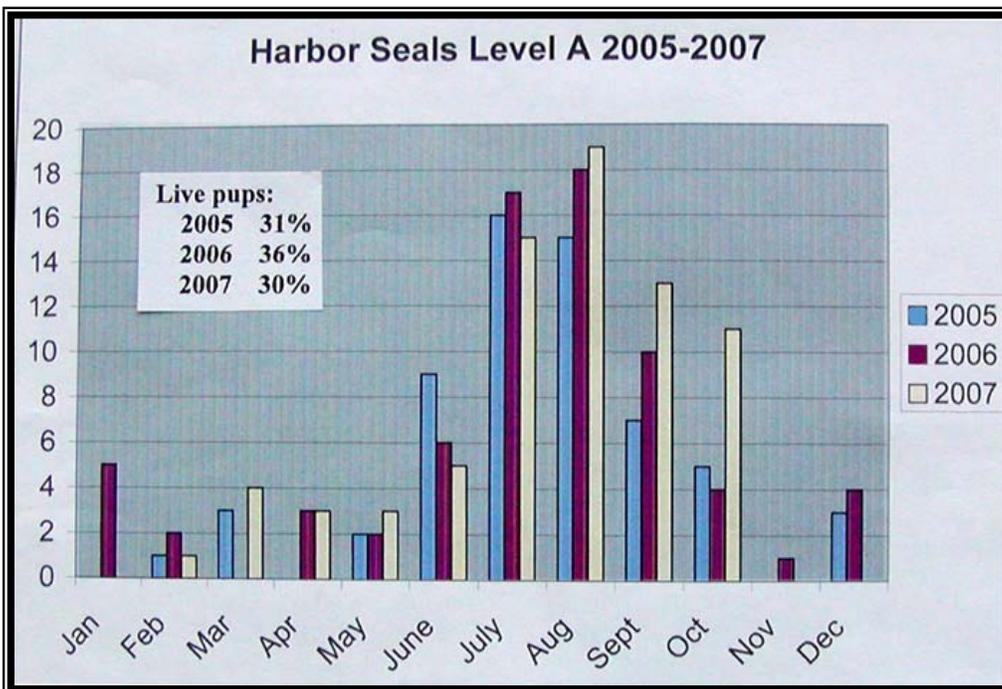
The 5 California sea lions were all adult males. The 2 live animals eventually went back into the water. Advanced decomposition on the remaining 3 carcasses precluded specimen collection.

A 32" x 22" section of black and white skin with blubber that had washed up on shore was verified by Dr. Brad Hanson of NMFS to be from a Dall's porpoise. He collected it for further testing.

Most of the harbor porpoises were not suitable for

sample collection. However, one pregnant female was necropsied as well as her fetus. I quote from Dr. Stephanie Norman's Necropsy Summary: "The fungal organism, *Cryptococcus gattii*, was isolated from the placenta and ovary of this male fetus' mother and from the fetus' mediastinal lymph node, demonstrating the intrauterine infection of this fetus from maternal cryptococcosis. This case represents the index case of fetal cryptococcosis in either animals or humans. This case will be described and submitted to a peer-reviewed journal for publication in the coming year."

Sandra Dubpernell, Central Puget Sound Marine Mammal Stranding Network and BW Class of 1993



This chart compares the number of investigations of harbor seal strandings, by month, for three years. Note that 2007 stranding reports occurred later in the year than in the two previous years.



Sound Waters 2008 —A Success

Here's a little trivia on where the attendees came from...

540 total including presenters	
Camano Island	29
Clinton	51
Coupeville	143
Freeland	61
Greenbank	42
Langley	67
Oak Harbor	67
Total for Island County = 460	



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*“In the end we will conserve only what we love;
We will love only what we understand;*

*We will understand only what we have been
taught.”*

~Baba Dioum, Senegalese ecologist



**DEADLINE FOR NEXT BEACH LOG
February 25, 2008**