

Sound News

Election results are in!

We recently held chapter elections through a mail-in ballot. Our newly elected chapter officers and board members are on page 5.

Observation of OrcaSing 2000

City Cantabile Choir's OrcaSing 2000—An Elegy for "Everett" and His Family happened June 24th-25th on San Juan Island. Page 2.

Orca Update

The year 2000 has been an unusual one for our resident orcas. There have been deaths, births, disappearances, and strange appearances up and down the West Coast. Page 2.

ACS/PS Gets the Trash Out

A recap of our participation in National Beach Clean-Up Day and our first anniversary party. Page 5.

Whale Watch with Flip Nicklin

Flip Nicklin, world-famous photographer for National Geographic Magazine, accompanied us on our fundraising whale-watch trip. Read about the day on page 4.

Do Dolphins Experience Emotions?

Guest speaker Toni Frohoff, Ph.D., addressed that question at our October general meeting. A summary of her talk is on page 3.

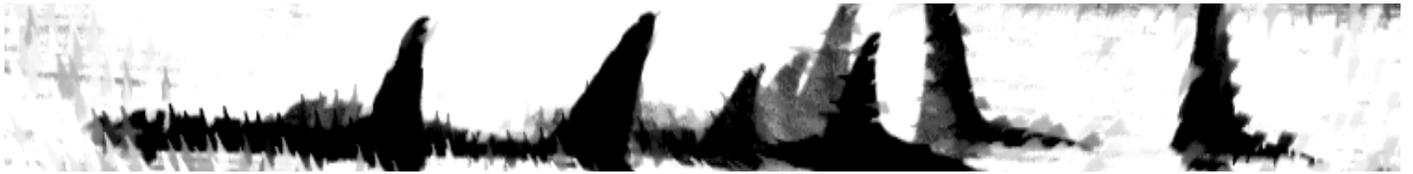
Whale Museum's *Sea Sound* Project

Imagine watching orcas off of Lime Kiln Park on San Juan Island and listening to the vocalizations of those same whales over an FM radio. Imagine sitting at your home computer and logging on to a Web site to see and hear the southern resident community killer whales in real time. Imagine being able to passively follow the underwater movements of an individual orca from that community and ultimately to recognize its voice!

With *Sea Sound*, all of these ponderings will soon become a reality. This past Labor Day, the Whale Museum in Friday Harbor deployed an array of eight hydrophones (underwater microphones) off the shore of Lime Kiln Park. The hydrophones, built by ACS Puget Sound Chapter President Joe Olson, will detect the sounds of whales, boats, and anything else that makes sound in the waters off the west coast of San Juan Island. A video camera located in the park will capture images of orcas and boats from the surface. These sounds and sights, thus the name *Sea Sound*, are transmitted first to computers in the Lime Kiln lighthouse, and from there to the Whale Museum's Web site. People from around the world will have the opportunity to observe the whales of Whulj.

The sounds will also be broadcast over FM radio so that anyone with a radio in the general vicinity will be able to listen to the underwater sounds. Dr. Richard Osborne of the Whale Museum hopes to establish a self-regulating whale listening zone immediately off Lime Kiln Park. The idea is that people will hear both the sounds of whales and boat motors and decide to shut down their engines to better hear the orcas.

The hydrophone array will allow scientists, such as Dr. David Bain of the University of Washington, to localize the sounds of individual whales and boats. After this is accomplished, an individual whale can be tracked as it moves below the surface of the water, where orcas spend 95% of their lives. When the vocalizations made by a specific individual are correlated with a visual identification of the same animal, a recognizable voice for that whale will then be known. From that time forward, scientists will be able to listen and look for the individuals of the southern resident community. Because every boat also has its own acoustic signature, the array will also help researchers monitor the activity of boats when they are around whales.



Observation of OrcaSing 2000

By Joe Olson

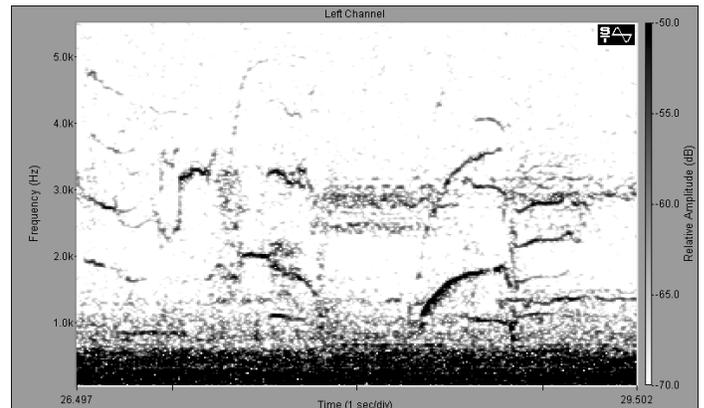
The mood was festive as the sun made its oblique northerly descent toward the western horizon. Orcas had passed by the Lime Kiln lighthouse on four separate occasions that day. The City Cantabile Choir, directed by Puget Sound Chapter board member Fred West, took its position on the rocks above Haro Strait. An audience had gathered around the choir, and the hydrophone and underwater speaker were in place under the waves. Two camera crews from *60 Minutes II* had been interviewing people earlier in the day and were now ready to capture the tribute to the southern resident community orcas.

No one could predict if the orcas would swim by for a fifth time that June 24th, especially whether they would do so at the time scheduled for the *OrcaSing* event (between 8 p.m. and 9 p.m.). As it turned out, J-pod had been hanging out off shore for a couple of hours. A few minutes before the concert began, J1 started heading toward shore. When the Choir was about a fifth of the way through their program, singing *Revelation of St. John (Water of Life)*, J1, followed by J2, swam by the concert site at Lime Kiln lighthouse. Everyone was elated that the whales arrived in time for their own concert!

I was so busy making sure the sound equipment was working that I didn't have the opportunity to hear many orca vocalizations during the concert. However, upon performing a brief computer spectrographic analysis of the underwater sounds, I have detected many whale vocalizations. There was only one vocalization detected when J1 and J2 swam by, and it occurred as the song ended and the audience began clapping. Whale sounds continued to increase as the rest the members of J-pod swam by the concert site over the next 20 minutes. I do not know the identities of the remainder of the whales, so the members won't be referred to by name.

A few whales were swimming past near the end of the song *Chant to the Great Inland Sea*. Several vocalizations could easily be heard when the song was finished. The next song, *Yemanjá*, incorporated a lot of rhythmic clapping and the whale vocalizations appear to synchronize with some of that clapping. However, no statistical analysis has been performed.

By far, the greatest number of orca vocalizations was heard during the satirical song *Marine Mammals*. Several whales were moving past our location during that song and the sounds of many different orcas could be detected throughout the song. The accompanying spectrogram of a 3s section of *Marine Mammals* shows the choir's voices



(the spread-out, horizontal lines in the middle of the picture) and the orca vocalizations (the variable, up-and-down lines). Frequency increases from bottom to top, and time increases from left to right. The darker the line, the louder the sound received by the hydrophone. Notice that the bottom of the graph is very black—it is caused by the incredibly loud sounds coming from a huge freighter about seven miles away!

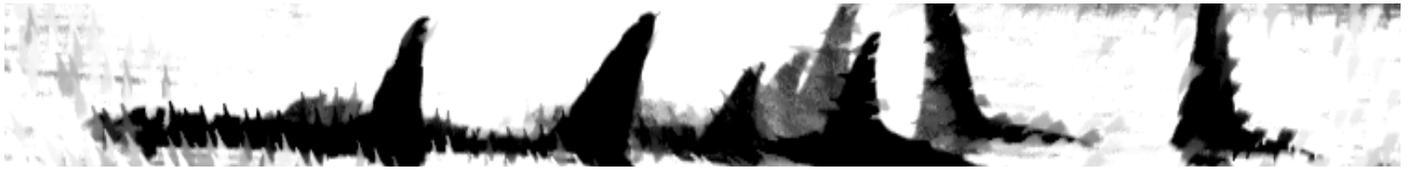
What does all this mean? Are the orcas interested in human song? Did the songs disturb them? Are they interested in rhythmic forms of communication? Were they ignoring the human-made sounds? Who knows? My analysis is only qualitative and the *OrcaSing* was a single event, so it is impossible to draw any scientific conclusions. Nonetheless, the choir's tribute brought people together to celebrate the lives of the southern resident community orcas. Hopefully, the national attention resulting from the event will help to improve the health of the whales and the entire Whulj ecosystem.

Orca Update

By Elizabeth Petras

It has been an unusual year with the resident orcas of the Salish Sea, with a number of events that have reminded all of us just how unpredictable these whales really are. It began with a surprise appearance in January of whales from K and L pods in Monterey Bay. Fifty whales from these two pods were identified by Nancy Black and others in California, confirming the farthest south sighting of the Puget Sound "resident" whales. (Until this year, the whales had not been seen south of the Washington/Oregon border.)

February brought a sad surprise as the body of a young whale, J18 (Everett), washed ashore in Tsawassen, British Columbia. The necropsy revealed that he had died from a bacterial infection. Diminished food supply and high toxin levels are thought to have contributed to his body's inability to survive



the infection. He was only 22 years old. Long a favorite among whale watchers and researchers, he was known for showing interest in boats (and passengers), and in the summer of 1999, Everett was often seen “baby-sitting” his orphaned niece.

The next time J pod was seen, J18’s mother, J10, was missing. She has not been seen all season and is believed to be dead. J10 is believed to have been 38 years old. Also missing from the pods this year were K4, a matriarch in her 60s, and L97, who was orphaned in September 1999. Fortunately, the pods welcomed two new calves; L43 and J16 both gave birth to their third calves. Both whales, L99 and J36, are doing well.

After a fairly typical early summer, something unprecedented happened in the San Juan Islands—J, K, and L pods disappeared. For more than a month, none of the summer resident orcas were seen, or heard, in the area. Some of the whales were seen off the west side of Vancouver Island, but by the end of August, no one knew where the whales were. In 25 years of research, the Center for Whale Research had not observed such a long absence.

Finally, on September 8th, 50 whales were seen off the west side of San Juan Island, but they weren’t J, K, or L pod—they were C, D, and I pods. The orcas that normally reside in the waters off Northern Vancouver Island were recorded in Haro Strait for the first time. After three days of fishing the visit was over and the whales left the area. The following day J, K, and L pods finally returned.

It has been a year of surprises and more unexpected losses, as the local whales continue to decline in number. The population is at 82 whales, down from 98 whales in 1995. While scientists debate what to do to help save the whales, most agree that declining fish stocks (including salmon) and high concentrations of contaminants are having an impact on the southern resident killer whales. A petition to list this population of killer whales as endangered under the Endangered Species Act is expected to be filed with NMFS by the end of the year. ACS has recently adopted policy supporting this uplisting and other efforts to protect and preserve the ecosystem on which the orcas rely. More information on the local orcas and the status of killer whales around the world can be found in an upcoming article in *Spyhopper*.

Dolphin Emotions - Going Beneath the Surface

By Toni Frohoff, Ph.D.
Director, TerraMar Research

Dolphins may be the most frequently misunderstood of all animals. Our personal expectations and cultural preconceptions about them can easily blind us to their emotional depth and complexity. So how do we go beneath the surface of the commercialized images of dolphins wearing perpetual “smiles”? We may need to literally go beneath the water’s surface—where dolphins spend most of their lives but where we know the least about them—so that we can learn about what dolphins may feel from their perspective, rather than our own.

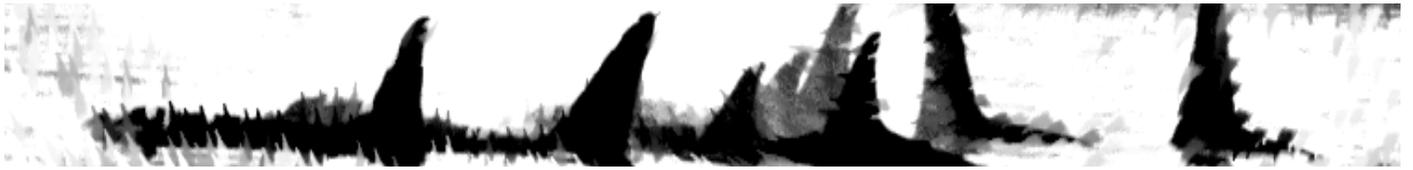
There is compelling evidence that dolphins experience rich and complex emotional lives. In the past, scientists have often associated sentimentality or anthropomorphism as implicit components in the study of emotion in non-human animals. However, we are witnessing a new era of behavioral and physiological research in which these emotions can be studied, at least to some degree, scientifically and objectively. We are finding that just because emotions are subjectively experienced by dolphins, it does not mean that they always need to be subjectively interpreted by us. This is really just the beginning of our study of dolphins, let alone their emotions. It is truly a mystery that I suspect will continue to unfold in a way that demonstrates how truth can be even more amazing than fiction.

ACS/PS Supports The Dolphin Institute

In early September, the Puget Sound Chapter Board issued a letter of support for The Dolphin Institute (TDI) in Hawaii. TDI is the non-profit arm of the Kewalo Basin Marine Mammal Laboratory (KBMML) and is directed by Dr. Lou Herman and ACS/PS Science Advisor Dr. Adam Pack. KBMML/TDI has been invited to move from their old, cramped research lab in Honolulu to The Weinberg Foundation’s state-of-the-art facility at Maui Nui Park on Maui. The new location will feature a diverse environment of lagoons where TDI’s four dolphins (Akeakamai, Phoenix, Elele, and Hiapo) will have more than five times their existing area to live. A few vocal opponents threatened to block the move, but with help from organizations like ACS, the move has been approved by the powers that be on Maui. We wish TDI and the dolphins the best of luck!

ACS/PS Scientific Advisors

Dr. David Bain, Dr. Robin Baird, Dr. John Ford, Dr. Richard Osborne, Dr. Adam Pack, and Dr. Peter Ross



Whale Watching in the San Juan Islands

By Beth Phillips

September 29th, 2000. A cold and windy day, I thought, as I drove toward the Port of Everett to go on the ACS/PS 8-hour whale-watching trip with Mosquito Fleet. Being a former naturalist for Mosquito Fleet, I had driven the route, and made the weather predictions, many times before. Nonetheless, I was excited to go on this particular trip for a reason beside possibly seeing orcas and gray and minke whales in their natural environment—Flip Nicklin, a world-famous photographer for National Geographic Magazine, was going along with us. It was an excellent chance for me and everyone else to get to know someone in the field of marine mammal research on a more personal level.

Flip Nicklin has established himself as a premier underwater photographer, taking some of the first pictures of sperm whales under water in the 1980s. He has worked as a photojournalist with National Geographic for more than 20 years and, in that time, has come into contact with numerous marine mammal researchers, organizations, and conservation groups. I was excited to finally meet the man who takes some of the most beautiful pictures of whales in the world.

We got underway at about 8:45 a.m. that morning. Our first stop (and first marine mammal sighting) was very shortly thereafter. There are a number of California sea lions and harbor seals that enjoy hauling out on the log floats created in the port. We slowed down and took a good look at a number of these animals, some of which appeared to be taking a look at us as well. Our naturalist, Cindy, mentioned the story about Herschel, the sea lion that wouldn't leave, as we were looking at these animals. She also mentioned some studies that involve tagging and releasing the sea lions to get a population estimate and an idea of how many of the same sea lions return to this area every year. After our jaunt through the Port of Everett and the Naval Station, we continued north through Saratoga Passage, the waterway that separates Whidbey Island and Camano Island.

Along the way a number of sea lions and seals were seen swimming in the water, and bald eagles and great blue herons were seen sitting in the treetops. The weather remained chilly, but the scenery was beautiful. We cruised through Deception Pass and out into the San Juan Islands, all the while getting educated about the natural history of Puget Sound and of all of the animals living here.

Cindy explained to us how whales are spotted in the San Juan Islands: the boat is notified through a page or a

broadcast on VHF radio if there are orcas or any other types of whales in the area. On our trip, they were getting some mixed reports of the possibility of some orcas in the islands, but no one was quite sure where they could be. Unfortunately, we weren't able to find any of them on our excursion, although the captain and our naturalist tried very hard. However, Flip did give a talk about his current research and what is going on with research on cetaceans around the world. He also had plenty of time to sit and talk with us about his career and photography interests.

It was a fun excursion to one of the most beautiful places in our state, with one of the most well-known whale photographers in the world. Those that did attend had a wonderful time, and ACS/PS raised \$300. Thanks to those of you who came with us—and a special thank you to Mosquito Fleet for their generous donation to our fundraising effort!

Board Member Travels to Western North Pacific Islands

By Stephanie Norman

I had an opportunity to travel to a distant island last May to fill in as a relief veterinarian in a small animal practice on the island of Saipan. Saipan is north of Guam in the archipelago of the Commonwealth of the Northern Mariana Islands. The chain consists of 14 islands running north to south and is located 7,300 miles west of the Hawaiian Islands and a few hundred south of Japan. Only 3 of the islands—Saipan, Rota, and Tinian—are inhabited. Just east of Saipan is the Marianas Trench, the deepest known point of the ocean floor.

Guam is the island at the southernmost end of the archipelago, but is considered economically and governmentally separate from the Mariana Islands. The Commonwealth is under U.S. jurisdiction, but also has its own local government. The population of Saipan (~45,000) is comprised of a mixture of people of many ethnic and cultural backgrounds: Japanese, Chinese, Korean, Filipino, Thai, Palauan, Yapese, Carolinian, Chamorro, American, and others. I found locals to be very friendly, helpful, and accommodating. The island is economically dependent on tourism (primarily from Japanese tourists) and overseas banking. Many Americans work on a contract basis as health care providers, schoolteachers, and government employees. Many nationals from Asian countries work on Saipan to send money back home to families. The Japanese have established a majority of the tourism on Saipan. The island has a vivid past, having served as a strategically important locale for Allied forces during WWII. It was the sight of a very bloody, violent battle in which American forces stormed the island and defeated the Japanese military based there, claiming a crucial vantage point for Allied forces in the Pacific theater.



While in Saipan, I worked at a small animal practice that covered primarily dogs and cats, but I did see the occasional Marianas fruit bat, peccary, Marianas deer, and duck. Many of the people didn't speak very fluent English so basic communication was often difficult, much less trying to explain veterinary terms to them.

Two days before I arrived on Saipan, a small dolphin stranded at the southern end of the island. Of course I rushed down there to locate it, but was unsuccessful. Locals said it had been removed from the beach the day after stranding. Unfortunately no photos were taken, nor could I find anyone who could describe it. A small story appeared in the local paper, but again no description.

I hope to again visit this faraway place, as it is where our Western world meets the Far East in a beautiful paradise.

ACS/PS Gets the Trash Out

By Julie Anderson-Moore

Under gorgeous summer sun (yes, really!), ACS/PS trash seekers combed the beach at West Seattle's Lincoln Park on National Beach Clean-Up Day, Saturday, September 16. Wearing t-shirts specially designed for the occasion by President Joe Olson, we collected items such as crab traps, cans, bottles, wood, plastics, Styrofoam, monofilament, and small pieces of orange yarn that was strewn along the entire stretch of beach that we cleaned. Joe discovered a

chocolate cake, which unfortunately had long passed the 3-second rule. Not to worry—plenty of food was on hand during the post-trash collection potluck/barbeque celebrating ACS/Puget Sound's first anniversary.

This was a worthwhile event that brought the chapter members together and made a beautiful beach destination cleaner. Several beachgoers thanked us for our work, which felt really good. We had an underlying competition for the "most offensive to the environment" piece of trash. The award goes to Joe for finding the abandoned traps. Good job!

Thanks to Elizabeth Petras and Stephanie Norman for their hard work putting this event together, Susan Alter for manning the registration and outreach table, and to all members and friends who participated.

We look forward to repeating this event next year while remembering that every day is an opportunity to make our environment cleaner. Happy trash collecting!

A Special Thank You to Peter Wong

Peter Wong donated a copy of Microsoft Publisher 2000 to ACS/PS. A huge thank you to Peter for donating Publisher—we couldn't create our newsletter without it!

YOU CAN HELP US MAKE A DIFFERENCE

Would you like to become more actively involved in the Puget Sound Chapter of ACS? We would love to have your help. Our board members chair various committees and we need volunteers from the general membership to assist with committee activities. Any amount of time you can donate will help to protect marine mammals and is greatly appreciated.

There are a number of ways in which you can help. The **Newsletter** committee can use assistance with folding, posting, etc. We need help preparing informational literature and setting up for our **General Meetings**. There are numerous pressures affecting the marine mammals of *Whulj* and your input to the **Conservation** committee can be quite valuable. We need help developing and disseminating our **Educational** information for both children and adults. Finally, **Membership** is critical to the success of our organization, so we always need assistance in recruiting energized members.

The Newly Elected Puget Sound Chapter Board

Officers:

President – Joe Olson, acs@cetaceanresearch.com

Vice President, Conservation Chair, & General Meetings

Chair – Elizabeth Petras, elizabethpetras@hotmail.com

Secretary – Susan Alter, susan.alter@pss.boeing.com

Treasurer – Julie Anderson-Moore, deca7743@aol.com

Board Members:

Chapter Delegate and Research Fund Chair – Stephanie Norman, whaledoc@flash.net

Education Chair – Erin O'Connell, freewhales@hotmail.com

Membership Chair – Steve Olson, pnwsteveo@hotmail.com

Newsletter Chair – Kristin Elko, kelko88@hotmail.com

Special Events Chair – Fred West

Chapter Office: 206-297-1310

AMERICAN CETACEAN SOCIETY



Puget Sound Chapter
P.O. Box 17136
Seattle, WA 98107

Email: acs@cetaceanresearch.com
Phone: 206-297-1310

LABEL

Speaker Series 2000

Orcas and Underwater Sound: Motors, Measurement, & Music

A Panel Discussion with:

Dr. David Bain • Jim Nollman • Dr. Toni Frohoff

University of Washington

Interspecies Communication, Inc.

TerraMar Research

Wednesday, November 29

Odyssey - The Maritime Discovery Center

2201 Alaskan Way, Pier 66

Seattle Waterfront

Next to Anthony's Pier 66 Restaurant

Parking is available on Alaskan Way or in the pay lot across the street

Doors open at **7:00 pm** • Program begins at **7:30 pm**

Admission is FREE

For more info call: (206) 297-1310

E-mail: acs@cetaceanresearch.com

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