



**NOAA Teacher at Sea
Richard Chewning
Onboard NOAA Ship *Oscar Dyson*
June 4 – 24, 2010**

NOAA Teacher at Sea: Richard Chewning II

NOAA Ship *Oscar Dyson*

Mission: Pollock Survey

Geographical area of cruise: Gulf of Alaska (Kodiak) to eastern Bering Sea (Dutch Harbor)

Date: June 15th, 2010

Weather Data from the Bridge

Position: eastern Bering Sea

Time: 1530

Latitude: N 55 47.020

Longitude: W 165 24.970

Cloud Cover: overcast

Wind: 14 knots

Temperature: 6.4 C

Barometric Pressure: 1003.7 mbar

Science and Technology Log

In addition to researchers on the lookout for seabirds, the *Oscar Dyson* is also hosting researchers hoping to catch a glimpse of some of the world's largest animals: marine mammals. Either ocean dwelling or relying on the ocean for food, marine mammals include cetaceans (whales, porpoises, and dolphins), manatees, sea lions, sea otters, walrus, and polar bears.



Yin keeping warm from the cold

Although marine mammals can be enormous in size (the largest blue whale ever recorded by National Marine Mammal Laboratory scientists was 98 feet long or almost the length of a ten story building laid on its side!), studying marine mammals at sea can be challenging as they spend only a short time at the surface. Joining the *Dyson* from the NMML on this cruise are Suzanne Yin, Paula Olson, and Ernesto Vazquez. As a full time observer, Yin spends most of the year on assignment on various vessels sailing on one body of water or another and only occasionally is to be found transitioning through her home of San Francisco, California. Paula calls San Diego, California home and spends

most of her time when not observing at sea working on a photo identification database of blue and killer whales. Ernesto is a contract biologist from La Paz, Mexico and has been working on

and off with NOAA for several years. Ernesto has worked with several projects for the Mexican government including ecological management of the Gulf of California Islands.

Yin, Paula, and Ernesto undoubtedly have the best view on the *Oscar Dyson*. Working as a three member team, they search for their illusive quarry from the flying bridge. The flying bridge is the open air platform above the bridge where the ship's radar, communication equipment, and weather sensors are located. One observer is positioned both on the front left and front right corners of the flying bridge. Each observer is responsible for scanning the water directly in front to a line perpendicular to the ship forming a right angle. Two powerful BIG EYE binoculars are used to scan this to scan this 90 degree arc. These binoculars are so powerful they can spot a ship



Ernesto keeping sharp lookout for marine mammals



Paula keeping an eye on the horizon

on the horizon at over ten miles (even before the Dyson's radar can detect the vessel!). The third person is stationed in the middle of the flying bridge and is responsible for surveying directly ahead of the ship and for scanning the blind spot just in front of the ship that is too close for the BIG EYES to see. This person is also responsible for entering sightings into a computer database via a lap top computer. The three observers rotate positions every thirty minutes and take a thirty minute break after one full rotation. One complete shift lasts two hours. Yin, Paula, and Ernesto start soon after breakfast and will continue observing until 9:30 at night if conditions allow.

Weather can produce many challenges for marine mammal observers as they are exposed to the elements for hours at a time. Fortunately, Yin, Paula, and Ernesto are well prepared. Covered from head to toe wearing insulated Mustang suits (the name come from the manufacturer), they are pretty well protected from light spray, wind, and cold. Although a certain amount of the face is always exposed, a shoulder high wind shield helps deflect most of the spray and wind. In addition to wind chill and wind burn, a strong wind can also produce large rolling waves called swells that make



Dall's porpoise

viewing through the BIG EYES next to impossible. Sometimes reducing visibility so much that the bow can barely be seen the bridge, fog is undoubtedly a marine mammal observer's greatest adversary.

So far during the cruise, Yin, Paula, and Ernesto have spotted many blows on the horizon and have identified several species of marine mammals. A common sighting is the Dall's porpoise. Your eyes are easily drawn towards these fun marine mammals as they produce characteristic white splashes by repeatedly breaking the water's surface exposing a white stripe on their side. Blows from fin whales have also been regularly observed. Other sightings include killer whales, humpback whales, Pacific white sided dolphins, and a rare sighting of a Baird's beaked whale.



Humpback whales through the Big Eyes



Salmon fishing operation through the Big Eyes

Personal Log

Life aboard a constantly moving platform can take a little getting used to! I imagine if a person doesn't live in an area frequented by earthquakes, one will easily take for granted the fact that the ground usually remains stable and firm underfoot (I know I did!). Over the last view days, steady winds from the south have conspired to create conditions ideal for rolling seas. Large swells (waves created by winds far away) make the *Dyson* very animated as we push forward on our survey transects. In addition to making deployments of gear more difficult, routine personal tasks soon assume a challenging nature as well. Whether you are simply getting dressed in the morning, trying to make your way to your seat with lunch in hand, or taking a shower in the evening, a constantly pitching and rolling deck will make even a



Building seas

seasoned deckhand wobble and stumble from time to time.

A piece of advice I have often heard during these conditions calls for “one hand for you and one for the ship”. Maintaining three points of contact with ship, especially when moving between decks, can save you from being tossed off balance. The crew is very considerate of these conditions and allows even more understanding than customary when you bump into shipmates.



Passing through the fog

I have also learned the importance of securing any loose equipment and personal items after usage during rough

seas as they might not be in the same place when you return. In addition to waking several times during the night and having a restless sleep, these conditions will also leave you feeling stiff and fatigued in the morning after a bumpy night of being tossed around in your rack. Once you muster the strength to get moving, your legs become surprisingly tired as you constantly try to keep your balance. Along with the rest of the crew, the *Dyson* also feels the effects of jogging through rough seas as you constantly hear the rhythmic sounds of the bow plowing through the next wave and of the ship’s superstructure groaning under the strain.



Measuring the Dyson’s roll

Did you know? Fog is essentially a cloud on the ground’s surface.