



## A Salty Summary

Excerpts from Captain Pepper's R/V *Tiglax* 2014 Field Season report

### Lake Union Dry Dock

The ship left Homer on the 16th of February bound for Lake Union Dry dock in Seattle, a one-way trip of approximately 1,500 nautical miles. The Gulf of Alaska in February can be inhospitable; luckily we only encountered one small-craft weather warning out of the southeast, so the ship bucked its way across the Gulf in 60 hours. Once clearing Cape Spencer it was calm water all the way to Seattle. We arrived on Lake Union on the 23rd, and it was the first time the ship has been in fresh water since she was built.



Ballard Bridge opening with Lake Union in the background

We were hauled out on the 3rd of March to begin the extensive work list, which included 21 items, from the keel to the flying bridge. All tanks below decks were cleaned, there was a tank conversion to increase our black and grey water capacity, and a new MSD (Marine Sanitation Device) was installed. The shafts and rudders were removed and shipped out for evaluation, and the ship's original main engine keel coolers that were no longer working at an efficient level were removed. The boat deck, flying bridge, and fo'c's'le deck were all taken down to bare steel and resurfaced with new non-skid deck paint. The ship's dryer vents needed to be re-plumbed because they were no longer venting due to corrosion and buildup of years of material in the plumbing, and of course she needed a hull and superstructure paint job.

The ship was in dry dock for 31 days and the project list was done by the 10th of April. We departed for Homer on Friday the 11th. The ship got as far as Shilshole Bay when we had to turn back to the Lake for a minor repair to a stuck valve. This is an example that just supports the old legend of never leave town on a Friday. Saturday morning the machinist arrived at 6:30 am to make the valve change, and we left the Lake for the final time on a glorious sunny Saturday morning with the lake filled with vessels of all shapes and sizes enjoying the water. Refuge staff and family members came along for the ride and contributed to putting the ship back together on the trip north.

### Field Notes

Our first charter of the year began on April 25th with Scripps Institute personnel aboard to set out four marine mammal monitoring buoys in various locations in the Gulf of Alaska. Two of the buoy locations were on the Pratt and Quinn Seamounts which are off the continental shelf approximately 280 nautical miles south of Kayak Island. It was a two day run for the boat and the weather was perfect and all went off without a hitch. One of the purposes of these buoys is to collect the audio signals of marine mammals who frequent the area to estimate the time and amount of mammals that visit the seamounts. These devices were to help the US Navy understand the distribution of marine mammals in an area that the Navy is considering ship operations. The *Tiglax* recovered the buoys in September under similar conditions.



Wave glider

Upon the completion of buoy deployment we were bound for Seward to assist the University of Alaska Fairbanks in their annual Seward Line cruise and the Pacific Marine Environmental Laboratory with the deployment of two wave gliders and a unit called the Slocum (named after Joshua Slocum, one of the first sailors to circumnavigate the globe single-handed aboard the sailing vessel *Spray*). The Slocum basically looks like a small plane that can be self-ballasted down to reach certain depths and then de-ballasted to rise again, and it records scientific data throughout its deployment. The wave gliders record similar data but stay on the surface for the entire period, which was from the first week in May until the 3rd week in September. These units were deployed near the entrance of Prince William Sound and were recovered in the Gulf of Alaska some 90 nautical miles southeast of Seward. These units are also deployed in various locations around the state and could be more common in the future, so mariners should keep a watchful eye for these unmanned craft.

We completed all of our work in the Gulf and came back to our home port with a week left to make preparations for the start of the US Fish and Wildlife Service (FWS) field season, which began on the 18th of May. The annual monitoring camps of Chowiet, Aiktak, and Buldir were deployed without any major incidents. Usually the sea conditions at Buldir make that deployment a challenge, but this year Aiktak, the most protected of all sites, was the most challenging. The wind came up upon our approach to the island, and once inside between the two islands of Ugamak and Aiktak the wind had reached 40 with gusts to 55 knots out of the northwest and the current was at full strength. We were unsuccessful at anchoring on two occasions due to the conditions and subsequently decided to live-boat the offload, which was conducted safely considering the conditions. There is very little fetch between the two islands so the beach was workable, just very challenging under the windy conditions.

The ship began conducting surveys and collecting biological samples in the Near Islands once all the camps were deployed. This segment of the schedule was interrupted when the ship rendered assistance to a vessel in distress in Attu with a full contingent of passengers. The Captain of the vessel requested that we provide safe transit for his passengers from Attu to Adak due to the unreliable working capacity of his vessel and his concern for the welfare of his passengers. The ship answered the request and provided safe transit for 12 happy passengers to Adak and one unhappy passenger to Gareloi.

This year seemed to be the year of advancing technologies which became even more evident during the annual sea lion cruise with the National Marine Mammal Laboratory. They introduced a hexacopter to conduct surveys at the rookeries. This unit is carried in a medium-sized pelican case which is brought to the general area near the rookery via skiff with its two pilots where they launch it and fly it over the rookery and photograph its occupants without disturbance. The instrument provides a close aerial documentation that can be reviewed over and over again to get an accurate count of all residents at the time of flight.

The chief scientist incorporated in the charter, on a time available basis, the monitoring and tagging of orcas. We documented numerous pods of whales, with some pods containing over 20 whales. On two separate occasions whales were tagged, one from the ship and one from the skiff. The shooter explained that the tagging of an individual whale from a ship of this size was a first in all of his years of tagging. Generally whales don't approach the vessel close enough to get a good enough shot to insert the tag. On this occasion we were in the midst of a feeding frenzy where there were numerous whales and sea birds feeding on Atka mackerel. This particular whale surfaced 5 meters behind the vessel a few times before the actual tagging took place. This tagging process and documentation was done with the hope of understanding the whales' behavior in the Aleutians and their abundance.



Orca with satellite tag attached to dorsal fin

The sea lion cruise was the last trip of the first half of the season. At its completion we sailed back from Unalaska to our home port to replenish groceries, refuel and conduct our mid-season crew change. We departed for the second half of the season on the 15th of July, bound for the Barren Islands to offload a field camp, then set sail for the Semidi Islands. Arriving at Chirikof Island on the 17th, FWS began its vegetation study to look at the impact the cattle are having on the island. Later in the week we went to Simeonof Island in the Shumagin Islands to offload the FWS botanist and associate to conduct vegetation surveys of that island, from which the cattle were removed in 1986. Next, the YCC students came aboard in Sand Point. The Youth Conservation Corp is a program that has incorporated eligible students with a deployment on board ship to learn biological and marine related skills while enjoying the remote parts of the refuge. This year in particular was interesting because the project leader was a YCC student back in the first year of its inception.

During the second half of our field season USGS and FWS concluded their three-year cooperative study on puffin diet sampling that began in Attu in 2012 and concluded on Cathedral Island near Old Harbor in Kodiak in 2014. We conducted our surveys this year at various islands along the Alaska Peninsula - places we don't usually visit. It was a good opportunity to increase our local knowledge. One interesting tidbit we learned on this segment of the study was how bears have an effect on the productivity of the burrowing puffins. On two islands there was direct evidence that burrows were visited and excavated by bears. There were no actual encounters with bears by the field crews, but it is a factor that could influence productivity on the Peninsula, an issue not present out west. (There are no bears west of Unimak Island.)

Breaching humpback whale



During the cruise in the Shumagin Islands the ship transited Korovin Strait on the 17th of August where we encountered a huge pod of humpback whales. Historically humpbacks and fin whales are abundant in this general area in the summer, but this sighting was on a level unseen in the past. In every direction blows, fins, and breaching were visible. It was impossible to transit the area and not come into close contact with the whales. The weather was nice, there were no sea conditions to speak of, so we took 45 minutes to drift among the leviathans and enjoy one of the true treasures of ocean traveling. One can only imagine what the state of the ocean was before commercial whaling took place in the 19th century. If this was just a hint of the state of the sea when the Aleuts traveled the area, it's easily understandable why the bones are so prolific in the construction of their barabaras.

After the transit we set out for the Semidi Island group, which consists of nine islands. We conducted shoreline surveys of South and Aghiyuk islands while the puffin diet survey team was ashore on Suklik Island. The ship has worked in the area on numerous occasions, conducting transects and bird surveys, but this visit was a real eye opener. The design of the survey was a circumnavigation of the islands from the ship as close to shore as possible to understand the island topography and document seabird colonies. The density of murrelets, both common and thick-billed, residing on all sides of the island wherever there were cliffs available was remarkable. The numbers of birds observed was equivalent or greater to any site the ship has visited in all of the Alaska Maritime National Wildlife Refuge. In addition to the murrelets seen on Aghiyuk, there was a large group of approximately 50 harbor seals hauled out on the beach on the west side. When you visit the Semidi Islands you can almost bet that you will find fin whales feeding there in the summer. The geological makeup of the islands is unique and extremely picturesque; one old skipper called them "the cliffs of Dover."

The field season ended on the 19th of September, with a wedding scheduled for the deckhand on the 20th. In order for the groom to be on time for that special day, he was released in Seward so he could drive to Homer and attend the rehearsal dinner. It's not good for a sailor, after a long season, to leave his bride who has been planning this event all summer waiting at the altar due to a gale warning....

#### Footnote

During the field season in June we were at Cape Wrangell, Attu Island, with field crews ashore, when an earthquake registering 8 on the Richter scale hit Amchitka Island. The ship was anchored in 12 fathoms of water. We could feel the chain rolling across the bottom, and crews ashore saw rocks tumbling down the hillsides. The ship received a call from refuge headquarters informing us there was a tsunami warning for the area the ship was in and the tsunami could hit in 30 minutes. Just a few years prior in Japan it was well documented the devastation that can be done by tsunami to boats, people and everything in its path. This made for quite a drill to get all personnel back aboard and remove the ship from harm's way. There was a real sense of urgency and all eyes were on the shore to see if the water was changing in any way, shape or form. The ship's anchor was raised and we idled offshore while the skiff departed to recover personnel. It was an intense time waiting to see what Mother Nature had in store for us. Everyone was back aboard and the ship under full power heading offshore with minutes to spare. The deckhand reported a larger swell on the beach, not substantial but distinguishable from the waves on the beach all morning. As we sailed the islands after the quake, major sloughing could be seen on Agattu, Kiska, and Buldir. During the last week of the season we took Department of Energy and Alaska Volcano Observatory personnel to Amchitka to recalibrate instruments and look for damage to existing infrastructure.

#### 2014 R/V Tiglax highlights

- Days at sea: 151
- Nautical miles traveled: 17,763
- Number of passengers: 135
- Dockings: 67 (Adak, Atka, Dutch Harbor, Homer, Sand Point, Seattle, Seward)
- Field camps supported: 7
- User groups: DOE, NMFS, NOAA, NWS, PMEL, USGS, AVO, FWS, Memorial Univ. Newfoundland, Scripps Research Institute, Univ. Alaska Anchorage and Fairbanks, Univ. of Buffalo NY, Univ. of New Brunswick
- Cetaceans sighted: 375 orcas, 321 humpback whales, 230 Dall porpoise, 76 fin whales, 35 sperm whales, 19 Minke whales, 8 Pacific white-sided dolphins, 5 harbor porpoise, 1 grey whale, and 1 blue whale
- Short-tailed albatross sighted: 14