

Necropsy Report for a Harbor Seal
found in
Mud Bay, Icy Strait, Southeast Alaska
July, 1996

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On the evening of July 24, 1996, Glacier Bay National Park Service Back Country Office dispatcher (Bill Walton) relayed a message from Nate Borson (Gustavus, Alaska) to Lara Dzinich regarding a dead harbor seal which had been discovered in Mud Bay earlier that day. The seal was relatively fresh, so we decided to see if we might retrieve it to conduct a necropsy to determine the cause of death. Because harbor seals have declined seriously in the Gulf of Alaska and along the Alaskan peninsula, the National Marine Fisheries Service and the Alaska Department of Fish and Game are extremely interested in determining the cause of death of any animals found, as well as in collecting samples and measurements for genetic, toxicological, food habit, and reproductive comparisons.

On the morning of the 25th, I contacted the NMFS stranding network coordinator (Linda Shaw) and the ADF&G's Wildlife Conservation Division in Juneau to determine if they wanted us to try to necropsy this seal. We were strongly encouraged to do so, and Ms. Shaw faxed us copies of NMFS necropsy data sheet and of the recently-produced "Harbor Seal Sampling Manual", a document produced by the ADF&G, Alaska Native Harbor Seal Commission, NMFS, and Alaska Sea Grant to encourage subsistence hunters to collect information and samples from harbor seals which have been shot.

In the morning we assembled appropriate gear and equipment needed for the necropsy (Appendix I). After a helpful briefing from Chris Gabrielle on operating the *Kittiwake* (~16 ft Boston Whaler), Lara Dzinich, Jamie Womble, and I left for Mud Bay at about 10:30 am on July 25 to try to locate the seal.

Nate and others had moved the seal above the high tide line about 500 yards east of the mouth of the Mud Bay river. She was generally in good condition, although both of her eyes were gone and flies had already started to lay eggs in the sockets as well as in her uro-genital opening, which also had exposed tissue, possibly caused by gulls or other scavengers after death.

We decided to transport the seal back to Lester Island since there was not a safe place to anchor or tend the boat and we were concerned about crossing Icy Strait late in the day. We returned to Bartlett

Cove at 16:40 with the seal. Rusty Yerxa skillfully transported us to Lester Island where we conducted the necropsy.

Based on her overall length (138 cm) and condition, she appeared to be rather young, perhaps less than seven years (the average length of harbor seals >7yrs in the Gulf of Alaska is 145 cm, Hoover 1988). We estimated that she might have weighed around 140-160 lbs.

The seal's external condition was generally quite good, with only a few small scars. There were three holes beneath the left eye socket, but it was not possible from the external examination to discern if these had occurred before or after death. There were also a few superficial lacerations around 2-3 cm long which only penetrated into the upper layer of blubber. One laceration was above the left foreflipper, two smaller ones were above the eye, and one was at the back of the skull.

After making standard measurements (Table 1) of the animal, we began to examine the internal organs and to collect tissue samples as denoted on the NMFS and ADF&G protocols. The female seal was neither lactating nor pregnant (as expected, since most females would have weaned their pups by now). Neither uterine horn appeared distended, as might be expected if she had recently given birth. I also examined all vital organs visually and they appeared generally healthy. There was no evidence in the body cavity of lethal injury or scarring, and her stomach was quite full. We also noticed that a clump composed of the skeletal remains of many small fish was lodged in her mouth and throat -- most likely forced back up the esophagus from the stomach by pressure created by decomposition gases. We collected these skeletal remains to determine what she had recently fed on. We also collected tissue samples of the liver, kidney, heart, skin, blubber, muscle, as well as the stomach and its contents, head, claws and some whiskers. Portions of these samples may be used for genetic, carbon isotope (for determining prey trophic levels), and other analyses. Measurements and tissues will be compared to samples collected from seals in areas where declines have occurred.

Upon closer examination of the head, we discovered that the back half of the skull was shattered into many shards, although there were no obvious external signs of this trauma. Because the ADF&G requests that the head be collected for further examination, I did not inspect it further. It's possible that the animal was shot and that the bullet entered near the left eye with most of its impact absorbed along the back of the cranium. Another possibility is that the seal was hit from behind by a fast-moving boat, but I didn't see any obvious external signs of such an impact. Closer examination of the head will most likely reveal the cause of death.

Jim Taggart (NBS) picked us up from Lester Island at about 20:00 and helped us dispose of the remains of the seal by towing her away from shore where we sank her. We conducted the necropsy just below the current high tide line, so there should be little or no evidence of the necropsy on that section of the beach.

All tissues were labelled and packed in either whirl packs or Ziploc bags. These have been frozen and will be shipped to ADF&G within two weeks.

Necropsy Data: Harbor Seal, Southeast Alaska
Submitted By: Elizabeth A. Mathews, Wildlife Biologist
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Species: *Phoca vitulina richardsi*
Collection Date: 7/25/96
Possible Date of Death: 7/22/96
Location: Mud Bay, Icy Strait, Southeast Alaska
Latitude: 58 10' W
Longitude: 136 N
Necropsy: Beth Mathews
Assistants: Lara Dzinich, Jamie Womble
NPS, Glacier Bay, P.O. Box 140, Gustavus, AK 99826

General Information

Sex	Female
Pregnant?	No
Lactating?	No
Fetus?	No
Fetus Collected?	None
Tagged?	No
Brand?	No
Coat Pattern	B

Measurements

	<u>inches</u>	<u>cm</u>
Blubber, over sternum	1.38	3.5
Blubber, at hip line	1.13	2.9
Wt, measured		
Wt, estimated	140-160lbs	
Stnd Length, on belly	54.25	137.8
Stnd Length, on back		
Curvilinear, on belly	62.50	158.8
Curvilinear, on back		
Girth, axillary	37.50	95.3
Girth, hip	37.00	94.0

Samples Collected

whole head	yes
stomach	yes
skin	yes
blubber, in teflon	no
blubber, in whirlpack	yes
muscle	yes
kidney	yes
heart	yes
liver	yes
female rerod tract	yes
other	claws