

**Incident Report on an
Abandoned Harbor Porpoise (*Phocoena phocoena*) Calf
off Willoughby Island, Glacier Bay National Park**

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Report to:

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Background

In the afternoon on 13 July, 1993 the captain of the Wilderness Explorer called the Park Service Back Country office to report an entangled harbor porpoise north of Willoughby Island. Chuck Young (Ranger), Joe Williams (Ranger) and I left Bartlett Cove at approximately 17:00 to assess the situation. On the way to Willoughby, we received an update from the Wilderness Explorer. They reported that the porpoise was not entangled in a net, but was in distress. One of their crewmembers was stationed in an inflatable near the animal. We requested that they stand by until we arrive, so that we would be able to find the animal.

The porpoise was located off the northwest side of Willoughby Island, east of Fingers Bay. When we arrived, Chuck and I joined Boot Hill, the Explorer's Engineer, in his inflatable to approach the animal. Even from a distance it was clear that the porpoise was in bad shape. For most breaths it had to lift its head out of the water.

The porpoise was a newborn. Its dorsal fin was still folded to the left and it was quite small. The straight-line length of the calf from the tip of the rostrum to the tail notch was 84 cm (33 in). The range in size for harbor porpoise calves in the Pacific is 70 - 90 cm (Leatherwood et al. 1988).

Calf Behavior

When we approached to within a few meters of the porpoise in the inflatable (with the engine off), the calf turned and swam toward the boat. When the animal made contact with a pontoon, it would begin swimming counterclockwise around the boat, bumping or nudging against the inflatable as it swam. It repeated this same behavior at least five times, and Boot said that this was what it had done repeatedly in the past two hours since he'd been tending the animal. On two occasions while we were there, the calf disappeared under the boat for about a minute and then surfaced on the other side. We were able to reach out and hold the animal which exhibited only a mild effort to swim off. Its breathing was frequently labored; the process of lifting its head to elevate the blowhole appeared to require some effort.

Calf's External Condition

Large flaps of the calf's skin were peeling off of its body, particularly on the anterior half. There were also several superficial lacerations from about 5 to 20 mm in length. These may have been cracks in the skin caused by stretching, as there was no apparent pattern to their occurrence over the forebody and they appeared not to be caused by abrasion. I saw no evidence of any external injury, predation, prop contact or prior entanglement. The porpoise's eye appeared cloudy. I was not able to sex the calf. Chuck and I took several photographs of the animal and I collected a piece of the sloughing skin.

Disposition of Skin Sample

I placed the skin sample in a saturated salt solution before dividing it into two pieces for long-term storage. One sample was stored in 10% formalin solution for possible histological analysis, the other was frozen for possible DNA analysis in the future. These samples will be kept at Glacier Bay National Park and Preserve until they can be analyzed.

Significance of Observation

With so little known about this species in Glacier Bay the observation of an abandoned neonate is of some value toward understanding aspects of harbor porpoise reproductive biology and pathobiology. In 1982 John Calambokidis and Gretchen Steiger (Cascadia Research, Olympia, WA) observed and photo-identified two uniquely-marked harbor porpoises with calves in Adams Inlet in August (~1982 unpublished NPS report). From repeated observations of one of these females, they determined that she had given birth between July 23 and August 17. The calf we observed could not have been more than a day or two old, indicating a parturition date of July 11 - 13. Calambokidis and Steiger also reported a third identifiable female which apparently had a calf in 1979, 1980, and 1982 (no observations were made in 1981). This multi-year information is based on the assumption that a written description of the identifying features of a female observed by Taylor and Dawson (1981 unpublished NPS report) was correctly matched to the female seen by Calambokidis and Steiger.

The timing of calving in the Glacier Bay area may be later than in some other locations. In Puget Sound, calves are born as early as April (Flaherty and Stark 1982). In the Bay of Fundy (Fisher and Harrison 1970, Gaskin 1977) and the Baltic Sea (Mohl-Hansen 1954, Utrecht 1978) calving occurs from May to June. Taylor and Dawson (1981) report calving in Glacier Bay in July and August. On July 17, 1993 I observed a mother swimming with a small calf in Hunter's Bay in the east arm of Glacier Bay. Another possible explanation of the seemingly later calving interval for this area may be inadequate observational effort throughout the year. As a first effort toward correcting this data gap, I have requested that all researchers who spend time on the water begin to note the presence of harbor porpoise calves.

I suspect that the calf's problems were congenital and/or that it may have been born prematurely. In either event the female probably abandoned her calf shortly after birth. Because there was no chance of keeping the animal alive, we decided to leave it to die. At about 19:10 we all left the porpoise which was still in the same area where it had been found.

Agencies and Individuals Notified

Dr. Andrew Read conducted his doctoral research on harbor porpoises in the Atlantic and is currently involved in an area-wide population assessment for this species. I called Dr. Read at the Woods Hole Oceanographic Institute regarding to discuss the the porpoise calf. He had never observed the skin condition that I described, and also felt that the eye condition (milky appearance, not very responsive), was unusual and possibly indicative of a congenital problem.

I also contacted Dr. David Saint-Aubin at the Marine Mammal Pathology Department, University of Guelph to discuss the skin condition we observed and to find out if his department might be interested in examining the tissue I collected. Although he was not familiar with such a skin condition in harbor porpoises, he described a similar, non-pathological condition in beluga (*Delphinapterus leucas*) neonates. Beluga calves are born with a very thick epidermal layer (up to 25 mm, or 1 in.) which is sloughed off during the first two weeks. In belugas, this tissue is composed of laminations of different colors ranging from gray to brown to cream-colored. The proposed adaptive value of this extremely thick epidermal layer may be thermoregulatory, as calves have almost no blubber layer at birth. However, this condition has not been described for harbor porpoises and Dr. Andy Read, a specialist on this species, had never observed such extreme skin-sloughing in porpoise neonates. Dr. Saint-Aubin agreed to send me a paper by Bill Deutsch on the skin molting process in beluga whale calves.

Linda Shaw (National Marine Fisheries Service, Juneau), in charge of the Marine Mammal Stranding Network for Southeast Alaska, was notified of the incident. We discussed the disposition of the skin samples collected from the porpoise.

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