

**CETACEAN STRANDINGS AND ENTANGLEMENT IN FISHING GEAR  
ON THE WEST COAST OF CANADA DURING 1992**

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**ABSTRACT**

Fifty records of nine species of cetaceans that stranded or became entangled in fishing gear in British Columbia (BC), Canada, in 1992 are presented. Although the number of incidents is greater than in any previous year, it is likely these records only represent a small proportion of the total number of cetaceans stranding in the Province. Twelve of the records were associated with an apparent die-off of Dall's porpoise (Phocoenoides dalli) neonates in Dixon Entrance, the first such die-off of any cetacean species recorded in the Province and possibly the first such die-off recorded for Dall's porpoise throughout its range. One record, of a Baird's beaked whale (Berardius bairdii), was the first stranding record of this species in the Province. Two species, Dall's porpoise and harbour porpoise (Phocoena phocoena), were recorded caught in fishing gear, the latter species during a Department of Fisheries and Oceans test fishery for salmon (Oncorhynchus spp.) approximately 55 km up the Fraser River, the first river record of a harbour porpoise in the Province. Other species recorded stranding during 1992 include Pacific white-sided dolphin (Lagenorhynchus obliquidens), killer whale (Orcinus orca), sperm whale (Physeter macrocephalus), Hubbs' beaked whale (Mesoplodon carlhubbsi), humpback whale (Megaptera novaeangliae) and gray whale (Eschrichtius robustus).

**INTRODUCTION**

Over the last 20 years, research on cetaceans in British Columbia (BC) has generally focused on gray whales (Eschrichtius robustus) and killer whales (Orcinus orca), and relatively little information has been gathered on the biology, ecology or conservation of other species of cetaceans. In 1987 a volunteer program, the Stranded Whale and Dolphin Program of BC (SWDP), was established to monitor and respond to strandings and incidental catches of whales, dolphins and porpoises in the Province. The Program strives to ensure that the maximum amount of information is gathered from each stranding or incidental catch, thereby contributing to an extensive database from which a wide variety of information may be derived, including: causes of mortality, seasonal and geographic distributions, relative abundance of different species, environmental contaminants, genetics, parasite loads, food habits and reproductive parameters.

This sixth annual report summarizes records collected through the SWDP of cetacean strandings and entanglements in fishing gear on the Canadian west coast during 1992. The purposes of this report are to: (i) summarize records obtained during 1992; (ii) encourage further research use of this information; (iii) encourage reporting of future records; and (iv) briefly discuss records of particular interest and information on incidental mortality of cetaceans in BC derived through the SWDP.

## METHODS

Since 1987, researchers and the general public have been requested to report cetaceans that: (i) are found dead, either on shore or in the water; (ii) are live-stranded; or (iii) are caught incidentally during fishing operations (regardless of whether the animals are killed). Records of types (i) and (ii) are hereafter referred to as stranding records. To encourage the public to report both current and historical events, a Province-wide toll-free number (1-800-665-5939) was set up for this purpose, as well as to collect cetacean sightings.

Information recorded from stranded and incidentally caught animals includes date and location of the incident, type of incident, and condition of the animal, as well as sex, standard length (American Society of Mammalogists, 1961), and weight where possible. When a carcass is not recovered, an attempt is made to have the animal marked for future identification, to avoid the possibility of duplicate records. As well, efforts are made to obtain photographs, which may allow for future matching of records.

Whenever feasible, complete necropsies are performed with a qualified veterinarian in attendance. External morphometrics and blubber thicknesses are recorded, and all animals are examined for signs of potential entanglement in fishing gear, as described by Hare and Mead (1987). Teeth are collected to estimate age, ovaries and the uterus are examined for signs of past or current pregnancies, mammary glands are examined for the presence of milk, and testes are examined histologically for the presence of sperm. Stomach contents and parasites are also collected and identified. Tissue samples from most animals are collected for histological and toxicological analysis by the BC Provincial Ministry of Agriculture, Fisheries and Food. Tissue samples are also collected for a tissue archive and for various other studies. In addition, skulls, teeth, and axial skeletons are collected for various educational or research collections.

## RESULTS AND DISCUSSION

In 1992, 50 incidents of stranded and incidentally entangled cetaceans were recorded, representing the largest number of known events in one year in BC. Details are presented in Table 1, with locations shown in Fig. 1. Since the SWDP began in 1987, the number of records reported each year has increased steadily, and far exceeds the numbers reported for any other year prior to 1987 (see references cited in Baird *et al.*, 1991; Guenther *et al.*, 1992). This increase likely reflects an increase in awareness and reporting of strandings and entanglements, rather than an increase in the number of incidents occurring annually. Since many records are reported by only one source and are often reported days, weeks or months after the event, it seems likely that many stranded animals found are not reported. As well, the large proportion of rocky, relatively inaccessible coastline, far from human population centres, and the short period for which stranded animals are recognizable on a beach, likely results in only a small proportion of stranded animals being found.

Of the 50 records in 1992, nine species were positively identified. These include 8

harbour porpoises (*Phocoena phocoena*), 7 Dall's porpoises (*Phocoenoides dalli*), 7 gray whales, 3 Pacific white-sided dolphins (*Lagenorhynchus obliquidens*), 2 killer whales, 1 humpback whale (*Megaptera novaeangliae*), 1 sperm whale (*Physeter macrocephalus*), 1 Baird's beaked whale (*Berardius bairdii*), and 1 Hubbs' beaked whale (*Mesoplodon carlhubbsi*). In addition, 19 animals were not positively identified to species, although 14 animals are believed to be porpoises and 10 of these are thought to be Dall's porpoises.

There appears to have been a small-scale die-off of Dall's porpoise along a 15 km stretch of beach on the north shore of Graham Island in July of 1992. This event not only represents the first such die-off of any cetacean species recorded in the Province, but may be the first time this has been recorded for this species throughout its range (cf. Jefferson, 1990). Over a three day period, at least 12 individuals, all the size and appearance of newborn Dall's porpoise, were reported. Unfortunately, we were only able to obtain two of these animals and photos of a third. No photos were taken of the other animals, making it impossible to positively identify the species of these individuals. As a result, 9 of these 12 animals have been recorded as "Dall's porpoise?" in Table 1. It was not possible to determine the cause of death for the two specimens examined, however, one was in good enough condition to determine that it had been nursing, due to the presence of milk in its stomach. Potential causes of death might include a viral or bacterial infection, biotoxins, or environmental contaminants which particularly affect newborn animals. Alternatively, it is also possible that an unusually large number of calving females were in the area and the neonates represent normal levels of newborn mortality. Insufficient information is available to determine which of these possibilities is most likely.

In March, a Baird's beaked whale was found dead on the beach on the east side of Graham Island. This record represents the first stranding record of this species, and only the third specimen record, from the Province (the first two being specimens taken in whaling; Pike, 1953). One harbour porpoise was caught in a Department of Fisheries and Oceans test fishery for salmon (*Oncorhynchus* spp.) in December. This was the first confirmed harbour porpoise incidental catch record in BC from the months of November through April, most likely because relatively few commercial fisheries are undertaken during this period (Baird and Guenther, 1993). As well, the animal was caught approximately 55 km up the Fraser River, representing the first river record of a harbour porpoise in the Province. The only other confirmed incidental catch record from 1992 is a Dall's porpoise that was accidentally encircled by a salmon seine net and was released alive.

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Table 1.

Cetacean "strandings" and incidental catches from 1992. (VI = Vancouver Island). All records are of single individuals.

RECORD NUMBER'	DATE'	SPECIES'	LOCATION'	COMMENTS'
SWDP92-01	26 January 1992	killer whale	Gabriola Passage, Gabriola I	C,D,u
SWDP92-02	5 April 1992	unidentified porpoise	Piper's Lagoon, Nanaimo, VI	C,D,u
SWDP92-03	15 April 1992	harbour porpoise	SE tip Cortez I	C,1,2,4,5,7-11,13-17,f,UVic:fetus,P
SWDP92-04	25 April 1992	Dall's porpoise?	Tlell, Graham I	C,D(skin only),17,u
SWDP92-05	29 April 1992	gray whale	Stanley Park, English Bay	F7(27 April),1,2,4,10,13,17,m,VPA
SWDP92-06	30 April 1992	Dall's porpoise	Esquimalt, VI	C,1,2,4,5,7-11,13-17,19,m,VPA
SWDP92-07	11 May 1992	harbour porpoise	Parksville, VI	C,1,4,8-10,13-15,17,19,m,WCVm
SWDP92-08	23 May 1992	humpback whale	Green I	C,1,2,4,10,13,17,m,MMRG
SWDP92-09	1 June 1992	gray whale	Port Clements, Graham I	C,1,2,4,10,13,17,f,P
SWDP92-10	3 June 1992	gray whale	Union Bay, VI	C,1,2,10,17,m,PBS
SWDP92-11	24 May 1992	gray whale	Cape Parkins, VI	C,2,4,17,m,MMRG
SWDP92-12	4 July 1992	unidentified large whale	43 km W Tofino, VI	C,D,u
SWDP92-13	12 July 1992	harbour porpoise	Green Point, Long Beach, VI	C,1,2,4,5,8-10,13,17,m,RBCM
SWDP92-14'	18 July 1992	Dall's porpoise	Rose Point, Graham I	C,D,2,u
SWDP92-15'	18 July 1992	Dall's porpoise	5 km NE Hiellen River, Graham I	C,1,2,4,8-10,13,17,m,RBCM
SWDP92-16	21 July 1992	harbour porpoise	Esquimalt Lagoon, VI	C,1,2,4,5,8-10,13-17,m,RBCM
SWDP92-17'	19 July 1992	Dall's porpoise	Yakan Point, Graham I	C,1,2,4,8-10,13-17,m,RBCM
SWDP92-18	28 June 1992	killer whale	1 km SW Rose Point, Graham I	C,D,2,u
SWDP92-19	≈17 June 1992	gray whale	Tlell, Graham I	C,D,u
SWDP92-20	March 1992	Baird's beaked whale	Fife Point, Graham I	C,D,2,4,5,17,u,MMRG
SWDP92-21	31 July 1992	Dall's porpoise	Hiellen River, Graham I	C,1,10,17,u
SWDP92-22	3 August 1992	harbour porpoise	Klanawah River, VI	C,1,2,4,5,9,10,13,15-17,19,m,BMS
SWDP92-23'	18-20 July 1992	Dall's porpoise?	2 km SW Rose Point, Graham I	C,D,u
SWDP92-24'	18-20 July 1992	Dall's porpoise?	3 km SW Rose Point, Graham I	C,D,u
SWDP92-25'	18-20 July 1992	Dall's porpoise?	7 km SW Rose Point, Graham I	C,D,u
SWDP92-26'	18-20 July 1992	Dall's porpoise?	6 km NE Hiellen River, Graham I	C,D,u
SWDP92-27'	18-20 July 1992	Dall's porpoise?	6 km NE Hiellen River, Graham I	C,D,u
SWDP92-28'	18-20 July 1992	Dall's porpoise?	6 km NE Hiellen River, Graham I	C,D,u
SWDP92-29'	18-20 July 1992	Dall's porpoise?	3 km NE Hiellen River, Graham I	C,D,u
SWDP92-30'	18-20 July 1992	Dall's porpoise?	4 km SW Yakan Point, Graham I	C,D,u
SWDP92-31'	18-20 July 1992	Dall's porpoise?	6 km SW Yakan Point, Graham I	C,D,u
SWDP92-32	1 July 1992	Pacific white-sided dolphin	E side Kawas IIs, W Hecate Strait	C,1,2,9,10,15,f,PER
SWDP92-33	25 June 1992	unidentified cetacean	E end Juan Perez Sound, Moresby I	C,D,u
SWDP92-34	31 August 1992	gray whale	Radar Beach, VI	C,1,2,4,m,TWC
SWDP92-35	15 July 1992	unidentified cetacean	11 km NW Amphitrite Point, VI	C,D,u
SWDP92-36	22 August 1992	Dall's porpoise	Rose Point, Graham I	C,1,2,4,5,8-10,13-17,f,RBCM
SWDP92-37	2 September 1992	Pacific white-sided dolphin	Haddington I	C,1,2,4,7-10,13-17,19,f,SM
SWDP92-38	26 July 1992	killer whale?	Topnot Point, VI	C,D,u
SWDP92-39	5 September 1992	harbour porpoise	White Rock	C,1,2,4,5,8-10,13-17,m,P
SWDP92-40	September 1992	Pacific white-sided dolphin	Wells Pass, Queen Charlotte Strait	C,1,4,8,10,13,17,m,PBS
SWDP92-41	2 October 1992	Hubbs' beaked whale	1/2 km S Pachena Point, VI	C,1-5,8-10,13-15,17,f,MMRG:fetus,P

Table 1 continued.

RECORD NUMBER	DATE	SPECIES	LOCATION	COMMENTS
SWDP92-42	28 July 1992	unidentified large cetacean	E side Lyell I	C,D,u
SWDP92-43	June 1992	Dall's porpoise	Johnstone Strait	E,u (salmon seine net)
SWDP92-44	22 May 1992	harbour porpoise?	Green Point, Long Beach, VI	C,D,1,u
SWDP92-45	2 November 1992	sperm whale	~32 km W Rennel Sound, Graham I	C,D,2,m
SWDP92-46	23 July 1992	harbour porpoise?	~3 km S Tiell River, Graham I	C,D,u
SWDP92-47	4 August 1992	harbour porpoise?	1 km S Tiell River, Graham I	C,D,u
SWDP92-48	19 December 1992	gray whale	Higgins Passage, Price I	C,D,2,f
SWDP92-49	26 March 1992	harbour porpoise	Tiell, Graham I	C,D,2,f
SWDP92-50	1 December 1992	harbour porpoise	Albion, Fraser River	A,1,PBS (DFO salmon set gillnet test fishery)

Notes to Table 1.

<sup>1</sup>SWDP = Stranded Whale and Dolphin Program of B.C. Consecutive record numbers are given as each record is received, therefore records are not in chronological order.

<sup>2</sup>Date shown is earliest date reported. Many records were also reported from later dates.

<sup>3</sup>If species identification is not positive, indicated with "?".

<sup>4</sup>Location noted is last known location. In some cases, animals were seen floating on one day, with later reports of what we believe is the same animal washed up nearby.

<sup>5</sup>Comments: A, incidental catch, died; B, live stranded, died; C, found dead; D, not recovered; E, incidental catch, released alive or trailing gear; F, live stranded, returned to water alive. 1. measurements; 2. photographs; 3. radiographs; 4. skeleton and/or baleen, whole/partially collected; 5. aging of teeth; 6. blood tests/cultures; 7. histology samples; 8. gross post mortem examination; 9. heavy metal analysis; 10. organochlorine analysis; 11. dioxin analysis; 12. duplicate tissue samples in Ottawa; 13. duplicate tissue samples in Victoria; 14. parasitology examination; 15. stomach content analysis; 16.

reproduction studies; 17. genetic analysis; 18. plaster cast replica of whole/part animal; 19. educational use (anatomy labs, class displays etc); Sex: f = female, m = male, u = unknown. Institution where skeletal materials or baleen deposited listed at end: BMS = Bamfield Marine Station; MMRG = Marine Mammal Research Group, Victoria; P = private collection, details available from MMRG; PBS = Pacific Biological Station, Nanaimo; PER = Pacific Ecological Research, Nanaimo; RBCM = Royal British Columbia Museum, Victoria; SM = Sidney Museum, Sidney; TWC = Tofino Whale Centre, Tofino; VPA = Vancouver Public Aquarium, Vancouver; WCVI = Western College of Veterinary Medicine, Saskatoon.

<sup>6</sup>At least 12 animals, all about the size of neonates, washed up along North and South Beaches, Graham I, over the period of July 18 to July 20.

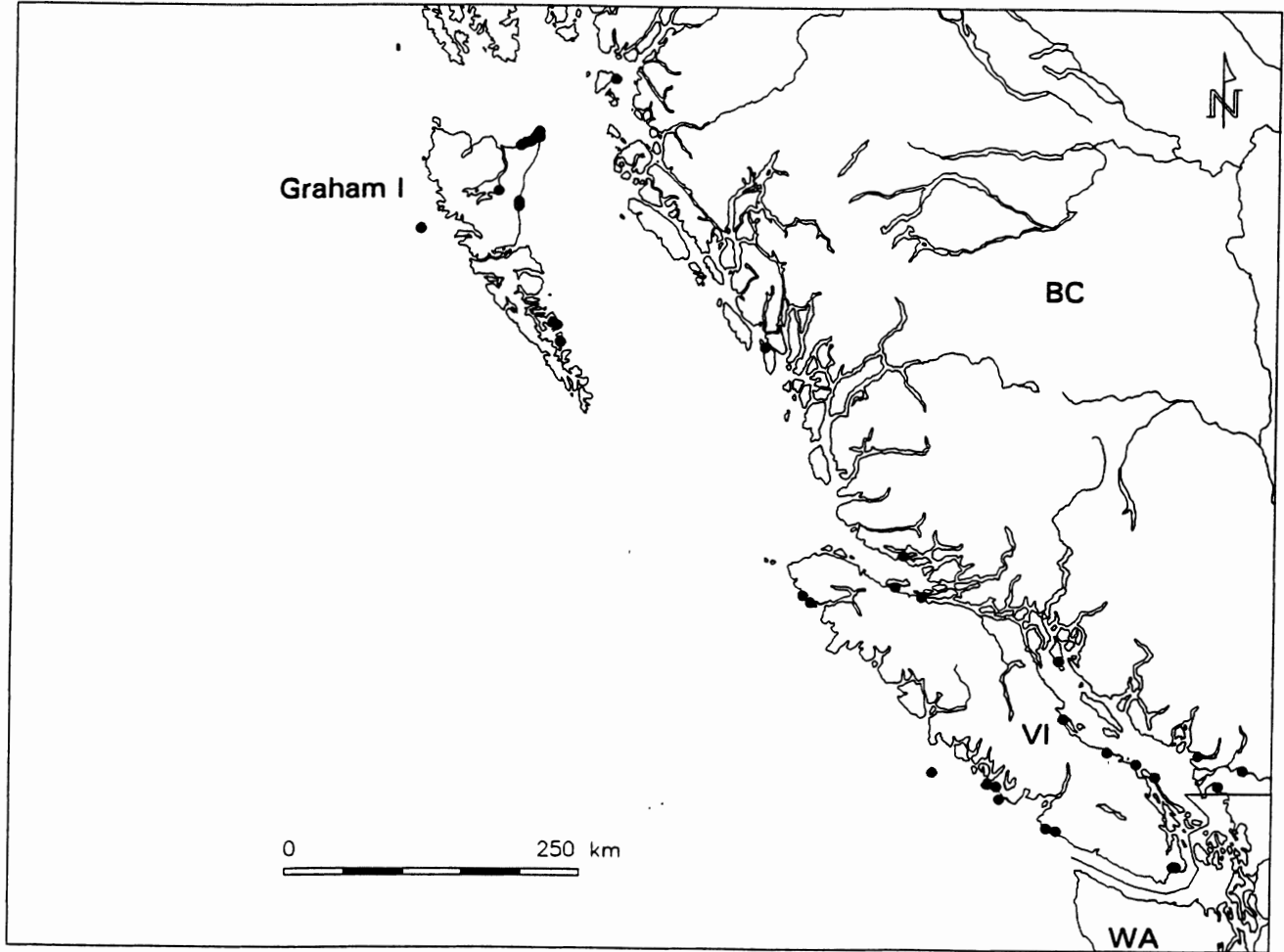


Figure 1. Geographic distribution of stranding and entanglement records. BC = British Columbia; VI = Vancouver Island; WA = Washington State, USA.