

**STRANDINGS AND FISHING GEAR ENTANGLEMENTS OF CETACEANS  
OFF THE WEST COAST OF CANADA IN 1994**

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**ABSTRACT**

48 records of eight species of cetaceans that stranded or collided with fishing gear in British Columbia (BC), Canada, in 1994 are presented. This number likely represents only a small proportion of the total number of cetacean strandings and incidental catches in BC each year. A record of a dead common dolphin (Delphinus delphis) is only the third occurrence of this species in the province and possibly the northern-most record in the eastern North Pacific. Five animals were recorded colliding with fishing gear. One harbour porpoise (Phocoena phocoena) was killed in a chum salmon (Oncorhynchus keta) gillnet and one killer whale (Orcinus orca) collided with a net but did not entangle. Two humpback whales (Megaptera novaeangliae) were wrapped in line, one of which was set free and the other of which was near death when last seen. Two gray whales (Eschrichtius robustus) also died due to entanglement, one in a Mexican gillnet fishery and the other was possibly entangled in a U.S. swordfish (Xiphias gladius) net. Other species recorded stranding during 1994 include Cuvier's beaked whale (Ziphius cavirostris), Dall's porpoise (Phocoenoides dalli), and sperm whale (Physeter macrocephalus).

**INTRODUCTION**

The Stranded Whale and Dolphin Program (SWDP) was established in 1987 to monitor and respond to strandings and incidental catches of whales, dolphins and porpoises in the province. This volunteer program strives to ensure that the maximum amount of information is gathered from each animal, 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 eighth annual report summarizes records collected through the SWDP of cetacean strandings and entanglements in fishing gear on the Canadian west coast during 1994. The objectives of this report are to: (i) summarize records obtained during 1994; (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; (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 information on 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 and Zenon Environmental Laboratories. 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 1994, 48 incidents of stranded or incidentally entangled cetaceans were recorded. 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 had increased steadily, however, 1994 is the first year that numbers did not exceed the number of animals reported the previous year. The decrease in records of stranded and incidentally entangled animals is likely due to animals going unnoticed or unreported rather than an actual decrease in the number of incidences during 1994. It is likely that many records are not reported considering that most records are reported by only one source and many are received days to months after the incident. As well, the large proportion of rocky and relatively inaccessible coastline that is far from human population centres, combined with the short period of time that many stranded animals are recognizable on a beach, likely results in only a small proportion of stranded animals being found.

Of the 48 records, eight species were positively identified. These include 17 harbour porpoises (*Phocoena phocoena*), 7 Dall's porpoises (*Phocoenoides dalli*), 6 gray whales (*Eschrichtius robustus*), 4 killer whales (*Orcinus orca*), 3 humpback whales (*Megaptera novaeangliae*), 1 sperm whale (*Physeter macrocephalus*), 1 Cuvier's beaked whale (*Ziphius cavirostris*), and 1 common dolphin (*Delphinus delphis*). In addition, 8

animals were not positively identified to species, although 6 of these animals were likely porpoises.

In November a common dolphin was found floating in the water near Nuchatlitz, Vancouver Island. There are only two other stranding records of this species in the province, one occurring in 1954 (Guiguet, 1954) and the other occurring in 1993 (Baird et al. 1994). This appears to be the northern-most record of this species in the eastern North Pacific (cf., Gaskin, 1992).

One harbour porpoise was caught and died in a Canadian commercial gillnet fishery for chum salmon (*Oncorhynchus keta*) and one killer whale swam through a gillnet but did not entangle and appears to have been unharmed. A live humpback whale was in very poor body condition and appeared unable to submerge. This animal had a line through its mouth but there is no indication if it was dying due to the entanglement or if it became entangled while ill. A second humpback whale had a thick line wrapped around its body, effectively pinning its pectoral flippers to its sides. A diver was able to cut the line and the whale swam away, apparently in otherwise good health.

Two gray whales entangled in fishing gear as well. One was found dead with net and line from a Mexican gillnet fishery wrapped around its tail and the other was first seen alive with line and net around its tail and head, possibly from a U.S. fishery for swordfish (*Xiphias gladius*). Attempts to free the whale were unsuccessful and a subsequent report of a dead animal with net on it in the area is believed to be the same whale.

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Table 1. Cetacean "strandings" and incidental catches from 1994. (VI = Vancouver Island). All records are of single animals.

NUMBER <sup>1</sup>	DATE <sup>2</sup>	SPECIES <sup>3</sup>	LOCATION <sup>4</sup>	COMMENTS <sup>5</sup>
SWDP94-01	7 January 1994	Dall's porpoise	Ross Bay, Victoria, VI	C,1,2,4,5,7-10,13-17,19,m,133.0cm,BCP
SWDP94-02	20 January 1994	harbour porpoise	Cadboro Bay, Victoria, VI	C,1,2,4,5,7-10,13-17,m,118.6cm,NIMML
SWDP94-03	21 January 1994	harbour porpoise	4 m S Rose Spit, Graham I	C,D,u
SWDP94-04	30 January 1994	harbour porpoise	Herbert Inlet, Bawden Bay, VI	C,1,4,8,13,14,17,f,118.0cm,PBS
SWDP94-05	1 February 1994	sperm whale	Hecate Strait	C,D,2,u
SWDP94-06	16 March 1994	harbour porpoise	Keel Bay, Nanaimo, VI	C,1,2,4,5,7-10,13-17,m,110.4cm,?
SWDP94-07	25 March 1994	Dall's porpoise	NE shore Discovery I	C,1,2,4,5,7-10,13-17,19,f,151.8cm,SM
SWDP94-08	31 March 1994	harbour porpoise	Gonzales Bay, Victoria, VI	C,1,2,4,5,7-10,13-17,m,?
SWDP94-09	8 April 1994	harbour porpoise	Stories Beach, S Campbell River, VI	C,1,2,4,5,7-10,13-17,19,f,159.2cm,SM
SWDP94-10	9 April 1994	killer whale?	SW Secretary I	C,D,u
SWDP94-11	15 April 1994	Dall's porpoise	Ten Mile Point, Victoria, VI	C,1,2,4,5,7-10,13-17,f,189.8cm,CMN,fetus,MMRG
SWDP94-12	8 April 1994	Dall's porpoise?	White Rock	C,D,u
SWDP94-13	17 April 1994	gray whale	Dare Point, VI	A,D,1,10,17,u,81.4cm(Mexican gillnet fishery)
SWDP94-14	24 April 1994	Dall's porpoise	Sandcut Beach, Jordan River, VI	C,D,u
SWDP94-15	26 April 1994	harbour porpoise	Sooke Bay, VI	C,1,2,4,5,7-11,13-17,m,122.5cm,?
SWDP94-16	27 April 1994	gray whale	2 km S Dare Point, VI	C,D,1,2,10,17,u,1158cm
SWDP94-17	29 April 1994	Dall's porpoise	Stanley Point, N Pender I	C,1,2,4,5,7-10,13-17,f,206.0cm,CMN
SWDP94-18	5 May 1994	gray whale	Port San Juan, VI	A,D,2,u(U.S. swordfish net?)
SWDP94-19	4 May 1994	unidentified porpoise	Wier's Beach, VI	C,D,u
SWDP94-20	4 May 1994	unidentified dolphin	1.5 km S Tliell River, Graham I	C,D,u
SWDP94-21	5 May 1994	Dall's porpoise?	Constance Bank	C,D,u
SWDP94-22	10 May 1994	harbour porpoise	Fort Rodd Hill, Victoria, VI	C,1,2,4,5,7-10,13-17,m,immature,NMML
SWDP94-23	12 May 1994	harbour porpoise	1.5 km N Carmanah Point, VI	C,1,2,4,5,7-10,13-17,m,111.4cm,?
SWDP94-24	15 May 1994	Dall's porpoise	N Arm Fraser River, Vancouver	C,D,u
SWDP94-25	13 May 1994	gray whale	Nootka I	C,D,u
SWDP94-26	15 May 1994	Dall's porpoise	Ross Bay, Victoria, VI	C,1,2,4,5,7-10,13-17,m,169.4cm,CMN
SWDP94-27	9 May 1994	unidentified porpoise	Cheewhat River, VI	C,D,u
SWDP94-28	8 June 1994	gray Whale	N Eagle Creek, Graham I	C,D,2,u
SWDP94-29	12 June 1994	killer Whale	Burke Channel	C,D,u
SWDP94-30	19 June 1994	killer Whale	S Secretary I, VI	C,D,2,f
SWDP94-31	15 July 1994	harbour porpoise	Green Point, VI	C,1,2,4,5,7-10,13-17,f,72.3cm,?
SWDP94-32	17 July 1994	harbour porpoise	Kindakun Point, Graham I	C,1,2,4,5,7-10,13-17,m,89.0cm,?
SWDP94-33	23 July 1994	Dall's porpoise?	N end Gabriola I	C,D,u
SWDP94-34	11 August 1994	harbour porpoise	NNW end Diana I	C,D,u
SWDP94-35	16 August 1994	unidentified porpoise	Boundary Bay	C,D,u
SWDP94-36	9 August 1994	humpback Whale	Hecate Strait	C,D,u
SWDP94-37	17 August 1994	killer Whale	Hecate Strait	D,2,m
SWDP94-38	28 August 1994	humpback Whale	Safety Cove, Calvert I	E,u
SWDP94-39	22 August 1994	harbour Porpoise	Campbell River, VI	C,1,2,4,5,7-10,13-17,f,85.2cm,?
SWDP94-40	September 1994	humpback Whale	Indian Channel	E,u
SWDP94-41	15 October 1994	harbour Porpoise	Retreat Passage, Gifford I	C,1,4,5,7-10,13-17,m,140cm
SWDP94-42	15 November 1994	harbour Porpoise	200 m W Clover Point, Victoria, VI	C,1,2,4,5,7-10,13-17,19,m,106.4cm,SM
SWDP94-43	29 August 1994	harbour Porpoise	Grief Point, Powell River	C,1,2,4,5,7-10,13-17,m,97.5cm,?
SWDP94-44	17 October 1994	harbour Porpoise	Qualicum/Comox, VI	A,D,u(Chum Salmon gillnet)
SWDP94-45 <sup>e</sup>		killer Whale		E,u
SWDP94-46	3 June 1994	gray Whale	Jordan River, VI	C,D,1,10,17,f,730cm
SWDP94-47	15 July 1994	Cuvier's Beaked Whale	Tian Head, Graham I	C,D,2,10,17,m
SWDP94-48	25 November 1994	common dolphin	Nuchatlitz, VI	C,1,2,4,5,7-10,13-17,f,176.0cm,MMRG

Notes to Table 1.

<sup>1</sup>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, 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); 20. carcass removed from beach to prevent duplicate reporting. Sex: f = female, m = male, u = unknown. Length shown if known. Institution where skeletal materials or baleen deposited listed at end (BCP = B.C. Parks; CMN = Canadian Museum of Nature; MMRG = Marine Mammal Research Group; NMML = National Marine Mammal Laboratory; PBS = Pacific Biological Station; SM = Sidney Museum; ? = specimen not yet donated and currently held by MMRG).

<sup>6</sup>Information currently held by Department of Fisheries and Oceans, Nanaimo, B.C.

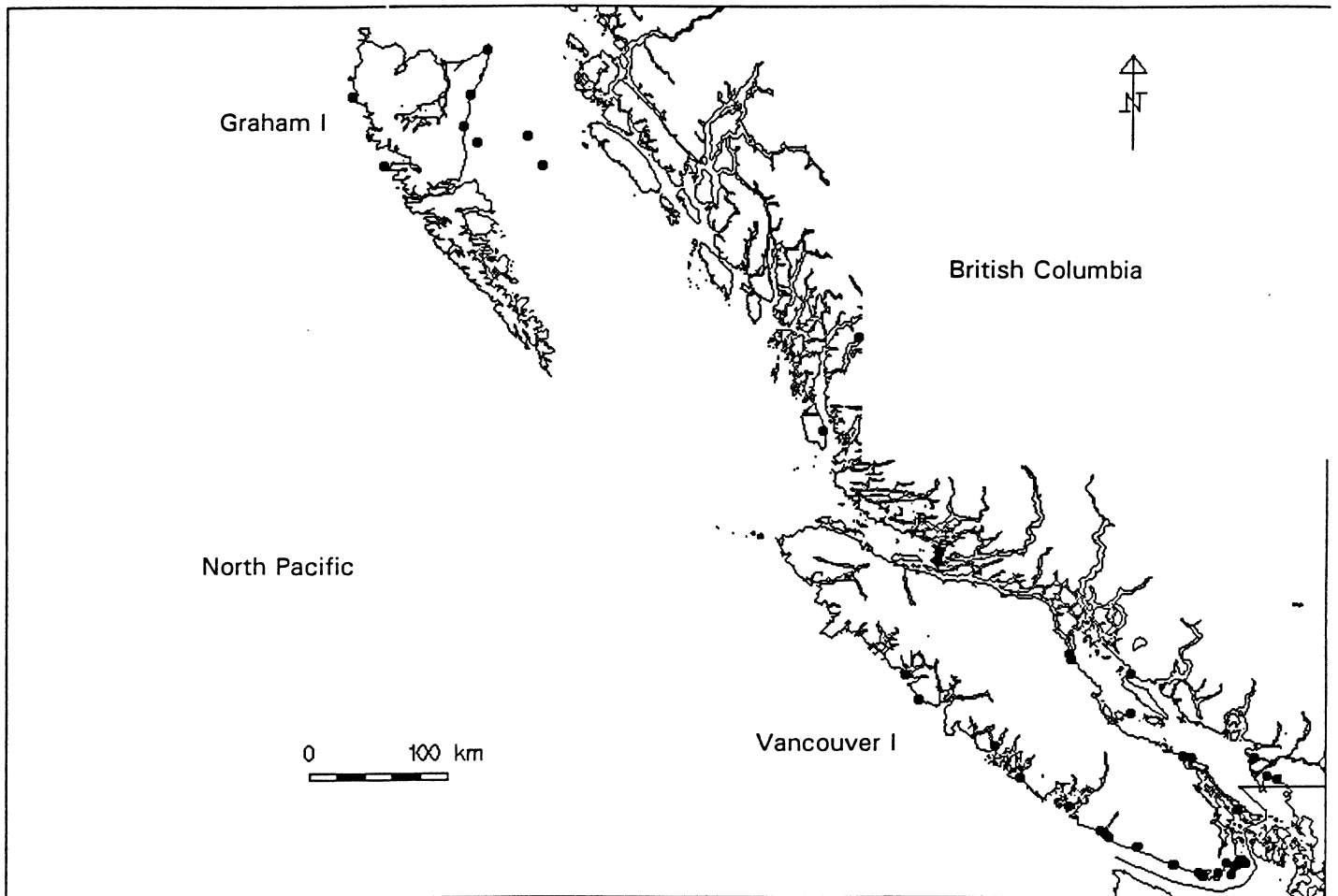


Figure 1. Geographic distribution of stranding and entanglement records.