

Whale and leatherback sea turtles incidental entrapment in fishing gear in
Newfoundland and Labrador and a summary of the Whale Release and
Strandings Program during 2006

A Report to the Department of Fisheries and Oceans,
St. John's, Newfoundland and Labrador, Canada

Wayne Ledwell and Julie Huntington
Whale Release and Strandings Tangly Whales, Inc
244 Tolt Rd.
Portugal Cove-St. Philips, NL, A1M1R2

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Introduction

Assistance to fishers who have marine animals entrapped in their fishing gear has been provided throughout the Newfoundland region since 1979. During the time period from 1979 to 2006, 770 humpback whales, 158 minke whales, and more than 180 other types of large whales were reported entrapped in fishing gear in Newfoundland and Labrador to the Whale Research Group of Memorial University and the Whale Release and Strandings Program. During the time period from 1979 to 1990, 576 humpback whales, 124 minke whales, and more than 150 other types of large whales were reported to the Whale Research Group of Memorial University. Entrapments, strandings and sightings of other cetaceans and marine animals such as sea turtles and sharks have also been documented (Lien, 1994; Ledwell and Huntington, 2000-2006). From 1992 to 2000 funding for a marine animal release program was varied and at times non-existent.

The purpose of the assistance release program is: (1) to assist fishermen to release whales from fishing gear thus decreasing fishing downtime and damage to fishing gear, (2) to release entrapped marine animals as quickly and safely as possible, (3) to communicate with fishermen and communities about marine animals, including species at risk, which inhabit their waters, and (4) to add to scientific knowledge on various cetaceans and leatherback and other sea turtles. Many fish harvesters have come to realize that calling a release program offers them a faster and more efficient alternative to dealing with an entrapped animal than on their own. The quicker the response of the fishermen to the Whale Release and Strandings Program results in less gear damage and fishing downtime. Fish harvesters have continued to contact the Whale Release and Strandings Program with entrapment problems, although it is known all entrapments are not reported as fishermen at times release marine animals from fishing gear themselves or the animal may self-releases. Effects of these unaided releases on the survival and health of marine animals are not clear. Such underreporting anomalies need to be considered when attempting to grasp the scope of the entrapment problem in the Newfoundland Region. The program has typically catered to economically marginalized inshore fishermen who see financial benefits to having a government funded group release entrapped animals thus decreasing downtime from fishing and damage to gear inflicted by entanglements during short fishing seasons. However assistance is provided to both inshore and offshore fishermen.

Methods

Whale, leatherback sea turtle and basking shark entanglements in fishing gear and strandings and sightings of marine animals were reported to the Whale Release and Strandings Program in 2006 by calling an advertised toll free number which can be accessed 24 hours a day seven days a week. A trained release team responds by providing suitable, safe advice or sending expert personnel to the site for needed assistance. The trained crew was equipped and

ready to deploy immediately with an inflatable zodiac and necessary specialized tools for disentanglement of whales, leatherback sea turtles and basking sharks. The objective of each disentanglement is the safe, clean release of the whale or other marine animals and minimal or no damage to the fishing gear involved in the entrapment. The disentanglement crew also responded to whale and leatherback sea turtle strandings. Calls about entanglements, strandings and dead floating animals were forwarded to the group by DFO Conservation Officers, Coast Guard Centres, fishers, Royal Canadian Mounted Police (RCMP), Crime Stoppers and the general public. The program was funded by the Department of Fisheries and Oceans in 2006

Results

Fifteen humpbacks, *Megaptera novaeangliae*, were reported caught in fishing gear in 2006. Six of those animals were entrapped in the offshore on the Grand Banks and St. Pierre Bank. The three whales caught on the St. Pierre Bank were entrapped in cod gillnets and the three on the Grand Banks were entrapped in snow crab pot gear. Reports of entrapped humpbacks were up from those reported in 2005 and higher than the annual mean of 11.2 humpback entrapments from 2000-2004. Part of the reason for this may be due to higher reporting from the offshore sectors fishing for snow crab with pots and cod with gillnets. The nine humpbacks reported entrapped in the inshore were entrapped in a variety of fishing gears (Table 1).

Reports of gear entrapped received by the Whale Release and Strandings Program are often whales anchored in gear and whales we attend to ourselves. Fishermen often do not report whales that they see towing fishing gear or whales caught in fishing gear belonging to others. Phone surveys to fishermen asking "if they had any whales caught in their gear or heard of anyone else having whales caught in their gear" indicate higher numbers of misreported gear entrapped whales. Based on both the 2004 and 2005 phone surveys it is possible 160 large whales were caught in fishing gear and not reported to the program (Ledwell and Huntington, 2005).

Two minke whales, *Balaenoptera acutorostrata*, were reported entrapped and this is down from a mean of 4.3 in 2000 to 2005. Both of the animals in 2006 died in gear and were removed by the fishermen who owned the gear (Table 2).

Two large whales were reported towing gear at the same time in the same place. It is unusual, although it has happened (Ledwell and Huntington, 2001) to see two whales entrapped in gear in the same location. The area was checked, but the whales were not found and no further reports were received on those animals (Table 3).

Five leatherback sea turtles, *Dermochelys coriacea*, were reported gear entrapped in 2006. This represents the highest number of entrapped leatherback sea turtles since 2000. The mean of reported entrapped leatherback sea turtles

from 2000 through to 2005 is 0.8 yearly. Fishermen often release leatherback sea turtles themselves and often do not report the entrapment. One of the dead animals from St. Pierre Bank was necropsied at the Brookfield Research Veterinary Centre in St. John's. The fourth leatherback was reported towing fishing gear and could not be relocated. A fifth leatherback was released alive from fishing gear. It was caught at the surface (Table 4).

Fifteen leatherback sea turtle (*Dermodochelys coriacea*) sightings reported in 2006 was up from previous years. This increase in reporting may be due to more fishermen having available in their boats, the toll-free number stickers advertising the program or the advertisements in the fishing trade magazine, The Navigator. All turtle sightings are entered in a sightings data base at the marine mammal section of the Department of Fisheries and Oceans, St. John's, Newfoundland (Table 5).

During discussions with fishermen who have an entrapped marine animal in their fishing gear, reports of animals that went unreported to the Whale Release and Strandings Group but were released by fishermen themselves are often offered up (Table 9).

Strandings

Twenty-six beached or dead floating whales were reported to the program during 2006, including a Sowerby's beaked whale, *Mesoplodon bidens*, which was discovered dead at King's Point (49°35.5' N, 56° 10.50' W) in Green Bay. The animal was necropsied and the skeleton retained. A leatherback sea turtle, *Dermodochelys coriacea*, was discovered dead in Cheeseman's Provincial Park and this animal was also necropsied (Table 6).

A loggerhead turtle, *Caretta caretta*, carapace length 76 cm, was reported to the Whale Release and Strandings Program alive on November 15, 2006 inside a barasway in Sandyville (47°32' N, 55°55'57" W) in Connaigra Bay on the South Coast of Newfoundland. The loggerhead was in a resting position and made no attempt to leave the area for deeper waters. The shell of the animal was covered with silt and seaweed. The turtle had a growth of scar tissue above and obscuring its left eye. The mean air temperature on November 15th was 10°C. Seawater temperatures in the area were 08°C. The animal was moved by the Department of Fisheries and Oceans (Harbour Breton) to a garage and then released the night of the 15th from the beach in the community. The animal swam about, dove and was not seen again.

A male killer whale, *Orcinus orca*, live stranded at Brown's Beach, Cull's Harbour (48°41.42' N, 53°56.05' W) Bonavista Bay. The whale refloated itself on the high evening tide and disappeared and was not seen again. This is in the same area where two northern bottlenose whales, *Hyperoodon ampullatus*, live stranded and died during the summer of 2005 (Ledwell and Huntington, 2005).

A paper was published regarding the stranding of a bowhead whale from 2005. Ledwell, W., Benjamins, S., Lawson, J. Huntington, J (2007) The Most Southerly Record of a Stranded Bowhead Whale, *Balaena mysticetus*, from the Western North Atlantic Ocean. Arctic, 60:1

Various reports of solitary social juvenile belugas were reported on the southern Avalon and the Northern Peninsula (Table 7). The southern Avalon animal was photographed and biopsied.

Discussion

The logistical difficulties associated with attending to offshore gear entrapped whales are serious problems that remain to be addressed. Fishermen report a whale entrapped to various sources, the Whale Release Group, Coast Guard Traffic Center, the Department of Fisheries and Oceans Regional offices or others. Sometimes this reporting is from the site of the entrapment, other times it may be when the fishermen come to port. Often they leave the area with their catch, for port or to haul other fishing gear, after reporting the entrapped animal. The recourse then for a release team, is to wait until the owner of the gear with the entrapped whale goes back out to their gear again and agrees to bring the disentanglement crew and their inflatable boat along. This can pose a problem when skippers are unwilling or unable to carry extra people and equipment on their boats: their boats may be too small to transport the specialized equipment and crew or the skipper feels that others on board their boat may be “in their way” and interrupt the harvesting of species, predominately during the lucrative snow crab fishery. A second recourse is to hire a longliner and crew to travel to and assist with the entrapped whale. The program as funded now does not have adequate money for this and it is often difficult to find a boat for hire during the fishing season due to the distances and time involved in getting to and from an entrapped whale 100 or more nautical miles from the nearest port.

In 2006 we hired a longliner to attend to an entrapped whale in the Downing Basin on 22 July in the offshore (Table 1). On two other occasions we also traveled to offshore whales entrapped in snow crab gear on the Grand Banks. For one of those entrapments we got a ride out on one vessel going to the grounds and then we were transferred to the vessel whose skipper owned the gear that had the entrapped animal in it. On the other offshore entrapment the fishing crew with the entrapped animal agreed to take us and the entrapment equipment along (Table 1).

It is possible for the disentanglement crew to be away for up to a week on offshore entanglements because the fishing skipper does not just go out to release the whale but continues to harvest whatever fishery they are involved with at the moment. Delays also occur because due to the size of the vessel the crew must wait for good weather windows or there may be mechanical breakdowns of longliners or the quota for the boat could be fished and then they

do not want to go out again. Another situation that occurs is when the entrapped whale is reported by a vessel in the vicinity and there is difficulty in tracking the owner of the gear when no fishing numbers are reported from the net buoys. Whales were entrapped for 2 weeks in gear in 2005 while we waited for a vessel to enable us to get to the animal. There is no government vessel dedicated to disentangling offshore whales or to aiding in the transport of the disentanglement crew to the offshore. DFO did allocate a dedicated surveillance plane for spotting one entrapped humpback during 2006.

The response procedure for offshore gear entrapped whales contrasts sharply to those entrapped in the inshore. Whales reported entrapped in the inshore are often released quickly, the only constraints are driving times to the fishing community. It is possible for an entrapped whale to be released within hours of the report. Response time for an offshore entrapped whale can be anywhere from days to weeks.

Three out of the five leatherbacks reported gear entrapped in 2006 were found dead at depth. All three were caught in the same area on St. Pierre Bank on a piece of fishing ground known on the chart as "the seal" during the same time frame in August. All three were caught in whelk pot gear and all three were caught around one pectoral fin. The leatherbacks were unable to raise the gear, became stressed and died at depth. It is possible that floating groundline on pot set gear creates a snare effect whereby foraging animals swimming underneath or close by can hook the rope and then are unable to raise the gear and die. This appears to be the case with the three leatherback sea turtles which died in whelk pot gear on St. Pierre Bank (Table 4) (Ledwell et al; 2001). To alleviate this possible entrapment cause sinking ground line should be experimented with pot gear.

Table 1. Humpback whale reported entrapments in fishing gear in Newfoundland and Labrador during 2006

| Date | Area | Gear type | Description |
|---------|---------------------------------------|---------------------------------------|--|
| 26 May | Bay De Verde, Conception Bay | Crab pots. 25 pot string | Released alive. Whale was active with tail stock and fluke wraps with fishing balloons attached |
| 2 June | Grand Banks, 47°36.12N, 51°10.19W | Crab pots | Towing gear. Searched area for two days. Unable to relocate. Whale towed away 50 pots, 115 fathoms rope with one staff buoy and a large balloon. |
| 6 June | Grand Banks, 47°25.61N, 51°05.89W | Towing large fishing balloon and rope | Whale moving slowly towing gear. Suspect same whale as 2 June. Surveillance plane check negative |
| 17 June | Grand Beach, Fortune Bay | Cod gillnets | Released alive from fleet of 5 gillnets. Twine and rope around tail stock and flukes. All gear taken off |
| 27 July | Downing Basin, 46°57.70N, 50°46.70W | Crab pots | Released alive from fleet of 85 crab pots in 85 fathom. Whale had multiple wraps around tail stock and flukes with double bridle through mouth. All gear taken off |
| 8 July | St. Pierre Bank, 46°24.03N, 57°02.99W | 8 cod gillnets | Released alive Some gear still attached |
| 10 July | Harbour Grace Island, Conception Bay | Rope and anchor | Released alive from rope with large grapnel. Wraps around tail stock and two mouth bridles. All gear removed and gear retrieved |
| 12 July | New Harbour, Trinity Bay | Caplin trap leader | Released alive from leader. Twine and rope around back and caught |

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| | | | on tubercles on head. Removed all rope almost all twine |
| 13 July | Hearts Desire, Trinity Bay | Caplin trap leader | Released alive |
| 15 July | St. Brides, Placentia Bay | Cod gillnets | Wraps around tail stock and pectoral fin. Released free from gear |
| 30 July | Downing Basin, 47°04.58N, 50°15.62W | Crab gear | Towing gear. Searched area for 2 days on long liner. 80 pots and 1700 fathoms, staff buoy and marker balloon disappeared with whale |
| 31 July | Griquet, Northern Peninsula | Netting, rope and styrofoam float | Whale towing gear. Could not relocate |
| 4 August | St. Pierre Bank in position 46°134N, 55°43W | Cod gillnets | Unable to relocate. Towed gear away |
| 7 August | Portugal Cove North, Conception Bay | Herring net mooring | Self release |
| 8 August | Portugal Cove North, Conception Bay | Herring net mooring | Released alive |

Table 2. Minke whales reported entangled in fishing gear in Newfoundland and Labrador during 2006

| Date | Area | Gear type | Description |
|--------------|--|---------------|---|
| 16 August | Straits View, Northern Peninsula | Mackerel trap | 4.7m released dead from trap. Twine hooked in old cut in the tail fluke |
| 22 September | Woods Cove, Northern Peninsula. | Mackerel trap | Released dead. Caught around tail |

Table 3. Other whales reported entangled in fishing gear during 2006

| Date | Area | Gear type | Description |
|---------|----------|-------------|--|
| 11 June | Logy Bay | Towing gear | Two whales reported close to shore towing blue fishing floats. Checked area negative |

Table 4. Leatherback sea turtle reported entrapments in fishing gear in Newfoundland and Labrador during 2006

| Date | Area | Gear type | Description |
|-----------|--|----------------|--|
| 8 July | Mortier Bank, Placentia Bay | Cod gillnets | 350-400 kg turtle released alive. Gear around one flipper only. All gear removed |
| 1 August | 46°44.8N, 59°32.90W | Towing gear | Reported by container vessel. Position off Cape Breton. Unable to relocate |
| 24 August | St. Pierre Bank | Whelk pot gear | Dead 378 kg in whelk pot gear. Necropsied by J.Lawson |
| 25 August | St. Pierre Bank in position 46°21N, 56°57W | Whelk pot gear | Caught at depth between pots |
| 28 August | St. Pierre Bank in position 46°31N, 56°52W | Whelk pot gear | Turtle caught at depth between pots in 23 fathom water. Caught around one pectoral. The three turtles from 24, 25 and 28 August were caught on the same piece of ground, known as the "seal", all at depth between pots at same time |

Table 5. Leatherback sea turtle sightings reported in Newfoundland and Labrador during 2006

| Date | Area | Description |
|-----------------------------|--|--|
| Mid July | St. Pierre Bank | 2 leatherbacks free swimming different areas |
| 31 July | Cape Spear, Southern Avalon | Free swimming. Sighted for 3 days |
| 4 August | 12 mile off St. John's in position 47°35.19N, 52°21.24W | Free swimming. Video taken |
| 1 st week August | Off Codroy, West Coast | Free swimming |
| 9 August | Between Little Bay and Burgeo 5 to 7 miles offshore in position 47°36N, 57°55W | Free swimming |
| 10 August | Under Canning's bridge, Marystown, Placentia Bay | Free swimming |
| 10 August | Brandies, Cape St. Francis, Southern Avalon | ~ 3 m carapace free swimming |
| Mid-August | Gulf ferry, 2 hours out of Port aux Basques | Free swimming |
| 23 August | Between Cape Spear and Petty Harbour | Free swimming |
| 23 August | 12 mile off Margaree south Coast in position 47°26.80N, 58°37.43W | 2 leatherbacks free swimming (not together) |
| 24 August | St. Shotts | Free swimming |
| 25 August | Cheeseman's Provincial Park, West Coast | Dead 158 cm carapace length. Necropsied by W.Ledwell |
| 12 September | Between Burgeo and Grand Bruit, South Coast ferry | Free swimming |
| 15 November | Sandyville, Hermitage Bay | Loggerhead sea turtle 76 cm carapace live stranded, warmed up and released. Swam away strongly |

Table 6. Stranded and dead floating cetaceans reported in Newfoundland and Labrador during 2006

| Date | Area | Species | Description |
|-------------|--|-----------------------|--|
| 17 February | St. Mary's, St. Mary's Bay | Pilot (adult) | Dead, drifted into community, confirmed by picture |
| 27 February | Point Au Gaul, Burin Peninsula | Minke 8.3 m | Drifted into community. Dead couple of weeks, confirmed by picture |
| 17 March | Petite Forte, Burin Peninsula | ~9 m unknown | Drifted into community in December, long dead |
| 21 March | Holyrood, Conception Bay | White sided dolphin | Long dead, collected skeleton |
| 19 April | St. Shotts, Southern Avalon | Sperm | Dead washed into community, confirmed by pictures |
| 6 June | Burnt Islands, South West Coast | ~12 m Sperm | Dead washed into community. I.D. by pictures |
| 10 June | 47°18N, 54°06.7W | Unknown | Called in by tanker Avalon Spirit |
| 19 June | Little Bay, South west Coast | Sperm | Dead drifting. Suspect same as 6 June |
| 28 June | Flat Bay, West Coast | 4 White beak dolphins | 4 dolphins refloated, one later restranded and died |
| 16 July | Arnolds Cove, Placentia Bay | White beak dolphin. | Dead stranded |
| 16 July | Cull's Harbour, Bonavista Bay | Killer whale ~6.5 m | Live stranded and later refloated on the tide and disappeared alive |
| 22 July | Ochre Pit Cove, Conception Bay | Humpback | Dead drifting |
| 23 July | Rushoon | 205 cm common Dolphin | Live stranded, refloated and later died. Samples and skeleton obtained by W. Ledwell |
| 26 July | 7 mile off Blackhead Head, Conception Bay. Position 47°50.18N, 52°35.03W | Large whale spp | Dead drifting |
| 1 August | 47°58.69N, 52°03.43W | 15 m whale | Dead drifting |
| 3 August | 48°48.50N, 58°59N | Large whale | Dead drifting |
| 10 August | Bay Bulls, Southern Shore | White sided dolphin | Dead drifting |

| | | | |
|-----------------|--|--------------------------------------|--|
| 17 August | 45°35.55N, 55°28W | 9 m whale | Dead drifting |
| 25 August | 130 mile N.E. Cape Freels in position 49°52.23N, 49°42.04W | 12 m whale | Dead drifting |
| 27 August | Rock Harbour, Placentia Bay | 16.5 m Sperm | Inspected and measured, tooth collected by W. Ledwell |
| 16 September | La Poile, South West Coast | 5.5 m Pilot | Dead stranded. Seen alive for 2 weeks in area prior to stranding |
| 17 September | King's Point, Green Bay | 335 cm Sowerby's | Dead stranded. Necropsied, skeleton collected by W. Ledwell |
| 1 October | Fortune Harbour, Notre Dame Bay | 15 m sei | Live stranded and died. DNA confirmation at Trent University |
| 11 October | Englee, Northern Peninsula | Pilot | Dead floating |
| 23 November | Lark Harbour, West Coast | Large whale spp. | 9 m whale dead drifting |
| 25 November | Eastport, Bonavista Bay | 270 cm white sided dolphin | Dead stranded. Investigated and samples taken by W. Ledwell |
| 19 December | Botwood | 202 cm white beaked dolphin | Dead stranded. Necropsied by Jon Joy |

Table 7. Other cetaceans reported in Newfoundland and Labrador during 2006

| Date | Area | Species | Description |
|-----------|--|---------------------------|---|
| 5 June | Great Barasway, Placentia Bay | Beluga | Solitary social juvenile beluga hanging close to boats |
| 15 June | St. Mary's, St. Mary's Bay | | Solitary, social. Biopsy and pictures taken by Jack Lawson and Wayne Ledwell. Suspect same as 5 June |
| 28 June | Aquaforte, Southern Shore | Beluga | Solitary social juvenile. Suspect same as 5 and 15 June based on scarring |
| 5 July | Fermuese, Southern Shore | Beluga | Same as 28 June |
| 5 July | Englee, Northern Peninsula | Beluga | Small animal in area from 28 June |
| 19 July | Cape Spear | ~20 pilot whales | Huddled close to shore from early morning to late evening |
| 29 July | Downing Basin in position 46°55.70N, 50°18.90W | 2 Killers | Free swimming taped |
| 4 August | Downing Basin in position 46°54.70N, 50°18.90W | 5 Killers (2 males, calf) | Free swimming Pictures and video tape * Distance between 29 th July and 4 Aug is 5.7 miles in 7 days. Both sightings by same longliner |
| 9 October | King's Point, Green Bay | ~40 white sided dolphins | Free swimming |

Table 8. Sharks reported in Newfoundland and Labrador during 2006

| Date | Area | Description |
|--------|---------------------------|-----------------------------|
| 9 July | Carbonear, Conception Bay | Basking shark free swimming |

Table 9. Misreported incidental fishing gear entrapments of marine animals during 2005

| | | | |
|---------------------------------|--------------------------------|----------------|--|
| Leatherback July 2005 report | Mortier Bank, Placentia Bay | Cod gillnets | Large turtle released alive by fisherman. Animal caught around one flipper at balloon |
| Humpback July 2005 | New Harbour, Trinity Bay | Caplin trap | Released alive by fishermen |
| Humpback 2004 | St. Pierre Bank | Whelk pot gear | Released dead |

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