INCIDENTAL ENTRAPMENTS IN FISHING GEAR REPORTED IN 2007 IN
NEWFOUNDLAND AND LABRADOR AND A SUMMARY OF THE WHALE
RELEASE AND STRANDINGS PROGRAM

A Report to the Department of Fisheries and Oceans, Canada – Newfoundland and Labrador Region

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### Introduction

From 1978 through 2007 both the Whale Release and Strandings Program and formerly, the Whale Research Group of Memorial University, have provided a disentanglement assistance program for marine animals incidently caught in fishing gear in Newfoundland and Labrador. During this time period information from fishermen regarding whale interactions has been recorded and monitored, included in this are the incidences of entrapments, strandings and sightings of leatherback sea turtles, sharks and 20 different species of cetaceans. The program and methods for disentangling large whales from fishing gear were pioneered by Dr. Jon Lien (Lien 1980) and with a few modifications remain those of choice today.

The disentanglement program in use today was designed and developed for the highly rural nature of over 800 fishing communities spread over the 17,000 km coastline of Newfoundland and Labrador. The disentanglement assistance program has benefited fishers, whales and the people of this country and internationally has protected whales for tourism ventures. It provides assistance to often financially-stretched fishermen, saving them thousands of dollars in what would be lost fishing gear and downtime if they did not have skilled support in dealing with a large whale entrapped in their gear. It releases large and often endangered whales and leatherback sea turtles from fishing gear and allows them to continue life processes. We have the largest feeding population of humpbacks in the northwest Atlantic, with about 5,000 visiting NL waters during spring, summer and fall. These animals are the basis for a large tourism industry in the region.

The program also responds to all reported live and dead cetaceans and sea turtles, as well as pack ice entrapments.

The purpose of the assistance is: (1) to assist fishermen in releasing whales from fishing gear, thus decreasing downtime and damage to fishing gear. The length of time a large marine animal is entrapped in fishing gear is directly correlated to greater gear damage and loss of income due to the gear not fishing properly or at all (Lien 1983), (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, habitat protection and (4) to add to the scientific knowledge of cetaceans, leatherback sea turtles and sharks that inhabit Newfoundland and Labrador waters.

Fish harvesters have come to realize that calling a government sponsored program offers them a faster and more efficient alternative to dealing with a gear entrapped animal than attempting a release on their own. Fishermen and lay people who take whales out of gear often leave large amounts of fishing gear on the animal. Whales caught in crab gear that are cut loose by fishermen are often

done so with vast amounts of rope and pots attached (Ledwell and Huntington 2001, 2002, 2006). A timely response by experienced personnel results in the removal of most if not all gear from the animals, less gear damage and fishing downtime, particularly important to the economically marginalized inshore fishermen.

From 1979 to 2007, nine hundred seventy two (972) humpback whales, one hundred fifty two (152) minke whales, thirteen (13) fin whales, one right whale and eighty seven (87) unknown large whales were reported entrapped in fishing gear in Newfoundland and Labrador. Entrapments and strandings of smaller cetaceans and marine animals such as leatherback sea turtles and sharks have also been reported. 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 2000-2007). From 1992 to 2000 funding for a marine animal release program was varied and at times non existent.

The most common types of fishing gear associated with entanglements in this region currently include gillnets (cod, herring, mackerel, lumpfish, flounder, monk, skate and turbot) snow crab pots, whelk pots, toad crab pots, box traps (caplin, cod, herring, mackerel and squid), unspecified and illegal gillnets, ropes/buoys and moorings. In other words, most types of fishing gear have the potential to incidentally catch whales and they do. In recent years fishing effort in Newfoundland and Labrador has shifted offshore, this shift in gear has lead to an increase in the number of offshore entrapments reported and offshore entanglements have primarily involved snow crab gear.

### 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 2007 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 fishing gear 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 concerning entanglements, strandings and dead floating animals were also 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 2007. Additional funding was also secured through the Shell environmental Fund.

## Results and Discussion

Results of the Entrapment Assistance Program from previous years have been summarized in annual reports to the Department of Fisheries and Oceans and the Newfoundland and Labrador Department of Fisheries (Lien I980; Lien and Aldrich I982; Lien et al. I982; I983; I984; I985; I986; I987; I988; I989; Lien I990; I991; I992; I993; I994, 1995, 1996, Ledwell, Huntington and Lien 2000, Ledwell and Huntington 2001, 2002, 2003, 2004, 2005, 2006).

## Humpback whales

Twenty-five (25) humpback whales (Table 1) were reported to the Whale Release and Strandings program in 2007. Nine (35%) of those animals were entrapped in crab gear. Two of those whales were entrapped in May when there was no funding in place to assist the animals and the whales were left in gear. Their fate is unknown.

Fishermen fishing snow crab repeatedly reported to us that when they discover a whale entangled in their pots they will typically haul in the pots as close to the whale as they feel comfortable and cut the entangled whale loose with sometimes upwards to 20 pots attached plus the haul up rope and staff buoy or large balloon (most are 50in in diametre) and a small tagging balloon which is entangled around the whale (Ledwell and Huntington 2004). Two fishermen in 2007 reported cutting humpbacks from their snow crab gear with pots, rope and fishing balloons attached. Our response to whales that have been entangled in snow crab gear often entails searching for a whale towing gear or looking for a whale that has dragged attached fishing gear into other fishing gear and is now anchored by that gear or has towed the gear into shoal water which has caused the whale to anchor itself. We find when disentangling large whales from pot gear we need the assistance of a longliner or vessel with power enough to raise the gear and the whale to the surface. With this support we take ALL the gear off the animal. We need larger vessel support to raise the animal as crab gear is heavy and in deep water. Often multiple pots are wound around each other and the whale is always straining on the gear making it difficult to disentangle without the winch power of a larger vessel. Often fishermen provide this as an in kind service.

A humpback was released from snow crab gear on the Grand Banks on July 4. This release was widely advertised by television networks and press releases were picked up by the Canadian Press. Navy divers in the water cut ropes from the whale. This is a very dangerous procedure and one not used by any government sponsored disentanglement program anywhere. It is a procedure where lay people have been killed attempting to take gear off humpbacks by diving. After the release of the animal by Navy divers and the subsequent media coverage recreational divers in Trinity Bay cut a minke loose from nets. The navy ship and DFO were informed that in future they should contact the appropriate release personnel when they come upon a gear entrapped whale.

Two humpbacks were entrapped in a sentinel cod trap at Lord's Cove in Placentia Bay in 2007. One whale was entrapped in the leader and broke free of the gear on its own. The second animal died and sank the trap. The cod trap was removed and not set again.

Nine of the reported gear entrapped humpbacks (35%) were reported in entrapped in Placentia Bay during 2007. Humpback whales were plentiful in Placentia Bay during May and June causing much damage to fishing gear. Various fishermen lost nets in areas of reported humpback entrapments on the west side of Placentia Bay, from Red Harbour to South East Bight. In one instance a fisherman lost three cod nets and a yellow mussel farm buoy marker float. A different fisherman spotted a humpback towing this gear about a mile from the original site on the same day. A second fisherman reported losing 2 cod gillnets with floats attached in the South East Bight area at the same time.

It is not uncommon for humpbacks or minke whales to lift cod gillnets off the bottom and tow them away. Two nets is light gear for large whales to tow away, whereas prior to the cod moratorium in 1992 longer strings of gillnets were used and whales often did not tow the gear but were anchored in place. Whales towing fishing gear are dangerous to mariners as their boats can become fouled of the gear, either in the propeller or stabilizer fish (see Lien 1980, Ledwell and Huntington 2002).

A fisherman fishing snow crab in June in the Downing Basin of the Grand Banks reported losing 14 crab pots with 1400 m of rope plus the marker buoys. One of the ends was sunk and the longliner was unable to raise the gear. Humpback whales were seen in the area and it is not unusual for longliners in the 45 ft range to not have power enough to break sunken whales from depth. This report has not been entered as an entrapment but we suspect it to be.

#### Minke whales

Five minke whales were reported entrapped in fishing gear in 2007 (Table 3). Four of those were entrapped in gillnets and one in whelk pot gear. The two animals from the 11 and 15 July were probably the same animal. Recreational boaters cut a minke out of cod gillnets on the 11 July but left gear on the whale. The whale that was reported on the 15<sup>th</sup> July appeared to be the same whale as it was reported by the same people who had cut it free. The Whale Release and Strandings program responded on the 15<sup>th</sup> July but were unable to relocate the whale.

#### Leatherback Sea Turtles

No leatherbacks were reported entrapped in gear in 2007. There were nine sighting events reported (Table 5). One leatherback was seen dead drifting at South East Bight in Placentia Bay during late October.

# Strandings

Twenty -three live and dead stranded cetaceans were reported during 2007 (Table 6). Dead whales reported floating are often not able to be identified due to not having the financial resources to get the animal. Whales that are reported by fishermen directly to the Whale Release and Strandings Program are identified via conversation with the boat personnel.

A northern bottlenose whale, *Hyperoodon ampullatus*, which came ashore dead at Lawn in Placentia Bay was necropsied and stomach contents removed for diet analysis. Squid beaks from this animal are currently being sorted and analyzed by Jon Joy of the College of the North Atlantic (CONA) Bonavista campus. A Vampire squid, *Vampyroteuthis infernalis*, *beak was* found with hundreds of other squid beaks in its stomach.

A sperm whale, *Physeter macrocephalus*, was necropsied in Famine Cove-Grand Beach, Fortune Bay and its stomach contents removed for diet analysis. The squid beaks are being sorted and analyzed by Jon Joy of CONA.

A beluga whale, *Delphinapterus leucas*, stranded dead and was necropsied in Eddies Cove West on the Great Northern Peninsula.

There were three separate live sperm whale, *Physeter macrocephalus*, strandings over a span of 3 days in Bonavista Bay in August. Members of the Whale Release and Strandings Group refloated the whale from a sandbar and escorted it out of Newtown, Bonavista Bay on August 2<sup>nd</sup>. A similar size sperm whale live stranded on 3rd August at Bonavista and 4<sup>th</sup> August at Dover, Bonavista Bay. From photographs we think it was the same animal as the strandings were similar in nature and the reported whale was the same size (about 8 m). This was the second recent instance involving small sperm whales being ushered out of bays. In 2004 a small sperm whale was escorted out of Fermuese harbour on the southern Avalon by the Whale Release and Strandings Group.

An offshore bottlenose dolphin, *Tursiops truncates*, which was rehabilitated by the Riverhead Foundation on Long Island, New York, satellite tagged and released off Long Island, New York on the 17<sup>th</sup> November 2007 swam to Paradise Sound in Placentia Bay in 4 days, arriving on the 21<sup>st</sup> of November. The dolphin was photographed in Petit Forte Placentia Bay on the 24<sup>th</sup> of November by the Whale Release and Strandings Program

Approximately 24 small sharks were caught in cod gillnets during late September off Portugal Cove in Conception Bay. One of those was identified as a porbeagle *Lamna nasus*. All other sharks were of the same size.

Workshop, papers and awards

A disentanglement training workshop for releasing bowhead whales, *Balaena mysticetus*, was delivered by the Whale Release and Strandings Program for DFO personnel and others from the eastern Arctic in Iqualuit, Nunavut during 2007.

A paper on 2 bowhead whale strandings in Newfoundland was published in the journal *Arctic* in 2007. Ledwell, W., Benjamins, S., Lawson, J. J., Huntington, (2007) The Most Southerly Record of a Stranded Bowhead Whale, *Balaena mysticetus*, from the Western North Atlantic Ocean. Arctic, 60:1.

Wayne Ledwell, director of the Whale Release and Strandings Group received the Newfoundland and Labrador Environmental Award in the individual category recognizing outstanding environmental and conservation achievements throughout Newfoundland and Labrador in 2007

#### Recommendations

All vessels in this region should have the toll free number stickers onboard alerting them whom to call when they have an entrapped whale or see an entrapped whale. By having the toll free number visible in the wheelhouse fishermen may decide to call for expert advice when they have or see a whale or leatherback entrapped and not attempt to cut animals free with large amounts of gear attached This situation can be at least partially avoided if boats have the entrapment assistance hot line number easily visible onboard and upon calling the owner could be advised on the proper release procedures or be advised that a release team is available to attend to the entanglement. This may lessen the number of whales each season swimming around with large amounts of snow crab and other gear attached.

Core funding needs to be set aside for this program to ensure its viability and allow for the training of other release personnel. The authors are the only ones qualified in Newfoundland to do this work and others need to be trained and mentored in to entrapment methodology for this region.

Table 1. Humpback whale reported entrapments in fishing gear in Newfoundland and Labrador during 2007

Date	Area	Gear type	Description
15 May	47 03.84N, 54 37.04W, Placentia Bay, 20 nm NW St. Brides	Snow crab	No funding in place to assist
26 May	46 32.26N, 47 54.84W – edge continental shelf	Snow crab	No funding in place to assist
12 June	47 03N, 4708W Grand Banks between Terra Nova platform and Flemish Pass	Snow crab	Whale cut free by fisherman with 3 pots and approx 400 meters 5/8in rope still on animal
18 June	47 16N, 54 05W, 3nm from Argentia	Snow crab	Searched area, unable to locate whale
22 June	5 nm N.W of Placentia	Rope	Tight rope wrap around back. Tried unsuccessfully to catch the whale
22 June	47 17.11N, 54 02.7W Placentia	Snow crab	Released the whale alive. Removed bridle from its mouth and retrieved 7 pots and 300m 5/8in rope
25 June	Lord's Cove, Placentia Bay	Cod trap	Self release from cod trap leader
26 June	Red Harbour, Placentia Bay	Cod gillnets	Whale towing 3 nets and marker balloons
26 June	Lord's Cove, Placentia Bay	Cod trap	Dead in back of trap, trap sunk
27 June	Garnish, Fortune Bay	Cod gillnets	Whale hooked nets while fisherman hauling. Whale towed nets and self released short distance from entrapment
30 June	Forteau, Labrador Straits	Caplin trap	8m whale released dead from box of caplin trap
3 July	4715.9N, 54 58.5W Red Harbour, Placentia Bay	Cod gillnets	Whale observed by fishermen and DFO officers entrapped. WRS checked area with Fisheries Officers and unable to relocate

			animal. Suspect self
			release
4 July	Grand Banks	Snow crab	Released alive
9 July	Motion Head, Southern Shore	Rope	Towing gear. Unable to relocate
10 July	4717.8N, 5417W between Merasheen and Red Island, Placentia Bay	Cod gillnets	Gillnets wrapped around back. Towing gear and unable to relocate
14 July	Clode Sound, Terra Nova National Park	Gillnets	Towing gear. Unable to relocate
29 July	Triton, Green Bay	Cod gillnets	Whale observed self releasing from nets
2-7 August	St. Anthony, Northern Peninsula	Rope and float	Towing gear. Unable to get close enough to cut rope cutting into dorsal and around tail. Suspect rope and anchor attached. Spent 4 days trying to get close enough.
2 August	English Harbour, Trinity Bay	? fishing gear	Towing gear. Unable to relocate.
8 August	St. Anthony, Northern Peninsula	Rope	Humpback different from 2-7 August towing gear
12-16 August	St. Anthony, Northern Peninsula	Rope and float	Spent 4 unsuccessful days trying to get close enough to same whale from 2-7 August
15 August	Cape Pine, Trepassey Bay	Whelk pots	Humpback released alive from pot gear by WRS. Recovered five whelk pots and rope.
30 August-2 September	St. Anthony, Northern Peninsula	? fishing gear	Report of humpback towing gear. Unable to relocate
15 September	46 38N 53 24W Cape Pine, Trepassey Bay	Whelk pots	Released alive from a double bridle and over 30 wraps of 5/8 in rope around tail
18 September	52 12.12N, 55 24.6W North Battle Harbour, Labrador	Nets	Reported by container ship. CCGS Hood checked area but unable to relocate. Suspect towing gear.

Table 2. Minke whales reported entangled in fishing gear in Newfoundland and Labrador during 2007

Date	Area	Gear type	Description
25 June	Wild Bight, Northern Peninsula	Cod gillnets	Released alive from fleet of 3 nets. Removed head rope bridle from mouth.
11 July	Duntarra, Trinity Bay	Cod gillnets	Released alive by tourists. They left gear on the whale.
15 July	Plate Cove West, Bonavista Bay	Cod gillnets	Same whale seen by same people from 11 July. Response from the Whale Release and Strandings. Unable to relocate the whale
26 July	Ochre Pit Cove, Conception Bay	Cod gillnets	Released alive from fleet of 2 gillnets. Caught in webbing.
9 August	53 50.98N, 57 00W Cartwright, Labrador	Whelk pots	Released alive. Removed bridle from mouth.

Table 3. Leatherback sea turtle sightings reported in Newfoundland and Labrador during 2007

Date	Area	Description
19 July	Cow Head, Northern	Free swimming 2 nm off Cow Head,
-	Peninsula	lots of jellyfish in area
8 September	47 09N, 54 26W,	Free swimming 4-5 foot carapace
	Merasheen Bank,	
	Placentia Bay	
10 September	Ferryland Lighthouse	Free swimming
	Southern Shore	
11 September	,	Free swimming
19 September	47 36.63N, 57 33.96W	Free swimming
	One mile east entrance	
	Burgeo islands	
Week 29	South East Bight	Large dead leatherback dead floating
October	Placentia Bay	
Between 28	Argentia, PlacentiaBay	Large leatherback free swimming
October and		close to ferry terminal
5 November		
2006		
2006	Belle Island	Free swimming
2006	Fermuese	Free swimming

Table 4. Stranded and dead floating cetaceans reported in Newfoundland and Labrador during 2007

Date	Area	Species	Description
15 January	46 27N, 48 23W Virgin Rocks area	Unidentified	Dead whale drifting
6 March	Famine Cove-Grand Beach, Fortune Bay	Sperm	12.2 m male necropsied by W.Ledwell and Jon Joy. Stomach removed and squid beaks collected
19 March	Golden Bay Placentia Bay 4649.3N, 5409.4W	Northern Bottlenose	Dead stranded. Unable to travel to site due to weather
4 May	Seal Cove, Hermitage Bay	Sperm	Live stranded, died and was burned by locals
7 May	47 30.8N, 57 24W – Western tip Ramea	Sperm	Dead stranded
26 June	Roundabout Lawn, Burin Peninsula 4654N, 5531.4W	Northern bottlenose whale	Dead stranded 653 cm animal. Necropsy by W.Ledwell and J.Joy. 2 liters squid beaks, fish bones and unidentified substance
30 June	Brent's Island, bottom Hare Bay, Northern Peninsula	Humpback	1 dead 12m humpback on beach. A second large humpback lethargic about 1 km from dead whale
30 June	51 28N, 56 56W	unidentified	10m whale dead drifting
5 July	46 40N, 54 55.6W Center Placentia Bay	unidentified	8-9m whale dead drifting
30 June	3nm east Offer island, Placentia Bay	Humpback	Dead drifting
Mid July	Green Point, Northern Peninsula	Beluga	Sub adult in advanced stage decomposition
17 July	Fox Cove, Labrador	Minke	Dead on beach
18 July	46 28.3N, 51 46.9W, 50 nm east Fermuese	Minke	8-9m dead drifting
28 July	Topsail Beach, Conception Bay	Harbour Porpoise	Dead stranded. Collected and necropsied by WRS
2 August	Newtown, Bonavista Bay	Sperm	Live stranding of an 8 m sperm. WRS responded and pushed it off sand bar and guided it out from the islands to deep water where it swam on
3 August	Bonavista	Sperm	Towed back out of

			harbour
4 August	Dover, Bonavista Bay	Sperm	Pushed off and swam on.
			Removed rope from tail
11 August	Eddies Cove West,	Beluga	387 cm male dead
	Northern Peninsula		stranded. Morphometrics,
			stomach contents,
			samples and skeleton
			taken by WRS
14 August	Hopedale, Labrador	Beluga	Young beluga dead
			stranded. Fed to dogs
21 August	Northern Bay Sands,	Large	Live stranded and pushed
	Conception Bay	dolphin spp	to deeper water by local
			citizen. Dolphin left area.
			Advised by WRS
21 August	Cape St. George, West	Pilot	Dead stranded. Skeleton
	Coast		collected by Springdale
00.4	NA: I I C	D.I.I.	community group
30 August	Maddox Cove,	Dolphin spp	Live stranded, refloated
40	Southern Shore	111	and left area
12	Little Harbour East,	Humpback	Large dead stranded
September	Placentia Bay	\A/I '( ' I . I	
20 October	Riverhead, St. Mary's	White-sided	Live stranded. Advised
	Bay	dolphin	locals on getting it back to
			deeper water. Animal was
			pushed off and
			disappeared

Table 5. Miscellaneous cetaceans reported in Newfoundland and Labrador during 2007

Date	Area	Species	Description
2 January	Catalina, Bonavista	Humpbacks	6 humpbacks in the
	Bay		harbour for 2 weeks
13 April	50 50N 50 50W (NE	Orcas	3 Orcas among loose
	Funks)		ice reported by sealer,
			seals stayed up on ice
			"seemed afraid to enter
			water"
12 August	Twillingate, Note Dame	Orcas	2 Orcas during food
	Bay		fishery
8 June	Royal Newfoundland	Beluga	Solitary social beluga
	Yacht Club, Manuels		chasing boats
17 June	Manuels, Conception	Beluga	Beluga about 3m
	Bay		interacting with boats
1 July	Brigus, Conception	Beluga	Small beluga acting

	Bay		curious
13 July	St. Philip's marina, Conception Bay	Beluga	Interacting with people and boats in marina.
20 July	Colliers, Conception Bay	Pilot whales	15 Pilot whales milling about harbour for all day
20 July	Kelly's Island, Conception Bay	Beluga	Juvenile beluga interacting with people and boat
31 August	Bell Island, Conception Bay	Group Pilots	Group of pilot whales being harassed by sea - doos. WRS informed DFO, SARA,RCMP, RYNC
24 November	Petit Forte, Placentia Bay	Offshore bottlenose dolphin	Rehabilated bottlenose dolphin tagged and released off Long Island, New York on 17 November swam to Paradise Sound in 4 days. The same dolphin was photographed by W. Ledwell on 24 November in Petite Forte, Placentia Bay
14 December	Twillingate Bight, Notre Dame Bay	Orcas	4 Orcas sighted by turr fisherman
30 December	4752.2N, 06018.3W, off Port aux Basques	2 northern right whales	Right whales reported by container ship Barmbek
August 2006	Tobin's Point	Orcas	3 Orcas together, Shrimp fisherman sees them every year in August
Summer 2006	Between Island Bank and New Bank, Placentia Bay	Orcas	6 Orcas, one with bent over dorsal. First time the fisherman has seen them

Table 6. Sharks reported in Newfoundland and Labrador during 2007

Date	Area	Description
September	Portugal Cove, Conception	Approximately 24 sharks were
	Bay	caught in cod gillnets during late

September close to shore

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