

LEDWELL

WHALE AND SHARK ENTRAPMENTS IN INSHORE FISHING
GEAR DURING 1986: A PRELIMINARY REPORT IN FISHERIES
AND OCEANS CANADA.

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List of Tables

Table Title

- | | |
|----|---|
| 1 | Humpback whales (<i>Megaptera novaeangliae</i>) reported entrapped in fishing gear during 1986. |
| 2 | Minke whales (<i>Balaenoptera acutorostrata</i>) caught in fishing gear during 1986. |
| 3 | Misc. cetaceans reported caught in fishing gear during 1986. |
| 4 | Unidentified cetacean species caught in fishing gear during 1986. |
| 5 | Basking sharks (<i>Cetorhinus maximus</i>) caught during 1986. |
| 6 | Misc. species of shark reported caught during 1986. |
| 7 | Leatherback turtles (<i>Dermochelys coriacea</i>) reported during 1986. |
| 8 | Misc. 'odd' species reported during 1986. |
| 9 | Ice strandings reported during 1986. |
| 10 | Stranded cetaceans reported during 1986. |
| 11 | Summary of sighting cruises. |
| 12 | Unusual cetacean sightings during 1986. |
| 13 | Whales reported entrapped in fishing gear (1979-1986). |
| 14 | Reported and estimated humpback whale entrapments and fishing gear damage by year (1979-1985). |

LIST OF FIGURES

Figure

Title

- | | |
|---|---|
| 1 | Locations of humpback whales (<i>Megaptera novaeangliae</i>) reported entrapped in fishing gear during 1986. |
| 2 | Locations of minke whales (<i>Balaenoptera acutorostrata</i>) reported entrapped in fishing gear during 1986. |
| 3 | Locations of basking sharks (<i>Cetorhinus maximus</i>) reported caught during 1986. |
| 4 | Locations of leatherback turtles (<i>Dermochelys coriacea</i>) reported during 1986. |

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ABSTRACT

Inshore fishermen that reported entrapped whales and sharks via a toll-free phone line were given assistance in releasing animals they caught and in minimizing damage to their fishing gear. Field work was also conducted with cetaceans reported stranded or ice entrapped. This report summarizes the animals reported during 1986.

There were 34 humpback whales reported entrapped in fishing gear during 1986. This is down noticeably from 1985 when 52 entrapped humpbacks were reported and at about the same number as humpback entrapments reported from 1981-1984. A total of 15 additional large cetaceans of other species were also reported entrapped.

Only a total of 17 basking sharks were reported caught during 1986. Market prices were high and most of these animals were sold. A total of 20 individuals from three other shark species were reported.

Leatherback turtles were common during 1986. A total of 9 animals were seen swimming and reported; 10 were caught in inshore fishing gear and reported.

Just over 300 instances of damage to fishing gear are estimated to have occurred and gear losses are estimated between \$63,000 - \$93,000 during 1986.

A total of 6 blue whales ice entrapped during 1986; all but one died as a result. A variety of individual cetaceans were reported stranded (N = 16). One mass stranding of North Sea beaked whales occurred (N = 6).

Results of this year's program are discussed in a historical context. Recommendations for continued work are made.

INTRODUCTION

As in past years, the whale research group at Memorial University of Newfoundland has monitored whale and shark collisions with inshore fishing gear in Newfoundland and Labrador. Since 1978, with Fisheries and Oceans, gear damage due to whales and large sharks has been monitored and assistance offered to fishermen who have animals entrapped in their gear.

Whale and shark collisions with inshore fishing gear are not a new problem for inshore fishermen in Newfoundland and Labrador. There is much anecdotal and historical evidence indicating that inshore gear damage has always occurred at a low, irregular level. During the mid-seventies, there was a substantial increase in the amount of damage reported and whales and sharks were more commonly entrapped in gear made of stronger modern materials (Lien, 1980). A peak in damages due to whales and sharks occurred in 1979-1980. Since those years, reported whale damage has been less common.

The number of whales, particularly humpbacks, sighted inshore has been negatively related to the immature capelin biomass offshore (Whitehead and Carscadden, 1985). There are typically high correlations between humpback sightings inshore and the number of collisions and entrapments which occur (Lien, 1980). The estimated biomass of capelin in Newfoundland and Labrador waters during 1986 was very high (J. Rice, pers.comm.). Thus 1986 was predicted to be a year with minimal whale damage and entrapments.

When a collision does occur, the animal is sometimes caught in the gear. The trapped animal, alive or dead, because of its size presents a difficult task for the fishermen in retrieving his gear with a minimum of damage so fishing can be resumed. Because fishermen have difficulty coping with whales and sharks, methods have been developed to aid them with releasing the animal and retrieving their gear (Lien, 1980).

The purpose of the present contract was to make these methods available to fishermen who have problems with entrapped animals and to continue monitoring of the problem.

Fishermen reported whale and shark damages by a toll-free phone line or to management officers of Fisheries and Oceans or Newfoundland Department of Fisheries. In some cases entrapments and strandings are also reported to the Royal Canadian Mounted Police or the Canadian Coast Guard. All of these agencies relay such calls to the University. This year, fishermen who called to report seal by-catch were referred to marine mammologists in the Research Branch of Fisheries and Oceans in St. John's.

As required, help was sent to fishermen who requested assistance in removing animals from gear. Assistance was given by staff based in St. John's or by other 'experts' we notified around the island or in Labrador. In all cases, except one, assistance was given within 24 hours of the fishermen's request. Usually the fishermen's problem or the stranding was dealt with within hours of receiving a call. In each case an effort was made to teach fishermen and local people release procedures.

During the course of the year, sighting cruises were undertaken to aid in predicting where and when problems will occur. Results of this work will also be briefly summarized here.

RESULTS OF THE PROGRAM DURING 1986

Lists of cetaceans reported entrapped in fishing gear are presented in Tables 1 - 4 and locations of these incidents are presented in Figures 1 and 2. Sharks and other species reported entrapped are presented in Tables 5 -8. Locations of these incidents are presented in Figures 3 and 4.

HUMPBACK WHALES (*Megaptera novaeangliae*)

A total of 34 entrapment incidents which involved humpbacks were reported during 1986 (Table 1). Of these only 3 (9%) of these cases resulted in humpback mortality. Most entrapments (55%) involved codtraps or groundfish gillnets (44%). June (30%) and July (50%) were the most common months for entrapments. Only 12% occurred in August and 3% in September.

It is possible that this year the number of incidents of humpback entrapments is somewhat inflated by multiple entrapments and reports on the same animal. In mid-August near St. Bride's, Placentia Bay, humpback(s) reported entrapped were incompletely released and towed gear off. Later reports of trapped humpback(s) in this area may involve these same animal(s) which had become entangled in additional gear. Although this seems quite possible, it cannot be verified in this case.

There were four primary locations for humpback entrapments during 1986 (Figure 1): St. Bride's, Placentia Bay; Pouch Cove/Flat Rock; Musgrave Harbor, Bonavista Bay; and near St. Anthony.

Entrapped humpbacks tended to be rather small individuals. The three dead individuals examined, two larger females and a small male, averaged 10.5 m.

MINKE WHALES (*Balaenoptera acutorostrata*)

A total of 7 minke whales were reported caught in fishing gear during 1986 (Table 2). Three of these animals were released alive (43%). Most (71%) of these entrapments occurred in June. Locations of minke whale entrapments were widely scattered (Figure 2).

MISC. AND UNKNOWN CETACEA

Misc. and unknown cetacea reported caught in fishing gear are summarized in Tables 3 and 4.

Five harbor porpoise (*Phocoena phocena*) and 3 white-beaked dolphins (*Lagenorhynchus albirostris*) were reported incidentally entrapped in fishing gear. Because of the size of these animals, the fishermens ability to remove them from gear without help, and their food value, the numbers of small cetaceans entrapped is significantly under reported. The program has not particularly encouraged the reporting of entrapped animals which fishermen can manage on their own. Anecdotal reports of harbor porpoise are still commonly received. However, in areas such as St. Mary's Bay fishermen report that the by-catch of "puffin pigs" has decreased greatly in the past few years.

This year we did not survey in southern Labrador to determine the numbers of white-beaked dolphins which were killed in localized hunts and no reports of entrapped "jumpers" were received from Labrador.

Unidentified cetacean species caught in fishing gear (Table 4) are typically whales that tow the gear off before assistance can reach the fishermen. This year only two such instances occurred. Two additional instances involved dead cetaceans which were removed from gear before they were examined.

SHARK

A total of 17 basking sharks (*Cetorhinus maximus*) (Table 5) were reported caught during the 1986 fishing season. Locations of these catches (Figure 3) was scattered. Most (55%) of the animals were sold. Mean liver weight in animals sold was over 700 kg; liver value was \$1.20/kg. Fin value was \$1.90/kg. The value of each animal sold averaged over \$1,000.

Greenland (*Somniosud microcephalus*) (N = 4), blue (*Prionace glanca*) (N = 3) and porbeagle (*Lamna nasud*) (N = 1) sharks were also reported incidentally caught in groundfish gillnets (Table 6).

MARINE TURTLES

Reports of leatherback turtles (*Dermochelys coriacea*) encountered during 1986 are presented in Table 7. A total of 9 individuals were sighted free-swimming and reported; 10 animals were caught in fishing gear. Groundfish gillnets caught most of the entrapped animals (80%) although one was caught in a salmon net and another in a groundfish trawl. Two of these individuals (20%) died as a result of the entrapment.

'ODD' SPECIES

Fishermen sometimes call to report almost anything! A giant squid was taken in Bristols Hope, Conception Bay and two "goose" fish (*Lophiidae* spp.) were reported (Table 8).

STRANDED WHALES

Ice entrapments involving cetacea during 1986 are summarized in Table 9. A total of 6 blue whales (*Balaenoptera musculus*) ice stranded, only 1 survived the condition. Ice entrapments during 1986 all occurred on the Southwest Coast.

A total of 22 stranded cetaceans were reported during 1986 (Table 10). One of the strandings involved 6 North Sea beaked whales (*Mesoplodon gidens*); another involved 3 white-beaked dolphins. All remaining strandings involved single animals; 6 baleen whales and 5 toothed cetaceans.

SIGHTING CRUISES

Since 1974 there have been regular cruises for whale sightings in waters off Newfoundland and Labrador. This year a total of 7 cruises of varying effort were undertaken and are briefly summarized in Table 11.

DISCUSSION

DAMAGE TO FISHING GEAR

This was the first year since 1979 that damage to fishing gear has not been systematically monitored by a card reporting system. Such monitoring depends on fishermen volunteering information. Submission of information does not result in any direct benefit to the informant and this tends to result in under-reporting. Fishermen who do report may expect some compensation or assistance as a result of their damage. Such an expectation would tend to result to exaggerated reports. Because of this, damage reports must be cross-checked by in situ

observers which is expensive, and even then, such data must be regarded with some caution. Because of the cost and quality of such data, it was felt that based on relationships observed between numbers of entrapments and the frequency of gear damage reports received during past years, a rough estimate of gear losses attributable to whales and sharks could be made without a costly damage reporting system.

The entrapment measure which best correlates with total gear damages in a fishing season is the number of humpback whales entrapped. Although there is always some under-reporting of this measure, it is probably most reliably reported by fishermen. Entrapments of other species such as basking sharks or pothead whales fluxuate widely and do not correlate well with damages reported. Frequency of collision damage reports was chosen as it is less susceptible to distortion than are cost estimates of the value of collision losses. Table 14 presents actual and estimated numbers of humpback entrapments and frequency of gear damage reported by year from 1979-1985.

The mean ratio of entrapment to collision frequency from 1979-1985 is 9.3. Given 34 reported humpback entrapments in 1986, 316 accidents are estimated. The average cost of a reported collision has varied substantially between years (Lien and Aldrich, 1981). If cost per collision was \$200. in gear loss, a total gear loss for 1986 of \$63,200. would be estimated; at \$250. in gear loss per collision a gear loss estimate would total \$79,000; at \$300. in gear loss per collision a total gear loss estimate for 1986 would be \$94,800. Down-time losses are much more significant for fishermen who do have whale or shark collisions, averaging perhaps four times actual gear losses (Lien, 1980).

Damage in recent years has tended to be very low compared to peak of damage due to whale collisions which occurred in 1979-1980 (Table 14). A comparison of damages which occurred during those years and the present for difficult whale areas where in situ observers were placed such as Bay de Verde and St. Vincent's. In 1979 collisions occurred with 12 codtraps, 5 salmon nets and 3 groundfish gillnets. These accidents caused reported gear losses of \$5,720 (Lien, 1980). In 1986 only 1 salmon net and 2 gillnet accidents were reported for net reported gear losses of \$430. Effort in Bay de Verde has not noticeably changed between these years. In the St. Vincent's/Peter's River area of St. Mary's Bay there were a total of 51 codtrap collisions in 1980. In the past two years there has been only 1 collision/year; fishing effort has been reduced by 4 traps (17%) in these latter years however.

HUMPBACK ENTRAPMENTS

Whales reported entrapped by year, since 1979, are presented in Table 13. The numbers of all species of whales entrapped and mortality as a result of entrapment was similar in 1986 to the years 1981-1984. The number is down considerably from the years 1979-1980 and somewhat lower than the number of humpbacks caught last year. In both 1979 and 1980 entrapped large whales were under-reported. Under-reporting from 1981-1985 was much lower (Lien, 1980; Lien et al, 1981; 1982; 1983; 1984; 1985). Under-reporting during 1986 appears low but is difficult to access. Typically several calls from different sources were received on each entrapped or stranded animal. This would tend to indicate that the reporting network is working well and in fact few such events are missed. However this year, three dead humpbacks were reported as 'stranded' during the inshore fishing season. Although there are many possible reasons for summer deaths in a humpback, mortality as a result of entrapment in fishing gear is typically the most common cause. It is possible that some of these animals should be listed as entrapped but simply were not reported as such. Such a distortion in reporting would result in an under-estimation of entrapped animals.

Capelin biomass was high in 1986 and humpback whale abundance inshore would be predicted to be low (Whitehead and Carscadden, 1985). Results of a survey conducted on the Northeast Coast (Whitehead and Lien, 1984) by Pinsent (1986) are presented in Figure 4. Humpbacks encountered inshore during the summer fishing season were low. Whale collisions and entrapment in fishing gear is largely a function of whale abundance and fishing effort (Lien, 1980).

Humpback mortality as a result of fishing gear entrapment is historically high. Prior to 1979, estimates of humpback entrapment mortality were about 50%. In the first several years of the entrapment assistance program (1979-1980) this decreased dramatically to an average of 23% (Lien, 1980). Over the past several years 1981-1985 mortality rates have hovered slightly above 10%. This year mortality was 9%. If the three dead humpbacks reported as stranded (Table 10) are included as entrapment mortality, mortality rises to only 18%. Fishermen tend to call for assistance immediately when an entrapment is detected. This effectively optimises the opportunity to minimize gear damage and early assistance in releasing the animal tends to minimize mortality.

The difference in gear damage between assisted and unassisted releases or trapped whales is substantial. Decreased mortality of whales, which results from release assistance, is a factor in this saving. If a large whale kills itself by thrashing around while entrapped, damage to the gear is extensive. The average cost of codtrap damage when a dead whale

was released was estimated as over \$1,000 more than the cost of damage when a live whale was released (Lien 1980). The difference between a 56% mortality before the release assistance program and the 10% average mortality after it was operating would estimate a direct gear saving to fishermen of \$15,000. during 1986. Although it is difficult to quantify savings, fishermen also estimate substantial savings when given assistance with the removal of dead whales as well. A major saving to fishermen is the minimal down-time losses they incur when assisted in releases.

ENTRAPMENTS OF OTHER ANIMALS

The low numbers of basking sharks reported caught does not reflect markets. The average price for a basking shark was widely advertised as over \$1,000. Still only 10 animals were sold of a total of 17. There were simply not many animals captured. Water temperatures explain much of the annual variation in basking shark abundance in Newfoundland and Labrador water (Lien and Fawcett, 1986). The diminished effort in the Southwest Coast salmon fishery is undoubtedly a major factor in reduced basking shark catches (Lien et al, 1984).

Prior to 1986, the largest number of leatherback turtles encountered in Newfoundland and Labrador waters was 5 (Lien, 1985). The 19 animals encountered during 1986 is a substantial increase over previous years. Although the animals are tightly associated with seasonal peaks in inshore water temperature, the number of encounters with leatherbacks in a year does not correlate well with annual inshore water temperature variation (Geoff and Lien, 1986). It is possible however that their relative abundance in these waters is effected by offshore temperature factors or other conditions. Temperature experiments were conducted this summer and seem to indicate the animal has some ability to thermoregulate (G. Geoff, pers. comm.). If that is possible, the animals abundance and distribution in cold Newfoundland and Labrador may be better correlated with the abundance of its food than temperature per se.

Although this program of assistance to fishermen has not systematically encouraged reporting of the entrapment and incidental take of small cetaceans and the numbers reported each year are small. The animals are used as food, cause minimal net damage and the by-catch is generally not regarded as a problem by fishermen. From anecdotal accounts given by fishermen in some areas it seems clear that the actual take of harbor porpoises has decreased. In 1980 (Lien, 1980) fishermen were surveyed weekly to determine their by-catch of harbor porpoise, largely in groundfish gillnets, per unit of fishing effort. Results of this survey, extrapolated to fishing effort throughout Newfoundland and Labrador, resulted in a very high estimate of catch for the province as a whole. A bias in that survey was that it was

weighted heavily for St. Mary's Bay, an area where a substantial recent effort of gillnet fishing was beginning. The catch estimated to occur in 1980 could not possibly be a sustained take. Observations from fishermen in St. Mary's Bay during 1986 of substantially reduced by-catch could be explained by depletion of stock in that area due to the extremely large earlier catches. While these observations are anecdotal, additional study of the harbor porpoise by-catch in Newfoundland and Labrador would certainly appear warranted.

STRANDINGS

Over the past years there have regular ice strandings of blue whales along the Southwest during February-April. This year 6 blue whales were ice entrapped, 5 of the animals died as a result of entrapment. Such a loss may represent a significant problem for the current population which inhabits the Gulf of St. Lawrence during late winter and spring. It is also a serious management problem. Just the removal of the animals to areas of the coast where they would not offend human populations cost the provincial Department of Environment dearly. (C. Strong, pers. comm.). Even after removal, there were frequent complaints from residents and shipping interests (Table 9).

Because of the regularity of this occurrence and the need to manage blue whales well for conservation reasons, the population of blue whales which reside in waters off the South and Southwest Coasts in late winter and early spring should be immediately studied. Individual blue whales can be reliably identified by photographs of the pigmentation pattern around the dorsal fin and there is a substantial catalogue of identified individuals for blue whales in the Gulf of St. Lawrence (R. Sears, pers. comm.). This will provide a good starting point for mark-recapture census work and basic investigation of this population.

RECOMMENDATIONS

1. Given the continued need for entrapment assistance as evidenced by the number of animals entrapped, fishermen's support for the entrapment assistance program, and its effectiveness in reducing whale mortality and gear and down-time losses, the entrapment assistance program should be continued.
2. Research Branch personnel have become more involved with the entrapment assistance program and with whale work on-going at Memorial University. Their continued involvement should be encouraged.

3. The process of issuing permits for investigations of cetaceans and dealing with entrapped or stranded cetaceans remains informal. The process of issuing permits should involve review by Research Branch personnel.

4. An immediate investigation of winter and spring populations of blue whales along the South and Southwest Coasts is needed and should be supported by Fisheries and Oceans.

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TABLES & FIGURES

Table 1:

Humpback whales (*Megaptera novaeangliae*) reported entrapped in fishing gear during 1986

Date	Location	Gear	Details
17 June	Gaskiers, S.M.B.	Codtrap	Released alive.
18 June	North Harbor, S.M.B.	Codtrap	11.5m female. Removed dead.
20 June	Lower Is. Cv., C.B.	Codtrap	Released alive.
26 June	Pouch Cove	Codtrap	Released alive.
27 June	Flatrock	Codtrap	Humpback held in trap several hours. Finally self release alive.
28 June	Small Point, C.B.	Codtrap	Released alive.
28 June	Flatrock	Codtrap	Released alive.
30 June	Ferryland	Codtrap	Very large humpback. Released alive.
30 June	Flatrock	Codtrap	Self release alive after half-day entrapment.
30 June	Leading Tickles, N.D.B.	Codtrap	Dead 8.5m male humpback. Examined by Lien.
1 July	Cooks Harbor, G.N.P.	Gillnets	Whale towed nets off. Later (4 July) caught in Noddy Bay.
3 July	S.E. Bight, P.B.	Gillnet	Whale towed off gear. Finally self released alive.
4 July	Noddy Bay, G.N.P.	Gillnets	Whale towing gillnets. By time it was released it had caught approx. 50 nets.
8 July	Carmenville South	Gillnets	Released alive. Tagged with satellite tag by Mate & Lien.

9 July	Musgrave Harbor, B.B.	Gillnets	Whale towed nets off.
10 July	Bonavista, B.B.	Gillnets	Released alive.
12 July	Musgrave Harbor, B.B.	Codtrap	Released alive.
13 July	Musgrave Harbor, B.B.	Gillnets	Released alive by fishermen but towing gear.
13 July	Bonavista B.B.	Codtrap	Released alive.
14 July	Trinity, T.B.	Codtrap	Self release
15 July	Musgrave Harbor, B.B.	Gillnets	Released alive. Probably same animal released by fishermen on 13 July but towing gear.
15 July	Musgrave Harbor, B.B.	Gillnets & codtrap	Probably animal that towed gear off 10 July. Dead 9.1m female taken from trap.
18 July	Gaskiers, S.M.B.	Codtrap	9.4m female. Dead. Examined by Lien & Breeck
20 July	Lawn	Codtrap	In box of trap. Self release but tore side net from trap & towed off.
22 July	St. Lawrence	Gillnets	Released alive. Est. 10m female. Altruistic displays by second whale during release.
24 July	Griquet	Codtrap	Released alive.
25 July	Griquet	Salmon net	Self release after 24 hr entrapment. Towed off most of net.
25 July	St. Brides, P.B.	Gillnets	Whale had gillnets from several fishermen on it. Released alive.
31 July	Griquet	Codtrap	Released alive.
11 Aug	St. Brides, P.B.	Gillnets	Whale released alive towing gear. (1)

12 Aug	St. Brides, P.B.	Gillnets	Fishermen cut off 5 gillnets but whale towed off several. (1)
13 Aug	St. Brides, P.B.	Gillnets	Humpback observed in gillnets. Towed gear off. (1)
22 Aug	St. Brides, P.B.	Gillnets	Humpback observed in 7 net fleet. Other gear also on whale. Released.
9 Sept.	Camp Islands Labrador	Gillnets	Whale observed towing gear off. No further reports.

(1) Although it is impossible to verify positively, it seems likely that gillnet entrapments in St. Brides from 11-22 Aug involved the same whale.

Table 2:

Minke whales (*Balaenoptera acutorostrata*) caught in fishing gear during 1986.

Date	Location	Gear type	Details
14 June	St. Brides, P.B.	Codtrap	Released alive.
15 June	Mortier	Salmon net	Released alive.
15 June	North Harbor, S.M.B.	Salmon net	Released alive.
28 June	Renews, S.S.	Codtrap	7.4m male. Dead. Examined by Lien.
28 June	Twillingate	Codtrap	7.2m female. Dead.
15 July	Westport, W.B.	Salmon net	4m (est) Sex? Dead.
17 July	Bonavista, B.B.	Gillnet	Dead. Est. 6-7m. Sex?

Table 3:

Misc. cetaceans reported caught in fishing gear during 1986.

Date	Location	Species	Details
15 June	Renews, S.S.	Harbor porpoise (Phocoena phocena)	Caught in codtrap. Dead.
18 June	Riverhead, S.M.B.	3-Harbor porpoise	C a u g h t i n groundfish gillnets. Dead.
25 June	Bauline, C.B.	Harbor porpoise	Caught in salmon net. Dead.
25 Aug	Stephenville	3-White beaked dolphin (Lagenorhynchus albirostris)	Caught dead in groundfish gillnet.

Table 4:

Unidentified cetacean species caught in fishing gear during 1986

Date	Location	Details
1 July P.B.	S.E. Bight,	"Large whale" caught in gillnet. Self release alive.
23 July	St. Vincent's	A "medium sized" whale or shark caught dead in codtrap. Animal 'rolled out' and sunk as trap was hailed.
25 July	Camp Islands, Labrador	2 dolphins (unidentified species) caught in salmon nets. Likely were White-beaked dolphins. Dead.
29 Sept.	Ship's Cove, P.B.	"Large whale" towing fishing gear. Sighted repeatedly by fishermen 29 Sept. No further reports.

Table 5:

Basking sharks (*Cetorhinus maximus*) caught during 1986

Date	Location	Details
26 June	Francois	Caught in salmon net.
5 July	Keels, B.B.	Caught in codtrap. 7.75m male.
8 July	Harbor Breton	Caught in salmon net.
9 July	Dildo, T.B.	8m male caught in codtrap. Liver weight 706kg.
12 July	Portugal Cove, C.B.	7.5m male in salmon net. Liver weight 706kg.
13 July	Witless Bay	8.25 female caught in codtrap. Liver weight 799kg.
15 July	Heart's Desire, T.B.	Liver weight 691kg.
17 July	Wareham, B.B.	Caught in codtrap.
17 July	Kelligrews, C.B.	Caught in codtrap.
8 Aug.	Torbay	8.5m male caught in codtrap. Liver weight 866kg.
20-30 Aug.	Twillingate, N.D.B.	4 caught in groundfish gillnets and released dead.
24 Aug.	Jenkins Cove, N.D.B.	9m shark in gillnets.
25 Aug.	New Harbor, T.B.	7m female in gillnets. Liver weight 473kg.
6 Sept.	Twillingate, N.D.B.	8.4m male

Table 6:

Misc. species of shark reported caught during 1986.

Date	Species	Location	Gear
15 Aug	1-2.5m Blue (Prionace glauca)	St. Brides, P.B.	Groundfish gillnet
17 Aug	1-2m Porbeagle (Lamna nasud)	Too Good Arm, N.D.B.	Groundfish gillnet
20 Aug	1-2m Blue	Portugal Cove, C.B.	Groundfish gillnet
22 Aug	1-2.5m Blue	St. Brides, P.B.	Groundfish gillnet
3 Sept.	1-3.5m Greenland (Somniosus microcephalus)	Too Good Arm, N.D.B.	Groundfish gillnet
11 Sept.	11-3-4m Greenland	Hopedale, Labrador	Groundfish gillnet
12 Sept.	2-3m Greenland	Hopedale, Labrador	Groundfish gillnet
12 Sept.	1-4.25m Greenland	Port Saunders	Groundfish gillnet
2 Oct.	1-4m Porbeagle	Pouch Cove	Groundfish gillnet

Table 7:

Leatherback turtles (*Dermochelys coriacea*) reported during 1986.

Date	Location	Details
5 Aug	Bay Bulls	Caught in gillnets. Released alive. Photographed by fishermen.
5 Aug	St. John's	Reports to M.U.N., D.F.O. and Provincial Wildlife of turtle swimming in St. John's Harbor. I.Ni of D.F.O. & J. Brazil of Wildlife checked harbor same day of reports but could not find it.
11 Aug	St. Brides, P.B.	Caught in gillnets. Released alive.
17 Aug	Garnish, F.B.	Caught dead in groundfish gillnet. Dissection by G. Geough & G. Stensen of D.F.O.
21 Aug	Counche, W.B.	Leatherback caught in groundfish gillnets. Towed to shore & weighed (1145 lb.). Released alive.
22 Aug	St. Brides, P.B.	Leatherback sighted free-swimming 10km off shore. Lots of jellyfish in area. Photographed by Lien.
25 Aug	Twillingate, N.D.B.	Free-swimming leatherback sighted.
28 Aug	Ships Harbor, Labrador	Leatherback sighted free-swimming around boat.
1 Sept	Grand Beach, F.B.	Leatherback caught in herring net. Released alive.
6 Sept	Postville Labrador	Leatherback caught in salmon net. Estimated by fishermen to be 8 ft. long. Released alive.
Week of 8-12 Sept	Percell' Harbor, N.D.B.	Three free-swimming leatherback turtles sighted together repeatedly.
12 Sept	Flower's Cove, G.N.P.	Leatherback caught and weighed (620lb.) Released alive.

- 19 Sept Morton's Harbor, N.D.B. Leatherback (est. 700lb) caught in groundfish gillnet. Released alive.
- 19 Sept Twillingate, N.D.B. 1.5m female caught dead. Disected by J. Lien.
- 24 Sept Sibley's Cove, T.B. Free swimming leatherback sighted. Not likely same animal later caught.
- 24 Sept Sibley's Cove, T.B. 1.5m male leatherback caught in groundfish trawl. Temperature experiments by Geogh, Stenson & Lien.
- 24 Sept Bay de Verde Free-swimming leatherback sighted in Baccilieu Tickle.
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Table 8:

Misc 'odd' species reported during 1986.

Date of Report	Species	Location	Note
28 July	Giant squid (Architenthalis)	Bristols Hope, C.B.	Too decomposed to be valuable. Reported to F.A. Aldrich - M.U.N.
24 Sept.	'Goose' fish (Lophiidae spp.)	Twillingate, N.D.B.	Collected for M.U.N. M.S.R.L.
26 Sept.	'Goose' fish	Hans Harbor, T.B.	Held by local DFO field officer.
18 Oct.	Sturgeon (Acipenser oxyrinchus)	Dildo, T.B.	Caught alive in groundfish gillnet. Released alive.

Table 9:

Ice strandings reported during 1986

Date	Animal	Status	Location	Notes
13 March	22m Blue male (Balaenoptera musculus)	dead	Penquin Is.	Examined by J. Lien. Later Photographed by B. Bell & W. Hickman. Reported and photographed 3 May in Grand Brit by J. Pratt.
20 March	23m Blue female	dead	Port aux Basque	Examined 25 March by J. Lien & G. Stensen.(1)
20 March	22m(est) Blue sex?	dead	Port aux Basque	Examined 25 March by J. Lien & G. Stensen.(1)
20 March	23m Blue sex?	dead	Port aux Basque	Examined 25 March by J. Lien & G. Stensen.(1)
20 March	18.5m est blue sex?	dead	Port aux Basque	Examined 25 March by J. Lien & G. Stensen.(1)
24 March	Blue, large, sex?	alive	Isle aux Mort	Viewed by M. Best & D.F.O., Port aux Basque.

(1) Later reported 3 and 16 July, 23 and 25 Aug.

Table 10:

Stranded cetaceans reported during 1986

Date	Location	Species	Details
21 April	Stephenville	Humpback (<i>Megaptera novaeangliae</i>)	Grounded for several hours on Long Point, Port aux Port Peninsula. Self release at high tide. No ice. May have been injured.
2 July	Point La Haye, S.M.B.	White beaked dolphin (<i>Lagenorhynchus albivostris</i>)	One female. Died during birthing. Examined by Lien & Breeck. Skull collected.
7 July	St. Lawrence	Unidentified	Large dead whale floating 40km off St. Lawrence at 46' 09N; 55' 36W. On 14 July reported at 46' 28N; 55' 00W.
10 July	Nain, Labrador	Beleuga (<i>Dolphinapterus leucas</i>)	Whale hunted, killed, and used for food by locals.
12 July	Roddickton	Humpback	Dead humpback found in area. Towed to shore and grounded by fishermen.
20 July	Twillingate, N.D.B.	Unknown	"Very large" dead whale reported floating in area reports from Coast Guard, fishermen, and D.F.O.
15 July	Postville Labrador	Narawal (<i>Monodon monoceros</i>)	Est. 3.75m male with 2.75m tusk. Collected by Nfld. Provincial Museum.
21 July	Triton, N.D.B.	Humpback	Large dead female floating off Triton Harbor.
17 Aug.	Valleyfield, B.B.	Humpback	10.5 est. female floating near community.
19 Aug.	Stephenville	Beleuga	6m est. female floating near Kippens River on Sandy Point.

21 Aug.	Stephenville	White-sided dolphin (Lagenorhynchus acutus)	2.4m female.
25 Aug.	Stephenville	3-white beaked dolphins	Floating near shore. Fishermen believe these are same he caught in gillnets and released dead.
29 Aug.	Carmenville	6-North Sea beaked whales (Mesoplodon gidens)	Mass stranding-3 dead; 3 disappear alive. Examined by Lien & Breeck. Skulls & skeleton collected for National Museum of Canada
1 Sept.	Camp Islands, Labrador	Humpback	Floating dead. Verified by Coast Guard. Not examined.
9 Sept.	Roddickton	Fin (Balaenoptera physalus)	Live animal (est. 19-20m) in Bide Arm near shore "very passive" Last seen 12 Sept. further out of Arm & very active.

Table 11:
Summary of sighting cruises

Dates	Vessel	Observer(s)	Area	Sightings
5 May	Zodiac	Lien, Breeck	Conception Bay	No whales seen.
13 May 2 June	Gadus Atlantica	Breeck	S.W. Shoal	32 sightings. Mostly humpbacks.
11 June	Zodiac	Lien, Breeck, Stensen.	St. Mary's Bay	8 Minke
13 June	Zodiac	Lien, Breeck, Gruchy	Witless Bay	1 Humpback
7 Aug.	Zodiac(s)	Lien, Mate	St. John's- Conception Bay	No whales seen.
14 Aug.	Zodiac	Lien, Ni, Stensen	Placentia Bay	15 fin, 2 humpbacks, 25 white-sided dolphins, 1 minke, 1 unidentified dolphin.
20-22 Aug.	Topsail Star	Pinsent	St. John's- Nain-Lewisport	22 sightings

Table 12:
Unusual cetacean sightings during 1986

Date	Location	Species	Details
27 May	St. Carroll's	Beluga (Delphinapterus leucas)	Repeated sightings reported.
31 May	Glover's Harbor, N.D.B.	Beluga	In area, right near shore for a day. Last sighted alive 1 June. Then disappeared.
10 July	Nain, Labrador	Beluga	Hunted and killed.

Table 13:
Whales reported entrapped in fishing gear (1979-1985).

Species	Status on Release	Year							
		1979	1980	1981	1982	1983	1984	1985	1986
Humpback	Alive	34	44	23	31	30	20	44	31
	Dead	13	17	8	4	5	6	8	2
Fin	Alive	4	1	0	0	0	0	0	0
	Dead	3	2	1	0	0	0	0	0
Minke	Alive	1	3	3	4	7	2	2	4
	Dead	9	9	8	5	4	6	7	3
Other	Alive	6	11	11	14	14	6	8	2
	Dead	5	4	49	15	1	4	9	6

Table 14:

Reported and estimated humpback whale entrapments and fishing gear damage (1979-1985). Estimated figures are the actual reported values corrected for a tendency to under-report incidences (Lien et. al., 1981). Data for 1979-1980 is from Lien, 1980; 1981-1985 data is from Lin et. al., 1981; 1982; 1983; 1984; 1985.

Year	N Reported Humpback Entrapments	N Reported Collisions	Estimated N of Humpback Entrapments	Gear Losses Reported (in \$)
1979	47	441	72	384,298.
1980	51	813	76	381,154.
1981	31	238	34	79,574.
1982	35	174	38	71,200.
1983	35	387	38	66,544.
1984	26	268	29	81,628.
1985	52	255	57	67,830.

1985