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Fisheries and Oceans
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MARINE MAMMAL RESPONSE PROGRAM ANNUAL REPORT 2010-2011



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Photo Credit: Gregory Smith (Cover)

Overview

There is a wide range of human activities that impact on marine mammals and there is an expectation that Fisheries and Oceans Canada (DFO) has the responsibility to aid marine mammals in distress, particularly when they are listed under the Species at Risk Act (SARA). In collaboration with conservation groups and non-governmental organizations, the Department supports marine mammal incident response networks in all DFO regions under the umbrella of the Marine Mammal Response Program (MMRP).

Each DFO region has their own unique program which reflects the diversity of Canada's three coasts. In addition to marine mammal response services, information is also collected by the program to provide insight on the types and magnitude of threats faced by marine mammals. This program facilitates the implementation of SARA by meeting legal requirements for 20 listed populations of marine mammals and sea turtles.

Overall, the Marine Mammal Response Program works with partners to:

- Track and respond to marine mammal entanglements, strandings (dead & live), ship strikes, contaminated animals (oiled), and other threats;
- Quantify threats affecting marine mammal species, with a special focus on species assessed as at risk;
- Provide data and information to support Species at Risk recovery planning initiatives, mitigation options, and policy development; and
- Coordinate with Conservation and Protection on enforcement cases.

Summary of activities

The 2010-2011 fiscal year was the third year for the Marine Mammal Response Program. This program's continual development has led to many great rescues and strongly contributes to the current and future conservation of marine mammal species. Several DFO regional staff were invited to International workshops to share their extensive knowledge of marine mammal response programs. A representative of the Marine Mammal Response Program in the Newfoundland and Labrador region participated in an International Whaling Commission (IWC) workshop on welfare issues associated with the entanglement of large whales. Discussions focused on entanglement effects and disentanglements of large whales including data collection and reporting methods. A Pacific representative participated in a National Oceanic and Atmospheric Administration (NOAA) cetacean entanglement mitigation innovations workshop.

There were 71 marine mammal and marine turtle necropsies conducted this year across Canada. Samples collected from carcasses contribute to various research programs and provide insight on known and potential threats to marine mammals and sea turtles by identifying causes of death and information on pathogens. The Maritimes region conducted 4 full necropsies which included a leatherback turtle, North Atlantic right whale and harbour porpoise. The Gulf region conducted one necropsy on a leatherback turtle. In the Newfoundland and Labrador region, 2 necropsies were conducted on leatherback turtles. In the Quebec region, necropsies were conducted on 11 beluga carcasses and 9 rorquals. In Central & Arctic region, DFO staff and community partners logged 8 cetacean carcass reports (6 bowheads, 1 beluga and 1 sperm whale), 2 beluga entrapment reports, and 1 bowhead entanglement. Where possible, response teams measured and sampled these carcasses. In addition, samples of approx 70 ringed seals were collected, in response to several community reports of abnormal ringed seals in Hudson Bay. In the Pacific region, 33 necropsies were conducted for: 1 killer whale, 1 fin whale, 28 harbour porpoise, 1 Steller sea lion and 2 sea otters. Examinations revealed that 25% of the harbour porpoises died due to predatory attacks, while others exhibited signs of blunt force trauma, malnourishment, infections, fisheries by-catch, or resident killer whale "smothering". A more formalized effort for collecting necropsy samples was established in the Pacific region to assist Science in collecting DNA from all stranded cetaceans and collecting cetacean stomach contents for diet analysis.

The Marine Mammal Response Program continues to grow in every region across Canada. The effort can be seen through the increasing public awareness and appearances (video clippings) in the media. Several media stories arose from response efforts, publicly highlighting the positive efforts of the program. Also, a total of 23 new responders were recruited to the Pacific Marine Mammal Response Program network in 2010-2011 and the regional network now includes over 250 volunteer responders. The Newfoundland and Labrador region promoted participation in their stranding network by widely distributing information brochures on the Marine Mammal Response Program which will continue to enhance participation and provincial coverage of the network. In the Gulf and Quebec regions, Conservation & Protection Officers have been trained on disentanglement techniques and obtaining additional first response tools. Moreover, the Quebec Marine Mammal Emergency Response Network has updated their cetacean disentanglement protocol and improved communication tools to keep partners and volunteers informed, on a weekly basis. In addition to its ongoing response activities, Central & Arctic region participated in new regional initiatives to standardize sampling protocols for Arctic whale health assessment, and to collect Traditional Ecological Knowledge (TEK) related to historic Arctic cetacean entrapments. Finally, collaborative work continued between Gulf and Maritimes regions and with Non-Governmental Organisations such as the Marine Animal Response Society (MARS), to put together a marine mammal stranding and identification booklet for first responders in those regions.

Response Information

A total of 994 marine mammal incident reports were received across Canada in 2010-2011. The response rate to incidents improved from 54% to 76% between 2009-2010 and 2010-2011 (see Table 1). This increase in the response rate demonstrates that with growing awareness and growing numbers of volunteers, the program

continues to develop and maintain its capacity. Marine mammal species responded to this fiscal year included: blue whale, humpback whale, fin whale, sei whale, Pacific grey whale, killer whale, North Atlantic right whale, bowhead whale, beluga whale, sperm whale, white-sided and white-beaked dolphins, harbour and dall's porpoises, ringed seal, Steller sea lions and sea otters. Although not a marine mammal, leatherback turtles are listed under the Species at Risk Act and the program also responds to its entanglements.

Not all reports were investigated in the field, but significant efforts were made to follow-up with as many reports as possible. In 2010-2011, 76% (n=752) of reported cases were investigated through comprehensive interviews with incident observers or with direct on-scene responses. The type of response is determined by regional priorities related to SARA listing status, accessibility, risk to responders, and likelihood of success. In some cases an on-scene response is not possible because the window of opportunity to respond is limited (disturbance or depredation) or the animal/carcass can not be re-sighted. As an example, in the Québec region, 174 incidents of the 280 (62%) required response in the field. In the Newfoundland and Labrador region, prior to 1992, the disentanglement assistance team dealt almost entirely with inshore incidents. Today, however, entanglements are reported both inshore and offshore improving the reach of the Marine Mammal Response Program. Responding to large whales entangled offshore or in remote areas is particularly challenging as a quick response time by a well trained quick response cetacean disentanglement team is a key factor in the success in relocating and disentangling a free swimming whale.

SARA Specific Responses

SARA species represented 31% of the total national number of responses (see Table 1). In the Pacific region, 25% of all marine mammal responses involved Species at Risk and of the 77 cetacean responses, 82% of those involved Species at Risk. In the Québec region, 37% of the responses to marine mammals were for Species at Risk and of the total 71 responses to cetaceans, 92% were for Species at Risk. In the Gulf region, 30% of the total responses were for Species at Risk. In the Maritimes region, 36% of cetacean and turtle responses were for Species at Risk. In Central & Arctic, 63% of all MMRP responses involved SARA species. Finally, in the Newfoundland and Labrador region, 75% of cetacean responses and 74% of all responses were for Species at Risk.

Table 1 - Summary of reports received and responses to marine mammals in each region for the 2010-2011 fiscal year.

Region	No. Reported	No. Responded	% Responded	% SAR responses
Pacific	537	459	85.47	24.84
Central & Arctic	16	12	75	58.33
Québec	280	174	62.14	37.36
Gulf	10	10	100	30.00
Maritimes	109	55	50.46	25.45
Newfoundland & Labrador	42	42	100	73.81
National Totals	994	752	75.65	31.12

Threats

Although important efforts to provide assistance and response to marine mammals are seen within this program, entanglements and entrapments remain a major threat for the majority of cetaceans whether SARA species or not. The Marine Mammal Response Program is currently the only threat assessment and mitigation tool for marine mammals - which are the majority of marine species listed under SARA.

In the Pacific region, entanglements comprised 58% of all confirmed 2010-11 human interactions (HI). Humpback whales were the most frequently reported entangled cetacean. A total of 42% of all HI were attributed to

SARA species. This is of particular interest because SARA species are fewer in number and less common than other non threatened species. In the Newfoundland & Labrador region, at least 81% of the responses to Species at Risk (n=31), involved entanglements in fishing gear. In the Quebec region, 3% of reports were for accidental bycatch. In the Central and Arctic region, cetacean entrapments and net entanglement comprised 12.5% and 6.25% respectively. In the Gulf region, incidents involving entanglements and strandings were comparable to past numbers where an average of 2 to 3 incidents required rescue efforts.

In the Québec region, 83% (n=101) of the reports for cetaceans were for cases of dead animals. In Central & Arctic region, reported events involving cetaceans were mainly for carcass and represented 73% of the cases. In Pacific region, 48% (n=277) of all reports were of dead animals.

Funding

The budget for the Marine Mammal Response Program comes from three main sources: SARA (40%), Other DFO sectors (32%) and External organizations (28%), as shown in table 2. External organizations are both governmental and non-governmental such as the Marine Animal Response Society, the New-Brunswick Museum, the Atlantic Veterinary College, the Vancouver Aquarium, the Cetus Conservation Research Society and Parks Canada.

In the DFO regions, funding is used for call centres, marine mammal disentanglement kits, rescue pontoons and response training, seal relocation devices, necropsies, community outreach, the maintenance of data and even responses where animal cannot be relocated.

Table 2 – Summary of funding and estimated in-kind contributions for the implementation of the Marine Mammal Response Program in the 2010-2011 fiscal year.

Total Cost of MMRP (\$)	SARA Funding (\$)	% SARA Toward Overall Cost	Other DFO Contribution (\$)	% Other DFO Toward Overall Cost	*External Contribution (\$)	% External Toward Overall Cost	% DFO & External Toward Overall Cost
1 180 838	475 000	40	375 258	32	329 580	28	60

Plans/Priorities for 2012-2013

The Marine Mammal Response Program is supported by the Department across Canada, and priorities vary among regions.

One of the main priorities next fiscal year in all of the regions is training and increasing regional capacity for response. The Quebec region plans to train another 60 voluntary workers/veterinarians in the Gaspésie Lower St-Lawrence, North Shore and Magdalene Islands areas in order to support the Fishery Officers who are the primary responders. In the Newfoundland & Labrador region, the three main priorities will be: promoting and facilitating Fishery Officer training; being prepared and equipped to act as first responders to entrapment incidents; and safely assisting expert contractors with release of entrapped and stranded marine mammals and sea turtles. The Pacific region hopes to explore options for how best to expand disentanglement capabilities coast-wide. As for Central & Arctic region, it will continue to provide communities with local information on marine mammal incidents by re-distributing kits of prepared documentation and sampling materials, and will continue collaborations with regional initiatives in support of Arctic marine mammal health assessment, and Traditional Ecological Knowledge of Arctic cetacean entrapments. The Maritimes region plans to develop a sample kit to properly sample and collect data from carcasses. As for the Pacific region, a technical report summarizing the MMRP data is planned and will focus on the analysis of anthropogenic threats to SARA species.

Finally, continuous support of, and collaboration with, local groups is a priority in all regions in order to contribute to the effective and successful implementation of the Marine Mammal Response Program in 2012-2013.