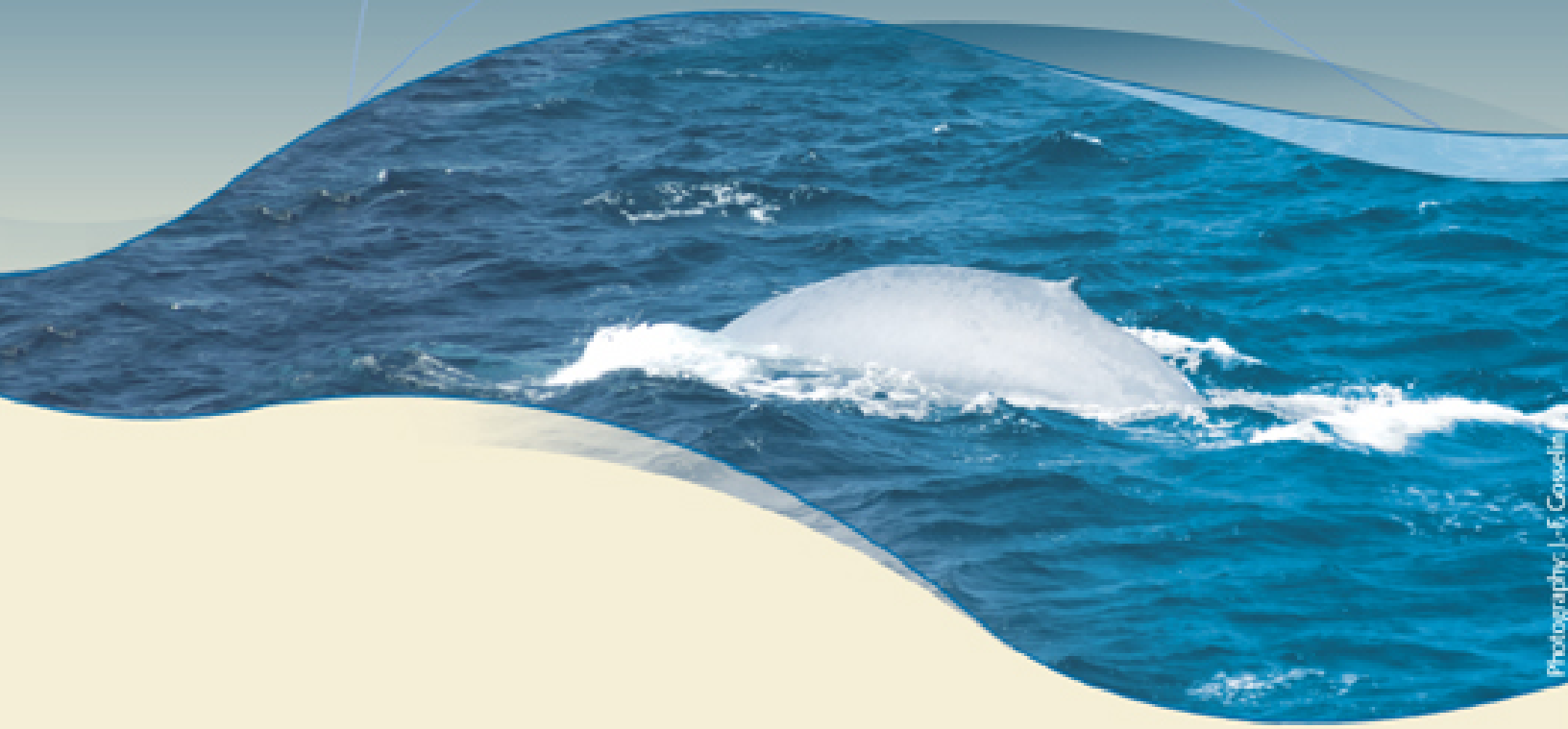
Consultation Workbook regarding the addition of the Blue Whale

(Atlantic population)

to the List of Wildlife Species at Risk

under the *Species at Risk Act*.

May 2004



Photography: J.-F. Gosselin

Fisheries and Oceans Canada
Pêches et Océans Canada

Canada

Preamble

Your opinion is being sought by the Canadian Government in order to make an informed decision concerning the addition of the Blue Whale to the "List of Wildlife Species at Risk", as presented in Schedule 1 of *the Species at Risk Act* (SARA).

The status of the Blue Whale (Atlantic population) was reviewed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) in May 2002. Since the COSEWIC has designated the Blue Whale as being "endangered", the Minister of Fisheries and Oceans must now decide whether to recommend that the Governor in Council adds the species to the List of Wildlife Species at Risk. Before deciding how to proceed, the federal government wishes to consult Canadians, particularly those directly concerned, to obtain their opinion in order to properly determine the social and economic impacts, both positive and negative, of the addition of the Blue Whale to the List of Wildlife Species at Risk. This consultation workbook was therefore designed with this objective in mind.

We encourage you to answer the questions (any or all) at the end of this workbook. We also invite you to add any comment you consider relevant. You can be assured that your answers and comments will be taken into consideration in the decision-making process. To make sure your comments are considered, responses are required before:

June 14 2004

You can download a copy of this consultation workbook and find additional information regarding SARA at the following Internet address:

http://www.sararegistry.gc.ca

1. The Species at Risk Act

A large variety of wildlife species inhabit Canadian lands and waters. Unfortunately some of them are in danger of disappearing. The Canadian government has therefore seriously committed to protecting them, particularly by adopting the *Species at Risk Act* (SARA) in June 2003, as part of its Endangered Wildlife Species Protection Strategy.

This Act provides a legal framework for adopting measures, throughout Canada, that will ensure the survival of wild animal and plant species and protect our natural heritage. This Act also establishes the criteria being used to determine which species must rapidly become the focus of recovery measures, and the methods to implement recovery in order to protect them. Finally, this Act establishes guidelines for cooperation between governments, organizations and individuals, and provides sanctions for offenders.

Environment Canada is responsible for the overall implementation of SARA. Fisheries and Oceans Canada has the responsibility for aquatic species at risk, except for individuals located on territories managed by Parks Canada (national parks, national historical sites, national marine conservation areas, and other protected heritage sites).

Since no single organization or entity can, on its own, take on the responsibility of ensuring the survival of a species, the effectiveness of the new Act will depend on everyone's goodwill to ensure the survival of all species at risk. With this in mind, SARA requires, at several steps throughout the process, that the federal government consult provincial and territorial governments, First Nations, landowners, resource users, and the general public.

This workbook was developed to assist Fisheries and Oceans Canada with consulting with stakeholders about adding the Blue Whale (Atlantic population) to the List of Wildlife Species at Risk in Appendix 1 of SARA. This list contains the species which are protected under the Act. They are species which have been reviewed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and for which a species at risk status was given. COSEWIC designated the Atlantic population of Blue Whales as Endangered in May 2002. The reader will find more details in the following sections regarding the addition of wild species, in particular Blue Whales, to the List of Wildlife Species at Risk and its legal consequences.

1.1. The role of COSEWIC

The mandate of the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) is to assess wild animal and plant species present in Canada and assign a designation to each based on their status. The Committee is comprised of specialists working in various relevant fields such as biology, ecology and traditional native knowledge. Members of COSEWIC come from different areas, such as governments, universities, aboriginal organizations, and non-governmental organizations. They are appointed according to their expertise, and must provide independent, impartial and scientific advice and recommendations in accordance with the mission of COSEWIC.

COSEWIC assesses the biological status of wildlife species by using the best scientific and traditional knowledge available. It reviews research and takes into account aboriginal community and traditional knowledge. In its species assessment, COSEWIC uses rigorous assessment criteria based on those developed by the World Conservation Union (IUCN).

The first step in assessing the status of a wildlife species is to request a status report, which will then be reviewed by peers and approved by a sub-committee of experts on the species. During a meeting of COSEWIC members (once or twice a year), the status report is examined, and discussions are held in order to determine whether the species is at risk, and if necessary, to provide a status designation.

The statuses provided, which represent risk level categories, are as follows:

- "extinct" species: any species that no longer exists;
- "extirpated" species: any species that no longer exists in the wild in Canada, but exist elsewhere;
- "endangered" species: any species facing imminent extirpation or extinction;
- "threatened" species: any species likely to become endangered if limiting factors affecting it are not reversed;
- "special concern" species: any species raising concerns because of characteristics that make it particularly sensitive to human activity or to certain natural phenomena.

COSEWIC submits its species assessment to the Minister of the Environment, who, in collaboration with the other competent ministers if necessary, initiates the process of adding the species to the List of Wildlife Species at Risk.

For more information, please visit the COSEWIC Web site at the following address:

http://www.cosewic.gc.ca

1.2. Wildlife species listing process

Once COSEWIC has determined that a wildlife species is "at risk", the first step to ensure its protection is to add it to the List of Wildlife Species at Risk. Otherwise, it will not benefit from SARA protection. When COSEWIC submits its assessment to the Minister of the Environment, the Minister must produce a recommendation and present it to the Governor in Council (GIC). Within nine months of receiving the COSEWIC assessment (from the Minster of the Environment), GIC must react to the report and recommendation in one of the following ways:

a) accept the assessment and add the species to the List of Wildlife Species at Risk;
b) decide not to add the species to the List of Wildlife Species at Risk;
c) refer the matter back to COSEWIC for further information or consideration.

After nine months, if the Governor in Council has not taken any decision, the Minister or the Environment will have to add the species to the List of Wildlife Species at Risk, according to the COSEWIC assessment.

The Governor in Council's decision will initially be based on the opinion of COSEWIC, which is based on the biological status of the species. However, in order to make an informed decision, the Government of Canada must assess other factors such as the social and economic impacts

that could occur from adding a species to the List of Wildlife Species at Risk. This consultation is an opportunity for concerned Canadians to express their point of view and voice their concerns on this subject.

Once a species is listed as “extirpated”, “endangered” or “threatened”, two processes are triggered. Initially, a series of prohibitions are adopted to protect the species, and order to begin its recovery, a recovery strategy and a plan are developed. In the case of “special concern” species, a management plan must be developed.

1.3. Protection

Under the terms of SARA, Fisheries and Oceans Canada must ensure the protection of all aquatic species at risk. When a species is added to the List of Wildlife Species at Risk with an “extirpated”, “endangered” or “threatened” status, prohibitions are automatically applied. The Act prohibits the killing, harming, harassing, capturing or taking of any individual belonging to that species. It also prohibits people from possessing, collecting, buying, selling or trading individuals of a species at risk. As well, the Act prohibits the damage or destruction of the residence or any part of the species’ critical habitat, as defined within a recovery strategy or an action plan.

It should be noted that these prohibitions, which will come into effect June 1st 2004, do not apply to “special concern” species. For aquatic species, exceptions to these restrictions may be authorized by the Minister of Fisheries and Oceans, as long as the survival or recovery of the species is not jeopardized. The Minister may conclude agreements or issue licences only if he considers that the activity concerning a listed species 1) represents scientific research related to the conservation of the species, 2) is beneficial to the species or increases its chances of survival, or 3) if it only affects this species in an incidental way. Furthermore, the competent minister must be of the opinion that a) all reasonable alternatives have been considered and the best approach adopted, b) all feasible measures will be taken to minimize impacts and c) the activity will not jeopardize the survival or recovery of the species.

1.4. Recovery planning and management plan

The goal of the recovery process for “extirpated”, “endangered” or “threatened” species is to reduce the causes of decline for that species by putting emphasis on stewardship and public awareness among others. First, a recovery strategy is prepared. It contains recovery objectives and strategies that are developed according to the threats the species is facing. Thereafter, an action plan is developed, which details the actions flowing from the recovery strategy.

The recovery of a species requires planning and teamwork. The competent Minister must gather the people, organizations and jurisdictions who share an interest in the species (i.e. federal government ministers, provincial or territorial governments in charge of the territory where the species is located, wildlife resource management boards, First Nations organizations, landowners and other people likely to be interested in the recovery of the species). These people will be consulted during development of the recovery strategy. Planning for recovery is a continuous process; the competent minister must report on the implementation of the recovery strategy, and the progress made towards meeting its objectives every 5 years.

Furthermore, a recovery strategy and an action plan must identify to the extent possible the species' critical habitat, as well as activities that are likely to destroy it. When the knowledge available on this habitat is inadequate, the strategy will have to establish a research schedule in order to fill the gaps. Once the critical habitat has been identified and described in a recovery strategy or action plan, it becomes illegal to destroy it.

In the case of a "special concern" species, a management plan is developed which must include measures for the conservation of the species and its habitat. Management plans are developed in collaboration with qualified provincial or territorial ministers, federal ministers, wildlife resource management boards, and any other relevant person or organization.

Once the recovery strategies, action plans, or management plans are developed, they are published on the Public Registry (see section 1.5). Anyone can make comments to the appropriate Minister in writing concerning the recovery strategy, the action plan, or the management plan for a listed animal or plant species. The general public has 60 days, after publication of the strategy or the plans in the Registry, to inform the Minister of their position.

1.5. Public Registry

The SARA Public Registry, available on the Internet, is a complete source of information on topics covered by the Act and which offers access to public records concerning the administration of SARA. It is a key instrument in allowing the government to respect its commitment to support public contribution in the environmental decision making process.

The Registry includes various documents, such as regulations, orders, agreements, guidelines, standards and codes of practice. Furthermore, it contains status reports, recovery strategies, action plans, as well as management plans. The Public Registry can be found at the following address:

http://www.sararegistry.gc.ca

2. Information on the Blue Whale

2.1. Where are Blue Whales found?

The Blue Whale is a pelagic cetacean that can be found in every ocean of the world, in both the Southern and Northern Hemispheres. Two distinct populations spend time in Canadian waters: one in the Pacific and the other in the Atlantic.

While our knowledge of the migration behaviour of Blue Whales is limited, particularly in offshore waters, there are some generalisations that can be made. As of January, Blue Whales of the northwest Atlantic population have been seen in the Cabot Straight, along the southwestern and eastern coasts of Newfoundland, awaiting the breakup of pack ice so that they can enter the Gulf of St. Lawrence. Once in the Gulf, Blue Whales proceed to the eastern tip of the Gaspé Peninsula by the end of April, and then disperse along the Gaspé Peninsula and the North Shore, close to Sept-Iles and the Mingan Islands. During the summer, a number of these whales can be seen regularly in the Estuary, at the head of the Laurentian Channel, close to Escoumins. What seems to attract Blue Whales to the coastal region of the Gulf and Estuary is the presence of upwelling areas that promote concentrations of their prey: krill. From June to November, these whales can also be seen on the Scotian Shelf and in waters around Newfoundland.

Most of the Blue Whales are thought to leave the St. Lawrence towards the end of November. However, regular sightings during winter months in certain sectors of the Estuary and Gulf (e.g., Gaspé, Sept-Iles, and Bergeronnes/Escoumins), and the periodic sightings and reports of accidental ice entrapments along the southwestern coast of Newfoundland, suggest the year-round presence of some Blue Whales in these areas.

Blue whales are also found off the eastern coast of Labrador, in the Labrador Sea and in Hudson and Davis Straits.

2.2. Behaviour of Blue Whales

2.2.1. Movement and diving

The Blue Whale can swim at speeds ranging between 5 and 33 km/h when it travels over long distances. Its speed drops to between 2 and 7 km/h when feeding, and when fleeing, it can swim at speeds reaching 48 km/h.

The diving behaviour of Blue Whales is highly variable, and it is linked to their activity pattern. Generally, 10 to 20 shallow or “surface” dives occur at 12-20 sec intervals, before the individual disappears for a deeper dive lasting 10 to 30 minutes.

2.2.2. Vocalization

Blue Whales emit low frequency sounds or songs (between 11 and 40 Hz) that are intense (up to 170-185 dB re 1 µPa – 1m) and of long duration (approximately 5 to 20 sec). These sounds can travel over distances of thousands of kilometres.

The main vocalization functions of the baleen whale family (of which the Blue Whale is a member) are generally unknown. For fin whales, which use very low frequency sounds similar

to those of Blue Whales, it is assumed that vocalizations are used to enable individuals to meet for mating. This could also be the case for Blue Whales, but this is still speculative. Blue Whales do vocalize throughout the year, and their song could have several critical purposes for the species' survival.

2.2.3. Social behaviour

The Blue Whale is generally a solitary animal, although given the distance over which their vocalizations can travel, they may remain in auditory contact. There do not seem to be any lasting associations between males and females or between mothers and their young (after weaning). At feeding sites, gatherings of several tens of animals have been reported.

2.2.4. Feeding and diet

Blue Whales have a restricted diet. They feed almost exclusively on krill. In the North Atlantic, their preferred preys are *Thysanoessa inermis, T. longicaudata, T. raschii* and *Meganystiphanes norvegica*.

A Blue Whale can ingest between 2 and 4 tons of krill per day. To do this, it is crucial that Blue Whales find and exploit krill concentrations ("patches"). Whales initially search for areas where upwellings maintain relatively high krill concentrations. Once such a site has been found, whales engage in lunge feeding behaviour, which enables them to consume a great quantity of prey in a short period of time. During lunge feeding, a Blue Whale will position itself under the zooplankton patch, and with its mouth open, will swim rapidly upwards towards the surface engulfing an enormous volume of water containing the krill. It will then expel the krill-containing water through its closed baleen plates, which act as a sieve, and then swallow the krill left in their mouth. Blue Whales can repeat this feeding cycle for hours if preys are abundant.

2.2.5. Habitat

Little is known about the habitat of Blue Whales, and what parts of their range might be considered "critical". Their restrictive diet and their method of feeding on prey patches suggest that upwelling areas are critical for the whales. Certain feeding grounds have been identified in the Estuary and the Gulf of St. Lawrence, but many still need to be located elsewhere in Canadian waters.

2.3. Why has COSEWIC given the Blue Whale endangered species status?

The Blue Whale population in the northwest Atlantic may include less than 250 mature whales, whereas it numbered in the thousands at the beginning of the 20th centuries. This major decline in population was a result of commercial whaling at the beginning of the 20th century. Although there hasn't been any hunting since 1965, it appears that very low calving and recruitment rates have produced very limited natural population increases. Currently, various manmade threats could jeopardize their recovery.

COSEWIC Assessment summary for the Blue Whale (Atlantic population) - May 2002

Common name
Blue Whale (Atlantic population)

Scientific name
Balaenoptera musculus

Status
Endangered

Reason for designation
Whaling reduced the original population. There are fewer than 250 mature individuals and strong indications of a low calving rate and a low rate of recruitment to the studied population. Today, the biggest threats for this species come from ship strikes, disturbance from increasing whale watch activity, entanglement in fishing gear, and pollution. They may also be vulnerable to long-term changes in climate, which could affect the abundance of their prey (zooplankton).

Occurrence
Atlantic Ocean

Status history
Entire Canadian range was designated as Special Concern in April 1983. Split into two populations in May 2002. The Atlantic population was up-listed to Endangered in May 2002. Last assessment based on an update status report.

2.4. What are the threats to the Blue Whale?

Because of the small size of the northwest Atlantic population, even activities affecting only a limited number of individuals could be detrimental to the health of the population. Further research is needed to better identify and understand the impacts of human activities on the population. Some of the threats that have been identified include:

- Reductions in prey abundance
- Noise
- Contaminants
- Disturbances caused by whale-watching vessels
- Collisions with vessels
- Entanglement in fishing gear

2.4.1. Reductions in prey abundance

Blue Whales feed almost exclusively on krill, which makes them particularly vulnerable to changes in the abundance or distribution of this food. Several factors could cause a decline in the availability of this prey.

Competition with other animal species could be a factor resulting in a reduction of available krill. Secondly, an eventual commercial krill exploitation could considerably draw on high krill concentrations. In fact, krill is currently of interest to the functional food (health-enhancing food) industry because of its high protein content. Finally, climate changes could alter the distribution of planktonic species such as krill (or the food of krill). Given the long lifespan and broad range of the Blue Whale, it is difficult to assess the impacts that a given amount of change in the krill resource might have for these whales.

2.4.2. Noise

Ambient noise levels in the ocean have increased significantly globally over the past century. Noise produced by commercial ships, seismic exploration, and other low frequency manmade underwater noises are likely to be detected by Blue Whales. The distance between the noise source and the animal, the emission frequency, the intensity and duration of the noise, the recurrence of noisy events, and the whale's hearing ability and degree of habituation are all factors that interact and determine the extent of the impact.

In response to noise, Blue Whales can interrupt or change their behaviour, for example by diverting their migration route away from a sound source or abandoning critical habitat. In the cases of very loud sounds, or exposure to sounds at short ranges, Blue Whales and other marine mammals could experience physical damage such as reduced hearing sensitivity. Recurring sounds, even at low intensities, could have other long-term health impacts on Blue Whales such as chronic stress. Manmade noise can also overshadow (mask) sounds that Blue Whales need to hear to breed, feed, or navigate.

Seismic exploration and petroleum and gas development

The behavioural and physical impacts on Blue Whales due to petroleum and gas exploration and development are still largely unknown. This is particularly true for long-term chronic effects such as stress, and for the cumulative impacts of multiple seismic operations or other human activities. We do know however that the noise produced during seismic exploration is of sufficient amplitude and at a frequency range that it can mask Blue Whale calls, and thus hinder communication between individual whales. The intensity and recurrent nature of seismic sounds could cause a Blue Whale to change its swim direction, or cause physical after-effects if the animal comes too close to the sound source.

Sonar and depth sounders

As elsewhere, sonar is used in the Canadian Atlantic by researchers, commercial and recreational boaters, and by the military. The impacts of sonar use on Blue Whales are unknown. However, several toothed whales and at least one baleen whale are known to have been stranded ashore following possible exposure to military sonar. The military sonar, termed LFA (Low Frequency Active) can emit very loud sound at frequencies thought to be in the best hearing range for Blue Whales (100 to 500 Hz). Determining a direct cause-and-effect relationship between exposure to sonar and whale behaviour or stranding events has not been achieved to date.

Depth sounders used for fishing represent the most frequently used audio device in many nearshore marine environments. These sounders emit a large amount of energy at frequencies of 20 - 200 kHz. Fishing sonars are functioning at typical frequencies between 20 and 80 kHz, and their transmission range can reach a few kilometres. While both of these sound sources are thought to operate at frequencies above the hearing range of Blue Whales, there have been no studies of the hearing abilities of any large baleen whale; we do not know what underwater sounds they can detect and at what sound levels they will react.

2.4.3. Contamination

Diet and seasonal migration patterns may reduce Blue Whales' long-term exposure to contaminated environments. However, studies have revealed that Blue Whales in the St. Lawrence showed higher PCB (polychlorinated biphenyl) and pesticide concentrations than other Blue Whale populations. Further studies will be needed to determine if there is a link between contaminants in Blue Whales and the apparently low reproduction rate in this species.

2.4.4. Disturbance caused by boats

COSEWIC considers the disturbance caused by the increase in whale watching activities (particularly in the St. Lawrence) as a significant threat. Whale watchers, recreational boaters, and researchers regularly follow Blue Whales. Inappropriate approaches, too many boats surrounding a whale, and harassment or chasing could modify the behaviour of one or more individuals, make them abandon an important area, and ultimately jeopardize their survival. Blue Whales appear to be particularly sensitive to this type of disturbance.

2.4.5. Collisions with vessels

Collisions with boats are known to cause injuries and death in whale populations; the case of the North Atlantic right whale is convincing. Sixteen percent of the Blue Whales sighted in the St. Lawrence have the noticeable marks on their skin that are attributable to violent impacts with vessels.

2.4.6. Entanglement in fishing gear

Blue Whales are powerful animals that rarely get entrapped in fishing nets. Despite this, since 1979, three Blue Whales caught in gillnets have drowned in the St. Lawrence. Even though these large whales are generally not immobilized by fishing nets, they can end up towing parts of the gear (e.g. cables, buoys) over long distances, or for long periods of time. In some cases, entangled Blue Whales could have difficulty moving and feeding, to the point that their survival is compromised. There are possibly more accidents of this kind than what has been recorded, so in its report, COSEWIC considers this a significant threat.

3. Overview of potential consequences for different stakeholders

This consultation workbook was designed so that stakeholders can better understand the implications of adding the Blue Whale (Atlantic population) to the List of Wildlife Species at Risk on their activities. If the species is listed, automatic prohibitions under SARA will apply. A recovery process will also be undertaken. Recovery efforts will likely involve the implementation of management measures that may have an impact on current stakeholder activities. Some examples of potential impacts are presented below. This list of measures is not extensive and it does not necessarily indicate what recovery or management measures will be put in place.

The **whale watching industry** could be subject to stricter regulations. These regulations, which could be similar to the guidelines for Marine Activities in the Saguenay-St. Lawrence Marine Park Regulations, could focus on increasing the minimum distance to be maintained between whales and boats, reducing vessel speeds near Blue Whales, or reducing the amount of time tour vessels can spend near Blue Whales.

In a similar context, **commercial or recreational vessel traffic** could be deviated from its usual routes or forced to follow a more precise navigation corridor. **Research vessels** could also be required to conform to stricter guidelines since protection of the Blue Whale could also restrict the kind of research allowed in areas that are deemed vital for this species.

With regards to **seismic exploration and oil and gas development**, different and/or more detailed guidelines could be developed: implementing partial or complete exclusion zones, temporal restrictions of exploration and exploitation activities during certain periods of the year, having automated acoustic whale detection systems, qualified marine mammals observers, or any other suitable measure.

The **fishing industry** could experience restrictions with regard to the use of certain fishing gear, or have limited access to specific sectors according to the time of year. The commercial exploitation of krill, which could potentially increase, could be limited or prohibited in certain sectors where this Blue Whale prey is abundant and are fed on by these whales.

4. Let us know what you think

Adding the Blue Whale to the List of Wildlife Species at Risk will lead to the implementation of a series of prohibitions to protect the species, and to the establishment of a recovery process that could have both positive and negative impacts for interested stakeholders.

It is now your turn to speak up! By answering the following questions before **June 14 2004**, you will ensure the federal government has a complete description and understanding of costs, advantages and impacts that the addition of the Blue Whale to the List of Wildlife Species at Risk.

How to proceed:

- You can answer the questionnaire (detachable) in the reserved space below or on separate sheets that you will send us by mail at the following address:

  Species at Risk Coordination Office
  Maurice Lamontagne Institute
  Fisheries and Oceans Canada
  P.O. Box 1000
  850 route de la Mer
  Mont-Joli, Québec
  G5H 3Z4

- Or by fax :

  (418) 775-0542

- You can also send us your answers by email at the following address:

  especesperilqc@dfo-mpo.gc.ca

Deadline: June 14 2004

For questions or comments concerning the *Species at Risk Act* or concerning this consultation process, please do not hesitate to write (coordinates above) or to communicate with us at (418) 775-0763.

Thank you!

Question 1

Describe your business line or your interest concerning the Blue Whale (e.g. fisherman, whale watching, research, etc.)

Question 2:

a) From what you know about the Species at Risk Act, do you think the addition of the Blue Whale (Atlantic population) will have a positive or negative impact on your activities? If so, how?

b) On the other hand, do you think that not adding the Blue Whale would have a positive or negative impact on your activities? If so, how?

c) According to you, can these positive or negative impacts progress with time? If so, how?

d) If you indicated negative impacts, do you have suggestions in order to minimize them?

Question 3:

a) In order for SARA to be really effective, the recovery of species at risk must be a concerted effort, carried out in collaboration with all interested parties. According to you, how can the interested parties best be involved?

b) How could you contribute to the recovery of the Blue Whale as an individual, company or institution? Can you give a few examples of activities?

Question 4:
Do you have any other comments or concerns?