

Briefing Note

Western Hudson Bay Belugas: the junction between humans, nature and law

Monim Benaissa

Over time, belugas have been an important part of the identity and daily life of Arctic Indigenous peoples. In the Churchill-Hudson Bay region, these mammals are not only a source of food, but also a component of the local economy, attracting hundreds of tourists and scientific observers each year. Unfortunately, these belugas are facing not only the effects of climate change, but also human disturbance and noise pollution, factors that negatively affect their natural habitat and population growth. This article argues that in addition to maintaining traditional Inuit values, protecting marine mammals and maintaining a sustainable tourist attraction in Hudson Bay requires the involvement of local stakeholders as well as policy makers in implementing the provisions of international and national environmental law.

Introduction

The latest news from the world of marine mammals indicates that Hvaldimir, a young male whale beluga, was found dead on the Norwegian coast on Saturday August 30, 2024. This marine mammal is reputed to be used by Russia for espionage purposes (Olsen, 2023). It should be remembered that during the Cold War, the CIA, US Navy, Soviet KGB and now the Russian Navy often trained marine mammals for military espionage (Colin, 2015: 11-21). They used sea lions, dolphins, sharks, but also belugas (Roth, 2009). Hvaldimir arrived from Russian Arctic waters and was first seen in Norwegian Arctic waters in April 2019. Norwegian marine biologists noted that he had been a trained whale accustomed to interacting with humans. Hvaldimir served as a therapy whale in Russia (Associated Press, Sunday 01 September 2024). So, since his arrival on Norwegian shores, he has attracted the curiosity of thousands of visitors in what can best be described as an unregulated tourist attraction. The human presence has put it in a dangerous situation.

Whales are divided into two main groups: baleen whales (*Mysticeti*) and toothed whales (*Odontoceti*) (Breton-Honeyman, 2021). Baleen whales are called so because their mouths contain baleen plates made of keratin that filter plankton from the water. This type of whale is distinguished by having two blowholes on top of its head, while toothed whales have teeth instead of plates, feed on fish and squid, and are distinguished by their ability to identify their surroundings using biosonar (echolocation) (Gruen, 2014: 22-33).

One of the most famous species of toothed whales are the beluga whales (*Delphinapterus leucas*). The length of the beluga whale ranges between 3.96 and 4.88 m, and its weight reaches 1590.91 kg (Bors 2021: 1263-73). Those mammals are among the most vocal whales in the world. Scientifically known as *Delphinapterus leucas*, it is also called the sea canary because of the distinctive sounds it makes. These sounds are used as echolocation to communicate with other whales and are similar to whistles, screams, or short intermittent sounds (Worden et al., 2020: 229-46).

In Canada, each summer in the second half of July and first half of August, thousands of beluga whales return to the Churchill River estuary on Western Hudson Bay, attracting tourists and scientists from around the World. But long before these captivating creatures became a global draw, the Indigenous communities in the Arctic circle and around Churchill had a deep, centuries-old interconnection with the belugas (churchillscience.ca/about/the-churchill-area/beluga-whales/).

In this context, what are the international and national legal provisions that make it possible to protect these marine mammals both against disturbance of human origin and against global warming and marine pollution?

Social ties between Canadian Inuit and Belugas

The connection between the Indigenous communities and the belugas of this region goes back several centuries, where these marine mammals having cultural and spiritual significance (Teichroeh, 2024). Belugas have always been a source of food for the Inuit. The whale oil obtained from the blubber is used for heating, lighting and preserving food. The skin is also transformed into sled dog food, and the meat into muktuk, a traditional Inuit food source (O'Crory Crowe, 2018: 1-32). The beluga is also a popular symbol of Inuit communities' attachment to the Arctic region, and the assertion of hunting rights, a practice that has continued for centuries if not since immemorial time (NAMMCO, 2018). For these communities, beluga hunting is an important part of their Arctic Inuit identity. Despite the development of hunting and fishing techniques in the rest of the world, the Inuit of Canada continue to hunt belugas using traditional, sustainable and humane methods (Tyrell, 2008: 322-32).

In recent decades, ecotourism has attracted an increasing number of tourists to Churchill to observe the belugas. This tourist activity has had an impact on the local economy, but also effects on marine biodiversity. For example, the noise pollution produced by the use of motorized vehicles disturbs the communication between these marine mammals (Halliday, 2020: 438-48).

It has become essential to think about a vision for the future, particularly by ensuring that belugas continue to live in Hudson Bay without being threatened by human presence, tourist activities, and marine pollution. Moreover, initiatives have taken place in this direction, such as a new project sponsored by Oceans North which is working to preserve this invaluable knowledge (Teichroeh, 2024). According to Ocean North, this project brings together stories and perspectives from Churchill's Inuit, Dene, Cree and Métis residents, reflecting their long-standing relationship with the belugas. This collective knowledge will be used to contemplate the past and a guide to managing the future, in a context marked by global warming and increasing human activities that continue to impact marine biodiversity (Honeyman, 2021: 1-13).

Although the hunting and fishing practices of Aboriginal peoples vary from one Arctic country to another, and have changed over time, the fundamental principles of protecting marine mammals

and sharing the harvest have remained constant (Vongraven, 2017: 149-73). Clearly, beluga whale hunting is a tradition in many of Canadian Arctic regions that share a similar history of discreet beluga hunting by groups in kayaks, without the use of shotguns (Michaud, 2007). These are Nunatsiavut, Nunavik, Nunavut and Inuvialuit (Luijk, 2022: 3-15).

The impact of human activities on Belugas and other marine mammals

Marine mammals can be categorically affected by human activities. These include the degradation and disturbance of their habitats, and the reduction of food resources. For example, heavy fishing pressure sometimes means that the biological resting period of fish is not respected, which can be detrimental to the diet of marine mammals. In addition, the use and abandonment of non-selective fishing gear and accidental catches are dangers for these marine mammals (Nama & Prusty, 2021: 34-36).

Noise pollution is also an issue for all fish species, from small invertebrates to large marine mammals. This man-made noise interferes with fish species and marine mammals, disrupting their communication and changing their migration paths. Marine mammals use sound waves to move, avoid shock, recognize each other and create social cohesion, as well as to locate and identify prey (Erbe et al., 2019: 277-309).

This is not physical pollution (industrial waste, plastics, petrochemicals), but underwater noise. It is caused by a combination of sources known as anthropogenic noise, due to the increase in maritime traffic, the development of the merchant navy, the organization of military activities, and the multiplication of tourist expeditions. Other sources include seismic and hydrographic surveys, hydrocarbon and mineral extraction, dredging, and the construction of oil, gas and port platforms.

Anthropogenic noise can have indirect effects by interfering with the sounds emitted by marine mammals, reducing their ability to perceive their environment, locate prey, communicate, or detect conspecifics. Over the past two decades, marine noise pollution has become increasingly prevalent in Arctic waters, constituting a major environmental issue of concern to environmentalists. This problem has become one of the main subjects of international oceanographic research for the protection of marine mammals (Merchant et al 2014, at 85-95).

There is no doubt that human activities are the main source of marine noise pollution in the seas and oceans, exposing marine species and marine mammals to harmful consequences. These include merchant shipping, the navy, submarine sonar whose emissions are spread throughout the high seas frequented by large marine mammals, the construction of platforms for oil and gas exploration in increasingly deep waters, sonar used during fishing operations mainly inshore and in the EEZ, and the use of acoustic sounds to scare off marine mammals during fishing. Finally, we can add to this list the installation of wind farms at sea, which emit sounds that are as unbearable for marine mammals as they are for humans (Barfuss, 2021: 2-12).

Legal provisions relating to the protection of marine mammals

The protection of marine biodiversity is covered by several international and regional legal instruments. This reflects the interconnection between environmental law and the law of the sea. In return, the international community has become increasingly aware of the need for a more effective legal arsenal to protect marine mammals. Among the most important legal instruments are the 1992 Convention on Biological Diversity; the United Nations Environment Programme's

Global Plan of Action for the Conservation; Management and Utilization of Marine Mammals, adopted in 1984; the Barcelona Convention and its Protocol on Specially Protected Areas and Biological Diversity; The Convention on the Conservation of Migratory Species of Wild Animals; the Convention on the Conservation of European Wildlife and Natural Habitats, commonly known as the Bern Convention; the Agreement on the Conservation of Cetaceans of the Black Sea; Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS); and the initiatives of the General Fisheries Commission for the Mediterranean (Selheim, 2020: 21-124).

The aim of these conventions is the conservation of migratory species belonging to the wild fauna, due to the fact that cetaceans are an integral part of the marine ecosystem which must be conserved for the benefit of present and future generations; the integration between conservation actions for cetaceans and activities relating to the socio-economic development of the parties concerned by these agreements, takes place with respect for marine activities such as fishing and the free movement of ships in accordance with the provisions of the law of the sea (UNCLOS). These international legal instruments foresee the need to promote and facilitate collaboration between States, regional economic integration organizations, intergovernmental organizations and the non-governmental sector for the protection of cetaceans.

Additionally, the International Convention for the Regulation of Whaling, adopted in 1946, established the International Whaling Commission (IWC) to regulate whaling. Today, this organization has 89 member states. Although the IWC's historic role was to regulate whaling, it is now concerned with other threats to cetaceans, such as noise pollution. The IWC also plays a major role in scientific research, setting up working groups and drafting recommendations on conservation issues. The IWC currently manages 13 major cetacean species. That said, the IWC is also active in the protection of smaller cetaceans such as dolphins and belugas (Wold, 2024: 271-333).

At the national level, the protection of marine mammals such as orcas (killer whales), whales, walrus, seals and belugas fall under Canadian federal jurisdiction. Federal institutions specializing in the protection of the marine environment, notably Fisheries and Oceans Canada and Parks Canada, oversee the implementation of the Species at Risk Act (*Species at Risk Act* (S.C. 2002, c. 29), and the Marine Mammal Regulations (SOR/93-56). Thus, under the Marine Mammal Regulations (SOR/93-56, it is forbidden to disturb a marine mammal) (*Marine Mammal Regulations* (SOR/93-56). That said, an agreement has been signed between the federal minister and those of the provinces and territories responsible for wildlife species to implement a national approach to the protection of species at risk. The aim is to ensure that animal species are protected from human activities (*Accord for the Protection of Species at Risk* (1996)).

In regard to the fight against noise pollution, international commitments have been multiplied at scientific, political and legislative levels, and associated directives have been drawn up in several countries, notably the United States and Europe, in order to tackle this environmental challenge (US Government, 2008). The efforts currently being made by all concerned are aimed at eliminating the risk of injury resulting from exposure of marine mammals to intensive man-made noise. Although these risk-reduction measures have not achieved their objectives, awareness among public and private players remains significant.

The Canadian government is still working on strategies to reduce noise in the oceans, including the Department of Defense. It should be noted that military maneuvers by the Canadian armed forces

in maritime waters affect marine mammals, which are protected under the Species at Risk Act (SARA) (*Species at Risk Act* (S.C. 2002, c. 29)). Among the immediate actions taken, the Ministry of Defense temporarily suspended military exercises in 2019 in a 330-kilometer zone in the Strait of Juan de Fuca (British Columbia). This area is known for its killer whale populations (Cox, 2024: 2-7).

In addition, the Department of Fisheries and Oceans remains the competent authority under the Species at Risk Act (S.C. 2002, c. 29) for the St. Lawrence Estuary population of the belugas, the Northwest Atlantic population of the blue whale, the Atlantic population of the fin whale, and the North Atlantic right whale. This department also adopted an Action Plan, in accordance with section 47 of SARA, to address a common threat identified in the recovery strategies for these species. Under this Action Plan, the Minister took into account the Government of Canada's commitment to conserve biological diversity, including marine mammals, in accordance with section 38 of SARA (*Species at Risk Act* (S.C. 2002, c. 29)). This Action Plan, in accordance with subsection 48(1) of SARA, has been prepared in cooperation with other stakeholders, including: Parks Canada, representatives of the shipping industry and marine mammal-watching excursionists. The Action Plan aims to reduce the impact of noise on marine mammals at risk in the St. Lawrence Estuary and in the Saguenay River fjord, an area regularly visited by beluga whales during the summer season (Pêches et Océans, 2020).

Concluding Remarks

In conclusion, the multiple pressures exerted by human beings on the marine environment have resulted in an ecological imbalance that is adversely affecting the survival of marine mammals, particularly belugas. As a result, these mammals require special attention. On the whole, most of the opportunities for state commitments to counteract the dangers to marine biodiversity lie in increasingly sustainable management. As mentioned above, there are already relevant legal instruments that can help achieve some of these goals, such as the 1992 Convention on Biological Diversity. These legal texts deal with the conservation of marine biodiversity.

Moreover, compliance with these legal agreements by public and private players can help to achieve the objectives of sustainable exploitation of the marine environment, through the possibility of adopting an advanced conservation strategy, using various preventive actions, or implementing measures that contribute to multiplying the marine mammal population.

Finally, intra-community collaboration in the hunting, processing and use of belugas, and rapid environmental change in the Arctic region have underlined the importance of inter-regional engagement and cooperation between policymakers and Indigenous communities to maintain beluga populations and their cultural and nutritional roles in sustainable development. In short, the upholding of traditional values, the implementation of collaborative management efforts, the sustainable inclusion of Aboriginal knowledge and meaningful collaboration between hunters, researchers and managers are essential not only to the conservation of belugas, but also to the continued well-being of the communities that live with them.

References

Accord for the Protection of Species at Risk (1996)

- Andrew Roth, «Mystery of the missing whale is it a Russian spy or child therapist», *The Guardian*, 10 May 2009.
- Alayco S., Bergeron M. & Michaud M.D, «Inuit elders and their Traditional Knowledge: beluga hunting and sustainable practices» Westmount, QC: Avataq Cultural Institute / Ottawa: Fisheries and Oceans Canada, 2007.
- «Beluga whale alleged to be Russian spy found dead in Norway», *Associated Press*, Sunday 01 September 2024.
- Bors, Eleanor K., et al, «An Epigenetic Clock to Estimate the Age of Living Beluga Whales» 2021 14:5 *Evolutionary Applications* aux pp 1263-1273.
- Breton-Honeyman, Kaitlin, et al., «Beluga whale stewardship and collaborative research practices among Indigenous peoples in the Arctic» (2021) 40 *Polar Research* aux pp 1-13.
- Christine Erbe, et al, «Effects of Noise on Marine Mammals» aux pp 277-309. In Hans Slabbekoorn et al, *Effects of Anthropogenic Noise on Animals*, New York, NY, Springer 2018.
- Churchil Northern Studies Centre, *Churchill Area, How Can I Identify A Beluga?*.
<https://churchillscience.ca/about/the-churchill-area/beluga-whales/>
- Cox, Kieran D., et al, «Military Training in the Canadian Pacific: Taking Aim at Critical Habitat or Sufficient Mitigation of Noise Pollution Impacts?» (2024) 160 *Marine Policy* aux pp 2-7.
- Halliday, William D., et al, «Underwater Noise and Arctic Marine Mammals: Review and Policy Recommendations» (2020) 28:4 *Environmental Reviews* aux pp 438-448.
- Jan Olsen, «Norway Says Beluga Whale with Apparent Russian-Made Harness Swims South to Sweden» *AP News*, May 30, 2023, <https://apnews.com/article/beluga-whale-norway-sweden-russia-4500803df50d82f30422886a614644ba>.
- Konrad Bärffuss et al, «The Impact of Offshore Wind Farms on Sea State Demonstrated by Airborne LiDAR Measurements», (2021) 9:6 *Journal of Marine Science and Engineering* aux pp 2-12.
- Kattlin Breton-Honeyman, Beluga whale stewardship and collaborative research practices among Indigenous peoples in the Arctic, *Polar Research* 19 Nov 2021.
- Lorin Gruen, *The Ethics of Captivity*, Oxford, Oxford University Press, 2014 aux pp 22-33. <https://polarresearch.net/index.php/polar/article/view/5522/14090>
- Martina Tyrrell, «Nunavik Inuit Perspectives on Beluga Whale Management in the Canadian Arctic» (2008) 67:3 *Human Organization* aux pp 322-332.
- Meehan R.H., Belikov S., Desportes G., Ferguson S.H., Kovacs K.M., Laidre K.L., Stenson G.B., Thomas P.O., Ugarte F. & Vongraven D, «Marine mammals. In: State of the Arctic marine biodiversity report» (2017) aux pp 149-173. Akureyri: Conservation of Arctic Flora and Fauna International Secretariat.
- Merchant, Nathan D., et al, «Monitoring Ship Noise to Assess the Impact of Coastal Developments on Marine Mammals» (2014) 78:1-2 *Marine Pollution Bulletin* aux pp 85-95.
- Marine Mammal Regulations* (SOR/93-56)

- NAMMCO 2018. Report of the NAMMCO global review of monodontids, 13–16 March 2017, Hillerød, Denmark. Tromsø, Norway: North Atlantic Marine Mammal Commission.
- Nikolas Sellheim, *International Marine Mammal Law*, Cham, Springer Nature Switzerland, 2020, aux pp 21-124.
- O’Corry-Crowe, Greg, et al, «Migratory Culture, Population Structure and Stock Identity in North Pacific Beluga Whales (*Delphinapterus leucas*) » (2018) 13:3 PloS One aux pp 1-32. <https://churchillscience.ca/about/the-churchill-area/beluga-whales/>
- Pêches et Océans Canada, « Plan d'action pour réduire l’impact du bruit sur le béluga et les autres mammifères marins en péril de l’estuaire du Saint-Laurent », 2020 Série de Plans d'action de la Loi sur les espèces en péril, Pêches et Océans Canada, Ottawa, iv + 34 p.
- Ruth Teichroeb, « Indigenous Knowledge about the Belugas of Churchill», OCEANS NORTH, August 1, 2024.
- Ruth Teichroeb, « Indigenous Knowledge about the Belugas of Churchill», OCEANS NORTH, August 1, 2024.
- Species at Risk Act* (S.C. 2002, c. 29)
- Suman Nama and Suchismita Prusty, « Ghost gear: The most dangerous marine litter endangering ocean», (2021)2:5 Food and Scientific Reports aux pp 34-36.
- Salter, Colin, «Animals and War: Anthropocentrism and Technoscience», (2015) 9:1 Nanoethics aux pp 11-21.
- UNCLOS, Part XII. Protection and preservation of the marine environment.
- US Government, «Minimizing the introduction of incidental noise from commercial shipping operations into the marine environment to reduce potential adverse impacts on marine life» (2008) Submission to Marine Environment Protection Committee, International Maritime Organization. MEPC 58/19
- Van Luijk, «Community-identified risks to hunting, fishing, and gathering (harvesting) activities from increased marine shipping activity in Inuit Nunangat, Canada», (2022) 22:1 Regional Environmental Change aux pp 3-15.
- Wold Chris, «40 years after the moratorium on commercial whaling: assessing the competence of the International Whaling Commission to confront critical threats to cetaceans», (2024) 36 page Int’l L. Rev aux pp 271-333.
- Worden E., Pearce T., Gruben M., Ross D., Kowana C. & Loseto L. 2020. «Social–ecological changes and implications for understanding the declining beluga whale (*Delphinapterus leucas*) harvest in Aklavik» (2020) 6, NT. Arctic Science aux pp 229-246, doi: 10.1139/AS-2019-0027.