Is Canada Protecting Its Marine Species at Risk?

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Definitions and Legislation

Global extinction of a species is an irreversible condition—a permanent alteration of our unique world. It cannot be corrected. It cannot be mitigated. Efforts to compensate for extinction are ineffective excuses for a failed responsibility. As a result, the only solution is to prevent species from becoming locally extinct or extirpated.

Under natural conditions, some species are common and some are rare. This can be a result of a variety of factors, e.g., the abundance of food, habitat, mates, and the inherent rates of birth and death for the species. Human activities, however, affect all of these variables. Thus, rareness and extinction are not only a result of human activities, but humans are very good at creating both conditions.

If a species is 'rare', it generally means that there are only a small number of individuals in the population or that they only occur in a relatively small area, or both. Rare species are generally also considered at risk of becoming extinct (hereafter referred to as 'at risk'). Regardless of the abundance of a species, it may also be considered at risk if its population is (a) drastically declining, (b) exposed to severe mortality, or (c) losing an excessive amount of habitat (or a reducing quality of habitat). Furthermore, many agencies (e.g., national governments, the International Union for the Conservation of Nature) use categories of risk to indicate the magnitude of likelihood that a species will become extinct; e.g., in order of increasing likelihood: 'vulnerable', 'threatened', and 'endangered'.

There can be many reasons a society becomes interested in avoiding the extinction of a species. For example, the species may be an important natural resource that must be managed to ensure it continues to be plentiful enough to be harvested (and profitable), or there may be a need to demonstrate that a particular human activity is being managed responsibly, such that it is not causing inadvertent damage to living organisms. The species may also have inherent value to society that is not linked to any particular need, service, or measureable benefit.

Many societies have developed laws that are intended to prevent species from becoming extinct. In Canada, several pieces of legislation manage
activities that influence the abundance of organisms living within oceans. The *Fisheries Act* addresses the conservation and protection of species (predominantly fish) and their habitats, the control and management of their harvest, and the prevention of pollution.¹ The *Oceans Act* aims to manage all activities within oceans through an integrated approach to maintain biological diversity and productivity.² The *Species at Risk Act* (SARA) is specifically intended to prevent the extinction of wildlife.³ It is noteworthy that as a part of the Act, SARA explicitly recognizes the intrinsic value of wildlife and the integral role of wildlife to Canada's national identity and history. This establishes an important position of Canada's view of species at risk and it may set an important perspective that can influence situations beyond the implementation of SARA.

SARA is often considered a ‘last-ditch’ law because, as a result of its application, it may ultimately protect species that were initially considered under other laws (e.g., *Fisheries Act*), but that continue to face an increasing likelihood of extinction. Thus, in some cases, this may be due to other acts being implemented inadequately. If a species is granted protection by SARA (i.e., becomes listed under), several laws come into force. Most notably, it becomes illegal to harm, harass, capture, or kill the listed species (s. 32), and it becomes illegal to damage or destroy their ‘residences’ (s. 33), and critical habitats (s. 58). Although these regulations are potentially very effective, attaining this protection and implementing and enforcing these laws under SARA are problematic.

**Case Studies and Evaluation**

In order to determine if Canada is protecting its marine species at risk, three distinct case studies are presented to provide insight.

**Case Study 1**

In 2012, the Royal Society of Canada produced an Expert Panel Report that evaluated Canada's efforts to sustain marine biodiversity.⁴ Among the large number of features it considered in its evaluation, the report identified that there were reduced population biomasses for many marine species, and very little evidence of recovery. This was especially evident for marine fish, and

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¹ *Fisheries Act*, r.s.c., 1985, c. F-14, as amended.
² *Oceans Act*, S.C. 1996, c. 31, as amended.
³ *Species at Risk Act*, S.C. 2002, c. 29, as amended.
⁴ J.A. Hutchings, et al., *Sustaining Canadian Marine Biodiversity: Responding to the Challenges Posed by Climate Change, Fisheries, and Aquaculture*, Expert Panel Report prepared for the Royal Society of Canada (Ottawa, 2012).
some, but not all, marine mammals and bird populations at risk. The report recognized the potentially strong enabling tools (e.g., adoption of the precautionary approach, the Oceans Act, and sara) that exist to allow Canada to meet its commitments to protect biodiversity, but concluded that Canada has made poor progress. Within its evaluation of Canada’s failure to protect marine biodiversity, the Expert Panel indicated that (a) sara had not been established to its full capacity, (b) there was regulatory conflict within the federal department responsible for marine biodiversity (Fisheries and Oceans Canada), and (c) there was an unwarranted level of discretion for the federal government to side-step its own legislation related to conservation.

Case Study 2
McDevitt-Irwin et al. evaluated the use of Canadian laws (i.e., Fisheries Act and sara) to conserve marine fish at risk. They showed that once a species of marine fish was established as being at risk within Canada by the scientific committee responsible for making these assessments (the Committee on the Status of Endangered Wildlife in Canada), there was a substantial delay in the decision by the federal government on whether or not to protect the species under sara. Furthermore, species that were considered of greater risk of extinction (i.e., endangered and threatened species) had relatively longer delays in decisions (often due to prolonged consultation periods), and a greater rate of denial for protection. The authors also note that during these delays, subsequent evaluations of ‘at risk species’ occasionally moved them into higher ranks of risk (e.g., from threatened to endangered). Among the conclusions of this study, the authors determine that sara delayed conservation efforts for marine fish, and that the Fisheries Act, as it was currently being implemented, was failing to meet its obligation to protect Canada’s marine fish stocks.

Case Study 3
North Atlantic right whales (narw) are one of the most endangered large whales in the world. The population estimate in 2015 was 458 individuals, and

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5 The Canadian Wildlife Service of Environment and Climate Change Canada is mandated to protect marine birds.
6 J.M. McDevitt-Irwin, S.D. Fuller, C. Grant and J.K. Baum, “Missing the Safety Net: Evidence for Inconsistent and Insufficient Management of At-risk Marine Fishes in Canada,” Canadian Journal of Fisheries and Aquatic Sciences 72 (2015): 1596–1608.
7 R.M. Pace 111, F.J. Corkeron and S.D. Kraus, “State–Space Mark–Recapture Estimates Reveal a Recent Decline in Abundance of North Atlantic Right Whales,” Ecology and Evolution (2017): 1–12, doi.org/10.1002/ece3.3406.
the greatest threats to them are ship strikes and entanglement in fishing gear. Current knowledge indicates that most narws swim into Canadian waters every summer. The whale has been listed as an endangered species under SARA since 2005. A SARA Recovery Strategy for narws was produced in 2009, and a partial SARA Action Plan was proposed (though not as yet finalized) in 2016. Otherwise, until very recently there have been few actions by Canada to actively protect this species. During the summer of 2017, an extraordinary number of narws were killed or harmed by human activities in Canada’s Gulf of St. Lawrence. Twelve individual narws were found dead, and seven others were observed entangled in fishing gear. Detailed necropsies were carried out on seven of the dead animals. The expert veterinarians concluded that four died as a result of blunt force trauma, and two were killed due to entanglement. Although little was known about how much of the narw population uses the Gulf of St. Lawrence, and where specifically they aggregated, their presence had been reported there for many years. It is clear the species could have benefited from efforts to reduce the risk of harm from human activities. In August 2017, ships were required to comply with a 10-knot speed limit and a summer snow crab trap fishery closed early.

Summary

These three case studies, and many other reports, point to the conclusion that Canada is not adequately protecting its most endangered marine species. Fortunately, these reports provide recommendations for how this situation can be improved, so as to correct this deficiency in protection. There may also be evidence that the federal government is willing and able to act on these recommendations. In the 2017 narw mortality event, there was a remarkable response by the federal government to protect narws. Immediately following the initial discovery of dead whales, the federal government acted quickly to close the local, active snow crab fishery and impose mandatory speed restrictions on commercial vessel traffic traveling through the area of the Gulf of St. Lawrence where the whales were most densely aggregated.

8 M.W. Brown et al., *Recovery Strategy for the North Atlantic Right Whale (Eubalaena glacialis) in Atlantic Canadian Waters [Final]*, Species at Risk Act Recovery Strategy Series (Fisheries and Oceans Canada, 2009).

9 P-Y. Daoust, E.L. Couture, T. Wimmer and L. Bourque, *Incident Report: North Atlantic Right Whale Mortality Event in the Gulf of St. Lawrence, 2017* (Charlottetown, PEI: Canadian Wildlife Health Cooperative, Marine Animal Response Society, and Fisheries and Oceans Canada, 2017).
Although implemented in reaction to the disastrous situation, these direct changes to protection by the federal government for the benefit of a species at risk were unprecedented. It is hoped therefore, that in the future, Canada will take similar actions to proactively prevent harm to this species, and to advance the conservation of its marine species at risk.