



**Environmental
Law Centre**
UNIVERSITY OF VICTORIA

**Recommendations to Reform the Laws
Protecting Orca from Boat Traffic**

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INTRODUCTION

Orcas found off the coast of British Columbia (B.C.) are awe-inspiring creatures of magnificent strength and grace. They are the premier symbol of Super Natural British Columbia, having been central icons in everything from First Nations culture to the Vancouver 2010 Olympic Games.¹

Unfortunately, though their cultural significance has not waned, their numbers have. Orcas are particularly vulnerable to threats because of their naturally occurring small populations and low potential rate of population growth. The southern resident orcas of B.C.'s coastal waters are now endangered² with 85 members as of 2003.³ Northern residents and west coast transient orcas are both threatened while offshore orcas are a species of special concern.⁴

Despite the importance of B.C.'s orcas, government is not doing enough to protect them from the three main risk factors that threaten their continued survival: depleted salmon stocks, toxic contaminants such as PCBs,⁵ and the constant presence of vessels and noise.

¹ As an example, a search of news stories that refer to both orcas and the Vancouver 2010 Olympics and Paralympics turns up multitudes. Medals, costumes, opening ceremonies, mascots all featured orca whale references. See online: <http://www.vancouver.sun.com/entertainment/Restored+orca+mural+will+greet+Vancouver+Olympic+commuters/2456748/story.html>

² They have been so designated under Canada's *Species at Risk Act*, S.C. 2002, c. 29. Species listings can be found at http://www.sararegistry.gc.ca/sar/index/default_e.cfm.

³ *Species at Risk Act Recovery Strategy for the Northern & Southern Killer Whale in Canada*, March 2008, at p. v, online: http://www.sararegistry.gc.ca/virtual_sara/files/plans/rs%5FResident%5FKiller%5FWHale%20%5F0308%5Fe%2Epdf > [SARA Rcvry for N&SKW 2008].

⁴ A change in legal status for offshore orcas, from 'species of concern' to 'threatened' is currently being considered: *Species at Risk Act* (SARA) Mgmt Plan for Offshore Killer Whales 2009 at p. 4 (below). See Appendix A of this paper for a description of the different BC orca species.

⁵ At the top of the marine food chain, orcas bodies serve as records and warnings of the ocean's contamination, accumulating alarming amounts of chemical pollutants: Department of Fisheries and Oceans, "Killer Whales Serve as Sentinels for Ocean Pollution, online: <http://www.dfo-mpo.gc.ca/science/Publications/article/2006/02-01-2006-eng.htm>; Dr. Peter S. Ross, Fisheries and Oceans Canada (2002) [Marine Ecosystem Health Program](#) (MEHP) Killer whales as sentinels of marine ecosystem contamination, abstract online: <http://www.orcanetwork.org/nathist/scifield.html#ross02>.

One of the most significant threat orcas face is disturbance and noise, and such disturbance exacerbates the other stressors that the whales face.⁶ Whales in northern Pacific coastal waters, including B.C. and Washington, experience increasing disturbance from vessels and their noise; the coast is busier and noisier to navigate.⁷ Noise is particularly relevant for orcas because of their use of echolocation and social vocalization to forage and socialize.⁸ It is increasingly apparent that noise “is a significant threat that degrades habitat and adversely affects marine life.”⁹

Noise and disturbance have increased because the number of whale watching operators in the coastal waters of British Columbia and Washington has grown significantly in recent decades. In the late 1970s, there were a few boats that together annually carried under 1000 passengers per year. By 1998, 80 boats were carrying 500,000 passengers a year.¹⁰ These numbers have continued to increase. The whale-watching boats attract others, including kayaks, sailboats, powerboats and other tour operators. “In the summer, an average of 19-22 boats have been observed near southern resident killer whales in Haro Strait, commonly from 9 am to 9 pm although some begin as early as 6am.”¹¹

The federal recovery strategy for northern and southern residents describes the impacts of noise as follows:

Anthropogenic noise can interfere [with necessary communication] in critically important ways, such as disrupting communication, reducing the distance over which social groups can detect each other, masking echolocation and hence reducing the distance over which the animals can detect their prey, potentially

⁶ SARA Management Plan for Offshore Killer Whales, December 2009 at p. 19, https://www.registrelep-sararegistry.gc.ca/virtual_sara/files/plans/mp%5Foffshore%5Fkiller%5Fwhale%5F1209%5Fe%2Epdf [SARA Mgmt Plan for OKW 2009] at p. iii, 1.

⁷ SARA Rcvry for N&SKW 2008 at p. 25.

⁸ SARA Mgmt Plan for OKW 2009, at p. 1, 14.

⁹ SARA Rcvry for N&SKW 2008 at p. 27.

¹⁰ SARA Rcvry for N&SKW 2008 at p. 26.

¹¹ SARA Rcvry for N&SKW 2008 at p. 26. While the number of whale watch vessels has increased significantly, they are not the only source of disturbance for marine mammals. Commercially, there are numerous marine tour operators that sight whales and thereby engage in the same behaviours, but are perhaps less easily identifiable. The recommendations below are meant to apply to all paid marine tour operators. Those recommendations regarding distances and interaction should apply to all marine vessels.

*displacing them from preferred feeding habitats, displacing prey, impairing hearing, either temporarily or permanently, and in extreme cases causing death.*¹²

The recovery strategy goes on to say:

*Both physical and acoustic disturbance from human activities may be key factors causing depletion or preventing recovery of resident killer whale populations. Sources of acoustic disturbance range from high-intensity sound ... to chronic sources such as vessel traffic. During periods of high boating activity in the summer months, disturbance may occur from vessel congestion, impairing the ability of whales to move freely and/or forage effectively. Physical disturbance can be caused by boat or air traffic close to whales, especially during certain behavioural states such as feeding or beach rubbing.*¹³

These threats are likely key factors in the decline of local orcas, but their long-term effects are not well-understood. Clearly, improving salmon stocks and preventing water pollution and contamination are essential to protect the northern Pacific orca populations. (For example, see the recent ELC report documenting the need to clean up stormwater in order to protect orca, salmon and other species – www.elc.uvic.ca) However, it is also important to minimize interference and disturbance from vessel traffic until its long-term impacts on predation, rearing of young, and other critical activities are better understood. The American recovery strategy for southern residents states:

*For many listed species of marine mammals, there is a primary cause of direct mortality that can be attributed to a particular source...but this is not the case for Southern Residents. It is unknown which of the threats has caused the decline or may have the most significant impact on recovery of the population. It may be a combination of threats or the cumulative effects that are the problem. In addition, there are inherent risks for small populations.*¹⁴

¹² SARA Rcvry for N&SKW 2008 at 27. Further scientific details about the impacts of sound outlined. The U.S. Recovery Strategy for southern residents similarly highlights concerns about disturbance from vessel traffic: US Recovery Plan for SRKW at p. III-2.

¹³ SARA Rcvry for N&SKW 2008 at p. 51.

¹⁴ US SRKW Recovery Strategy, at p. III-1.

These facts justify a precautionary approach to the protection of orcas.¹⁵ The precautionary principle requires that people and governments take action to prevent reaching a point of no return. Scientists have already identified these threats to orcas; strong measures must be taken to prevent further damage while we continue to learn. These precautionary measures can and should include substantial changes to the Canadian Marine Mammal Regulations, the current version of which is discussed in further detail below.

Legal Landscape

There is very little Canadian legislation directly relevant to the interaction between orcas and non-fishing vessels. This section provides a brief summary of the two relevant federal enactments: the *Species at Risk Act* and the *Fisheries Act Marine Mammal Regulations*. But orca regulation does not occur only in Canada. Orcas are trans-boundary species, moving frequently between United States and Canadian waters and therefore a number of US legislative provisions apply as well.¹⁶ The voluntary “Be Whale Wise” guidelines adopted by members of the Pacific Whale Watch Association also establish a cross-border standard for vessel behaviour around whales, particularly for the whale watch operators that have

¹⁵ Due to the whales’ endangered status, numerous reports and academic publications advise Canadian and American governments to better regulate and enforce the protection of these species. These articles recommend a precautionary approach, to ensure that these cetaceans will not be further threatened but will be given time and space to recover for generations to come. See for example, Boisvert, Ian. “Puget Sound Orcas, Vessel Noise, and Whale-watching: A Licensing Program to Overcome the Problem of the ESA’s Economically-Blind ‘Take’ Rule.” (2004-2005) 10 *Ocean & Coastal L.J.* 117; Fisheries and Oceans Canada. 2008. Management Plan for the Offshore Killer Whale (*Orcinus orca*) in Canada [Draft]. *Species at Risk Act* Management Plan Series. Fisheries and Oceans Canada, Nanaimo; Higham, J. E. S. and D. Lusseau. “Urgent Need for Empirical Research into Whaling and Whale Watching.” (April 2007) 21 *Conservation Biology* 554; Lien, Jon. “The Conservation Basis for the Regulation of Whale Watching in Canada by the Department of Fisheries and Oceans: A Precautionary Approach.” (Winnipeg: Department of Fisheries and Oceans, 2001); Marine Mammal Commission. “Marine Mammals and Noise: A Sound Approach to Research and Management” *A Report to Congress from the Marine Mammal Commission* (March 2007); Vanderzwaag, David L., Fuller, Susanna D. and Ransom A. Myers. “Canada and the Precautionary Principle/Approach in Ocean and Coastal Management: Wading and Wandering in Tricky Currents.” (2002-2003) 34 *Ottawa L. Review* 117. See also the CELA website for a brief description: <http://www.cela.ca/collections/pollution/precautionary-principle>.

¹⁶ For a summary of existing American protective measures see the US Recovery Plan for SRKW, January 2008: http://www.nmfs.noaa.gov/pr/pdfs/recovery/whale_killer.pdf at p. II-67 [“US Recovery Plan for SRKW”]. A history of killer whale vessel regulation proposals and amendments can be found at <http://www.nwr.noaa.gov/Marine-Mammals/Whales-Dolphins-Porpoise/Killer-Whales/Recovery-Implement/Orca-Vessel-Regs.cfm>.

adopted them.¹⁷ However, these guidelines are not legally enforceable and, while touted by some as progressive, they cannot alone provide the comprehensive regime necessary to protect endangered orcas.

Species at Risk Act

Orcas are designated “species at risk” under the federal *Species at Risk Act* (SARA).¹⁸ SARA was enacted in 2002 to “prevent wildlife species from being extirpated or becoming extinct, to provide for the recovery of wildlife species that are extirpated, endangered or threatened as a result of human activity and to manage species of special concern to prevent them from becoming endangered or threatened.”¹⁹ SARA also adopts a precautionary stance:

The Government of Canada is committed to conserving biological diversity and to the principle that, if there are threats of serious or irreversible damage to a wildlife species, cost-effective measures to prevent the reduction or loss of the species should not be postponed for a lack of full scientific certainty.

*[emphasis added]*²⁰

To be protected under SARA, a species must be listed for protection,²¹ as all of the orcas off British Columbia’s west coast currently are. The designation (as endangered, threatened, or of special concern) is determined based on factors including population, available habitat, and threats. SARA defines an endangered species, such as southern resident orcas, as a species that “is facing

¹⁷ <http://pacificwhalewatch.org/guidelines>

¹⁸ S.C. 2002, c. 29.

¹⁹ SARA, s. 6.

²⁰ SARA, Preamble. This precautionary stance has been recently affirmed in *Alberta Wilderness Association v. Canada (Environment)*, 2009 FC 710, 45 C.E.L.R. (3d) 48 and *Environmental Defence Canada v. Canada (Fisheries and Oceans)*, 2009 FC 878, 45 C.E.L.R. (3d) 161. See discussion in *New Developments in Protecting Species at Risk*, Environmental Law Centre, University of Victoria, ELC Associates’ Program Teleconference April 26 2010, online: <http://www.elc.uvic.ca/associates/documents/Species%20at%20Risk%20Background.pdf> at p. 7.

²¹ Ecojustice, *Canada’s Species at Risk Act: Implementation at a Snail’s Pace*, at p. 2, April, 2009, [Ecojustice, SARA] online: <http://www.ecojustice.ca/publications/reports/canadas-species-at-risk-act-implementation-at-a-snails-pace/attachment>. This source provides a critical assessment of SARA’s implementation failures.

imminent extirpation or extinction”.²² As a species in such “imminent” danger, southern residents must be very carefully managed and respected to avoid further loss and facilitate recovery. This may mean taking measures that would otherwise appear “extreme” or unattractive to policy-makers.

For each SARA-listed species, the relevant minister must establish a recovery strategy, including habitat protection, within 1-2 years.²³ Despite this regime, many argue that species at risk are inadequately protected, often because existing laws and regulations have not been implemented. For example, one report cites the federal government’s failure to designate critical habitat where the research establishes a basis to do so, as unreasonable.²⁴ This failure is relevant in the orca context because whale watch and pleasure boaters alike are pervasive in habitat designated as critical to southern resident orcas.²⁵ Thus the federal government has the jurisdiction, and the responsibility, to impose additional restrictions and responsibilities on those vessels in the critical habitat. As discussed above, all management and recovery plans identify significant gaps in knowledge either about location in certain seasons, diet or other aspects including physical and noise disturbance. These gaps speak to the need for a cautious and comprehensive approach to prevent unknown harms. Under SARA, the federal government is empowered to take just such an approach to the protection of orcas.

²² SARA, s. 2. Under the same section, a threatened species “means a wildlife species that is likely to become an endangered species if nothing is done to reverse the factors leading to its extirpation or extinction” and a species of special concern “means a wildlife species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.”

²³ SARA, s. 42: “(1) Subject to subsection (2), the competent minister must include a proposed recovery strategy in the public registry within one year after the wildlife species is listed, in the case of a wildlife species listed as an endangered species, and within two years after the species is listed, in the case of a wildlife species listed as a threatened species or an extirpated species.”

²⁴ New Developments in Protecting Species at Risk, Environmental Law Centre, University of Victoria, ELC Associates’ Program Teleconference April 26 2010, online, <<http://www.elc.uvic.ca/associates/documents/Species%20at%20Risk%20Background.pdf>> at p. 7. According to SARA, conservation of a species’ habitat is critical to species conservation. Critical habitat, habitat required for species recovery, must be identified in a recovery strategy to the extent possible, based on the best available information. SARA, s. 41(c).

²⁵ SARA Rcvry for N&SKW 2008 at p. v. See figure 4 p. 37 (includes all of CRD and SJI area). For additional discussion of orca habitat protection see Ecojustice, SARA, *supra* note 21 at p. 3.

Marine Mammal Regulations

Enabled under the federal *Fisheries Act*,²⁶ the Marine Mammal Regulations (MMR)²⁷ prohibit the disturbance of marine mammals. The relevant provision reads as follows, “No person shall disturb a marine mammal except when fishing for marine mammals under the authority of these Regulations.”²⁸ The term “disturb” is undefined in the legislation.²⁹ The regulation applies generally and is not specific to whale watch or other marine tour operators.³⁰

Many point to the inadequacy of this provision. Despite the number of vessels on the water and the frequency of encounters between these vessels and orcas, very few individuals have been charged under s. 7 of the MMR. This regulation requires proof that a marine mammal has been disturbed or harassed, which creates a very high standard for successful prosecution and requires expensive expert evidence.³¹ To date, only 6 or 7 cases have been brought against someone for violating s. 7 of the Marine Mammal Regulation in B.C. Of those, only three have resulted in conviction.³²

Prosecution has been expensive and difficult. Larry Paike, in charge of enforcement for the South Georgia Basin, says there have been cases he believed

²⁶ R.S., 1985, c. F-14.

²⁷ SOR/93-56.

²⁸ MMR, s. 7.

²⁹ One person charged under the provision argued it was constitutionally invalid because of vagueness, however this argument was dismissed: *R. v. Andrews*, 2000 B.C.S.C. 1246, at para. 25. “Even for the most-studied whales on the planet, “disturbance” is a qualitative assessment, not necessarily provable, and it's not as if whales can testify.” See also: MacLean Kay, “Hey ‘fishbags’: Whales are worth seeing -- from a distance,” *Victoria Times Colonist* (7 August, 2010), online:

<<http://www.timescolonist.com/health/fishbags+Whales+worth+seeing+from+distance/3371064/story.html#ixzz0woACmVmr>>. Despite such challenges some argue that “disturb” has been understood, at least by whale watch operators to mean non-compliance with the “Be Whale Wise” voluntary guidelines discussed above. According to Ken Balcomb, the U.S. government has been interpreting guideline breaches as “disturbance” or “harassment”. Phone conversation with Ken Balcomb, June 28, 2010. See guidelines at <http://www.bewhalewise.org/guidelines/>.

³⁰ SARA Rcvry for N&SKW 2008 at p. 26, 42.

³¹ Phone conversation with Larry Paike, Fisheries and Oceans Canada, July 13, 2010. See *R. v. Fossum*, (2004) no citation, at para. 10.

³² Phone and email communication with Larry Paike July 13, 2010. The convictions were *R. v. Maya* (BC Provincial Court, Duncan, File No. 25237-1, February 9, 2004), *R. v. Fossum* (BC Provincial Court, Duncan, File No. 25236, April 19, 2004), and *R. v. Bohn*. The defendants in the first two cases were marine tour operators whereas the third defendant was a private citizen. One newspaper article says that there are “only a handful of whale watch boat operators who have been charged with disturbing or harassing marine mammals”: Whale watch boats often break rules, Judith Lavoie. *Times - Colonist*. Victoria, B.C.: Apr 28, 2009. pg. A.3.

warranted prosecution, but because of the complexities in proving “disturbance” DFO did not proceed.³³ Making the MMR more affordable and practical to enforce would improve the possibility of punishing the behaviour of individual violators -- and thus improve deterrence. Violators would be less likely to think that they can “get away” with harmful behaviours, and other vessel operators would be educated in the process.

Fisheries and Oceans Canada is currently reviewing the MMR and has posted proposed regulations that are more specific and detailed, and include a provision allowing for the use of regional regulations to manage specific marine mammals in a given area.³⁴ According to SARA documents published in 2009, one intention in the new regulations is to broaden the definition of disturbance, and restrict the approach distance of vessels to marine mammals to 100 meters.³⁵

This report sets out various recommendations (below) that could fit within the current MMR. Any new formulation of the regulations must be flexible to allow for relatively easy adjustment based on results of new research. The following recommendations are not comprehensive, but attempt to set out important considerations for general vessel behaviour, licensing, zoning, education, and enforcement. They are modeled after some of the most progressive regulations and guidelines from around the world, and are suggested as better ways of controlling orca-vessel interactions. It is not suggested that they could be enacted exactly as they are, but rather that they represent the various opportunities for reform and important considerations for Fisheries and Oceans Canada to consider in any bona fide effort to ensure the recovery of orcas off of B.C.’s coast.

³³ Hey Fishbags (Vic TC article), see above note 29.

³⁴ Updated draft of the Marine Mammal Regulation amendments, Fisheries and Oceans Canada | Pacific Region | Consultation Secretariat | Marine Mammals. Website archived with Rose Keates, no longer appears available online.

³⁵ Response statement, killer whale – west coast transient population, November 25, 2009 https://www.registrelep-sararegistry.gc.ca/virtual_sara/files/statements/rs%5F606%5F302%5F2009%2D8%5Fe%2Epdf; Response Statement, Killer Whale – Southern Resident Population, (same date) https://www.registrelep-sararegistry.gc.ca/virtual_sara/files/statements/rs%5F699%5F300%5F2009%2D8%5Fe%2Epdf and Response Statement, Killer Whale – Northern Resident Population, (same date), https://www.registrelep-sararegistry.gc.ca/virtual_sara/files/statements/rs%5F698%5F301%5F2009%2D8%5Fe%2Epdf. All recovery strategies note that the “Be Whale Wise” guidelines are already in place.

Note that several government documents do address the relationship between orcas and whale watch vessels. The resident killer whale recovery strategy states that whale watching can disturb whales “through both the physical presence and activity of boats as well as the increased underwater noise levels boat engines generate.”³⁶ It cites the actions of the Pacific Whale Watch Association as a manner of addressing such disturbances: “Pacific Whale Watch Association has implemented Best Management Practices...for all its members to ensure that operators behave in a manner which respects the spirit of the Be Whale Wise: Marine Wildlife Guidelines for Boaters, Paddlers and Viewers.”³⁷ It states that these guidelines and further studies were developed as a result of industry concern for orcas.³⁸

In a similar vein, the Offshore Killer Whale Management Plan suggests the increased promotion of the MMR and “Be Whale Wise” to reduce physical and acoustic disturbance.³⁹ This could be strengthened if the MMR required that a plain language version of the regulation were displayed to consumers. The Plan also briefly outlines the efforts of several non-profit groups, including their impact on compliance, and notes that these organizations have unstable funding which limits their contributions.⁴⁰ Both of these points are addressed by the recommendations below.

The American recovery plan for southern residents also cites the need to “continue to evaluate and improve voluntary whale-watching guidelines. There is a continual need for private boaters to be educated on boating practices in the vicinity of killer whales.” It refers to the success of the “Be Whale Wise” education campaign and voluntary guidelines. It also notes that “the [Pacific Whale Watch Association] has adopted a more comprehensive set of guidelines for use by commercial whale watch vessels. Guidelines should continue to be refined as more is learned about the impacts of vessels on killer whales and research results should be shared to better inform the public and industry about how to view whales without affecting them.”⁴¹

³⁶ SARA Rcvry for N&SKW 2008 at p. 26

³⁷ SARA Mgmt Plan for OKW 2009, at p. 20.

³⁸ SARA Rcvry for N&SKW 2008 at p. 26.

³⁹ SARA Rcvry for N&SKW 2008 at p. 26-27.

⁴⁰ SARA Rcvry for N&SKW 2008 at p. 26-27.

⁴¹ US Recovery Plan for SRKW at p. V-14.

RECOMMENDATIONS

DISTANCES AND INTERACTION

Recommendation #1

It is unlawful:

- **to approach within 500 meters of a whale (the buffer zone), except as otherwise provided;**
- **to turn in any manner to intercept a whale within 500 meters;**
- **not to depart immediately from a buffer zone, except as otherwise provided;**
- **to change or interfere with direction, behaviour or movement of any whale;**
- **to harass any whale;⁴²**
- **to exceed a speed of 7 knots when within 800 metres of any whale;⁴³ or**

- **to whale watch when sunlight, weather or sea conditions make it difficult to perceive whether one is compliant with the above provisions.⁴⁴**

⁴² The above recommendation is largely modelled on section 12.05 of the Massachusetts State Regulations discussed below. In South Africa, the regulations stipulate that disturbing or harassing of a whale includes approaching it within 300 meters. See p. 133, *A Review of Whale Watch Guidelines and Regulations Around the World, Version 2009*, Carole Carlson, College of the Atlantic, Bar Harbour, Maine, online (Hereinafter referred to as the Compendium.)

⁴³ The *Grice Bay Guidelines* require a vessel to slow down to 7-8 knots at 800 m or upon entering designated slow areas. See Compendium, at p. 40. The US *Whalewatching Guidelines for the Northeast Region including the Stellwagen Bank National Marine Sanctuary* sets a maximum vessel speed of 7 knots when within .5 mile (805 metres) of whales. The maximum speed is 13 knots when 1-2 miles away from whales and 10 knots when .5-1.0 miles away. (NOAA - National Marine Fisheries Service & National Ocean Service, Compendium, p. 158.) The *Best Practices Guidelines of the Whale Watch Operators – North West* requires a vessel approaching within 1/2 mile (880 yards) of a whale to gradually reduce speed such that vessel speed is no more than 7 knots at 1/4 mile (440 yards) off or closer. This speed transition shall also be observed when disengaging the vicinity of whales. (Compendium, p. 164) The *Saguenay-St. Lawrence Marine Park Act* requires a vessel that unexpectedly encounters an endangered marine mammal at less than 400 metres to reduce speed to the minimum speed required to manoeuvre the vessel (Compendium, p. 47). *Chile's Guidelines for Watching Blue Whales* (endorsed by the Chilean Navy) require vessels within 500 metres of whales to reduce speed to no faster than the slowest animal or group of animals in the vicinity (Compendium, p. 56).

⁴⁴ The Azores regulations forbid night observation of whales (Compendium, at p. 28). The US *Whalewatching Guidelines for the Northeast Region including the Stellwagen Bank National Marine Sanctuary* requires vessels to stop

Because of the southern resident killer whale's endangered status, and the threatened status of its northern resident and transient counterparts, regulated distances should be precautionary in nature until the effects of vessels on orcas are better understood. In Canada's own Saguenay-St. Lawrence Marine Park, enforcement regulations have taken precisely this approach, restricting the distance for viewing endangered beluga and blue whales at 400 metres.⁴⁵ Similarly, Massachusetts has implemented a 500 metre buffer zone requirement to ensure protection of the critically endangered northern right whale, which has a population of approximately 350-420 in the Atlantic.⁴⁶ In 2001, there were only an estimated 85 living southern resident orcas and 205 northern residents.⁴⁷ If such regulation for the protection of endangered species has been feasible in these other jurisdictions, the case for providing BC orcas with an equal buffer, particularly our tiny population of southern residents, is strong.

Note that BC whale watch operators reportedly volunteered to stay 400 metres away from nursing orcas in the Southern Community of orcas, although that is apparently not currently being done.⁴⁸

whale watching and begin to return to port 15 minutes before sunset (Compendium, at p. 158, NOAA - National Marine Fisheries Service & National Ocean Service). The Chilean guidelines stipulate vessels should stop whale watch and begin to return to port 45 minutes before sunset (Compendium, at p. 56).

⁴⁵ Saguenay-St. Lawrence Marine Park, "Marine Activities in the Saguenay – St. Lawrence Marine Park Regulations," (July 2010) <http://www.parcmarin.qc.ca/1942_an.html>. The Marine Park limits observation distances for endangered marine mammals with greater severity. The website cites that "for endangered marine mammal species, such as the beluga and blue whale, an observation distance of 400 metres must be observed." Moreover, boats are only allowed to observe whales for a certain amount of time, not exceeding one hour from their specified distance. The Marine Park and its regulations are enforced through participatory management. This management structure "ensures that local and regional activities are integrated harmoniously into the conservation and enhancement objectives of the marine park. This sensitive rather than merely administrative approach encourages all key stakeholders, including aboriginal communities, to work together in a constructive and effective manner."

⁴⁶ Federal Law (50 CFR part 222.32) and Massachusetts State Regulations for Approaching Northern Right Whales. See Carole Carlson, A Review of Whale Watch Guidelines and Regulations around the World Version 2009, *International Whaling Commission*, at p. 178 [Compendium] online,

<http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>. In South Africa, the regulations stipulate that disturbing or harassing of a whale includes approaching it within 300 meters: Compendium, at p. 133.

⁴⁷ SARA Rcvry for N&SKW 2008 at p. 1. Page 6 of the report goes on to discuss numbers of the various populations as assessed in 2003, acknowledging that the measurement is not entirely precise but is considered relatively accurate, particularly for southern residents. Offshores and transients are estimated to have populations of 200 and 220 respectively.

⁴⁸ Personal communication, Peter Hamilton, Liferforce Foundation.

The utility of distance-based regulations for orcas has been disputed as difficult to measure and enforce between two moving objects – the whales and the boats. This may be true when distance standards are 100 metres or less. However, measurement and enforcement should be less of a problem when greater distances are prescribed. For example, it should be easier to prove that a boat coming within 75 metres of a whale was within the prohibited 500 metre zone.

Specifying a prohibited distance should address the key problem with the current law. The current regulation's very general, non-quantified prohibition – which requires proof that a marine mammal has been disturbed or harassed -- has been extraordinarily difficult to enforce.

Disturbance of small numbers of orca may be difficult to pinpoint and prove. Even serious impacts may not be immediately obvious -- whales do not always display signs of being disturbed even where they experience physical injury, such as damage to their hearing.⁴⁹

The recommended stipulation would prevent problems such as inadvertently splitting up a group of whales⁵⁰ or causing them to expend energy going off course and avoiding vessels. It would also prevent boats from disturbing whales in narrow channels.

A larger buffer zone reduces the immediate concern of injury to and disturbance of whales from starting, reversing and revving engines. In addition, as the Chilean guidelines state:

it is important to keep in mind that whale watching vessels, by direct approach or pursuit, can prevent animals from carrying out life processes such as feeding, resting, communicating and socializing. Long term negative impacts could be generated if such disruptions to life processes

⁴⁹ SARA Recovery Strategy for the Transient Killer Whale in Canada, December 2007, https://www.registrelep-sararegistry.gc.ca/virtual_sara/files/plans/rs%5Ftransient%5Fkiller%5Fwhale%5F1207%5Fe%2Epdf [SARA Rcvry for TKW 2007], at p. 16.

⁵⁰ Most guidelines and regulations world-wide require vessels not to interfere with groups of whales in this way. For examples, see Compendium: United States – North West at p. 161; Alaska at p. 172;; Canary Islands at p. 54; Galapagos at p. 70; Canada at p. 35, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

*occur to a particular segment of a population, or to a significant number of individuals within a population.*⁵¹

And of course, an adequate buffer zone is necessary to reduce noise impacts, which threaten the viability of orcas, as discussed above.

Recommendation #2

- **Vessels, engines and other equipment must be designed, maintained, and operated during whale watching to reduce as far as practicable adverse impacts on whales and their environment;**
- **Vessel operators should be aware of the acoustic characteristics of the target species and of their vessel under operating conditions; particularly of the need to reduce as far as possible production of potentially disturbing sound;**
- **Vessel operators must avoid sudden changes in speed, direction or noise.**⁵²

Concerns over the impact of noise on whales are relatively uncontroversial. Episodic as well as constant noise can disturb and even injure whales. Marine vessels represent part of this problem. As stated in the Department of Fisheries and Oceans proposal for revised Marine Mammal Regulations, “excessive engine noise may interfere with the ability to locate prey or communicate with other members of the population.”⁵³

Paying particular attention to the needs of killer whales, as cited in the introduction and reproduced here for convenience, the recovery strategy for northern and southern residents describes the impacts of noise as follows:

⁵¹ Compendium, p. 55.

⁵² Modelled after the International Whaling Commission’s General Principles for Whale Watching: Compendium, at pp. 75-76, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>..

⁵³ Consultation Workbook Amending the Marine Mammal Regulations, March 2005, online: <http://www-comm.pac.dfo-mpo.gc.ca/pages/consultations/marinemammals/MMR%20Consultation%20Workbook%20Pacific%20Final%20II_TC_.pdf>.

Anthropogenic noise can interfere [with necessary communication] in critically important ways, such as disrupting communication, reducing the distance over which social groups can detect each other, masking echolocation and hence reducing the distance over which the animals can detect their prey, potentially displacing them from preferred feeding habitats, displacing prey, impairing hearing, either temporarily or permanently, and in extreme cases causing death.⁵⁴

Though long-term impacts of interferences are unknown, the recovery strategy goes on to say:

Both physical and acoustic disturbance from human activities may be key factors causing depletion or preventing recovery of resident killer whale populations. Sources of acoustic disturbance range from high-intensity sound...to chronic sources such as vessel traffic.⁵⁵

Damage to whales can occur without any immediately measurable impacts such as a physical reaction or visible injury. For example, one study found that humpback whales that showed no reaction to a substantial noise, in this case an underwater explosion, experienced an increasing number of entanglements and acoustic trauma.⁵⁶

The case for protection from noise is even more compelling for transient killer whales. Unlike other orcas, transients feed exclusively on other marine mammals, which means that they range widely and that their specialized hunting techniques require particularly careful boater behaviour -- such as further distance and less acoustic disturbance.⁵⁷

Many jurisdictions address the issue of noise in their regulations or guidelines. The New Zealand Code of Management for Doubtful Sound states that “People

⁵⁴ SARA Rcvry for N&SKW 2008 at 27. Further scientific details about the impacts of sound outlined. The U.S. Recovery Strategy for southern residents similarly highlights concerns about disturbance from vessel traffic: US Recovery Plan for SRKW at p. III-2

⁵⁵ SARA Rcvry for N&SKW 2008 at p. 51.

⁵⁶ SARA Rcvry for TKW 2007 at p. 16.

⁵⁷ SARA Recovery Strategy for the Transient Killer Whale in Canada, December 2007, https://www.registrelep-sararegistry.gc.ca/virtual_sara/files/plans/rs%5Ftransient%5Fkiller%5Fwhale%5F1207%5Fe%2Epdf [SARA Rcvry for TKW 2007] at pp. 3-4. The Pacific Rim National Park Reserve guidelines confirm the need to be particularly cautious with noise around transient killer whales: Compendium, p. 39.

shall not make loud or disturbing noises near marine mammals – they have acutely sensitive hearing.”⁵⁸ A Mozambique Protocol stipulates that operators should “Minimize noise disturbance by maintaining a slow, steady speed.” It goes on to say, “Do not approach dolphins/whales with small power craft i.e. jet skis.”⁵⁹ Guidelines in Guadeloupe are consistent with the above recommendations; they suggest that operators keep vessels in good technical and mechanical condition, maintain them regularly, and use engines fitted with noise reduction devices.⁶⁰ Numerous other jurisdictions also explicitly address the issue of noise.⁶¹

Recommendation #3

Vessels shall make all approaches from a parallel direction, slightly from behind and not directly from the rear or head-on. Vessels may not drift down on whales.⁶²

With the exception of a few whale species, a vessel should approach any whale parallel and slightly behind and leave in a similar fashion. Jurisdictions throughout the world adopt this approach. For example, regulations in New Zealand as well as guidelines in Canada, Norway, and the Galapagos require this style of approach for orcas and other whales.⁶³ This recommendation is particularly important if the 500 meter buffer zone is not implemented.

⁵⁸ Compendium, at pp. 107-08, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

⁵⁹ Compendium, at p. 97, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

⁶⁰ Compendium, at p. 73, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

⁶¹ See Compendium for examples: Chile at pp. 56-59, the Galapagos at p. 70, Norway at pp. 119-20, Philippines at pp. 128-129, South Africa at p. 135, the United Kingdom at p. 143, and Canada’s Johnstone Strait at p. 36; online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

⁶² Modelled on South African regulations, Marine Living Resources Act, 1998 (Act No. 18 of 1998) - Regulations in Terms of Marine Living Resources Act, 1998 shown in Compendium at p. 135, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

⁶³ Compendium, at pp. 102, 37, 121 and 70 respectively, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>

Recommendation #4

1. **Vessels that encounter whales must not call other boats to the area.**⁶⁴
2. **When multiple vessels are at the same observation site:**
 - **Avoid any boat position that would result in encircling the whale(s).**
 - **Minimize the time spent and the number of vessels with any one group of whales. Limit viewing time to 30 minutes at the allowable 500 meters and then move out to allow other vessels access to good viewing positions. Coordinate activities by maintaining contact with other charted operators and ensure that all operators are aware of the whale watching regulations.**
 - **Respect the same regulations that apply when only one vessel is watching whales.**⁶⁵

The impact of a group of vessels can be far greater than that of a single boat. Whales can more easily be encircled or forcibly dispersed as the number of vessels in a given area rises.⁶⁶

*During periods of high boating activity in the summer months, disturbance may occur from vessel congestion, impairing the ability of whales to move freely and/or forage effectively. Physical disturbance can be caused by boat or air traffic close to whales, especially during certain behavioural states such as feeding or beach rubbing.*⁶⁷

To manage this, numerous jurisdictions establish rules around the number of vessels that can view whales at the same time. For example, the Norwegian guidelines cap the number of boats, regardless of size, at three.⁶⁸

⁶⁴ Modelled after the British Virgin Islands Guidelines. See Compendium, at p. 34, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

⁶⁵ Modelled after guidelines for the Johnstone Strait area in British Columbia (Compendium, at p. 37). This is not inconsistent with the Azorean guideline which states: No more than 3 vessels may be inside an area 500 m around an individual or group of whales. Compendium at p. 30, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

⁶⁶ As stated in the preamble to the Canary Islands Regulations, Compendium at p. 52, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

⁶⁷ SARA Rcvry for N&SKW 2008 at p. 51.

⁶⁸ Compendium at p. 121, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

Communication between boats is another important aspect of ensuring safety and minimum impact on whales. Regulations in the Canary Islands require that two or more vessels approaching the same animals “must communicate amongst themselves in order to coordinate the approaches and maneuvers in a way to minimise repercussions to the animals.”⁶⁹ Another option with regulating communication would be to stipulate that vessels that encounter whales are not allowed to call other boats to the area, as found in the British Virgin Islands’ guidelines.⁷⁰ This may be controversial in British Columbia, where scouts locate whales early in the morning and notify other boats of their location in vast numbers.⁷¹ One article states, “for maximum exposure and greater tourism gratification, the commercial whale watching fleet shares information, which is often broadcast widely over marine radios. In some cases, the whale watching vessels are assisted by spotters, which keep an eye out for orcas.”⁷²

Though not recommended in this report, if regulated distances are shorter than 500 metres, fewer vessels should be allowed within that distance. For example, the Azores regulation states:

The observation of whales by groups of vessels obeys to the following:

- **No more than 3 vessels may be inside an area 500 m around an individual or group of whales;**
- **The precedence of observation is by arrival order in the approaching area or by the vessels proximity to animals that surface at a distance below 500 m from any given boat;**
- **The vessels must be parallel between themselves and position in a sector 60° behind the animals;**
- **Approach maneuvers must be coordinated via radio by the first vessel entering the approach area to reduce impact on the animals’ behavior;**

⁶⁹ Compendium at p. 54, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

⁷⁰ Compendium at p. 34, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

⁷¹ For example, the company Vancouver Whale Watch states on their website, “We work with a network of whale watching operators and share sighting information this gives us a sighting success rate of about 90%.”

<http://www.vancouverwhalewatch.com/faq.html>.

⁷² Group is trying to keep boaters from disturbing orcas; [Final Edition] Jan Westell. Delta Optimist. Delta, B.C.: Jul 21, 2004 pg. 5.

- **Each vessel can stay inside the approaching area of 500 m for a maximum of 15 min after which it must exit the area; during the same trip it cannot approach the same group of animals;**
- **If the animals dive during the observation period of 15 min, the observation period restarts but the vessel loses precedence over the others.**⁷³

Similarly the Code of Ethics that apply in the Bay of Fundy have low distance requirements, 100 meters, but only allow two vessels to view a whale or group of whales from that distance.⁷⁴

Finally, the question of regulating boat speed in and around whale zones needs to be carefully addressed. Increased boat speed increases both sound output and sound frequencies, which interfere with whale echolocation and communication.

Of course, the above recommendations would require increased enforcement capacity, which will be addressed below.

Recommendation #5

No commercial or recreational whale watching should be conducted on board aircrafts since they may disturb whales and dolphins due to their speed, noise, shadow, or downdraft in the case of helicopters.⁷⁵

When operating at an altitude of less than 600 meters, no aircraft shall be closer than 500 m horizontally from a point above any marine mammal unless in the process of taking off or landing.⁷⁶

⁷³ Compendium at 30, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>. Also, see Bay of Fundy at p. 36 and others.

⁷⁴ Compendium at 36, online, http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf.

⁷⁵ Chilean Guidelines. See Compendium at p. 57, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>. Numerous guidelines and regulations reflect this point.

⁷⁶ Dominica Draft Codes of Conduct, Compendium at p. 62, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>. In Canada aircraft are governed by Transport Canada and amendments put forward contemplate barring an altitude of lower than 1000 feet.

Several jurisdictions have restrictive legislation regarding the use of aircraft above and around whales.⁷⁷ According to the existing B.C. – Washington Guidelines, which require aircraft to remain at 450 m or higher, “[t]he droning of an airplane engine and especially the beating of a helicopter rotor will be detected by whales near the surface.”⁷⁸

ZONING

Recommendation #6

The Marine Mammal Regulations should stipulate discrete areas in the marine environment as vessel “no go zones” to protect known habitat of particular importance. Zoning should be adopted using the following wording:

*Vessels, including those used for commercial operators such as whale watching or other tours, are prohibited from the area of X, comprising Y to Z in its northern reaches, and from A to B in its southern reaches, navigation is only allowed along the outer edge of the zone, with no stopping permitted except in the case of an emergency.*⁷⁹

The Marine Mammal Regulations need to identify discrete areas in the marine environment as vessel “no go zones” marked by GPS and land coordinates to protect known habitat of particular importance, and the orcas that rely on that habitat, as well as to ensure that there are places of refuge for marine mammals. These could be especially useful in areas where it is very difficult for boat

⁷⁷ For example, Section 18 of the SAGUENAY-ST. LAWRENCE MARINE PARK ACT SOR/2002-76 20 February, 2002 states, “No person shall fly an aircraft over the park at an altitude of less than 2,000 feet (609.6 m) from the surface of the water or take off or land in the park unless authorized to do so by the Minister under subsection 10(1) of the Act. Compendium at 47, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

⁷⁸ Existing B.C. – Washington Guidelines, Compendium at p. 39, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

⁷⁹ Sample wording for a zoning provision modelled after the Mexican proposed regulation. See Compendium at p. 92, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>. Regulations would need to be worded according to the physical features of the area in question.

operators to adhere to recommended requirements, such as distance, because of physical features. These c/would also apply to fishing vessels. The U.S. recovery plan for southern residents considers implementing zoning restrictions for boaters:

Evaluate the need to establish areas with restrictions on vessel traffic. There are a variety of options to address vessel activity in sensitive areas for Southern Residents, including fixed seasonal restrictions, restrictions when whales are present, or restrictions for whale watching vessels only. Many commercial operators and private boaters already adhere to the voluntary closure of an area off western San Juan Island that is used preferentially by the whales for feeding, traveling, and resting. Evaluating this site will help to determine if area vessel restrictions are effective and whether additional voluntary or mandatory areas should be established. Criteria for selecting areas should be supported by research on habitat use and vessel impacts.⁸⁰

The concept of protecting certain areas for marine mammal activity is not new. Governments have used existing legal mechanisms to protect designated areas. For example, an Ecological Reserve, such as Robson Bight (Michael Bigg) Ecological Reserve, a rubbing area for orcas which provides them with a sanctuary and asks vessels to not enter the area, could be created.⁸¹ Another mechanism would be for the federal government to designate such a zone as a Marine Protected Area, which “[reserves] by law or other effective means to protect part or all of the enclosed environment.”⁸²

Currently, in important southern resident territory, scientists have recommended that a strip of water south of San Juan Island also be zoned to keep vessels out. Note that the US National Marine Fisheries Service has

⁸⁰ US Recovery Plan for SRKW at p. V-15.

⁸¹ Although the Reserve asks boaters to not enter the reserve area, legal authority to enforce that prohibition has been questioned. http://www.env.gov.bc.ca/bcparks/eco_reserve/robsonb_er.html

⁸² Canada’s Federal *Marine Protected Areas* Strategy, p. 4 online: <http://www.dfo-mpo.gc.ca/oceans/publications/fedmpa-zpmfed/pdf/mpa-eng.pdf>. Tools for establishing Marine Protected Areas are described at Appendix 1, 15. This strategy also cites the importance of the precautionary principle where scientific information is lacking: “In the context of marine protected areas, where the threat or risk can be inferred, this could mean that lack of scientific certainty regarding performance measures, targets and benefits will not be used as a reason not to precede with a designation.” p. 11.

proposed a “no go” zone along San Juan Island in its proposed rulemaking. Active Pass, which is too narrow to accommodate the required distances from whales, would be a logical “no go” zone.⁸³ The critical habitat around Point Roberts could be another.

Such zoning would protect important feeding habitat, where vessels are particularly likely to disrupt preying processes, but further, would also allow researchers to “monitor effectiveness of management actions.”⁸⁴ One marine scientist has said, “the continuing conflict between vessels and marine mammals and birds emphasizes the need to zone local waters, much the same way zoning regulates conflicting land-based activities.”⁸⁵

Numerous jurisdictions have varying guidelines to address specific needs in different areas, including British Columbia. New Zealand has established a Code of Management for Doubtful Sound/Patea as a method of managing interactions with bottlenose dolphins.⁸⁶

Conversely government could establish “go zones” – a limited number of defined areas where whale watching is allowed. Limited zones for whale watching would allow for much easier enforcement. Orcas are often spread out in small groups over a distance of miles, with company boats equally spread out, avoiding monitoring while they disturb the orcas. Limiting whale watching to defined “go zones” could put an end to the continuous, unlimited pursuit of whales across the water.

⁸³ According to Peter Hamilton of Liferforce Foundation, operators previously agreed that Active Pass could be a no-go zone.

⁸⁴ Researchers call for conservation zone for killer whales in B.C. Randy Boswell, Canwest News Service: Wednesday, December 23, 2009, online:

<http://www.globaltvbc.com/technology/Researchers+call+conservation+zone+killer+whales/2375408/story.html>.

Ken Balcomb, Executive Director of the Centre for Whale Research out of Friday Harbour, Washington indicated agreement. While not overwhelmingly supportive of “no go” zones, he did suggest that it could be useful to set up several such areas to evaluate orca behaviour patterns and determine if “no go” zones are of any benefit. Detectable benefits would suggest that more zones should be created or existing ones enlarged. Phone conversation with Ken Balcomb, June 28, 2010.

⁸⁵ Coast guard criticized for disturbing porpoises Washington environmentalist says hovercraft transits feeding grounds By Larry Pynn, Canwest News Service May 22, 2010, online:

<http://www.timescolonist.com/technology/Coast+guard+criticized+disturbing+porpoises/3060191/story.html#ixzz0omxu8c68>.

⁸⁶ Compendium at p. 103, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

Such zones would be a certain distance off shore and from one another. Limits on time, the number of boats in an area, the number of zones visited per trip and the number of boat trips per day could all help to more easily ensure that whales are given a reasonable opportunity to rest. In recognition of the relative knowledge of official whale watch operators, particularly in comparison with pleasure boaters, such zones could be made available only to licensed whale watch operations. However, it may be more desirable to allow anyone to enter this zone.

PERMITTING/LICENSING

Recommendation #7

Before issuing a permit to commercial whale watching and tour operators, the [appropriate decision-maker] shall be satisfied that there is substantial compliance with the following criteria:

- a) That the commercial operation⁸⁷ should not have any significant adverse effect on the behavioural patterns of the marine mammal to which the application refers, having regard to, among other things, the number and effect of existing commercial operations;**
- b) That it should be in the interests of the conservation, management, or protection of the marine mammals that a permit be issued;**
- c) That the proposed permit contains adequate conditions and provisions to protect orca from disturbance and provide them with adequate rest;**
- d) That the proposed operator, and such of the operator's staff who may come into contact with marine mammals, have the experience and training with marine mammals prescribed in the regulations.**
- e) That the proposed operator, and such of the operator's staff who may come into contact with marine mammals, should have sufficient knowledge of the local area and of the sea and weather conditions;**

⁸⁷ To ensure a level playing field, "commercial operation" must be defined to include both whale watch companies and other tour operators, including charters and marine wildlife tours.

- f) **That the proposed operator, and such of the operator's staff who may come into contact with marine mammals, should not have convictions or penalties for offenses involving the mistreatment of animals;**
- g) **That the commercial operation should have sufficient educational value to participants or to the public.**⁸⁸

Similar permitting/licensing provisions have been in place in New Zealand since 1992. South Africa also has a very extensive permitting structure that actually preceded the industry and was therefore able to impose quite strict and cautious requirements.⁸⁹ The above permitting recommendation could ensure that operators have the requisite knowledge to navigate safely in marine waters without disturbance, as well as recognize and interpret marine mammal behaviours to avoid any problems. These provisions also require operators to consider and implement educational and conservation components to their programming, given that most players seem to recognize the educational value of whale watch and other tour operators. These businesses could help increase awareness and respect for our marine life and people's interest in the protection of orcas and other marine mammals.⁹⁰

Permitting marine tour operators can be advantageous if such a program provides optimal protection for orca. Permits could be used to limit whale watch and other marine tour activities by stipulating days, times, locations, and allowable noise levels.⁹¹ The advantage of such structured rules is that they are clearer and simpler to enforce. If operators are found with clients on no-watch days, at no-watch times, or in no-go zones, they are quite likely to be in violation of their license.

⁸⁸ New Zealand Marine Mammals Protection Regulations 1992, Compendium at p. 101, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

⁸⁹ Compendium at p. 136, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

⁹⁰ See Association website for more information: <http://pacificwhalewatch.org/>.

⁹¹ The recovery strategy for resident orcas discusses impacts of noise at specific decibel levels: SARA Rcvry for N&SKW 2008 at p. 29. Also discussed is the United States' review of sound regulation.

Recommendation #8

All companies must provide Weekly Marine Wildlife Reports when requested by authorized agencies. These reports must include information requested on standardized data collection forms (prescribed by regulation), including the number of trips, species encountered, etc.

Operators have an unmatched opportunity to contribute to research and conservation efforts by keeping a weekly log of marine wildlife seen. These reports would be submitted at least annually, but could be requested at random by officials a limited number of times per year to ensure their maintenance.

Recommendation #9

Permit violations should be punishable by fine, suspension, or cancellation.

Criteria for determining the severity and appropriate punishment for violations must be clear to officials and operators. Operators could be required to report all violations, their own or others that they observe on the water, including by pleasure boaters. This would allow for more open communication and understanding of the rules, and would show where more education is needed. If desired, permit-holders could be required to undergo randomized inspection.⁹²

Recommendation #10

No person shall transfer a permit except in accordance with section X.

A permit expires on the earliest of

- (a) the expiry date stated in the permit, including any instance when the ownership of a marine tour business or a shuttle service is sold or otherwise transferred to another person, if the permit in respect of that business or service, as the case may be, is transferred in accordance with section X;**

⁹² For an example see s.7 of the *Saguenay-St. Lawrence Marine Park Act* in the Compendium at p. 44, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

(b) the date of cancellation, if any, of the permit; or

(c) where the ownership of a marine tour business or shuttle service is sold or otherwise transferred to another person, the date of that transfer, if the permit in respect of that business or service, as the case may be, is not transferred to that other person in accordance with section X.⁹³

This provision is designed to control the licensing of excessive numbers of commercial whale watching boats. In each location licence issuers would determine the maximum allowable number of boats, based on the “carrying capacity” of the region. If the current number meets or exceeds that maximum, authorities must stop issuing licences. Permit transfers should not be allowed. Only once existing operators have fallen below the agreed upon maximum number will licences be again issued. This approach minimizes adverse impacts on existing operators but allows control over future growth of the tour operator industry, including whale watching. Controlling the transfers of licences, except in accepted instances, could also help to reduce the number of operators and vessels over time, if desired. The *Saguenay-St. Lawrence Marine Park Act* provides an example of provisions designed to ensure appropriate control of licence transfers.⁹⁴

Alternatively, boat traffic could be limited by prohibiting all licensees from operating for one or two days a week. If weekends are particularly busy, then perhaps Mondays could be a day off both for operators, whales and other wildlife. That measure should also reduce the number of recreational boats that are able to locate the whales on “off” days, thus providing whales with respite.

⁹³ Sections 8-10 of the *Saguenay-St. Lawrence Marine Park Act* in the Compendium at p. 45, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

⁹⁴ A number of issues arise around licensing; one is the potential benefit to the licence holder. In the Saguenay, licensed operators have permission to be closer than non-licence holders. Without that distinction there may be difficulty in determining which vessel is actually a commercial whale watching operator and therefore has to have a licence versus the pleasure craft that has passengers in it. As well, in trans-boundary waters the issue of licensing US vessels to conduct a business in Canada may have immigration implications.

Recommendation #11

No new whale watching activities should be authorised if there are threats of significant adverse impact on the behavioural patterns or physiological well-being of marine mammals.⁹⁵

Determining carrying capacity for marine wildlife viewing, or the level of such viewing that remains within sustainable limits could be difficult, but is important to prevent negative impacts on marine mammals. Given how well-developed the existing whale watching and marine tour industry in B.C. is, it may not be fair to diminish the number of existing operators; however limiting further expansion, and lowering the number of operators if and when they leave the market, may be important. Even if current science does not indicate that such limits are conclusively necessary, the precautionary principle warrants a cap on further expansion.⁹⁶

Recommendation #12

Every person purchasing whale watch or other marine tour activity service must pay a five percent (5%) fee that is dedicated to the Marine Boater Education and Monitoring Fund. This new fund will be administered by a prescribed authority or designated conservation group.

Experts agree that education of the boating public is essential to ensure the protection of orcas. Currently a number of non-profit organizations spend a great deal of time on coastal waters, speaking directly with vessel operators about safe marine behaviour, including appropriate behaviour around orcas. However, funding for such efforts is neither stable nor sufficient. The need for more education capacity is undisputed, even by government officials, as mentioned

⁹⁵ Modelled after guidelines from The Agreement on the Conservation of Cetaceans in the Black Sea Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS), Compendium at p. 27, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>. ACCOBAMS is a cooperative tool for the conservation of marine biodiversity in the Mediterranean and Black Seas. Its purpose is “to reduce threats to cetaceans in Mediterranean and Black Sea waters and improve our knowledge of these animals.” <http://www.accobams.org/>

⁹⁶ As the ACCOBAMS guideline states, “The precautionary principle should be employed in every instance (meaning that the benefit of any doubt should be given to the animals),” Compendium at p. 2, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

above.⁹⁷ A regulation that required a small surcharge on the services of whale watching and marine tour operators could provide stable funding for on-the-water education and monitoring programs. Were there an annual boat registration regime in place, registration fees could similarly include an education surcharge.⁹⁸ See the education section below for further discussion of opportunities for critically-important marine wildlife education.

EDUCATION

Recommendation #13

All marinas, fuelling stations and boat rental facilities shall display a poster that is visible to patrons, users, and visitors.

- **The poster shall explain regulations X-XX and any other rules specific to the area in plain language and necessary graphics, include a phone number for reporting violations, and shall not include anything else.**
- **A pamphlet that presents the same information should also be available and prominently displayed.**
- **The poster and pamphlets shall be issued by the appropriate authority or designated conservation group.⁹⁹**

Most stakeholders seem to agree that education is an important component of protecting marine mammals generally, and orcas in particular. While licensed whale watch and tour operators must be aware of these regulations, it is equally

⁹⁷ SARA Rcvry for N&SKW 2008 at p. 26-27.

⁹⁸ For example, s. 4 of the *Wildlife Act's Freshwater Fish Regulation* provides that part of the fishing license fee is allocated to habitat conservation. It reads, "The fee for a permit issued under section 3 is \$25 and the habitat conservation trust fund surcharge to be paid is \$5." B.C. Reg. 261/83. As a slightly different example, "the State of Maryland applies a 5% excise tax at the point of sale [for boats] which is paid into the "Waterway Improvement Fund". This fund "provides financial support to local governments, the Department of Natural Resources and federal agencies" for [services] including: clearing of debris from navigable waters, installation of marine sewage pump-out stations, and other beneficial marine projects for the "general boating public." *Traffic Congestion and Human Waste Dumping in the Saanich Inlet*, Researcher: Tim Thielmann, Articled Student, Oct 10.08, note 93 at p. 24-25

⁹⁹ Note that poster and pamphlet distribution already occurs to some extent on a voluntary basis through various boater education programs.

important that pleasure boaters and others understand the rules of marine activity.

Throughout the summer the coastal waters of B.C. are full of visitors exploring the area. Thus, education is necessary year after year. While education on the water and elsewhere is perhaps most important, visual representations provide an additional opportunity for education, and add another set of educated eyes on the water.

Recommendation #14

A licensee shall display a poster at each of the offices and on each licensed boat and shall ensure that the poster is visible to patrons and potential patrons.

- **The poster shall explain regulations X-XX and any other rules specific to the area in plain language and necessary graphics, include a number to call if violations are seen, and shall not include anything else.**
- **A pamphlet that presents the same information should also be available and prominently displayed.**
- **The poster and pamphlets shall be issued by the appropriate local authority.¹⁰⁰**

Similarly, if a significant part of tour operators' mandate is to educate the public, part of that education should be about the legal rules for responsible enjoyment of marine wildlife. The displays on boats particularly provide an opportunity for patrons to engage with the rules and ask questions as they are viewing wildlife. In cases of flagrant disregard for regulations, patrons may be empowered to ask questions and even report violations.

In addition, existing education programs should be reviewed in order to improve education of the public about marine mammals. For example, there is a requirement under current law to have a Pleasure Craft Operators Card (a boat

¹⁰⁰ Modelled after Payday Loans Act, 2008; ONTARIO REGULATION 98/09. O. Reg. 98/09, s. 14. An appendix to the regulation would include a plain language version along with appropriate graphics such as those found in the numerous guidelines, including those that apply in B.C.

driver's licence) -- the required reading material for that Card should have a marine mammal viewing component. In addition to including materials about marine mammals in all Power Squadron materials and programs, educational materials should be distributed to public marinas, Coast Guard and Coast Guard Auxiliary, contractors working for parks and other government agencies, as well as all private and commercial boat operators.

ENFORCEMENT

Recommendation #15

Enforcement resources and efforts to protect marine mammals should be redoubled, and minimum fines should be instituted.

Government should study enforcement under the *Saguenay-St. Lawrence Marine Park Act*, under which enforcement officials perform regular patrols to ensure compliance, particularly in areas most often frequented by whales. This patrolling -- along with distribution of a guide that explains the main provisions -- has been credited with improving the public's knowledge about appropriate boating behaviour.¹⁰¹

In addition, in light of the relatively light penalties that have been imposed for those found guilty of disturbing whales,¹⁰² a minimum fine of \$10-20,000 would likely create greater compliance with the law.

Recommendation #16

Where initial information is provided, or a legal information is laid, by way of a person not representing government relating to an offence under this regulation, the payment of the proceeds of any penalty imposed arising from a conviction for the offence shall be made

¹⁰¹ Modelled after the *Saguenay-St. Lawrence Marine Park Act*, Compendium at p. 50, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

¹⁰² In both *R. v. Fossum* and *R. v. Maya*, cited above, the fines were only \$6,500.

(a) one half to the person; and

(b) one half to the Minister or, where all of the expenses incurred in the prosecution of the offence are paid by a government, to that government.¹⁰³

A lack of resources currently restricts the activities of government enforcement staff. As a result, much disturbance of whales goes undetected and unrestrained.

On the other hand, non-profit organizations and pleasure boaters already make frequent reports about suspected violations. These “citizen enforcers” could provide extensive monitoring and enforcement assistance, if motivated and trained.

Mandating that 50% of a recovered fine be given to the person who provided key information or laid the legal information (charged the offender), would provide an incentive for organizations and others to act as “eyes and ears on the water”. It would encourage groups to participate more actively in the monitoring process, and give them resources to be more effective “watchdogs”. Better funded and trained citizen groups should be able to provide better information to enforcement officials.¹⁰⁴

¹⁰³ This private prosecution provision is modelled after Fishery (General) Regulations, SOR/93-53 (under the *Fisheries Act*), s. 62, but is changed to also reward those who supply initial information to the Crown. Under the Fishery Regulation, citizens may charge polluters for offences such as depositing deleterious substances in to fish habitat. Online:
<<http://canlii.org/eliisa/highlight.do?text=fisheries&language=en&searchTitle=Search+all+CanLII+Databases&path=/en/ca/laws/regu/sor-93-53/latest/sor-93-53.html>>.

¹⁰⁴ Some may question the effectiveness of providing compensation to those that lay informations, given that most environmental private prosecution informations in B.C. have been stayed in recent years (a notable exception is Alexandra Morton’s). See a blog article on the recent history of private prosecutions in B.C.: West Coast Environmental Law, *Alexandra Morton breathes new life into private prosecutions*, April 27, 2010, online: <http://wcel.org/resources/environmental-law-alert/alexandra-morton-breathes-new-life-private-prosecutions>). However, increasing political attention on environmental violations, the current case referred to in the article above, the Department of Justice’s potentially increased willingness to take on cases, and improvements to the quality of evidence brought could improve this situation. In addition, compensating people that provide the initial information for a successful Crown prosecution should make this proposed provision into a real incentive for citizens to help enforce the law. Note another potential example to be considered: Ontario’s *Environmental Bill of Rights*, S.O. 1993, c. 28, s. 84(1) states: “Where a person has contravened or will imminently contravene an Act, regulation or instrument prescribed for the purposes of Part V and the actual or imminent contravention has caused or will imminently cause significant harm to a public resource of Ontario, any person resident in Ontario may bring an action against the person in the court in respect of the harm and is entitled to judgment if successful.” Potential remedies

Currently citizen enforcers have varying levels of resources and knowledge about what is required to prove that a violation occurred – including, for example, identity of the vessel operator and, under the Marine Mammal Regulations, proof that the whale or other marine mammal was disturbed. Enhanced funding under this recommendation and the previous recommendation for a 5% surcharge should enable better training and resourcing of those key citizen groups.

EXCEPTIONS

Recommendation #17

Nothing in these regulations shall apply to persons, vessels, aircraft, or vehicles rendering assistance to stranded or injured marine mammals or during emergency situations (search and rescue, vessel breakdown, etc.).¹⁰⁵

under this section include injunctive relief and order for a restoration plan: s. 93(1), online: <http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_93e28_e.htm#BK105>.

¹⁰⁵ New Zealand, s. 17 Marine Mammal Protection Regulations. Compendium at 101, online, <http://iwcoffice.org/_documents/sci_com/WWREGS%202009%20final.pdf>.

Appendix A

Species of BC Orca

Four populations of killer whales are present off the coasts of British Columbia and Washington: the endangered southern resident orcas, the threatened northern resident orcas, the threatened west coast transient orcas and the offshore orcas, listed as a species of special concern.¹⁰⁶ “To the untrained eye, it is extremely difficult to distinguish between the three ‘assemblages’ of Killer Whales found on the west coast of North America; [sic] Resident, Transient and Offshore Killer Whales.”¹⁰⁷ While considered to be of the same species, each population has varying cultural characteristics including diet, vocalizations and hunting behaviours,¹⁰⁸ which mean that boat activities and other disturbances have varying impacts.

The habitat of southern residents, the most at risk orca population, is “Haro Strait, Boundary Pass, eastern part of the Strait of Juan de Fuca, and southern portions of the Strait of Georgia.”¹⁰⁹ These are precisely the areas frequented daily by whale watching boats from Vancouver, Victoria, and Washington.¹¹⁰

¹⁰⁶ Species listings can be found at http://www.sararegistry.gc.ca/sar/index/default_e.cfm. A change in legal status for offshore orcas, from ‘species of concern’ to ‘threatened’ is currently being considered: SARA Mgmt Plan for OKW 2009 at p. 4.

¹⁰⁷ SARA Mgmt Plan for OKW 2009, at Table 2, p. 8.

¹⁰⁸ SARA Recovery Strategy for the Northern & Southern Killer Whale in Canada, March 2008, http://www.sararegistry.gc.ca/virtual_sara/files/plans/rs%5FResident%5FKiller%5FWhale%20%5F0308%5Fe%2Epdf [SARA Rcvry for N&SKW 2008] at p. 2. Action plan due March 31, 2013. Recently published research indicates a stronger basis for considering pacific transient killer whales a distinct species: ‘Unique’ population of killer whales identified off B.C. coast, Randy Boswell, Vancouver Sun, April 23, 2010, online: <http://www.vancouversun.com/technology/Unique+population+killer+whales+identified+coast/2944509/story.html>.

¹⁰⁹ SARA Rcvry for N&SKW 2008 at p. v. See figure 4, p.37 (includes all of CRD and SJI area).

¹¹⁰ The Strait of Georgia, including the Gulf and San Juan Islands, is home to the highest density of whale watching operators in BC. The majority are based in Victoria, home to approximately 10 operators with a fleet of about 30 vessels. Other operators are based in Duncan, Sidney, Sooke, Vancouver, Richmond and Washington State. The estimated direct revenue from whale watching in Haro Strait is \$12 million annually. The Strait of Georgia is considered one of the best and most accessible places in the world to watch killer whales...” Feasibility Study for the Proposed Southern Strait of Georgia National Marine Conservation Area Reserve, *Parks Canada*, online, <http://www.pc.gc.ca/progs/amnc-nmca/cnamnc-cnmca/dgs-ssg/itm5-/page6_e.asp>. According to one website,

Northern resident orcas typically occupy waters of Johnstone Strait and southeastern Queen Charlotte Strait¹¹¹ but have been spotted as far south as Washington.¹¹² Transient orcas are much less well studied, largely because of their broader travel patterns, and therefore deciding what protection they need is difficult. Unlike other orcas, transients feed exclusively on other marine mammals, which means that they range widely and that their specialized hunting techniques require different behaviour, such as further distance from boats and less acoustic disturbance.¹¹³ Finally, offshore killer whales traditionally occupied waters off the coast of British Columbia, without entering the straits of Juan de Fuca or Johnstone. Sightings typically occurred off the west coast of Haida Gwaii. However, in recent years the offshore sightings in the straits have increased, making them more susceptible to human activities.¹¹⁴

“The boundary waters of the U.S. San Juan and Canadian Gulf islands, known as the Salish Sea, are one of the highest density whale-watching areas in the world.” <<http://www.whale-museum.org/programs/soundwatch/soundwatch.html>>.

¹¹¹ SARA Rcvry for N&SKW 2008 at p. 39.

¹¹² SARA Rcvry for N&SKW 2008 at p. v.

¹¹³ SARA Rcvry for TKW 2007, at p. 3-4.

¹¹⁴ SARA Mgmt Plan for OKW 2009 at p. 2.