



April 13, 2017

From Raincoast Conservation Foundation
PO Box 2429, Sidney, B.C., Canada V8L3Y3

Re: Raincoast Conservation Foundation comments on the proposed whale protection zone on west side of San Juan Island.

We are writing in support of the initiative. While more research will always be desired, recovery actions for endangered Southern Resident killer whales (SRKW's) need to be implemented based on the existing understanding of threats to this population. In the absence of a comprehensive strategy with identified actions that address primary threats (i.e. food supply, noise and disturbance, and contaminants), NOAA needs to act on discrete initiatives.

Killer whale use and feeding activity within the proposed whale protection zone has been documented for several decades (see Ashe et al. 2010). The importance of this region (or a subset of this region) as a candidate protected area was first proposed by Ashe et al. in 2010. The authors identified a 7.4 km² section on the southwestern side of San Juan Island as a candidate Marine Protected Area (MPA) based on evidence that resident killer whales inside the area are 2.7 times more likely to be engaged in feeding activity than whales outside the candidate area. Even if recent use of this area by SRKW's is now lower than previously, it cannot be assumed that its importance is diminished or inconsequential, especially if behavioral changes are due to low salmon abundance. Ashe et al. identified that the use of this area for preferred feeding would likely persist over time scales suitable for management action.

The importance of, and need for, a sanctuary within critical habitat where whales are not followed by boats is paramount. The importance of sanctuaries to provide a buffer from the chronic disturbance of vessel traffic was recently recognized by the Canadian federal government in their Resident killer whale Action Plan (March 2017). Such sanctuaries would reduce the chronic disturbance and noise from close proximity vessels. Although areas have not yet been proposed in Canada, high use areas like the west side of Pender Island and other Gulf Islands could be candidates. Importantly, Canadian protected areas for SRKW's would not rank as high as Southwest San Juan Island in terms of its history of priority use for feeding.

In addition to the importance of feeding grounds, the stress that constant noise delivers to whales has also been documented (see Rolland et al. 2012). Awareness is also growing about the adverse impact of chronic disturbances from which whales cannot escape. In the Salish Sea on a typical day from late spring to fall, SRKW's are routinely followed by more than a dozen recreational and commercial boats at ± 200 m distances (Erbe 2002, Ashe et al. 2010). There is currently no place in the Salish Sea where whales can escape the chronic disturbance and noise from boat traffic.

We could find no examples where the viewing of wild endangered mammal populations is allowed to the extent that SRKW's experience. Endangered mountain gorillas, for example, are restricted to one hour of viewing per day. In species like grizzlies, regulations at viewing hot spots restrict the time, the number of people, and the viewing location, to limit the disturbance of animals trying to feed. Even some zoos have recognized the 'visitor effect' and restrict viewing hours on certain species to reduce the stress caused by chronic disturbance.

As stated in an April 12, 2017 letter to the Canadian federal government by 20 killer whale scientists, "Vessel presence and noise exposure are associated in resident killer whales with a substantial reduction in foraging activity, limiting their food acquisition abilities. In what is already a food-compromised environment, we believe that this foraging impairment is not sustainable. Vessel noise is also likely to adversely affect the southern residents in other material ways, such as by masking and altering calls that are vital to their communication and by inducing chronic stress."

While prey limitation is recognized as the most important factor affecting SRKW population growth, noise and disturbance act indirectly to reduce food consumption. Evidence submitted by Raincoast to federal hearings of Canada's National Energy Board (Lacy et al. 2015) identified how current and future noise levels compromise effective foraging of SRKWs. An updated manuscript (Lacy et al. *in review*) found that meeting SRKW recovery targets through prey management alone would require Chinook salmon abundance to be sustained near the highest levels observed since the 1970s. Yet reducing acoustic disturbance by 50% combined with increased Chinook abundance by 15% above existing baseline levels would also allow the population to reach the 2.3% growth target.

The potential for SRKW recovery exists *only* if NOAA (and the Canadian Department of Fisheries and Oceans, DFO) implements measures and actions that lower the intensity of the threats facing whales. This consideration of a small sanctuary that gives whales some reprieve from chronic vessel disturbance in their most well documented feeding area is one modest effort. We encourage NOAA to implement such a measure that has significant public support both here in Canada and the United States.

We would be happy to discuss this further should the opportunity arise.

Sincerely,



Misty MacDuffee
Director, Wild Salmon Program
Raincoast Conservation Foundation



Citations

Ashe, E., D. P. Noren, and R. Williams. 2010. Animal behaviour and marine protected areas: incorporating behavioural data into the selection of marine protected areas for an endangered killer whale population. *Animal Conservation*, 13: 196-203.

Erbe, C. 2002. Underwater noise of whale-watching boats and potential effects on killer whales (*Orcinus orca*), based on an acoustic impact model. *Mar. Mamm. Sci.* 18, 394–418.

Fisheries and Oceans Canada. 2017. Action Plan for the Northern and Southern Resident Killer Whale (*Orcinus orca*) in Canada. *Species at Risk Act* Action Plan Series. Fisheries and Oceans Canada, Ottawa. v + 33 pp.

Lacy, R.C., C.W. Clark, L.J.N. Brent, D.P. Croft, K.C. Balcomb III and P.C. Paquet. 2015. Report on Population Viability Analysis model investigations of threats to the Southern Resident Killer Whale population from Trans Mountain Expansion Project. Prepared for the National Energy Board (NEB) hearings reviewing Kinder Morgan's proposed Trans Mountain Expansion project.

Lacy, R.C., R. Williams, L.J.N. Brent, D.P. Croft, C.W. Clark, K.C. Balcomb III, D.A. Giles, E. Ashe, M. MacDuffee and P.C. Paquet *in review*. Evaluating anthropogenic threats to endangered killer whales to inform effective recovery plans.

Reducing underwater noise in the Salish Sea. April 12, 2017. Scientist letter to Prime Minister Justin Trudeau and Honorable Ministers LeBlanc, McKenna, and Garneau.