31 March 2017

Ms. Lynne Barre
National Marine Fisheries Service
West Coast Region
7600 Sand Point Way
Seattle, Washington 98115

Dear Ms. Barre:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the National Marine Fisheries Service's (NMFS) 12 January 2017 *Federal Register* notice (82 Fed. Reg. 4276) and related petition requesting rulemaking to establish a whale protection zone for southern resident killer whales and offers the following comments and recommendations.

Background

On 10 November 2016, the Orca Relief Citizens' Alliance, Center for Biological Diversity, and Project Seawolf submitted a petition to NMFS requesting rules to establish a protection zone for the southern resident killer whale (SRKW) population listed as endangered in 2005 under the Endangered Species Act. The intended purpose of the new zone is to reduce disturbance of killer whales by vessel traffic and vessel noise in an important SRKW feeding area. The proposed zone is along the southwest shore of San Juan Island in Puget Sound, Washington. The petition includes several boundary options that would expand upon a previously proposed protection zone put forward by NMFS in July 2009. The earlier NMFS proposal, which would have extended a half mile from shore along much of the southwest San Juan Island coast and would have limited vessel access in that area, was subsequently rejected by the agency when it adopted other vessel management measures (e.g., a 200-yard whale approach limit and a prohibition on maneuvering vessels into the path of swimming whales) in April 2011.

The petitioners request that access to the proposed zone by certain vessels be prohibited during the months of April through September, when SRKWs typically make use of the area for feeding. In support of the action, the petition provides information on the abundance and distribution of SRKWs, threats to the population, vessel traffic in the area, and the effects of noise and vessel traffic on SRKWs. The *Federal Register* notice asks for information and comments on: (1) the need for a protection zone, (2) its geographic scope, (3) alternative management options to regulate vessel traffic, (4) effects of vessels on killer whales and their habitat, (5) potential economic impacts, and (6) any additional information that NMFS should consider.

Comments and Recommendations

Information cited in the petition documents a net decline in SRKW abundance since 2005, when the population was listed as endangered under the ESA. The petition notes that when the latest summer survey was completed in July 2016, the population numbered 83 whales. The petition also cites various analyses by NMFS that conclude the population's greatest threats are limited prey availability (principally declining abundance of Chinook salmon), disturbance by vessel noise and traffic, and exposure to contaminants. Both the status of SRKW and threats to their recovery are well documented in the petition and various NMFS reviews and analyses (see for example NMFS 2008, 2011, 2016). These sources also provide information indicating that waters along the southwest shore of San Juan Island are an important feeding area for SRKW. The regular presence of killer whales and salmon in this area makes it a popular area for fishermen and for commercial and recreational whale-watching vessels.

The petition and NMFS cite numerous changes in killer whale behavior when in the presence of boats; including whale-watching vessels (see also Houghton et al. 2015). The documented behavioral changes include altered vocalization patterns, travel paths, dive durations, and habitat use patterns. The cause of these changes is believed to be either vessel noise, vessel activity, or a combination of both. Although there is good evidence of behavioral changes in response to vessels, the extent of such changes may vary significantly depending on environmental conditions that affect sound transmission, vessel types and activities, individual differences among whales, and the whales' behavior at the time of disturbance.

Both the petition and NMFS (2010, 2011a) cite numerous studies documenting the importance of Chinook salmon in the diet of SRKW and the possible role of nutritional stress in limiting recovery of the SKW population. A panel of experts convened to evaluate the effects of commercial Chinook salmon harvests on SRKW (Hilborn et al. 2012) concluded that "there is good evidence that Chinook salmon is a very important part of the diet of SRKW". A more recent smaller panel also concluded that "[t]here are multiple lines of evidence that indicate the presence of poor body condition in SRKW…is associated with loss of fetuses, calves and adults" (Matkin et al. 2017). However, the precise causes of poor body condition in SRKW are uncertain and likely include a combination of factors such as physiological status (e.g., whales that are pregnant or subject to disease), stress from vessel noise and activity, disruption of foraging behavior by vessel noise and activity, reduction in prey abundance by fisheries and habitat degradation, and effects of contaminants.

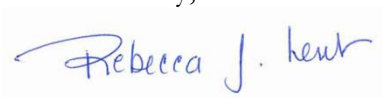
Because vessel disturbance and prey availability have been identified as two of the greatest threats to SRKW (NMFS 2011b), the Commission believes it is reasonable to consider vessel disturbance of feeding whales a matter of particular management concern, and to take measures to minimize such disturbance as a way of promoting SRKW recovery. In addition, given the extremely small size of the current population (now fewer than 80 whales given deaths since the last summer survey in 2016) and the urgency of reversing the declining trend in abundance, the Commission believes that an adaptive management approach is necessary. The next step should be to implement measures likely to achieve a significant improvement in the health, survival, and reproductive success of individual SRKWs, rather than simply ramping up weaker measures that have not proven to be effective. The Commission therefore believes that it is appropriate to establish a protection zone

that includes as much of the San Juan Island feeding ground as possible and to initiate research and monitoring studies that can be expected to provide an informed basis for assessing its effectiveness.

The Commission therefore recommends that NMFS (1) designate a time-limited SRKW protection zone (e.g. six years) with boundaries that encompass the largest size considered in the petition (i.e., one mile from shore, from Mitchell Point to Cattle Point), (2) prohibit vessel access to the protection zone with certain exceptions (e.g., boats mooring at docks of shoreline property owners, research vessels that require access to the area to collect data that could not be collected outside the zone and enforcement vessels), and (3) undertake monitoring studies focused on assessing a) the sources and levels of noise within the protection zone, b) changes in foraging activity and behavior of SRKWs in response to protection zone measures, and c) the overall health, reproduction, and abundance of individuals in the SRKW population. The length of the recommended sunset period should be based on a power analysis of planned research and monitoring studies and consideration of time necessary to conduct analyses and prepare new regulations. For example, if the power analysis indicates that five years of data collection will be needed to assess zone effectiveness and two additional years would be required for data analyses and new rulemaking, the protection zone should be made effective for seven years. Based on information in the petition and previous NMFS analyses, a 1-mile zone off the southwest San Juan Island shore appears to be an appropriate boundary that would cover the core of the area's SRKW feeding area. Based on analyses of data collected during zone's effective period, NMFS should evaluate the results to determine if the condition and abundance of SRKWs have improved coincident with the new protection zone, and accordingly whether the zone should be removed, continued, modified, or supplemented.

I trust these comments and recommendations are helpful. If you or your staff have questions, please let me know.

Sincerely,



Rebecca J. Lent, Ph.D.
Executive Director

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