MARINE MAMMAL COMMISSION

15 January 2010

Ms. Donna Darm
Assistant Regional Administrator
Protected Resources Division
National Marine Fisheries Service
7600 Sand Point Way, NE
Seattle WA 98115

Dear Ms. Darm:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the National Marine Fisheries Service's 29 July 2009 proposed rule (74 Fed. Reg. 37674) and corresponding environmental assessment of measures to protect killer whales (*Orcinus orca*) in Washington's inland waters. The rule is intended to reduce the effects of vessel traffic on the whales, including the effects of whale-watching activities. It would be issued under the authority of the Endangered Species Act and the Marine Mammal Protection Act and primarily would establish a distance limit for vessels approaching whales, a "no-go" zone off San Juan Island, and a prohibition against positioning vessels in the path of whales. The Commission supports each of these elements of the proposed rule but questions whether they will be sufficient to protect killer whales from the adverse effects of vessel traffic and whale-watching. The Commission offers the following recommendations and rationale.

RECOMMENDATIONS

The Marine Mammal Commission recommends that the National Marine Fisheries Service implement all of the regulations described in the 29 July 2009 *Federal Register* to increase protection of killer whales, particularly the endangered southern resident stock, from vessel impacts in Washington's inland waters. In addition, the Marine Mammal Commission recommends that the Service—

- analyze and include additional regulatory provisions to establish stand-by zones at some distance beyond the 200-yard approach limit (e.g., beyond 400-600 yards) and limit the number of vessels (e.g., 10) that can be present between that boundary and the 200-yard approach limit at any one time;
- consider and include the safe operating procedures described later in this letter as part of any final rule governing vessel operations in the vicinity of killer whales in the inland waters of Washington State;
- adopt a regulatory speed limit of either seven knots or, at a minimum, a "slow safe speed" requirement (as defined in 33 U.S.C. § 2006 and the International Regulations for Preventing Collisions at Sea 1972 (see 33 U.S.C. § 1602)) within 400 yards of killer whales;
- develop a monitoring plan to assess compliance with and evaluate the effectiveness of the vessel approach regulations included in the final rule and describe that plan in the associated preamble;
- include implementation of a "no-go" zone off the west coast of San Juan Island; and

- move quickly to initiate discussions with Canada to develop comparable management strategies for killer whales throughout the inland waters of both Washington State and British Columbia. Among other things, the Service should seek comparable regulations, monitoring, enforcement, and outreach, assuming that these are not already in place.

RATIONALE

The most apparent effects of vessel traffic on killer whales include disturbance from the presence of the vessels and their associated noise, the risk of vessel strikes on the whales, and the masking of sounds important to the whales for navigation, foraging, or communication. Each of these effects has the potential to influence the behavior of the whales and to reduce their chances of survival and reproduction (directly in the case of ship strikes). Such effects would impede population recovery and conservation. The most common killer whales in the inland waters of Washington are members of the southern resident stock, which the Service has listed as endangered. This population numbers fewer than 100 animals, is vulnerable to several human-related risk factors, and has experienced significant declines in recent years that have not been fully explained by science. This killer whale stock clearly needs protection.

Approach Limits and Stand-by Zones

Vessel traffic is likely the most common and significant source of disturbance for southern resident killer whales. Commercial and recreational whale-watching vessels may be particularly harmful because, by intent, they operate close to the whales. Voluntary guidelines (i.e., Be Whale Wise) developed in collaboration with stakeholders were intended to keep the whale-watching vessels well away from the whales and thereby limit disturbance. However, vessel operators violate the guidelines on a frequent basis. In 2006 Soundwatch, a stewardship program of The Whale Museum in the Pacific Northwest, documented 1,281 cases in which vessels failed to follow the guidelines, and the frequency of non-compliance has increased since 1998. Such observations provide more than enough impetus for regulation of whale-watching activities, as reflected in the proposed rule.

Multiple factors may influence the extent to which whales are disturbed by approaching vessels. Such factors include the closeness and number of vessels, their configuration around the whales, the nature and level of noise from their engines, weather, bathymetry, proximity to shore, location, etc. The environmental assessment indicates that the mean number of commercial and recreational whale-watching boats following a given group of whales within ½ mile increased from 5 boats in 1990 to an average of about 20 boats for the years 1998 through 2006. On any given day, that number may be much higher. According to the assessment "…107 vessels followed one Southern Resident pod (Lien 2000); 76 boats simultaneously positioned around a group of 18 whales from K pod (Baird 2002); and up to 500 vessels came out on the weekends to view a group of whales from L pod in Dyes Inlet during the fall of 1997." Such fleets of vessels, most of which are motorized, must create considerable underwater noise. Furthermore, depending on the configuration of those vessels around the whales, they could form a barrier that impedes the whales'

movements. Under such circumstances, it is not hard to imagine that the whales would be at least distracted, if not disturbed, likely leading to physiological stress and changes in their behavior (e.g., increased respiratory intervals, prolonged transitions between activity states, decreased resting and foraging, increased directional changes). Such effects could in turn impose energetic costs and have population-level consequences (Lusseau et al. 2009).

Two of the three main measures of the proposed rule should help ensure that vessels maintain a reasonable distance from the whales. The first is the 200-yard limit for vessels approaching a whale or group of whales. Clearly, the relationship between distance and effects on the whales cannot be described exactly. But the Service reasonably included this measure based on evidence that it would reduce (1) the risk of vessel strikes, (2) disturbance of biologically important behavior, and (3) masking. The second measure prohibits vessel operators from positioning in the path of whales so that the whales either have to come close to the vessels or change their course. The Marine Mammal Commission supports these measures and recommends that the National Marine Fisheries Service implement all of the regulations described in the 29 July 2009 *Federal Register* notice to increase protection of killer whales, particularly the endangered southern resident stock.

Even with those measures, the Commission believes that more protection is needed. Because large numbers of vessels (as described earlier) sometimes aggregate in an area to watch a killer whale or a group of killer whales, the Service also should consider the use of stand-by zones to limit the number of vessels allowed to approach whales at any one time. The Service has included such measures in whale-watching guidelines on the East Coast. For example, in the Northeast Region and the Stellwagen Bank National Marine Sanctuary, guidelines include both a "Close Approach Zone" (equivalent to the approach limit) and a "Stand-by Zone" at some additional distance from the whales. Both zones limit the number of vessels allowed to be present within a particular distance. In addition, a vessel can remain in the Close Approach Zone only for a limited time if additional vessels are waiting in the Stand-by Zone. The Service's environmental assessment did not evaluate Stand-by zones and they are not included in the proposed rule. However, because such zones provide a mechanism to limit the number of boats near the whale(s), they also provide a mechanism to limit the amount of associated disturbance. The Marine Mammal Commission therefore recommends that the National Marine Fisheries Service analyze and include additional regulatory provisions to establish stand-by zones at some distance beyond the 200-yard approach limit (e.g., beyond 400-600 yards) and limit the number of vessels (e.g., 10) that can be present between that boundary and the 200-yard approach limit at any time. The Service also should consider limiting the time a vessel can remain at the 200-yard limit if other vessels are waiting in the stand-by zone. The Commission understands that such zones may be difficult to implement and enforce, but believes that they could be implemented successfully with sufficient outreach, self-policing, and additional enforcement as necessary.

Best Practices and Safe Operating Procedures

In addition, the Commission believes that the Service should use this rule to promote a number of other best practices and safe operating procedures. The Service need only review its own guidelines and rules in other parts of the country to identify them. Whale-watching guidelines in the

Northeast, Be Whale Wise guidelines in the Northwest, and North Atlantic right whale approach regulations all include safe operating procedures that could increase significantly the level of protection beyond that conferred by the currently proposed rule. These include (1) posting a dedicated lookout to assist the vessel operator in monitoring the location of all marine mammals; (2) avoiding sudden changes in speed and direction; (3) approaching and leaving stationary whales at no more than idle or "no wake" speed, not to exceed seven knots; (4) maintaining communication among multiple vessels at a site (via VHF channels 9, 13, or 16 for hailing) to coordinate viewing; (5) monitoring the presence of obstacles (vessels, structures, fishing gear, or the shoreline) to safe navigation; (6) putting engines in neutral if whales approach within 100 feet of a vessel and not re-engaging propulsion until the whales are observed to be clear of the area; and (7) ceasing whale-watching activities before dark by returning to port at least 15 minutes before sunset. All of these are commonsense measures that reduce the likelihood of striking or interfering with a whale or group of whales, and their application clearly is warranted by the southern resident killer whale stock's endangered status. Therefore, the Marine Mammal Commission recommends that the National Marine Fisheries Service consider and include the safe operating procedures discussed here as part of any final rule governing vessel operations in the vicinity of killer whales in the inland waters of Washington State.

Speed Limits

Vessel speed limits deserve special consideration because they provide an obvious mechanism to reduce the probability of vessel strikes, interference with the whales' use of sound for multiple kinds of behavior (e.g., communication, foraging), and adverse physiological responses by the whales. The current voluntary guidelines recommend speeds of less than seven knots when a vessel is within 400 yards of the nearest whale. Nonetheless, documented instances in which vessels failed to follow the speed guidelines increased from 13 in 2003 to 139 in 2006 (Tables 3.1 and 3.2 and Figure 3-9 in the assessment). The Service analyzed the effects of such a regulation in its environmental assessment and concluded that a speed regulation would result in only small reductions in risks associated with vessel strikes or auditory masking and would likely provide only small biological benefits to the whales. The Service also asserts that a speed restriction would be difficult to enforce without vessel tracking technology as it would need to measure both speed and distance from the whales.

The Commission disagrees with the Service's reasoning and conclusion regarding speed limits. In some cases, the benefits to the whales might be small. However, if increasing speed increases the noise introduced into the marine environment, and increasing noise increases the probability of masking, then slowing vessels should reduce the potential for significant masking effects. Perhaps more important, excessive speed increases the risk of injury or death from vessel strikes, and the loss of even a single whale would have serious consequences for the recovery and conservation of the southern resident stock. Those potential consequences, together with the extraordinary frequency of interactions between whales and vessels in these waters and the minor costs to vessel operators from reducing speed near whales, all argue that speed limits would provide important additional protection with little associated cost and therefore should be included in this rule. To do otherwise is to place the stock at unnecessary risk.

Although the Commission agrees that precise measurement of both vessel speeds and distances from whales is challenging, surely the more egregious violations could be identified with existing technology. In fact, regulated slow speed zones are enforced in multiple areas of the country for many reasons, including protection of marine mammals (e.g., manatees in Florida, large whales off the northeast Atlantic coast, right whales in various parts of the U.S. Atlantic coast, and humpback whales in Alaska waters[1]). In addition, the fact that the Service's environmental assessment referenced violations of the voluntary guideline for speed near whales implies that the Service has some degree of confidence in assessments of speed near whales. Implementation and enforcement of a speed limit also could be enhanced by education of the public and commercial whale-watching community. The results may not be total compliance, but they would likely reduce the probability of a serious accident. For all these reasons, the Marine Mammal Commission recommends that the National Marine Fisheries Service adopt a regulatory speed limit of either seven knots or, at a minimum, a "slow safe speed" requirement (as defined in 33 U.S.C. § 2006 and the International Regulations for Preventing Collisions at Sea 1972 (see 33 U.S.C. § 1602)) within 400 yards of killer whales.

Monitoring Compliance with and Assessing the Effectiveness of the Final Regulations

The Service has been working with researchers and organizations such as Soundwatch to monitor compliance with whale-watching guidelines. The Commission supports such partnerships, particularly for the purpose of monitoring compliance, which is likely to become more difficult in the foreseeable future. As discussed in the environmental assessment, human population growth is expected to result in increased commercial and recreational vessel traffic in Washington's inland waters. Registration figures for recreational boating bear this out—the number of boats is increasing and likely will continue to increase (National Marine Manufacturers Association 2005). More recreational vessels and more people engaged in whale-watching will likely lead to more interactions between vessels and killer whales. The effects on the whales also will increase if whale-watching is not well managed. To ensure good management, the Service must develop and implement a monitoring program that (1) assesses vessel compliance and (2) confirms that the new regulations are sufficient. If compliance is poor and the new regulations prove inadequate, the Service must identify a process for determining what additional regulations are necessary. To that end, the Marine Mammal Commission recommends that the National Marine Fisheries Service develop a monitoring plan to assess compliance with and evaluate the effectiveness of the vessel approach regulations and that this plan be included in the final rule and described in the associated preamble.

No-go Zone

The Commission supports the implementation of a "no-go" zone along the west side of San Juan Island. This area is thought to be particularly important for killer whale foraging, particularly

[1]The Alaska humpback whale approach regulations (66 Fed. Reg. 29502, May 31, 2001) require vessels to operate at a slow, safe speed when near a humpback whale. "Safe speed" has the same meaning as the term is defined in 33 U.S.C. § 2006 and the International Regulations for Preventing Collisions at Sea 1972 (see 33 U.S.C. § 1602), with respect to avoiding collisions with humpback whales.

for Chinook salmon. Although disturbance by whale-watching vessels has been implicated as an important factor in the decline of this stock, so too has the decline in Chinook salmon populations, which appear to be the most important prey for southern resident killer whales. Creating a no-go zone at this site makes sense because (1) the area is frequented by the whales, which means the risk of a vessel strike may be increased, (2) the area appears to be important for foraging and its protection helps address a major risk factor, and (3) limiting vessel traffic in this area may reduce the likelihood of masking, which could confound the whales ability to forage successfully. For these reasons, the Marine Mammal Commission recommends that the National Marine Fisheries Service include the implementation of a no-go zone off the west coast of San Juan Island.

Cooperation with Canadian Authorities

Statistics in the environmental assessment indicate that both U.S. and Canadian commercial whale-watching operators violate the guidelines, including parking in the path of approaching whales, operating inshore of whales, operating under power within 100 yards of whales, and operating at high speeds near the whales. Of the 1,281 guideline violations in 2006 (referred to earlier in this letter), 30 percent were by commercial whale-watching operators. Of that 30 percent, more than two-thirds involved Canadian operators, although—in fairness—the Commission understands that more whale-watching operators are from Canada and violation rates are comparable.

The take prohibitions of the Marine Mammal Protection Act (16 U.S.C. § 1372(a)(2)(A)) and Endangered Species Act (16 U.S.C. § 1538(a)(1)(B)) and corresponding regulations apply unambiguously to all persons or vessels, regardless of their nationality or country of registry, in waters or on lands under the jurisdiction of the United States. Once finalized, the regulations that are the subject of this rulemaking will be binding on Canadian commercial whale-watching operators and recreational boaters when they are operating in the area set forth in section 224.103(e)(1) of the regulations. The Service will need to consider how best to pursue enforcement actions against Canadian vessel operators that are based in Canadian ports but enter U.S. waters and violate the regulations.

However, protecting the whales only in U.S. waters will not be sufficient to ensure the recovery and conservation of this stock. The observations that Canadian operators also violate whale-watching guidelines and the fact that the whales use the Canadian waters of northern Puget Sound mean that the Service must work with its Canadian counterparts to protect southern resident killer whales in Canadian waters as well.

The Commission understands that Canadian and U.S. officials already cooperate to a degree on matters pertaining to the protection of southern resident killer whales. The Commission also is aware of similar cooperation between the countries on management efforts related to other marine mammals (e.g., sea otters). So a precedent for international cooperation exists. Such cooperation seems essential and, in view of existing violations, warrants expanding. With that in mind, the Marine Mammal Commission recommends that the National Marine Fisheries Service initiate discussions with Canada to develop comparable management strategies for killer whales throughout

the inland waters of Washington State and British Columbia. Among other things, the Service should seek comparable regulations, monitoring, enforcement, and outreach.

A Precautionary Approach

The National Marine Fisheries Service has primary responsibility for protecting the southern resident killer whale stock in Washington's inland waters. As is always the case in management of endangered species, meeting this responsibility will require making some difficult decisions based on uncertain information. However, most of the measures discussed in this letter would result in relatively little cost to boaters who wish to approach killer whales in this region. In contrast, failing to impose the necessary measures could come with a serious cost to the stock and associated ecosystem. The loss of a single whale from a vessel strike could have important consequences. As noted previously, the southern resident killer whale stock consists of fewer than 100 individuals, faces a number of risks from human activities, and has experienced sharp declines in recent years that scientists have not yet been able to explain fully. Surely this is a situation where any uncertainty regarding potential adverse effects should be managed in a precautionary manner.

Please contact me if you have questions about the Commission's recommendations.

Sincerely,

Timothy J. Ragen, Ph.D.
Executive Director

References

Baird, R. W. 2002. Killer whales of the world: natural history and conservation. Voyageur Press, Stillwater, Minnesota, 132 pages.

Lusseau, D., D. E. Bain, R. Williams, and J. C. Smith. 2009. Vessel traffic disrupts the foraging behavior of southern resident killer whales *Orcinus orca*. Endangered Species Research 6:211–221.

National Marine Manufacturers Association. 2005. 2004 U.S. Recreational Boat Registration Statistics, 9 pages.