



MARINE MAMMAL COMMISSION

29 October 2019

Mr. Barry A. Thom
Regional Administrator
West Coast Region
National Marine Fisheries Service
1201 NE Lloyd Boulevard, Suite 1100
Portland, OR 97232

ATTN: Protected Resources Division, NOAA-NMFS-2019-0073

Dear Mr. Thom:

On 30 August 2019, the National Marine Fisheries Service (NMFS) published a notice (84 Fed. Reg. 45730) announcing receipt of an application from Oregon, Washington, Idaho, and several Tribes seeking authorization under section 120(f) of the Marine Mammal Protection Act (MMPA) to take by lethal methods pinnipeds in the Columbia River and its tributaries. The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed that notice and the application and provides the following comments and recommendations.

Implementation of Section 120(f)

This is the first application submitted under section 120(f) since that provision was amended by Public Law 115-329 in December 2018, and therefore is likely to be precedent-setting. Section 120(f)(2)(B) specifies that the timelines and procedures of section 120(c)¹ apply to reviews of such applications. As such, after making a determination that an application provides sufficient evidence that a pinniped removal authorization may be warranted, NMFS is required to establish a task force to review and provide advice on the application. Section 120(f)(2)(C) requires NMFS to establish procedures to govern and coordinate issuance of removal permits, including procedures for delegation of removal authority, monitoring, periodic review, and geographic, seasonal take and species-specific considerations. NMFS approved these procedures on 4 June 2019, and has interpreted the requirements of section 120(f) quite broadly. The procedures state, for example, that the agency and the task force are required to consider all of the information specified in section 120(d). Further, NMFS has determined that an application submitted under section 120(f) must include all of the information required in an application submitted under section 120(b) except as it relates to identifying individual pinnipeds or finding that those animals are having a significant negative impact on fishery stocks.

Although section 120(f) requires that NMFS and the task force follow pre-existing procedures and timelines under subsection (c), the new provision is substantively quite different than the authorization process under the other provisions of this section. New section 120(f) is

¹ Which also apply to applications submitted under section 120(b).

based on the premise that all pinnipeds within certain areas in the Columbia River and its tributaries are having significant negative impacts on the identified fishery stocks. As such, some of the considerations under section 120(d) no longer are relevant. Thus, in the interest of efficiency, the Commission recommends that the task force be instructed to constrain its review to those factors that have a direct bearing on the findings required under section 120(c) and 120(f). For instance, the task force need not spend its time reviewing “the extent to which...pinnipeds are causing undue injury or impact to, or imbalance with, other species in the ecosystem....” Despite the relevance of this issue to the overall question of whether pinnipeds should be removed, in enacting Section 120(f), Congress has determined that pinnipeds are having such impacts.

Relevant Considerations

Numbers/Coordination of Permits — Section 120(f)(3) requires NMFS to specify annual taking limits and caps the allowable limit at 10 percent of the sea lion stocks’ potential biological removal (PBR) levels. Applying current PBR levels, this would allow up to 1,401 California sea lions and up to 249 Steller sea lions to be removed lethally each year. The application is unclear concerning the number of removals for which authorization is being sought. In the section entitled “number of animals to be removed” the applicants note only how many sea lions it estimates to be within the geographic scope of the application—144-286 California sea lions and 105-130 Steller sea lions—not the number they are seeking authorization to remove. The requested number of takes needs to be clarified. Is it at the lower end of the identified range, the upper end, somewhere in between, or some other number? Also, it is unclear how the applicants are accounting for sea lions that have not previously been seen within the removal areas, but that could move into those zones during the five-year period that would be covered by the requested permit, particularly as other sea lions are captured and killed.

On a related point, the level of authorized removals should reflect not only the number of sea lions within the areas where removals are allowed, but the capability of the applicants to trap and euthanize animals. Although NMFS legally could authorize up to 1,650 lethal removals per year, it would be nonsensical to do so if (1) the number of sea lions within the Columbia and its tributaries is far less or (2) the applicants could not possibly remove that number of animals given the constraints on removal methods and available resources. The Commission recommends that NMFS seek clarification from the applicants about how many removals, by species and by year, they are requesting and ask the task force to provide advice on the number of annual removals to allow for each of the two sea lion species.

It also is not clear whether the current application is intended to supplement or supplant the existing authorizations allowing the removal of pinnipeds at Bonneville Dam and Willamette Falls. Those authorizations already permit the states to remove up to 280 California sea lions per year, provided that those animals meet the removal criteria. This is a relevant consideration in setting appropriate removal levels in any new authorization. Specifically, the applicants should be asked to clarify whether they intend the authorization sought under section 120(f) to replace the existing authorizations and, if so, NMFS should revoke the earlier authorizations.

One possible reason to retain the existing authorizations is that they ostensibly provide greater flexibility in the removal methods that can be employed. Several years of observations at Bonneville Dam have documented that certain individual sea lions consume many more salmonids

than others. The Commission has recommended in the past that pinniped removal strategies be designed to target selectively the greatest contributors to the predation problem. The Commission also has noted that the current practice of trapping sea lions does not effectively target those individuals that are the greatest contributors. In fact, some sea lions, perhaps including major consumers of salmonids at Bonneville Dam and Willamette Falls, may not be susceptible to trapping at all. If that turns out to be the case, the states may want to avail themselves of more selective removal methods. In addition, as discussed further below, this is one reason to continue to monitor fish consumption by individual sea lions at certain locations, although doing so would no longer be required to meet the requirement of section 120(b) pertaining to “individually identifiable pinnipeds.”

Location and Time of Removals — Section 120(c)(3)(A) directs the task force to provide recommendations concerning the location, time, and method of taking. The applicants are seeking removal authority throughout the areas specified in section 120(f)—i.e., in the mainstem of the Columbia River above river mile 112 and below McNary Dam and in tributaries that provide spawning habitat for endangered or threatened salmon or steelhead. However, they state that the primary capture sites will be in the vicinity of Willamette Falls and Bonneville Dam (category 1 sites). Captures at Willamette Falls are planned year-round, and at Bonneville Dam during two three-month periods in the spring and fall, although those could be expanded based on the presence of sea lions at other times and the availability of resources needed to carry out taking. The applicants also have identified secondary (category 2) and tertiary (category 3) capture sites, where sea lions could be trapped or darted for removal as the need arises and if resources are available. Low to moderate numbers of sea lions (less than 10) have been observed in Category 2 areas and are present only periodically. Category 3 areas have no documented observations of either California or Steller sea lions or such low numbers of sea lions that they are not currently deemed a conservation risk to salmonids.

The Commission agrees that greatest attention should be given to removal activities at Willamette Falls and Bonneville Dam. This is where salmonid passage is slowed by artificial barriers and the fish are most vulnerable to predation. These areas also are where the predation problem has been best documented and appears to be most acute. In fact, there are few data to support the view that predation of salmonids by sea lions is a significant problem elsewhere in the river system despite the inclusion of other areas in the 2018 legislation. Thus, the Commission encourages NMFS, the states, and others to conduct additional monitoring and research directed at understanding the extent of salmonid predation in these other areas and to determine the extent to which salmonids are vulnerable to predation elsewhere.

One concern that the Commission has about approving the trapping of sea lions in category 3, and perhaps even in category 2, areas is the possibility that the haulouts created by the placement of floating traps at or near the mouth of tributaries could serve to attract animals that may not otherwise have ventured into those areas. As such, the Commission recommends that NMFS and the task force consider whether to limit the placement of traps in tributaries to areas where sea lions cannot see them unless they have first traveled some distance up the tributary.

Non-Lethal Alternatives — Section 120(c)(3)(B) requires the task force to consider whether non-lethal alternatives to lethal removal are available and practicable. The applicants are requesting that they not be required to conduct non-lethal hazing of sea lions as a condition of any removal authority. In

support of this request, the applicants recount non-lethal efforts to deter sea lions from becoming established and eating fish at Ballard Locks, Bonneville Dam, and Willamette Falls, all with limited success.

The Commission acknowledges the efforts at Bonneville Dam to deter habituated animals have been unsuccessful. In part, that may be because of the size of the area and the ability of sea lions subject to harassment to move elsewhere in the tailrace. However, we continue to believe that non-lethal deterrence measures might be more effective in on naïve animals or in more confined areas and should not be ruled out completely without additional evidence that such measures are not effective in other settings (e.g., in category 2 and 3 areas) . The Commission is particularly interested in learning more about the basis for the assertion in the application that “more recent evidence suggests that they have minimal effect on naïve animals,” an assertion based on “unpublished data.”

Pending a review of that information, the Commission continues to recommend that non-lethal deterrence efforts not be abandoned completely. Not only might they be more effective with naïve animals or in confined areas where sea lions cannot merely move to adjacent areas and continue to feed, but these efforts may be more effective in areas other than Bonneville Dam or Willamette Falls, two places where fish passage is slowed and predation by sea lions likely is more productive. Even if the new task force concludes (as have past task forces) that non-lethal deterrence of sea lions is ineffective and should not be required at Bonneville Dam or Willamette Falls as a condition of the requested authorization, the Commission recommends that the task force be asked to consider whether non-lethal measures should be required in other areas. In particular, such measures may be effective in deterring sea lions from becoming established in category 3 areas or from increasing their presence in category 2 areas.

Monitoring/Evaluation of Effectiveness — Section 120(f)(2)(C) specifies that the procedures to be established by NMFS include requirements for monitoring. In addition, section 120(c)(3)(A) requires the task force to recommend criteria for evaluating the success of a removal action and section 120(c)(5) calls for the task force to conduct such an evaluation.

Under the procedures issued by NMFS on 4 June 2019, an “eligible entity” is required to develop and implement a monitoring program to evaluate (1) the impacts of sea lion predation on at-risk fish stocks and (2) the effectiveness of permanent removal of predatory sea lions as a method to reduce mortality of at-risk fish stocks. More specifically, the procedures require an eligible entity to:

- monitor and report on the number of sea lions observed in the action area
- report the number of sea lions removed in the action area
- monitor and report on the number of prey observed to have been taken by sea lions in the action area, and
- monitor and report on key population parameters for at-risk fish stocks so that the effectiveness of permanent removal of predatory sea lions as a method to reduce or eliminate mortality on at-risk fish stocks can be evaluated as required in section 120(c)(5).

The application provides scant information about the monitoring program being proposed in this instance. Although the states, the Army Corps of Engineers, and others have carried out

robust monitoring programs over the years, it is not apparent whether the applicants intend to continue them unchanged. In particular, given the changes in how individual sea lions eligible for removal are identified, the applicants need to clarify whether they will be continuing to monitor the comings and goings of individual sea lions at Bonneville Dam and Willamette Falls and to record predation events by individuals when possible. It is also unclear whether the applicants intend to continue, or even expand, current efforts to mark sea lions near Astoria and elsewhere to help facilitate identification in the event they travel up-river. NMFS should ask the applicants to provide a more complete description of their proposed monitoring plan, and supplement it as necessary to ensure that the agency and the task force have the information necessary to evaluate whether the proposed removal program is successful or not.

To date, monitoring efforts have been focused on Bonneville Dam and Willamette Falls. This is understandable given the concentration of sea lions and predation events at these locations and the previously applicable requirements for identifying problem pinnipeds individually. However, if lethal removals are to be authorized in other areas, more regular and systematic monitoring of those areas is needed to develop the baseline information necessary to assess the extent of the problem and whether removal efforts are successful. The Commission therefore recommends that NMFS and the task force consider what monitoring programs are needed in areas other than Bonneville Dam and Willamette Falls.

In addition, the task force should be asked to recommend criteria for assessing the effectiveness of the lethal removal program or non-lethal alternatives in eliminating or reducing problem interactions. There are several possible metrics. Ultimately, success should be measured on the basis of the recovery, or at least improved status, of listed fish stocks or on the extent to which mortality of at-risk fish stocks is being reduced. However, given the number and diversity of factors other than predation by pinnipeds that are known or suspected to be contributing to the imperilment these stocks, and given all of the other ongoing recovery activities, improved status of stocks is not a realistic measure of the success or failure of pinniped removal. Likewise, ascertaining whether pinniped removal is translating into reduced mortality of at-risk fish (or merely shifting predation to other areas or if “saved” fish are dying from other causes) will be difficult to determine unless the monitoring program is sufficient to detect predation events and possible offsetting increases in mortalities from other causes throughout the Columbia River and its tributaries.

Other possible measures of success are the number of pinnipeds removed and, building on that, the estimated number of fish “saved” using an energetics model to estimate what those sea lions would have eaten to sustain themselves. As the Commission has noted previously, the Columbia River is not a closed system, and removals only save fish if the removed sea lions are not replaced. There are many sea lions downstream or at the mouth of the Columbia that could fill the niche vacated by animals that are lethally removed. If sea lions are at or near the carrying capacity of key areas to support them, the effectiveness of the removal program depends on whether, and the rapidity with which, new sea lions replace those that are removed. An effective monitoring program should be designed to collect the types of information needed to determine the carrying capacity of the habitat around Bonneville Dam and Willamette Falls to support sea lions, and to document whether, and how quickly, removed sea lions are replaced.

A related measure of effectiveness would be a reduction in the number of sea lions congregating where predation on at-risk fish stocks is concentrated. The monitoring requirements

established by NMFS in its procedures presumably would be sufficient to allow for documentation of any such reduction. By this measure, though, ongoing removal programs at Bonneville Dam and Willamette Falls have not been very effective in reducing the number of sea lions at those locations or the observed number of predation events, adding credence to the view that new sea lions are moving into these areas almost as quickly as others are being removed.

Another factor to consider in assessing the effectiveness of a removal program is whether it is targeting the individuals that are the biggest contributors to the predation problem. Data collected at Bonneville Dam indicates that some sea lions are much more successful consumers of salmon than others. If one considers only how many sea lions are removed, or even the extent to which the numbers of sea lions within the areas of greatest concern are reduced, but not whether the major contributors are among those removed, a key aspect of the evaluation may be overlooked. For this reason, the Commission recommends that the monitoring programs continue to attribute predation events to individual sea lions whenever possible.

The enactment of section 120(f) raises the stakes of the pinniped removal program in many ways. It allows more sea lions to be killed, within a broader area, and without the need to document that each animal to be removed is a significant contributor to the predation problem. As such, it might be more successful than past programs in contributing to the conservation of listed salmonids and other at-risk fish stocks. It also presents a higher risk of killing sea lions needlessly (e.g., if some sea lions within the specified removal areas are not significant contributors to the predation problem, or if removals do not result in reduced predation). Because of these possibilities, invoking section 120(f) also should prompt us to improve the monitoring programs and evaluation criteria so that we can ascertain whether the right sea lions are being targeted and whether removals are being translated into any appreciable net savings of at-risk fish stocks. For this reason, the Commission recommends that the composition of the task force include expanded representation of individuals from the research and academic communities who have the expertise necessary to establish appropriate evaluation criteria and to design effective monitoring requirements.

Humaneness — Section 120(f)(4) requires that intentional lethal taking under this new authority be conducted in a humane² manner. It also requires that methods of capture, husbandry, transportation, and euthanasia be developed or reviewed by an Institutional Animal Care and Use Committee (IACUC). Although the humane taking requirement is one element of an authorization under section 120(f), the Commission sees little point in having the task force weigh in on humaneness issues. Unless structured differently than past task forces, this task force would have no particular expertise in this area, and certainly less than an IACUC constituted separately to focus on this aspect.

Suspension if no longer necessary (or if not effective) — Section 120(f)(5) directs NMFS to review the new lethal removal program in December 2023 to determine whether that authority “is no longer necessary to protect salmonid and other fish species from sea lion predation.” That provision, however, is silent on the criteria that will be used to make such a determination. Clearly, such a finding would be warranted if the removal program had reduced predation and the prospect of future predation to the point where it no longer is a concern. The Commission would like to postulate a second alternative. A removal program should also be considered unnecessary if it is

² As that term is defined in section 3(4) of the MMPA.

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demonstrated that it is unlikely to address the predation problem successfully (e.g., if predatory sea lions are being replaced almost as quickly as they are removed).

Requested Information

The *Federal Register* notice specifically requested any information concerning: (1) observations of sea lion predation activity on salmonids and eulachon within the geographic area established in section 120(f); (2) areas where numbers of sea lions are concentrated within the geographic area established in section 120(f), including resting/haulout sites and locations where sea lions have been repeatedly observed taking salmonids and eulachon; and (3) dates when sea lions have been observed within the geographic area established in section 120(f). The Commission has no new information to offer on these issues.

Task Force Membership

NMFS in its *Federal Register* notice solicits the names and affiliations of experts from the academic and scientific community, tribes, Federal and state agencies, and the private sector for consideration as potential task force members.

The Commission recommends appointment of the following individuals:

- Douglas P. DeMaster, Ph.D., former Director of the Alaska Fisheries Science Center
- Daniel P. Costa, Ph.D., Director, Institute of Marine Science, University of California Santa Cruz (<http://costa.eeb.ucsc.edu/dan-costa/>)
- Timothy J. Ragen, Ph.D., former Executive Director of the Marine Mammal Commission

The Commission believes that NMFS is familiar with the qualifications of these individuals, but would be pleased to provide additional information upon request.

The Commission appreciates the opportunity to review and comment on the pinniped removal application and formation of the task force.

Sincerely,



Peter O. Thomas, Ph.D.,
Executive Director