purposes, but no such removals have been authorized since listing. While occasionally the subject of observation and harassment, especially in some areas, Steller sea lions usually are not utilized for educational purposes in a manner that would have a significant negative impact on the animals. It is unlikely that utilization of Steller sea lions for scientific or educational purposes has been a significant or contributing factor that has affected either population segment.

## C. Disease or Predation

Western and Eastern Population Segments: Sharks and killer whales are known to prey on Steller sea lions, primarily pups. The magnitude and significance of predator-related mortality, however, is not known. Natural mortality from predation is not currently considered to be a significant factor for either Steller sea lion population segment. Nonetheless, should the western population segment continue to decline and the amount of mortality resulting from natural predation by killer whales remain unchanged, natural mortality could exacerbate the decline, especially in some areas of the western population.

Studies to assess the significance of disease in the Steller sea lion population are ongoing. To date, researchers have not found any evidence that disease is a significant factor affecting either population of Steller sea lions. Various pathogens have been isolated from animals collected by researchers or carcasses found on the beach but their significance to the overall population remains unclear. One area of ongoing research is determining the role, if any, of pathogens in the relatively high rate of abortions observed in Gulf of Alaska Steller sea lions.

## D. The Inadequacy of Existing Regulatory Mechanisms

NMFS has the authority to implement regulations necessary to protect Steller sea lions under the ESA and the MMPA. Similarly, under the Magnuson Act, NMFS has the authority to regulate fishing activities that may be affecting sea lions, directly or indirectly. However, the adequacy or inadequacy of existing regulatory mechanisms and protective regulations is difficult to evaluate because of the lack of a clear cause and effect relationship between human activities and the decline in the western population segment. Various regulations that have been implemented, or that have been suggested or proposed for implementation, are considered below.

Take prohibitions. Under the MMPA, it is unlawful for any person subject to the jurisdiction of the United States to take a marine mammal on the high seas or in waters or lands under U.S. jurisdiction. "Take" is defined as harass, hunt, capture, or kill or attempt to harass, hunt, capture, or kill any marine mammal. Certain exceptions are provided.

Similarly, under the ESA, certain statutory prohibitions apply once a species is listed as endangered. For example, under section 9 of the ESA, no person subject to the jurisdiction of the United States may take such a species within the U.S., the territorial sea of the U.S., or upon the high seas. "Take" is defined as harass, harm, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. Certain exceptions are provided.

Often prohibitions similar to the section 9 prohibitions for endangered species are implemented by regulation with respect to species that are listed as threatened. Such action was not taken with respect to Steller sea lions when the species originally was listed as threatened in 1990, in part, because similar take prohibitions existed under the MMPA, and in part, because of the difficulty of authorizing incidental takings if such prohibitions had been implemented.

The regulatory mechanisms prohibiting the taking of Steller sea lions generally have been effective.

Regulations prohibiting the discharge of firearms: Regulations adopted with the original listing of Steller sea lions as threatened prohibited the discharge of firearms at or near these animals. Although intentional lethal taking of sea lions was prohibited at that time, there had been reports that firearms were used to deter sea lions from interfering with fishing operations.

In a separate action, NMFS has proposed regulations and guidelines for deterring marine mammals as required under new section 101(a)(4) of the MMPA (60 FR 22345, May 5, 1995). These deterrence measures would prohibit the use of firearms for deterring marine mammals from interacting with fishing gear or catch. In addition, new section 118(a)(5) of the MMPA prohibits intentional lethal taking of any marine mammal during commercial fishing operations, except in defense of human life (60 FR 6036, Feb. 1, 1995).

As noted above, illegal shooting of Steller sea lions may be continuing, but the regulations adopted at the time of the original listing of the species as threatened are viewed, in general, as effective and adequate. NMFS proposes to continue these types of protections for both the eastern and western population segments. The proposed regulation in this action would expand the definition of "firearm" to make the definition consistent with the approach proposed in the marine mammal deterrence measures.

No approach in buffer areas:
Regulations adopted with the original listing of Steller sea lions as threatened, prohibited any vessel from approaching within three miles of specific Steller sea lion rookeries; likewise, approach on non-private land within one-half mile of these specific rookery sites was prohibited. A variety of exceptions were provided. All of the specified rookery sites are within the range of the western population segment.

The purposes of the buffer areas were to restrict opportunities for individuals to shoot at sea lions and to facilitate enforcement of this restriction: to reduce interactions with sea lions, such as accidents or incidental takings, in areas where concentrations of these animals are expected to be high; to minimize disturbance and interference with sea lion behavior including foraging behavior, especially at pupping and breeding sites; and to avoid or minimize other human impacts and related adverse effects. To date, these regulations generally are viewed as effective.

NMFS is proposing to continue the existing regulatory buffer areas in the western area. At this time, NMFS is not proposing additional buffer areas in the western area or any buffer area protections for rookery sites in the eastern area. Specific case-by-case buffer area or related protections may be considered in the context of section 7 consultations. Comments are invited with respect to the need for changes in buffer area protections.

Quotas on incidental takings: On April 30, 1994, the reauthorized and amended MMPA established a new regime to govern the take of marine mammals incidental to commercial fishing operations to replace the interim exemption program that was established by the 1988 amendments to the MMPA. Under the 1988 Interim Marine Mammal Exemption Program, up to 1,350 Steller sea lions were authorized to be taken annually incidental to commercial fisheries and emergency regulatory actions were required if more than 1,350 animals were incidentally killed in any year. The new MMPA management regime replaces the previous quota system and focuses on reducing the incidental mortality and serious injury of marine mammals from strategic stocks, i.e., those that are listed as endangered or threatened under the