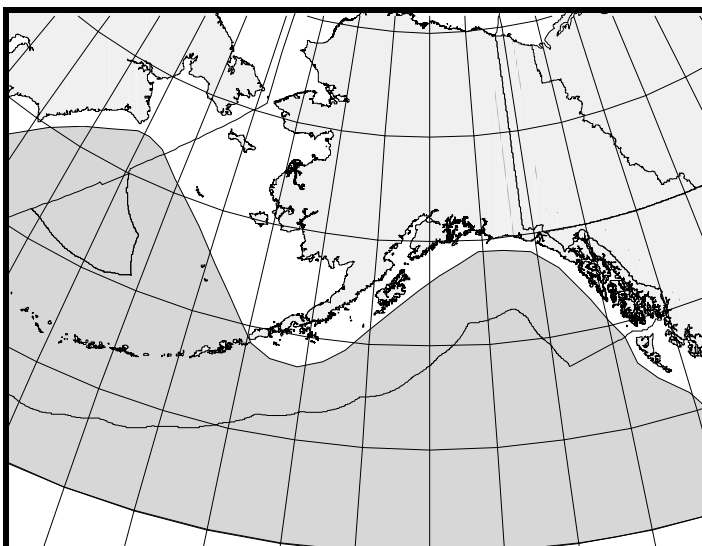


## STEJNEGER'S BEAKED WHALE (*Mesoplodon stejnegeri*): Alaska Stock

### STOCK DEFINITION AND GEOGRAPHIC RANGE

Stejneger's, or Bering Sea, beaked whale is rarely seen at sea, and its distribution generally has been inferred from stranded specimens (Loughlin and Perez 1985, Mead 1989). It is endemic to the cold-temperate waters of the North Pacific Ocean, Sea of Japan, and deep waters of the southwest Bering Sea (Fig. 29). The range of Stejneger's beaked whale extends along the coast of North America from Cardiff, California, north through the Gulf of Alaska to the Aleutian Islands, into the Bering Sea to the Pribilof Islands and Commander Islands, and, off Asia, south to Akita Beach on Noto Peninsula, Honshu, in the Sea of Japan (Loughlin and Perez 1985). Near the central Aleutian Islands, groups of 3-15 Stejneger's beaked whales have been sighted on a number of occasions (Rice 1986). The species is not known to enter the Arctic Ocean and is the only species of *Mesoplodon* known to occur in Alaska waters. The distribution of *M.*



**Figure 30.** Approximate distribution of Stejneger's beaked whales in the eastern North Pacific (shaded area).

*stejnegeri* in the North Pacific corresponds closely, in occupying the same cold-temperate niche and position, to that of *M. bidens* in the North Atlantic. It lies principally between 50° and 60°N and extends only to about 45°N in the eastern Pacific, but to about 40°N in the western Pacific (Moore 1963, 1966).

There are insufficient data to apply the phylogeographic approach to stock structure (Dizon et al. 1992) for Stejneger's beaked whale. The Alaska Stejneger's beaked whale stock is recognized separately from *Mesoplodon* spp. off California, Oregon, and Washington because of: 1) the distribution of Stejneger's beaked whale and the different oceanographic habitats found in the two areas, 2) the large distance between the two non-contiguous areas of U.S. waters in conjunction with the lack of any information about whether animals move between the two areas, and 3) the different fisheries that operate within portions of those two areas, with bycatch of *Mesoplodon* spp. only reported from the California/Oregon thresher shark and swordfish drift gillnet fishery. The California/Oregon/Washington stock of all *Mesoplodon* spp. and a *Mesoplodon densirostris* stock in Hawaiian waters are reported separately in the Stock Assessment Reports for the Pacific Region.

### POPULATION SIZE

Reliable estimates of abundance for this stock are currently unavailable.

#### Minimum Population Estimate

At this time, it is not possible to produce a reliable minimum population estimate ( $N_{\text{MIN}}$ ) for this stock, as current estimates of abundance are unavailable.

### **Current Population Trend**

At present, reliable data on trends in population abundance are unavailable.

### **CURRENT AND MAXIMUM NET PRODUCTIVITY RATES**

A reliable estimate of the maximum net productivity rate is currently unavailable for the Alaska stock of Stejneger's beaked whale. Hence, until additional data become available, it is recommended that the cetacean maximum theoretical net productivity rate ( $R_{MAX}$ ) of 4% be employed (Wade and Angliss 1997).

### **POTENTIAL BIOLOGICAL REMOVAL**

Under the 1994 re-authorized Marine Mammal Protection Act (MMPA), the potential biological removal (PBR) is defined as the product of the minimum population estimate, one-half the maximum theoretical net productivity rate, and a recovery factor:  $PBR = N_{MIN} \times 0.5R_{MAX} \times F_R$ . The recovery factor ( $F_R$ ) for this stock is 0.5, the value for cetacean stocks with unknown population status (Wade and Angliss 1997). However, in the absence of a reliable estimate of minimum abundance, the PBR for this stock is unknown.

### **ANNUAL HUMAN-CAUSED MORTALITY AND SERIOUS INJURY**

#### **Fisheries Information**

Six different commercial fisheries operating within the range of the Alaska stock of Stejneger's beaked whale were monitored for incidental take by fishery observers during 1990-97: Bering Sea (and Aleutian Islands) groundfish trawl, longline, and pot fisheries and Gulf of Alaska groundfish trawl, longline, and pot fisheries. No Stejneger's beaked whale mortalities were observed by observers in any observed fishery.

An additional source of information on the number of Stejneger's beaked whales killed or injured incidental to commercial fishery operations is the self-reported fisheries information required of vessel operators by the MMPA. During the period between 1990 and 1997, there were no fisher self-reports of Stejneger's beaked whale mortalities from any fisheries operating within the range of this stock. However, because logbook records (fisher self-reports required during 1990-94) were most likely negatively biased (Credle et al. 1994), these were considered to be minimum estimates. Self-reported fisheries data were incomplete for 1994, not available for 1995, and considered unreliable after 1995 (See Appendix 4).

The estimated annual mortality rate incidental to commercial fisheries is zero. Therefore, the annual human-caused mortality level is considered to be insignificant and approaching a zero mortality and serious injury rate.

#### **Subsistence/Native Harvest Information**

There is no known subsistence harvest of Stejneger's beaked whales.

### **STATUS OF STOCK**

Stejneger's beaked whales are not listed as "depleted" under the MMPA or listed as "threatened" or "endangered" under the Endangered Species Act. Reliable estimates of the minimum population, population trends, PBR, and status of the stock relative to its Optimum Sustainable Population size are currently not available. However, the estimated annual rate of human-caused mortality and serious injury seems minimal for this stock. Thus, the Alaska stock of Stejneger's beaked whale is not classified as strategic.

### **REFERENCES**

- Credle, V. R., D. P. DeMaster, M. M. Merklein, M. B. Hanson, W. A. Karp, and S. M. Fitzgerald (eds.). 1994. NMFS observer programs: minutes and recommendations from a workshop held in Galveston, Texas, November 10-11, 1993. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-OPR-94-1, 96 pp.
- Dizon, A. E., C. Lockyer, W. F. Perrin, D. P. DeMaster, and J. Sisson. 1992. Rethinking the stock concept: a phylogeographic approach. *Conserv. Biol.* 6:24-36.

- Loughlin, T. R., and M. A. Perez. 1985. *Mesoplodon stejnegeri*. Mammalian Species, No. 250.
- Mead, J. G. 1989. Beaked whales of the genus - *Mesoplodon*. Pp. 349-430, *In* S. H. Ridgway and R. Harrison (eds.), Handbook of marine mammals: River dolphins and the larger toothed whales. Academic Press, New York.
- Moore, J. C. 1963. Recognizing certain species of beaked whales of the Pacific Ocean. *Am. Midl. Nat.* 70:396-428.
- Moore, J. C. 1966. Diagnoses and distributions of beaked whales of the genus *Mesoplodon* known from North American waters. Pp. 32-61, *In* K. S. Norris (ed.), Whales, dolphins and porpoises. Univ. California Press, Berkeley.
- Rice, D. W. 1986. Beaked whales. Pp. 102-109, *In* D. Haley (ed.), Marine mammals of the eastern North Pacific and Arctic waters. Pacific Search Press, Seattle.
- Wade, P. R., and R. Angliss. 1997. Guidelines for assessing marine mammal stocks: report of the GAMMS workshop April 3-5, 1996, Seattle, WA. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-OPR-12, 93 pp.