Revised 12/30/98

FIN WHALE (*Balaenoptera physalis*): Northeast Pacific Stock

STOCK DEFINITION AND GEOGRAPHIC RANGE

In the North Pacific Ocean, fin whales can be found from above the Arctic Circle to lower latitudes of approximately 20°N (Leatherwood et al. 1982). There are few data concerning the location of the winter grounds of fin whales because migrations from summer feeding areas back to their winter grounds tend to occur in the open ocean rather than near the coast (Mizroch et al. 1984). Within U. S. waters in the Pacific, fin whales are distributed seasonally off the coast of North America (Fig. 33) and occasionally near and around the waters of Hawaii.

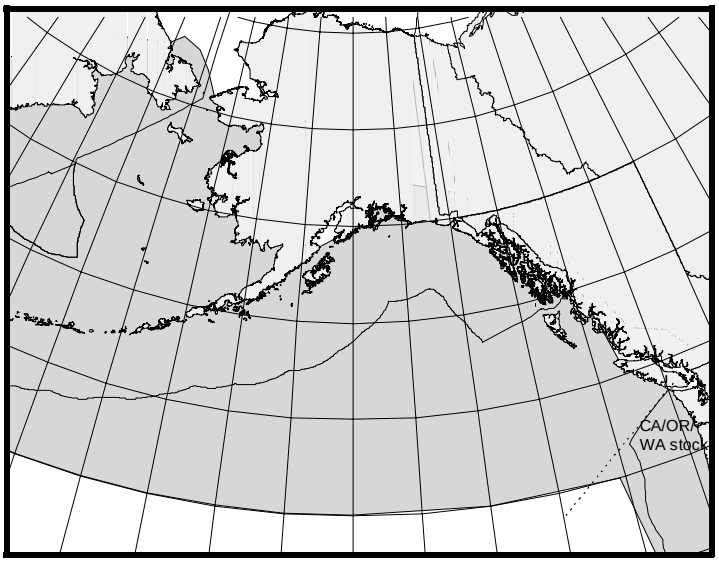

Figure 33. Approximate distribution of fin whales in the eastern North Pacific (shaded area).

The following information was considered in classifying stock structure based on the Dizon et al. (1992) phylogeographic approach: 1) Distributional data: geographic distribution continuous in winter, possibly isolated in summer; 2) Population response data: unknown; 3) Phenotypic data: unknown; and 4) Genotypic data: unknown. Based on this limited information, the International Whaling Commission considers fin whales in the North Pacific to all belong to the same stock (Mizroch et al. 1984), although the authors cited additional evidence that supports the establishment of subpopulations in the North Pacific. Further, Fujino (1960) describes an eastern and a western group, which are isolated though may intermingle around the Aleutian Islands. Tag recoveries reported by Rice (1974) indicate that animals wintering off the coast of southern California range from central California to the Gulf of Alaska during the summer months. Fin whales along the Pacific coast of North America have been reported during the summer months from the Bering Sea to as far south as central Baja California (Leatherwood et al. 1982). As a result, stock structure of fin whales is considered equivocal. Based on a conservative management approach, three stocks are recognized: 1) Alaska (Northeast Pacific), 2) California/Washington/Oregon, and 3) Hawaii. The California/Oregon/Washington and Hawaii fin whale stocks are reported separately in the Stock Assessment Reports for the Pacific Region.

POPULATION SIZE

Reliable estimates of current and historical abundance for the Northeast Pacific fin whale stock are currently not available. Ranges of population estimates for the entire North Pacific prior to exploitation and in the early 1970s are 42,000 to 45,000 and 14,620 to 18,630, respectively (Ohsumi and Wada 1974), representing 32% to 44% of the precommercial whaling population size (Braham 1984). These estimates were based on population modeling, which incorporated catch and observation data. These estimates also include whales from the California/Oregon/Washington stock for which a separate abundance estimate is currently available.

A survey conducted in August of 1994 covering 2,050 nautical miles of trackline south of the Aleutian Islands encountered only 4 fin whale groups (Forney and Brownell 1996). However, this survey did not include all of the waters off Alaska where fin whale sightings have been reported.

Minimum Population Estimate

At this time, it is not possible to produce a reliable estimate of minimum abundance for this stock, as a current estimate of abundance is not available.

Current Population Trend

Reliable information on trends in abundance for the Northeast Pacific stock of fin whales are currently not available. There are no published reports indicating recovery of this stock has or is taking place (Braham 1992).

CURRENT AND MAXIMUM NET PRODUCTIVITY RATES

A reliable estimate of the maximum net productivity rate is currently unavailable for the Northeast Pacific fin whale stock. Hence, until additional data become available, it is recommended that the cetacean maximum net productivity rate (R_{MAX}) of 4% be employed for this stock (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 0.1, the value for cetacean stocks which are listed as endangered (Wade and Angliss 1997). However, because a reliable estimate of minimum abundance is currently not available, the PBR for this stock is unknown.

ANNUAL HUMAN-CAUSED MORTALITY AND SERIOUS INJURY

Fisheries Information

There have been no reports of incidental mortalities of fin whales related to commercial fishery operations in the North Pacific during this decade, from either observed fisheries or the self-reported fisheries information required of vessel operators by the MMPA. Therefore, based on the lack of reported mortalities, the estimated annual mortality rate incidental to commercial fisheries is zero. As a result, the annual human-caused mortality level is considered to be insignificant and approaching a zero mortality and serious injury rate.

Subsistence/Native Harvest Information

Subsistence hunters in Alaska and Russia have not been reported to take fin whales from this stock.

Other Mortality

In the North Pacific and Bering Sea, catches of fin whales ranged from 1,000 to 1,500 animals annually from the mid-1950s to the mid-1960s. Thereafter, catches declined sharply and ended altogether in 1976 when catches became prohibited (Mizroch et al. 1984). These mortality estimates likely underestimate the actual kill as a result of under-reporting of the Soviet catches (Yablokov 1994).

STATUS OF STOCK

The fin whale is listed as "endangered" under the Endangered Species Act of 1973, and therefore designated as "depleted" under the MMPA. As a result, the Northeast Pacific stock is classified as a strategic stock. Reliable estimates of the minimum population size, 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. There are no known habitat issues that are of particular concern for this stock.

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