

HUMPBACK WHALES OBSERVED WITHIN THE CONTINENTAL SHELF WATERS OF THE EASTERN BERING SEA

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Humpback whales, *Megaptera novaeangliae*, have been protected in more than recent 10 years according to the Regulation of the International Whaling Commission. The recent observations of humpback whales have been increasing by many sighting surveys (Ohsumi and Masaki, 1973: Herman and Antinaja, 1977: Wolman and Jurasz, 1977: Christensen, 1977). Especially in the North Pacific, more than three hundred humpback whales have been observed in the subtropical waters around Hawaiian Islands (Herman and Antinaja, 1977: Wolman and Jurasz, 1977), and Herman and Antinaja (1977) reported about 200–250 animals around Hawaiian Islands in 1976 but few record has been reported from the summer feeding ground of the North Pacific.

In the cruise of the Research Vessel *Hakuho-Maru* of the Ocean Research Institute, University of Tokyo, in the Bering Sea in 1975, about 30 humpback whales were observed in the Alaskan continental shelf off Nunivak Island. On 11 July 1975, *Hakuho-Maru* was cruising at the position, 58°57'N and 166°00'W in the shelf waters, where school of 5 humpback whales were seen at first at 12-30 o'clock noon. Following this school, other three schools of 5 humpback whales appeared at 12-35, and two schools of 3 humpback whales were seen successively, while the *Hakuho-Maru* still cruising to the north-west direction. The position and moving direction of humpback whales are illustrated in Fig. 1.

These humpback whales have been observed to feed on swarming of euphausiids such as *Thysanoessa raschii* which distribute in these area of low water temperature and salinity (Nemoto, 1962: Fukuchi, 1977), or other swarming fish in this shallow water. There were also many sea bird *Puffinus griseus* and some *Rissa triductyla* were found around the same waters with humpback whales. *Puffinus griseus* individuals fed actively on plankton and a few *Rissa triductyla* were flying about above the water.

Humpback whales have been observed and caught mainly along the shelf waters of continental shelf and edge of islands shelf (Townsend, 1935: Nishiwaki, 1966) in the North Pacific. Humpback whales also congregate around the Aleutian Islands in the summer season where they feed on swarming euphausiids and some heavy swarms of fish such as Alaskan pollack (Nemoto, 1959). However, it has been rather rare to be found within the continental shelf, although humpback whales are considered to be "Ocean and marginal sea denizen" (Nemoto, 1959).

Sometimes humpback whales have been caught within the shelf waters in Arctic Polar Sea and Davis Straight and Barents Sea of the North Atlantic. Recent

observation of the humpback whales in the Atlantic shows that rather many humpback whales have been found in Barents Sea along the edge of island shelf (Christensen, 1977). He considered the increase of number of humpback whales seen in the Northeast Atlantic in recent years indicate that the abundancy of this species is increasing in that area.

The observation of humpback whales in the North Pacific in recent years, however, shows that they are mainly found in the shelf edge of islands in the mid ocean in winter time. According to Ohsumi and Masaki, some 59 humpback whales were found in winter time of the year in 1972 and 1973 in their whale sighting and marking cruise mainly in the waters around Hawaiian Islands (Ohsumi and Masaki, 1973). Wolman and Jurasz (1977) also reported three hundred seventy three humpback whales in Hawaiian waters, and these large number of sightings of humpback whales are suggesting that the population of humpback whales are increasing.

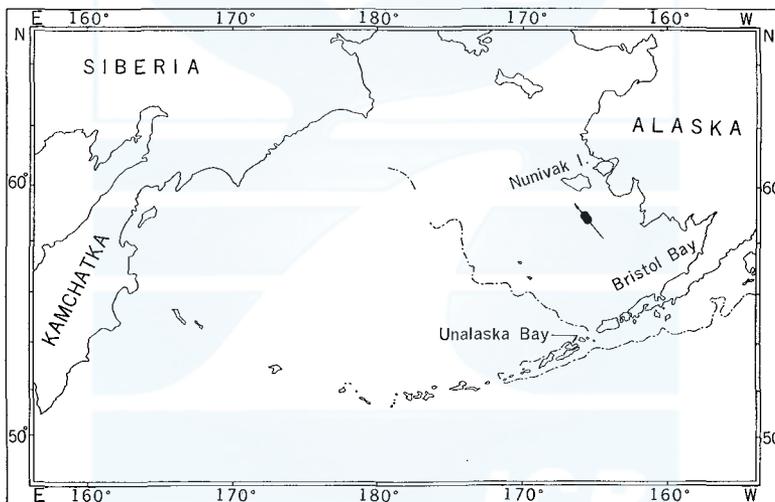


Fig. 1. The position and swimming direction of humpback whales found in the *Huakho-Maruk* cruise in 1975 in the Bering Sea.

On the other hand, sighting of humpback whales in the summer feeding ground is not so numerous in the North Pacific. Humpback whales have been caught in the marginal sea such as Okhotsk Sea and Yellow Sea in the former years, but few observation was recorded in the uppermost Bristol Bay according to the fisheries peoples. One humpback whale was reported to be entangled in deep sea cable in the Alaskan waters (Heezen, 1957 by personal communication from Gilmore 1955), but precise information was not given. Considering the diving depth of humpback whales is shallower than the sperm whales, this whale might be entangled in the shelf waters along the Alaskan continent.

The finding of summer feeding schools of humpback whales in shelf waters

in the North Pacific is also considered as the indication of the recovery of the number of this species too.

Herman and Antinaja (1977) find only 35% of whales have all black pectoral fins and other whales are white pectoral fins. They consider that Hawaiian humpback whales are different population from those observed in the feeding areas near southeast Alaska and even from whales near Kamtchatka in the upper western Pacific.

Wolman and Jurasz (1977) also consider that humpback whales seen in Hawaiian waters by their vessel census in 1976 possibly differ from those distributing in the Southeastern Alaska. The most distinctive feature of Hawaiian humpback is also white dorsal flipper. One or two humpback whales observed to jump in the continental shelf waters of Alaskan continent in our cruise in 1975 do not have white dorsal flipper, however, it needs more observation on this point to separate these two groups of humpback whales. Another marking results of humpback whales also show that some humpback whales hit in the Eastern Alaskan Islands were captured in the Okinawa Island (Nishiwaki, 1966). But, it is not conclusive, because no whaling had been operated in Hawaiian waters at that time.

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