

U.S. Department of Commerce
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Northwest and Alaska Fisheries Center
NATIONAL MARINE MAMMAL LABORATORY

by
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Roots of Public Administration

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The Pribilof Islands, home of some 2 million fur seals, were discovered in 1786 by the Russian navigator Gerassim Pribilof, and Russia began exploitation of the seals almost immediately. During the latter part of the Russian regime, the fur seal management program allowed the herd to increase and when the United States purchased Alaska in 1867, the population was probably near maximum abundance. An agent of the Treasury Department was dispatched to the island in 1872. In 1893 the U.S. Commissioner of Fisheries became responsible for fur seal research. This responsibility has remained with the federal fishery agency, through several name changes and up to the present, except for the period 1903-1908.

During the last two decades of the 19th century and to a limited extent during the first decade of the 20th century, uncontrolled sealing at sea decimated northern fur seal populations. In 1911 a treaty prohibiting pelagic sealing was signed by representatives of the United States, Great Britain (for Canada), Russia, and Japan. In 1914, the Secretary of Commerce appointed a group to census the Pribilof herd, to evaluate past influences and current sealing practices on the herd, and to recommend future practices which would lead to its restoration. The report of their scientific findings, published in 1915, emphasized the importance of pup counts as a basis for estimating the rate of increase in the herd. The Bureau of Fisheries largely accepted the recommendations, and techniques for gathering routine population data were gradually developed. No biologists were assigned to the Pribilof Islands between 1915 and 1939, and almost no biological research was carried out.

Although little formal fur seal research took place before 1939, many important contributions to the natural history of the Pribilofs were made by a schoolteacher, Dr. G. Dallas Hanna, who arrived on St. Paul

Island in July 1913. Dr. Hanna remained on St. Paul Island almost continuously until September 1918 and returned in the summers of 1919 and 1920. Between 1914 and 1915 he authored 41 publications on the natural history of the Pribilof Islands.

In 1940 the Commerce Department's Bureau of Fisheries and the Interior Department's Bureau of Biological Survey were merged to form the U.S. Fish and Wildlife Service under the Department of the Interior. For the first time, mammalogists and fur seal managers were brought together within one agency. Since 1940 (except for 1942) biologists have been continuously assigned to fur seal studies. In June 1940 two biologists of the Bureau of Biological Survey were dispatched to the Pribilof Islands. The 1940 studies marked the beginning of the modern period of fur seal research.

The Fur Seal Treaty of 1911 was scheduled for renewal in 1941, but unexpectedly in October 1940, Japan gave notice of its intent to withdraw from the treaty the following year. Japan claimed that the Pribilof Islands fur seal herd migrated annually into Japanese waters and consumed vast quantities of food fish. In response to this claim, staff members of the Fish and Wildlife Service in Washington, D.C., developed a 2-year research plan which would assess damage to the commercial fishery caused by seals, calculate the rate of intermingling of the Asian and the Pribilof Islands fur seals, and determine the food species of fur seals. On 30 June 1941 Congress appropriated funds for the investigation.

In the spring of 1942, the Aleutian Islands became an active war theater and all fur seal research came to a halt. Research continued at a low level during the war years, but in 1947 plans were made to undertake pelagic fur seal research. Headquarters for the expanded fur seal research was in the Montlake Laboratory, now the Northwest and Alaska Fisheries Center.

Following World War II, land-based research was also increased. In 1947 and subsequent years the pup tagging which was initiated in 1941 was greatly expanded. In 1948 aerial photographs were taken of all rookeries as an experimental censusing technique. An important breakthrough in the fur seal research took place in 1948 when a biologist extracted 36 teeth from a freshly killed animal to photograph dentition. During the process he noticed faint ridges circling the root of each tooth and hypothesized that each ridge might indicate one year of life. His theory proved to be correct and, as a result, a routine part of the field operations on the Pribilof Islands each year has been a collection of teeth for age determination.

In 1948 a plan was being developed in Tokyo for pelagic research in waters off Japan. The Natural Resources section of the General Headquarters, Supreme Commander for the Allied Powers, undertook to study the natural resources of Japan and to assist in their restoration. U.S. involvement in pelagic research off Japan ended in 1950.

A major international fur seal study took place in 1952 when six vessels operated in Japanese waters. Major results included data on intermingling of fur seals at sea from U.S. and Soviet Islands, pregnancy rates, food of seals, and lengths and weights of 400 fetuses.

The period 1953-1956 was one of austerity for fur seal research. By October 1954 the Montlake Laboratory had become crowded and, as a result, the fur seal investigation was moved to rooms in a converted house in Edmonds, Washington. The house also contained a barber shop and a plumbing shop.

Although fur seal research between 1953 and 1956 was at an ebb, international events were taking place which would lead to greatly expanded

research programs. The United States, Soviet Union, Japan, and Canada agreed that a North Pacific Fur Seal Conference should be convened to draft a new treaty. Discussions took place intermittently from 20 November 1955 to 9 February 1957 when the Interim Convention on Conservation of North Pacific Fur Seals was signed in Washington, D.C., on behalf of the four governments. The interim convention, with some modifications, continues in effect to the present and relies on scientific research to determine the measures necessary to maintain the maximum sustainable productivity of the fur seal resources and to understand the relationship between fur seals and other living marine resources.

In the winter of 1957 research headquarters was moved from Edmonds, Washington to Navy buildings on the Sand Point Naval Air Station, Seattle, and remained there until part of the Navy property was transferred to the National Oceanic and Atmospheric Administration in 1976. After NOAA took possession of the property, the south end of hangar 32 was converted for marine mammal research headquarters.

Until 1968 the only known breeding area of the northern fur seal in the eastern Pacific region was the Pribilof Islands. That year a small breeding colony of this species was discovered on San Miguel Island off the coast of southern California, the island is also home for five other pinniped species. Interrelationships among pinniped species utilizing San Miguel Island shores and waters is also a continuing study.

Although much of the early federal marine mammal research was on fur seals, there was also some interest in cetaceans, especially the large whales. In 1949 the International Whaling Commission was established. In 1958 the Fish and Wildlife Service decided to concentrate marine mammal research at the Seattle laboratory.

In 1958 two whaling stations were in operation on San Francisco Bay at Richmond, California--one by the Del Monte Fishing Company and the other by Golden Gate Fishing Company. Much of the cetacean program involved examination of whales brought into these shore stations, and this whale research continued until 1971 when the large commercial species were declared endangered and the last remaining U.S. whaling station Del Monte's, was closed. Other parts of the whale research program involved tagging animals from chartered catcher boats, observing living whales from vessels and from shore, and analyzing catch statistics. An annual census of the southward migration of the gray whale was conducted near Monterey, California, beginning in 1967-68. A monograph on the life history and ecology of the gray whale was published in 1971.

Because of the inclusion of whale research, the marine mammal program in Seattle in 1960 was designated as the Marine Mammal Biological Laboratory. At about the same time, responsibility for marine mammal research was delegated to the regional office in Seattle from headquarters in Washington, D.C.

Scientists from the Marine Mammal Biological Laboratory began active participation in meetings of the International Whaling Commission in 1960. The North Pacific Working Group was formed, consisting of one biologist from each of the four nations concerned: Canada, Japan, United States and USSR. The working group was instructed to coordinate and review past and future research efforts in the North Pacific Ocean and to advise the Commission on necessary management plans.

The laboratory program and staff remained stable until 1969, when the decision was made in Washington, D.C. headquarters to transfer whale research to the Fishery-Oceanography Center at La Jolla, California. From

1970 to 1973 the only research funded at the Marine Mammal Biological Laboratory was for fur seals.

When in 1970 the Bureau of Commercial Fisheries became the National Marine Fisheries Service under a new agency, the National Oceanic and Atmospheric Administration, the Marine Mammal Biological Laboratory became a Division of the Northwest Fisheries Center. Headquarters remained at Sand Point.

Because it seemed likely that federal funding would become available for marine mammal research, the Marine Mammal Division staff in 1971 prepared research plans to develop information needed for conservation of those marine mammals of U.S. concern and prepared status reports on these species. Additional money for marine mammal research first became available in the summer of 1973 and the cetacean research program was transferred from La Jolla, California back to Seattle.

In the early 1970's there was considerable public objection to the capture of live killer whales in Puget Sound for public display in oceanaria. After passage of the Marine Mammal Protection Act in 1972, a permit from the National Marine Fisheries Service was needed to capture killer whales. Before such a permit could be issued, it was necessary to know how many killer whales could be taken, if any, without adversely affecting the stock. The Marine Mammal Division began a cooperative program with the Washington Department of Game and with Canadian scientists to determine the number of killer whales in the coastal waters of the U.S. and Canada and to determine migration routes of the whales. Canadian scientists developed a system of identifying individual whales from physical characteristics such as scars and marks on the dorsal fin, and

most individuals in whale pods resident to waters of the U.S. and Canada can now be identified.

Another cetacean problem surfacing in the early 1970's involved the killing of bowhead whales by Alaskan Eskimos for subsistence purposes. This take had greatly increased over previous years and there were also indications of a rise in the number of whales struck (wounded) but not landed. The Marine Mammal Division had been aware of this problem, but until 1974 no research funds were available to study bowhead whales. In the spring of 1973, the Marine Mammal Division let a small contract to conduct field studies at Point Hope whaling camps. Aerial surveys were started in 1976 primarily to determine the numbers and distribution of bowhead whales in offshore waters. Camps were established on the ice at the edge of open-water leads near Barrow to census whales as they migrated to summer feeding areas. In 1982 bowhead field work was much reduced because of a decline in funding. In 1984 the funding was once again increased and research has resumed.

In the early 1970's the regional office of the U.S. Forest Service in Juneau agreed to record sightings of marine mammals made by naturalists aboard the Alaska ferry system in southeastern Alaska and Prince William Sound. Forest Service naturalists recorded concentrations of humpback whales in the Frederick Sound area. The first aerial survey for humpback whales was made in 1973. The first cruise to obtain information on distribution and abundance of humpback whales in southeastern Alaska took place in August 1975.

Other pinniped species being studied at the Marine Mammal Division are the northern elephant seal, the Guadalupe fur seal, and the Hawaiian monk seals. The Marine Mammal Division participates in cooperative research studies with Mexico on gray whale dynamics and with the USSR on the

intermingling stocks of ice seals and walrus. Soviet scientists have taken part in research activities of the Marine Mammal Division in the North Pacific Ocean and Arctic waters. Scientists from the Marine Mammal Division have joined Soviet scientists for bowhead whale research aboard Soviet vessels.

The Marine Mammal Protection Act of 1972 requires that permits be issued to any foreign vessels which incidentally take marine mammals during commercial fishing operations within the U.S. 200-mile zone. Japanese salmon gillnet fishermen operating within this zone incidentally take Dall's porpoise and therefore are subject to the provisions of the Act. The Marine Mammal Division began a 3-year study involving Japanese and U.S. scientists in 1978. The objective of the program was to assess the impact of the Japanese gillnet fishery on Dall's porpoise stocks and to determine methods of reducing the mortality of the porpoises captured in the nets. The program has been carried out aboard Japanese research and commercial fishing vessels, and in 1981 the period of research was extended. Information has been obtained on Dall's porpoise population size, life history, and food. Studies are now under way to develop methods of preventing porpoises from becoming entangled in the gillnets.

At a workshop sponsored by the Marine Mammal Commission in 1977, the Columbia River and adjacent waters were recommended as an area for study of marine mammal-fisheries interaction. A research program was developed by the states of Oregon and Washington which provides information on the numbers of harbor seals taken in the Columbia River gillnet fishery and detected by aerial surveys, as well as information from tagging and sampling of harbor seals for biological data.

In recognition of the expanded research role of the Marine Mammal Division in 1979 the Division was designated as the National Marine Mammal Laboratory, remaining as a part of the Northwest and Alaska Fisheries Center. The Laboratory is now divided into three major research areas: Cetacean Program, Fur Seal Program, and Marine Mammal-Fishery Interactions Program. The Laboratory is now well established as an important component in the study of ocean ecosystems.

In September 1984 the National Marine Mammal Laboratory moved into their new Research II facility located at NOAA Sandpoint.

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