# PLAN FOR U.S. RESEARCH ON DALL'S PORPOISE IN 1984



Submitted by

Linda L. Jones
National Marine Mammal Laboratory

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National Marine Mammal Laboratory
Northwest and Alaska Fisheries Center
National Marine Fisheries Service, NOAA
7600 Sand Point Way N.E., Bldg. 32
Seattle, Washington 98115

Under the Memorandum of Understanding (MOU) signed by the Governments of Japan and of the United States in 1981, scientists are to consult annually to develop the most effective research program for determining the status and trends of populations of marine mammals, particularly Dall's porpoise, affected by the Japanese salmon gillnet fisheries. The research proposed for the U.S. for 1984 is described below.

The basic elements of the research program are described in the MOU and General Permit issued under the Marine Mammal Protection Act (MMPA) in 1981 and were implemented during the 1981 field season. These elements of field work in which U.S. biologists will participate in 1984 are to (1) monitor the incidental take of marine mammals and verify the incidental take data; (2) collect sighting data for estimating abundance; (3) collect specimen material for biological studies; and (4) conduct studies on the behavioral response of Dall's porpoise to survey vessels.

## I. Monitoring of the Incidental Take

The monitoring program established in 1981 under the MMPA General Permit and MOU between the Governments of Japan and the United States will be continued. A Japanese marine mammal biologist employed by the Japan Fisheries Agency and two U.S. marine mammal biologists will board catcherboats in each mothership fleet to monitor the incidental take of marine mammals and other organisms in the salmon gillnets.

The biological observers will record data on the distribution, numbers and species of marine mammals and other marine organisms in the gillnets, environmental conditions, presence and behavior of marine mammals near the vessel and gillnets, location of animals in

II. Population Estimation

U.S. biologists will board Japanese salmon research vessels and U.S. Platforms of Opportunity Program vessels to conduct sighting surveys for estimating abundance of Dall's porpoise. Cruises will be in previously surveyed areas for comparison of annual distributional patterns of Dall's porpoise as well as in other areas and times of year. Five cruises of up to two months' duration each are planned for 1984 and early 1985.

III. Biological Studies

One U.S. biologist will be aboard each Japanese salmon mothership to collect biological samples and information from Dall's porpoise and other marine mammmals returned to the mothership. All animals will be measured, sexed, recorded by specimen number, and photographs taken. Biological samples taken will include teeth and reproductive tissues and some other specimens. The females will be examined for presence of a fetus and lactation. Whole specimens (4) will be frozen aboard each mothership for dissection at the NMML.

South of the U.S. FCZ prior to the opening of the U.S. FCZ for fishing, up to 10 Dall's porpoise per mothership will be frozen on the motherships for dissection by U.S. biologists after boarding on 10 June. After 25 June if the vessels operate north of the U.S. FCZ, a Japanese national will again continue sampling as previously.

IV. Study of Response of Dall's Porpoise to Vessels

Dall's porpoise are known to be attracted often to vessels. This behavior affects estimates of abundance since analytical methods assume the animals are encountered randomly in the survey

the nets, and gear characteristics for each gillnet operation. Vessels with modified gear to reduce porpoise entanglements will be monitored by one observer in each fleet for comparison with boats with standard fishing gear. During transit of the vessels, the U.S. biologists will conduct marine mammal sighting surveys.

The marine mammal biologists onboard catcherboats and the captains of each catcherboat, including scoutboats, will transmit daily reports of the incidental take of marine mammals to the U.S. marine mammal biologist onboard each mothership. The report will include for each marine mammal species the number taken dead and returned to the mothership, number taken alive and released, and number taken but lost during retrieval. Information will be recorded on the condition of released animals, the cause of loss of animals, and, when possible, approximations of the size of animals lost. The size categories are newborn (about 100 cm in body length, often grayer in color than older animals), medium (about 150 to 180 cm), and large (more than 180 cm). Biologists on the motherships will then transmit the reports of the observers and the catcherboat captains to the Northwest and Alaska Fisheries Center and Alaska Regional office (NMFS) daily for analysis to project the date of reaching the marine mammal quotas and closure of fishery operations within the U.S. FCZ.

The catcherboats with observers onboard will operate in different locations within the fleet to ensure that there is no effect of position on the observer data. The Fleet Commander will determine location of the vessel in the fleet.

VI. Observations by Marine Mammal Biologists in the Japanese Mothership Salmon Fishery in 1984.

Mothership Observations

One marine mammal biologist will be aboard each mothership that is operating inside the U.S. FCZ. The marine mammal biologists' duties on the motherships are:

1 Collect data and biological specimens from marine mammals returned daily to the mothership. Data will be collected from all animals. Biological specimens will be collected from animals according to a prescribed sampling scheme established by the National Marine Fisheries Service. Photographs are taken of each animal returned to the mothership.

2. Train the assigned Japanese national in data and specimen collection procedures for sampling outside the U.S. FCZ.

3. Obtain the daily catcherboat position diagram showing the relative positions of the catcherboats in the area fished, and the geographical coordinates where each catcherboat sets its net each day.

4. Obtain data on the incidental take of all marine mammals from the three observers onboard catcherboats in each fleet and for all catcherboats in the fleet by category (taken dead; alive and released; or lost during retrieval).

5. Transmit daily to the Regional Office, National Marine Fisheries Service, Juneau, Alaska, the total incidental take for the mothership fleet and for each of the catcherboats with

area. A project to study the behavior of the Dall's porpoise with respect to survey vessels will be conducted in offshore waters aboard NOS R/V SURVEYOR in June 1984. This experiment would address the question of whether porpoise in offshore areas respond to the vessel differently than porpoise in more coastal areas such as Prince William Sound where a similar study was conducted in 1982 and 1983. This experiment would be conducted under conditions more similar to those which occur in the North Pacific salmon fishery area. The results will be used to develop an improved method of analysis for estimating abundance of Dall's porpoise.

V. Monitoring of Chinook Salmon Catch.

In accordance with the agreements between Japan and the U.S., marine mammal observers will monitor the catch of chinook salmon onboard the catcherboats. The number entangled that are landed and that drop out will be recorded.

Other duties of the U.S. observers are:

1. Record other marine organisms that occur in the gillnet.
2. Record information on chinook salmon including number caught or lost during retrieval as required.
3. Conduct marine mammal sighting during transits as weather conditions permit. Record any net debris sighted.
4. Observe and record behavior of marine mammals near the vessel and gillnets during fishing operations and transits.
5. Transmit daily incidental take of each marine mammal species by category (dead, released alive of lost) to the marine mammal biologist aboard the mothership.
6. Summarize and check data daily.

Duties aboard JFA vessels

A. Marine mammal biologists on the JFA vessels outside the U.S. FCZ will:

1. Conduct marine mammal observations and sightings during daylight transits of the vessel.
2. Summarize and check data collected on the motherships and catcherboats. As time allows, begin preparation of season's cruise report for submission to the National Marine Fisheries Service.

Upon return to the mothership:

3. Obtain daily catcherboat position diagram showing the relative positions of the catcherboats in the area fished, and the geographical coordinates where each catcherboat sets its net each day, and its marine mammal incidental take by category (taken dead; alive and released; or lost during retrieval).

observers, by marine mammal species for the following categories: Dead; alive and released; lost during retrieval.

6. Obtain records of noon position of the mothership and weather conditions daily.
7. Obtain list of all catcherboats using hollow tube nets or other experimental gear to reduce marine mammal entanglements.
8. Ensure all biological specimens are properly stored aboard the mothership and ready for transport back to the NMML.
9. Obtain all data collected by the Japanese observer on catcherboats during the entire season.
10. Review incidental take report with the Fleet Commander who will Xerox the report. Note any differences in the report and that of the Fleet Commander.

Catcherboat Observations

The duties on the catcherboats are:

1. Record environmental conditons and location of each gillnet set and retrieval, and presence of modified gear or methods to reduce entanglement. Note configuration of gillnet and of modified gear, placement of buoys, flags, etc., on the gillnets.
2. During retrieval of the gillnet, record the number and location of marine mammal entanglements by species and note whether animal was dead, returned to the mothership, lost during retrieval, or released alive, and if so, its condition.