

RESEARCH PLAN OF THE ONGOING SIGHTING AND SATELLITE TAGGING SURVEY FOR COMMON MINKE WHALES IN THE SUB-AREA 7 IN 2011

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ABSTRACT

The sighting and satellite tagging survey for common minke whales in the western North Pacific in sub-area 7 is conducting in 2011 spring season, using a research vessel, *Shunyo-maru*. The research area is set in the waters off Pacific side of northern Japan, north of 35°N and west of 153°E. The period of survey is from 25 April to 8 June in 2011. The closing mode survey is conducted with predetermined track lines, in which closing is made for all sightings. Basically, all common minke whales encountered will be targeted for tagging of the satellite tags (Argos transmitter) using a handy air gun. The Wildlife Computers Spot-5 implantable tags will be used as the Argos transmitter. The firings of the air gun for attachment will be made from the forecastle deck when the vessel can adequately approach the whale during the chasing. Photo-identification of large cetaceans such as humpback whales and oceanographic surveys using CTD and echo-sounder will be also conducted during the survey.

KEYWORDS: COMMON MINKE WHALE, NORTH PACIFIC, SIGHTING SURVEY, SATELLITE TAGGING, RESEARCH PLAN

BACKGROUND

In 2010, Sighting and satellite tagging survey for common minke whales was conducted in the coastal waters off Kushiro, southeastern coast of Hokkaido, northern Japan, in autumn season from 6 September to 4 October (Kishiro and Miyashita, 2011). During this cruise, one common minke whale was attached the satellite tag, and tracked for a period of 27 days (Kishiro and Miyashita, 2011). This is a first result of the satellite tracking of common minke whales in the western North Pacific, and provides valuable information about the residence time and movements of the whales in those waters. However, sample size is too small, and tracking period is short to investigate the migratory routes of the whales.

The individual migratory data is one of the important tools to investigate the stock structure of the whales. In addition, recent information on the abundance of the whales in the Pacific coast off northern Japan in spring season is also important in considering the RMP procedure for the western North Pacific common minke whales (IWC, 2010).

To obtain the information on the abundance and movements of the whales, we are conducting the sighting and satellite tagging survey for common minke whales in the western North Pacific, in 2011 spring season. The ongoing survey is conducting with the following research plan.

RESEARCH PLAN

Research vessel

The research vessel is *Syunyo-maru* (887GT, 4,000KW) which is equipped with a top barrel. Number of crew on vessel is 24. The vessel belongs to the Fisheries Research Agency.

Scientists on board

Scientists: Toshihide Iwasaki (Senior scientist, NRIFSF, first half of the survey)

Yu Kanaji (Senior scientist, NRIFSF, second half of the survey)

Saeko Kumagai (Scientist, NRIFSF, entire period)

Tomio Miyashita (NRIFSF) will be the responsible person for the oversight of this survey.

Schedule

25 April	leave Shimizu, Shizuoka Prefecture, for the first half of the cruise
15 May	arrive Yokohama, Kanagawa Prefecture, for refueling
17 May	leave Yokohama for the last half of the cruise
8 June	arrive Shimizu, Shizuoka Prefecture

Research area and track line

Research area is set in the waters off Pacific side of northern Japan, north of 35°N and west of 153°E (sub area 7, determined by the IWC), though the Russian EEZ is excluded. The pre-determined track line is determined as shown in Figs. 1. A total research distance will be 2,409.5 n.miles.

Sighting activity

The normal closing mode survey is carried out, in which closing is made for all the cetacean species encountered on the track lines. Two observers on the top barrel of the vessel conduct searching by naked eyes. Species identification is conducted using binocular. At least one researcher on the upper-bridge also searches for cetaceans and record sighting information. The survey is to be conducted from 6:00 a.m. to 6:00 p.m. basically when the weather conditions are suitable for observations: visibility better than 1.5 nautical miles and the wind speed less than 7.5m/s. The vessel speed is 11.5 knots with slight adjustment to avoid vibration of vessel.

Satellite tagging

Basically, all common minke whales encountered will be targeted for tagging. The Wildlife Computers Spot-5 implantable tags are used as the Argos transmitter. A handy air gun is used for the attachment of the tags. The tagging dart system and methods of the attachment are followed to the methods described by Kishiro and Minamikawa, 2006; Kishiro and Miyasita, 2011. The filling pressure of the gun is set to 110kgf/cm², and the firings of the air gun for attachment are made from the forecandle deck when the vessel can adequately approach the whale during the chasing. The time for chasing is limited to a maximum of 120 minutes against one animal.

Other experiments

Angle and distance training and experiments will be conducted during the survey. When gray, humpback, North Pacific right, and killer whales are sighted, photographs are taken for individual identification. A conductivity-Temperature-Depth (CTD) profiler cast will be conducted once a day, to obtain information on the oceanographic condition. Eco-sounder survey will be conducted on the track lines in the CN block showed in figure 1. Marine debris caused by the earthquake will be recorded during the surveys in the coastal area (CN, CS and W blocks).

Data analysis

The signals and estimated location data of the tags will be collected by the Argos satellite-based data collection and location system.

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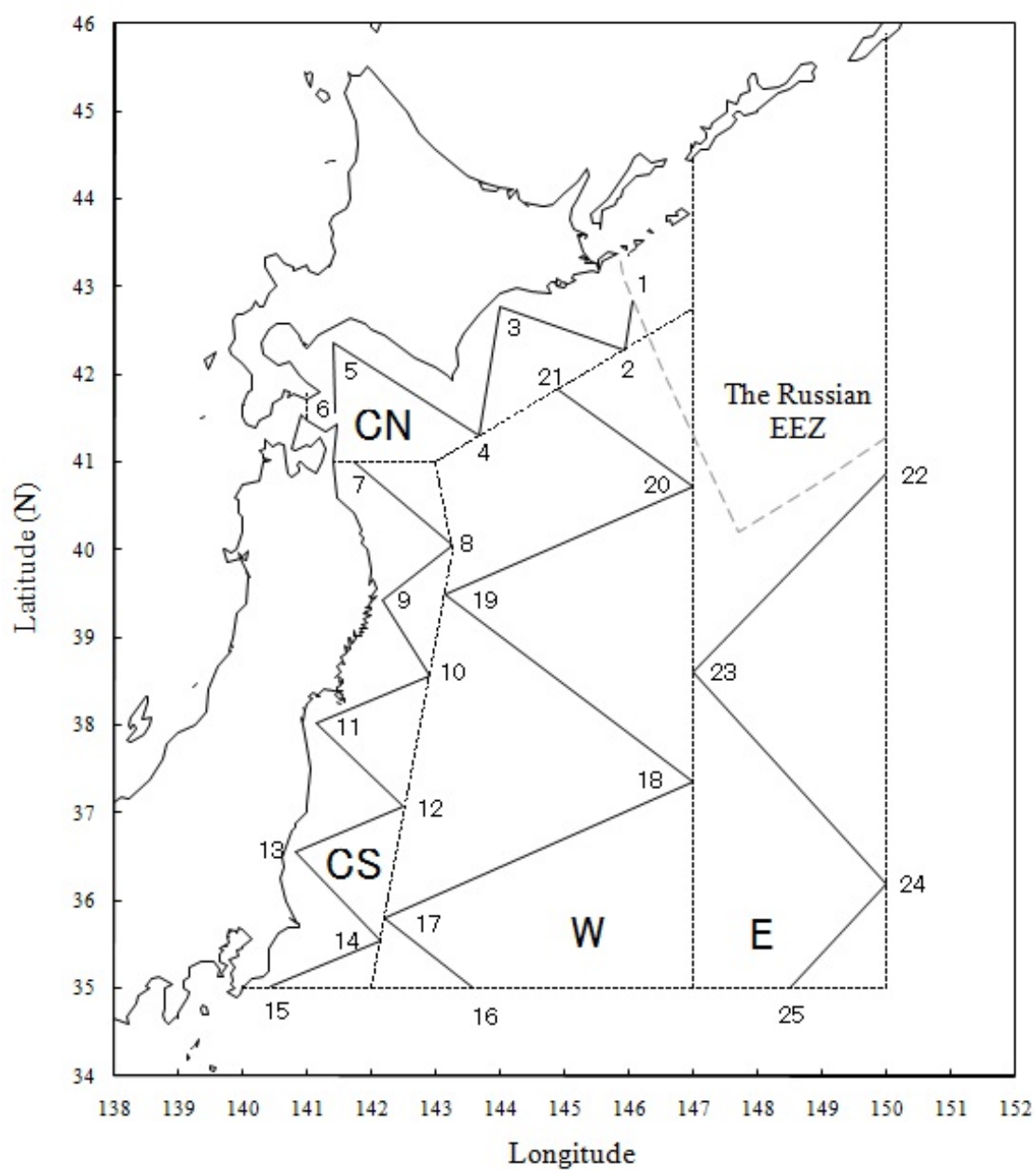


Fig. 1. Research area (dotted line) and pre-determined track line for *Shunyo-maru*.