

Cruise Report of the Korean Sighting Survey in the East Sea, April to May 2012

Kyum Joon PARK, Yong-Rock AN, Hyun-Woo KIM, Doo-Nam KIM, Doo-Hae AN, and Young-Hae KIM

Cetacean Research Institute, National Fisheries Research & Development Institute 139-29, Maeam-dong, Nam-gu, Ulsan, 680-050, Republic of Korea

ABSTRACT

A sighting survey was conducted in order to get the information on distribution and abundance of minke whales and other cetacean animals in the East Sea using the research vessel, *Tamgu 3* (360G/T) from 18 April to 13 May in 2012. During the survey period, the research vessel cruised 1,109.37 n.m. and 4 minke whales in 4 primary sightings were observed. Also 957 small cetaceans in 6 primary sightings were sighted during the survey.

INTRODUCTION

In order to assess the common minke whale stock (J stock) in the Yellow Sea, the East Sea and Okhotsk Sea, dozens of sighting surveys have been conducted by Japanese and Korean researchers. However few surveys have been conducted in the offshore of sub-area 5 although more data are demanded for the assessment of the J stock minke whales. So far, the survey coverage of sub-area 5 of Korean side was very low and the IO passing mode for $g(0)$ estimation has never been tried. Therefore this sighting survey was designed to elaborate the information on distribution and abundance for the common minke whales in the East Sea.

SURVEY AND METHODS

The survey blocks and transect lines were predetermined as shown in Fig. 1 and the plan of this survey was presented to the 63rd SC meeting. The research area was set north of 33°00' N and south of 38°32' N, east of 126°00' E and west of 131°40' E (Fig. 1). The research area was divided into five blocks and transect lines were designed to cover the blocks evenly under the zigzag forms with 1,747.5 n.m. The research vessel, *Tamgu 3* cruised along the predetermined transect lines with closing mode at the speed of 10 to 12 knots in accordance with sea states and weather conditions. The survey was conducted in the good weather condition with two or longer nautical miles visibility and three or smaller Beaufort scale. A couple of observers conducted sightings in the top barrel mounted on the research vessel at the height of 11.5m from the sea level in 2-hour-interval rotations. Two researchers verified the observers' sightings, recorded the other information and also conducted sightings during the survey at the top bridge. All of sightings were observed by naked eyes and then binoculars were applied for species identification and school size estimation.

CRUISE SUMMARY AND SIGHTING RESULTS

Narrative

18 April: The vessel left Busan and cruised to the first way point in block 4.

19-22 April: The vessel entered and stayed at Jeju island due to the strong wind and heavy rain.

23-24 April: The vessel left Jeju and entered Geomun-do due to strong wind after finish the half of block 4.

25-26 April: The vessel stayed at Geomun-do because of heavy rain and strong wind.

27 April: The vessel left Geomun-do and finished block 4.

28 April: The vessel entered Busan for supply.

29 April-1 May: The vessel left Busan started the survey of block 5 and entered Donghae due to strong wind.

2-4 May: the vessel was suck in Donghae due to the series of strong wind.

5-6 May: The vessel left Donghae and resumed the survey, finished the block 1 and block 5, entered Donghae.

7 May: the vessel left Donghae

8-9 May : the vessel left Donghae, started and finished block 2 survey and entered Pohang due to strong wind.

10-12 May: Heavy rain and fog prevented the vessel from departing from Pohang.

13 May: The vessel left Pohang and finished block 3 survey and returned to Busan.

Sighting Results

During the survey period, 1,109.37 n.m. of transect lines were cruised and 4 minke whales and 957 small cetaceans were sighted in the research area (Table 1). All of the minke whales were sighted on 4 primary sightings and most of them were found in the middle of the block 1 (Fig. 2). A Pacific white-sided dolphin school and a common dolphin school were sighted in block 1 on primary sightings, and 2 schools of dall's porpoises and a common dolphin school were sighted in block 5 (Fig. 3).

Table 1. Number of sightings by species with daily sighting effort in the East Sea, April and May 2012 (numbers in parentheses indicate number of individuals)

Date	Sighting Effort (n.m.)	Species				
		Minke whale	Common dolphin	Pacific white-sided dolphin	Dall's Porpoise	Uidentified dolphin
23rd Apr.	44.31					
24th Apr.	102.53					
27th Apr.	135.81					
29th Apr.	44.86		1(900)			
30th Apr.	135.67					
1st May	136.38	1(1)				
5th May	68.90	1(1)	1(40)	1(10)		1(2)
6th May	181.16				2(5)	
8th May	97.43	2(2)				
9th May	61.74					
13th May	100.58					
Total	1,109.37	4(4)	2(940)	1(10)	2(5)	1(2)

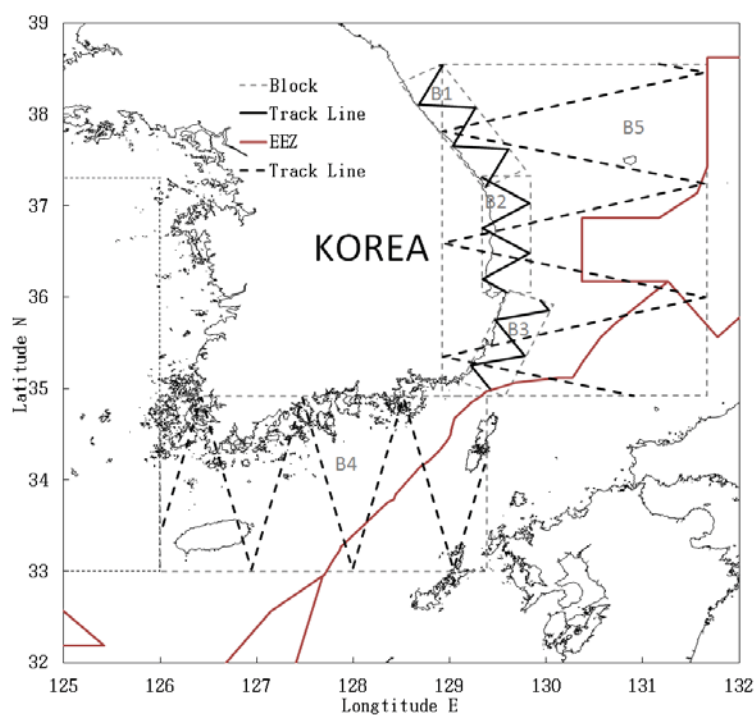


Figure 1. Survey blocks and predetermined transect lines for the common minke whale sighting survey in the East Sea, April and May 2012.

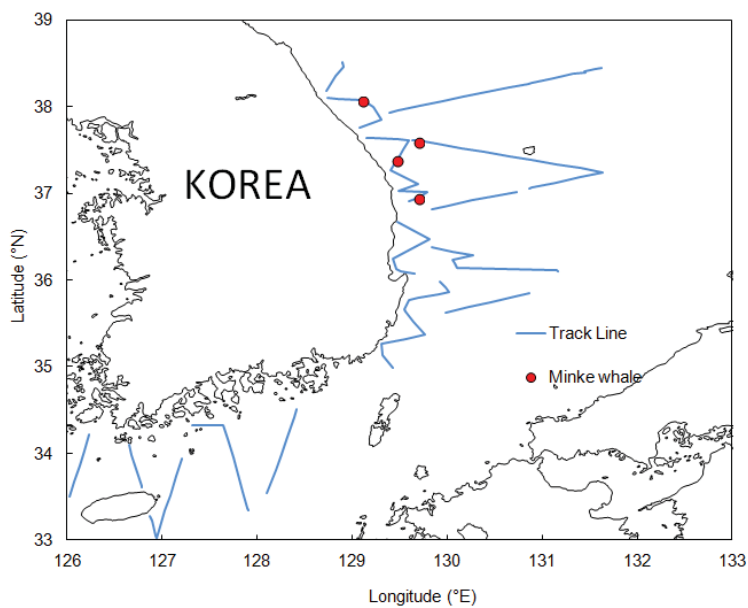


Figure 2. Sighting positions of common minke whales (4 animals in 4 primary sightings).

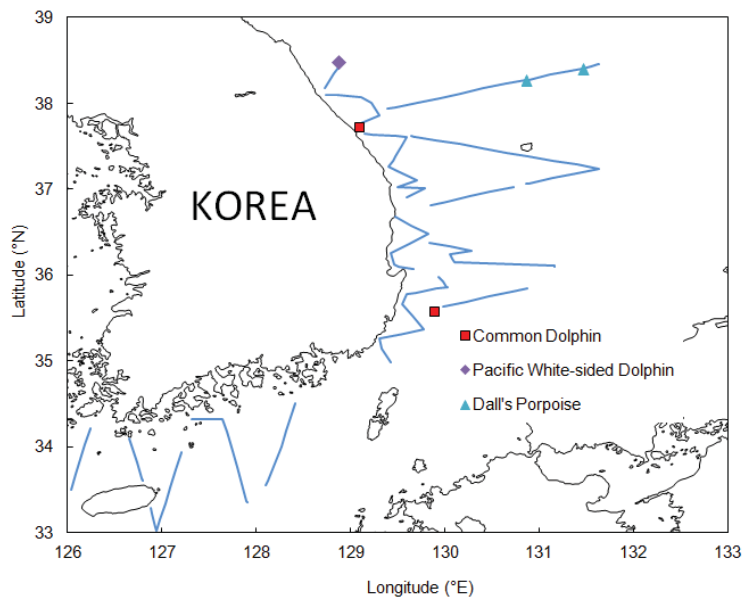


Figure 3. Sighting positions of small cetacean (957 animals in 6 primary sightings).