

Cruise Report of the Korean Sighting Survey in the Yellow Sea, May 2011

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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 Yellow Sea using the research vessel, *Tamgu 3* (360G/T) from 2 to 30 May in 2011. During the survey period, the research vessel cruised 1,227.7 n.m. and 14 minke whales in 14 primary sightings were observed. Also 95 finless porpoises in 57 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 only three surveys (2001, 2004, 2008) have been done in the Yellow Sea although more data are demanded for the assessment of the J stock minke whales. What is worse, the survey coverage is still very low in this area 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 Yellow 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 62nd SC meeting. The research area was set north of 33°00' N and south of 37°17' N, east of 122°01' E and west of 126°00' E which was same as the survey in 2008 (Fig. 1). The research area was divided into six blocks and transect lines were designed to cover the blocks evenly under the zigzag forms with 1,497.9 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

25 April: The vessel left Busan and arrived in Tongyoung because of heavy rain and strong wind.

26-28 April: The vessel stayed at Tongyoung due to the strong wind.

29 April: The vessel left Tongyoung and entered Geomun-do.

30 April - 1 May: The vessel stayed at Geomun-do because of heavy rain and strong wind.

2-5 May: The vessel left Geomun-do, arrived southernmost point of the survey block A1, started the survey and finished blocks A1 and A3 before it entered Gunsan due to heavy rain and strong wind.

6-14 May: The vessel was stuck in Gunsan due to the series of heavy rain, strong wind and heavy fog.

15-17 May: The vessel left Gunsan, finished the block A5 and entered Incheon due to heavy rain.

18-21 May: Heavy rain and fog prevented the vessel from departing from Incheon.

22-25 May: The vessel left Incheon, resumed the survey, finish the block A6, started the block A4 and entered Gunsan again because of rain and strong wind.

26-29 May: Strong wind prevailed and kept the vessel in Gunsan.

30 May: The vessel resumed the block A4, skipped two transect lines and finished the whole survey at the northern part of the block A2.

1-3 June: The vessel returned to Busan.

Sighting Results

During the survey period, 1,227.7 n.m. of transect lines were cruised and 14 minke whales and 95 finless porpoises were sighted in the research area (Table 1). All of the minke whales were sighted on 14 primary sightings and more than half of them were crowded in the middle of the block A5 (Fig. 2). In the coastal waters of the blocks A3 and A5, 95 finless porpoises were sighted and 53 of them were sighted on 40 primary sightings and the rest were on 17 secondary sightings (Fig. 3).

Table 1. Number of sightings by species with daily sighting effort in the Yellow Sea, May 2011 (numbers in parentheses indicate number of individuals)

Date	Sighting Effort (n.m.)	Species		
		Minke whale Primary sightings	Finless porpoise Primary sightings	Finless porpoise Secondary sightings
02-May	110.4			
03-May	67.2			
04-May	133.0		7(9)	1(1)
05-May	126.9	3(3)	11(16)	
15-May	32.3			
16-May	141.5	6(6)		
17-May	89.8	2(2)	22(28)	
22-May	31.0			16(41)
23-May	140.6			
24-May	131.3	3(3)		
25-May	128.7			
30-May	95.1			
Total	1,227.7	14(14)	40(53)	17(42)

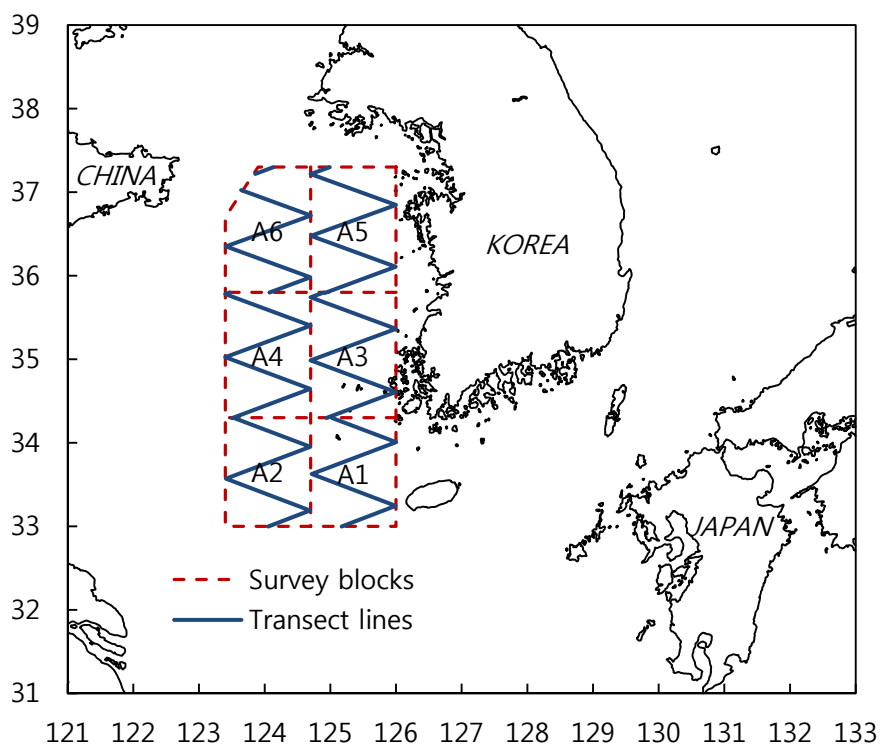


Figure 1. Survey blocks and predetermined transect lines for the common minke whale sighting survey in the Yellow Sea, May 2011.

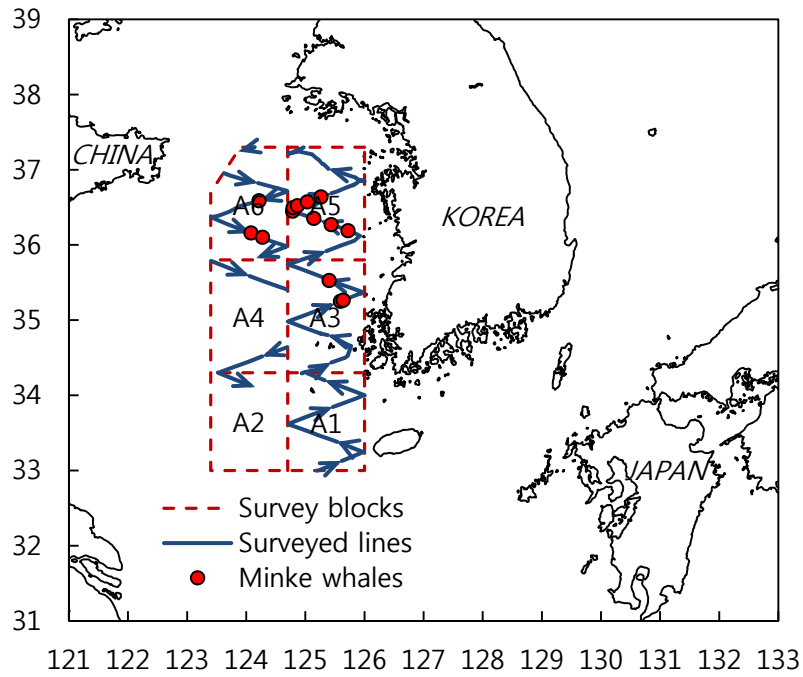


Figure 2. Sighting positions of common minke whales (14 animals in 14 primary sightings).

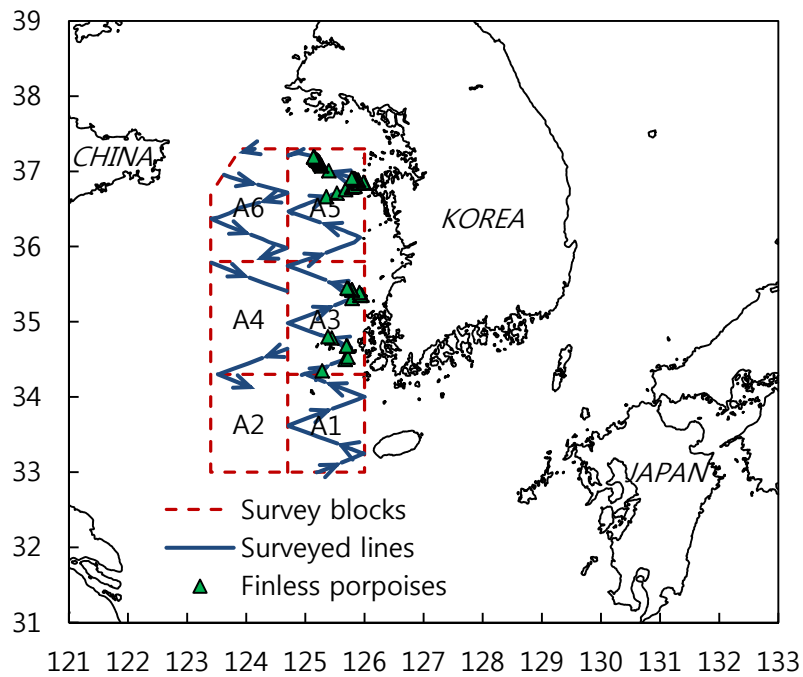


Figure 3. Sighting positions of finless porpoises (53 animals in 40 primary sightings).