Cruise Report of the Korean Sighting Survey in the East Sea, April-May 2009

AN, YONG-ROCK, CHOI, SEOK-GWAN, MOON, DAE-YEON, KIM, HYUN-WOO AND PARK, JI-EUN
Cetacean Research Institute, National Fisheries Research & Development Institute
139-29, Maeam-dong, Nam-gu, Ulsan, 680-050, Republic of Korea

ABSTRACT

The sighting survey using the research vessel, Tamgu 3 (360G/T) was conducted to get the information on distribution and abundance of common minke whales and other cetacean animals in the East Sea from 21 April to 30 May, 2009. The survey areas were composed of one offshore block and 4 coastal blocks. The sightings were made by naked eyes with optional uses of binocular and performed in closing mode for species identification, school size estimation, photographs and videos. The observers were trained to estimate distance and angle during the survey and their estimations were tested. During the survey period, the research vessel cruised 1,143.9 n.m. and 40 minke whales in 36 primary sightings were observed. Also, common dolphins, Risso's dolphins, Dall's porpoises and finless porpoises were sighted during the survey.

INTRODUCTION

The stock assessment of common minke whales needs high coverage of sighting survey efforts in the East Sea and the Yellow Sea because large part of these waters were the major whaling grounds during the commercial whaling period. But no survey has been conducted in these waters which belong to North Korea and China. Furthermore, the systematic sighting surveys in Korean waters have never been completed offshore area and it has been suspicious if there are double sightings due to the same direction of the research vessel navigation as minke whales migrate from the south to north. Therefore, this sighting survey was designed to increase the effort coverage in the East Sea and to minimize the double sighting by starting from offshore area.

SURVEY AND METHODS

The principal survey methods and protocols were submitted to the 60th IWC/Scientific Committee (Choi et al., 2008). The survey area was composed of 5 blocks on the longitude by 128°09′ – 130°50′ E and the latitude by 34°18′ – 38°32′ N with coastward transect lines (Fig. 1). Transect lines on the block A4 and A5 were cut by EEZ of Japan.

A top barrel at the height of 11.5m from the sea level was mounted on the research vessel of the NFRDI, Tamgu 3 (stem trawler, 360 GT and 1,600 HP). Observations were performed by two observers in 2-hour-interval rotations. Sighting of observers were confirmed by two researchers from the upper bridge. Researchers and observers at upper bridge also conducted sighting during

the survey. The vessel was navigated at 10~12 knots on the transect lines. The closing mode was applied to identify species, estimate school size and animal length, take photographs and tape video. All information on position, time and weather were recorded in the bridge at the same time when the animal was founded. Data on the positions and the weather information were also recorded every one hour during the cruise. The water temperature and weather information were measured at every turning point. Whale observers were trained and tested to estimate the distance and angle during the survey. Oceanographic data were collected using a CTD.

CRUISE SUMMARY AND SIGHTING RESULTS

Narrative

The vessel left Busan on April 21 but entered again in the next day due to strong winds which prevailed a week. On April 28 the vessel left Busan again and started southernmost position of the offshore block, A5 and cruised to northward (Table 1). On May 1, the offshore block survey was completed. In the offshore block, five minke whales and 2 groups of Risso's dolphins and 4 groups of Dall's porpoises were sighted (Fig. 1 and 2). The survey was resumed on May 4 after short break caused by strong wind and rain. The vessel moved southward from the inshore block A1 and entered Mukho on May 6 due to strong winds. From 7 to 10 May, the inshore block, A1 was finished with 24 minke whales sightings and a group of common dolphin and 2 groups of Dall's porpoise sightings. On May 8, heavy fog stopped the survey and rain started on May 11 stopped on May 14. The inshore block A2 was started on 15 May but heavy strong stopped the survey again. The survey resumed on May 19 and 20 and finished the block A2. In the block A2, 3 more minke whales and 3 grourps of common dolphins were sighted. After one day break in Pohang due to heavy fog, the vessel navigated along the transect lines in the block A3 but no whales and dolphins were found there. The vessel entered Ulsan due to rain. From May 25 to 27, the survey was conducted in the block A4 and 4 minke whales and 4 groups of finless porpoise were sighted. On May 28, the vessel entered mother port, Busan after completing the survey for the first time in Korean sighting surveys.

Sighting Result

During the survey, the vessel navigated 1,143.9 n. m. and 40 minke whales were found in 36 primary sightings which is the biggest number of sightings in Korean sighting surveys. Most of minke whales were sighted in the northern part of the research area, the inshore blocks A1 and A2. Some were found in the southern part of the offshore block A5 and the inshore block A4 but there were no sightings in the inshore block A3. Common dolphins and finless porpoises were found in the coastal waters of the block A1-A2 and A4, respectively while Risso's dolphins and Dall's porpoises were found both in the offshore (A5) and the coastal waters (A1).

REFERENCE

Choi, S.G., Kim, Z.G., An, Y.R. and Park K.J. 2008. Plan for the Korean Sighting Survey in the East Sea in 2009. Document SC/60/NPM3 submitted to the present IWC SC.

Table 1. Number of sightings by species and type with daily survey effort in the East Sea, April-May 2009

Date	Survey Effort (n.m.)	Minke whale		Common dolphin		Risso's dolphin	Dall's porpoise	Finless porpoise	
		Pri.	Sec.	Pri.	Sec.	Pri.	Pri.	Pri.	Sec.
28-Apr	51.2	1-1	3-3						
29-Apr	125.0	4-4	1-2						
30-Apr	135.1					1-3	3-7		
1-May	131.2					1-1	1-1		
4-May	28.5		1-1						
5-May	88.5	5-5					2-5		
7-May	88.2	7-9		1-500					
8-May	-				1-1,000				
9-May	73.9	6-7							
10-May	55.3	6-6							
15-May	27.3		1-3	1-800					
19-May	37.7	2-2	1-2						
20-May	62.1	1-1		2-115					
22-May	41.3				1-100				
23-May	36.4								
25-May	70.7	3-4							
26-May	55.4								
27-May	36.0	1-1						4-6	1-1
Total	1,143.9	36-40	7-11	4-1,415	2-1,100	2-4	6-13	4-6	1-1

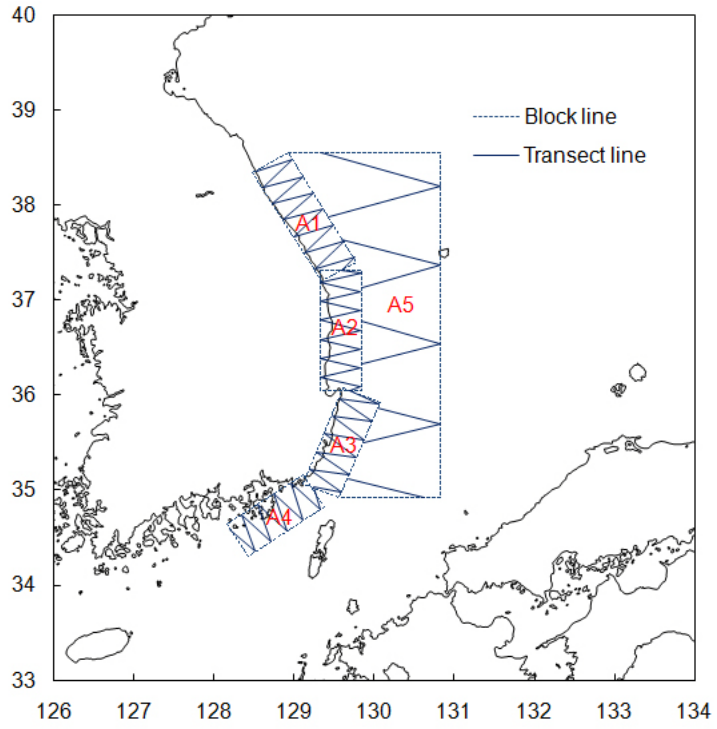

Fig. 1. Predetermined transect lines for Korean sighting survey in the East Sea, April-May 2009.

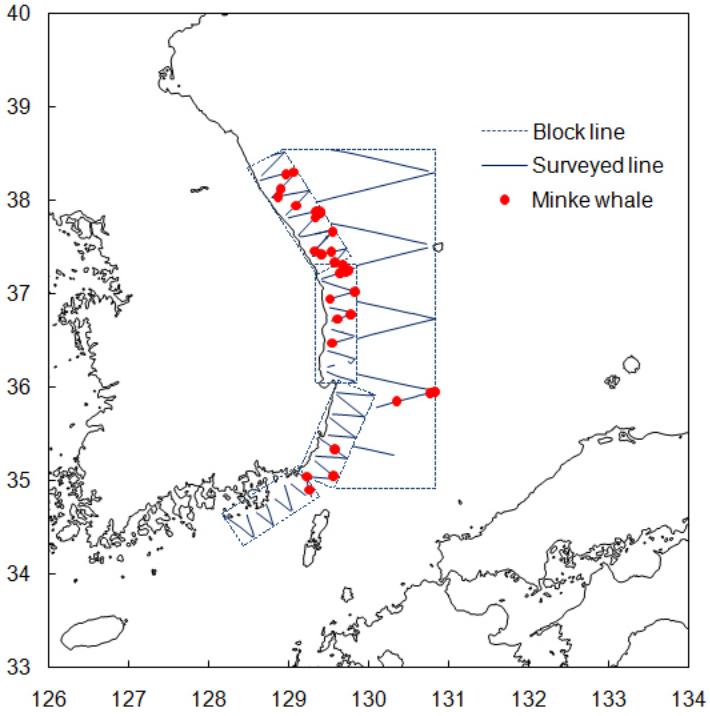

Fig. 2. Primary sighting positions of minke whales.

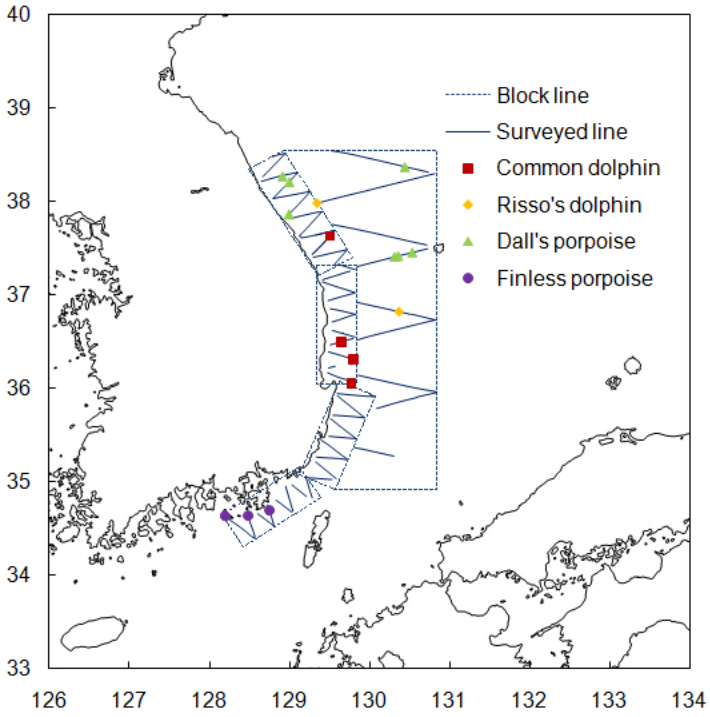

Fig. 3. Primary sighting positions of small cetaceans.

Oversight Report for the Korean Sighting Survey in 2009

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

I carried out the oversight work through the planning and the execution of the Korean sighting survey conducted by National Fisheries Research & Development Institute in April-May 2009 on behalf of the Scientific Committee. This is a brief report of the oversight activities for this cruise.

PLANNING MEETING

The plan has been presented to the 60th SC (SC/60/NPM3) and endorsed by the committee. I discussed about the logistical matters with the survey organizer, Dr. Kim and Japanese scientist Dr. Kitakado who estimated abundance of minke whales in the survey area.
The research vessels, Tamgu 3 (360 G/T), was planned to operate the cruises. All equipments and the survey method were same as the past sighting surveys. The survey areas were composed of one offshore block and 4 coastal blocks in the East Sea. The design of the blocks and track lines was improved to cover each block with uniform probability. The planned sighting procedure was in accordance with the guideline agreed by the SC.
All scientists and four observers on board have experience to participate in the recent surveys in Korea.
Organizer explained the objectives of the survey and its procedure to the crew of the vessel and observers for full understanding before starting the survey.

OVERSIGHT ON VESSEL

I was onboard from 21 April to 10 May, 2009 and I was present in the upper bridge through the all period of observation. All crews and observers fully understood the objectives and methods for operating the survey properly and I acted as a leader and oversighter of the survey.
I am very pleased to report the Korean sighting survey in 2009 which was carried out under the methods and systems to meet with the guidelines of the SC and completed predetermined transect lines for the first time.