SC/68D/ASI/09

Sub-committees/working group name: ASI

Plan for the Korean Sighting Survey in Korean Waters in 2022-2023

Jong Hee LEE, Eun-Ho KIM, Joon-Taek YOO, Kyung Lee LEE, Jeong Eun KU, In Woo Han and Seok-Gwan CHOI

Plan for the Korean Sighting Survey in Korean Waters in 2022-2023

Jong Hee LEE, Eun-Ho KIM, Joon-Taek YOO, Kyung Lee LEE, Jeong Eun KU, In Woo Han and Seok-Gwan CHOI

Cetacean research Institute, National Institute of fisheries Science

250, Jansaengpogoraero, Nam-gu, Ulsan, 44780, the Republic of Korea

ABSTRACT

The sighting survey for common minke whale will be conducted in Korean waters in spring and autumn, 2022-2023. The first objective of this survey is to get the information on the distribution and abundance estimation of common minke whales for the stock assessment. The second one is to collect the general information on the distribution of other cetaceans in the area. A total of 5,495 nautical miles long transect lines will be searched using closing mode with binoculars and naked eyes both. Other research activities such as photo identification will be conducted during the survey.

BACKGROUND

The survey areas were one of the main whaling ground in the past commercial whaling period and the site of the most common minke whale bycaught in Korea since the whaling was banned in 1986. However, information on the distribution and abundance is insufficient for the minke whale assessment even though the Cetacean Research Institute (CRI) has conducted systematic surveys in this area from 2000 (Kim et al., 2000). The coverage of the surveys is considered as still low, especially in the offshore (IWC 2001). In order to maximize the coverage of Korean sighting survey, CRI extended survey areas on the subarea 5 and 6W to the bother-line of Korean EEZ and planned to cover them in 4 years since 2013. From 2021, CRI have expanded the survey area to cover them in 2 years; in other words, the East Sea and the West Sea were conducted alternately every year, and the autumn survey was added to the spring one. This sighting survey was designed to supply the deficiency of data and elaborate the information on the distribution and abundance of minke whales in the western North Pacific as well as the other small cetaceans such as finless porpoises in Korean waters. The plan was established in accordance with the requirements and guidelines for conducting surveys and analyzing data within the Revised Management Scheme (IWC, 2012).

SURVEY PLAN

Survey area, track lines and schedules

The surveys will be carried out in the East Sea in 2022 and in the Yellow Sea in 2023. The survey area is established in Eastern and Western coastal areas in the Korean waters and divided into 5 blocks in the East Sea

and 4 blocks in the West Sea (Figure 1). All starting points of research blocks are set at the southernmost boundaries with random start. The pre-determined track lines are shown in Figure 1. The total track lines are 5,495 nautical miles for four times surveys in 2022-2023. One or two research vessel of NIFS might be used at each survey. The survey periods and research vessels for 2022 have been decided, but for 2023 only the season has been decided. We are planning the surveys will be conducted between mid-April and early-May as core time in spring, and from September to October in autumn. Survey in 2023 will be conducted roughly the similar time and schedules as 2022.

The survey will be started on 14th April and finished on 5th may 2022 by two research vessels and tentative itinerary will be as follows;

14-April: The vessel will leave Busan to the southernmost of the research block E1 and E3.

16-April: The survey will be started in the East Sea.

- 22-April: The research blocks E1 and E3 will be completed.
- 29-April: The research blocks E2 and E5 will be completed.
- 4-May: The research block E4 will be completed.

4-May: The vessels will leave the research block E4 heading to Busan

5-May: the vessel will arrive at Busan.

In autumn, the sighting survey will be carried out from 13th to 30th on September, 6th to 21st on October by two research vessels.

Research method

The shipboard survey using the research vessel New *Tamgu No. 3*(799GT, 3406HP) and *Tamgu No. 20*(885GT, 2600HP) will be conducted. Two observers search cetaceans with binoculars and naked eyes both on the barrel and symmetrically three observers will be on the top bridge. The vessel will cruise with speed at 10 to 11.5 knots in accordance with sea states and weather conditions. Closing mode will be applied for identification, school size estimation. The distance to the sightings will estimate using the rangefinder or the reticles on the binoculars. The compass on the binoculars will be used to estimate the angle to the sightings. Other non-lethal research activities will be conducted such as water temperature and salinity observations with a CTD for oceanographic study, and photography and video recording for photo identification, etc.

Researchers and oversight person

Researchers who are experienced at least twice on sighting survey will be selected as a member to this survey.

We, Korean researchers, request to the IWC Scientific Committee to nominate Eun-Ho Kim as an oversight in

the Korean sighting surveys. She has been working at Cetacean Research Institute, NIFS since 2018, and has participated in more than eight large or small sighting surveys in Korea.

Submission to the Scientific Committee

Details of cruise report, sighting effort and weather record and sighting results will be submitted to the IWC Scientific Committee meeting.

REFERENCES

International Whaling Commission 2001. Annex S, Statements Relating to Agenda Item 7. J. Cetacean Res. Manage. 3 (Suppl.): 358-60

International Whaling Commission 2012. Requirements and Guidelines for conducting Surveys and Analysing Data within the Revised Management Scheme. J. Cetacean Res. Manage. 13 (Suppl.): 507-18

Kim, Z.G, H.Sohn, C.I. Baik and H. Yoshida. 2000. Preliminary report of Korean whale sighting survey conducted under Korea and Japn joint pilot research plan in summer 2000. IWC/52/SC/RMP22.

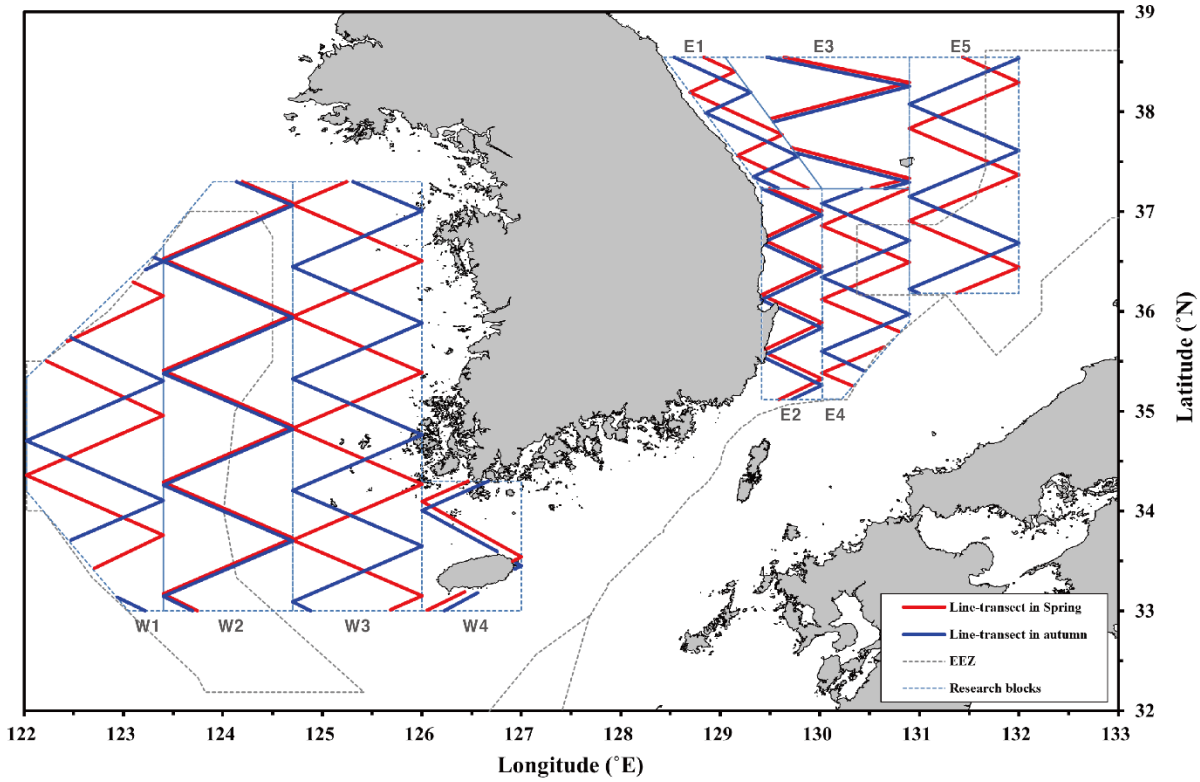

Figure 1. Research blocks and predetermined transect lines for the sighting survey in Korean waters, 2022-2023. E1-E5 will be covered in 2022 and W1-W4 in 2023.

Table 1. Waypoints in the Research areas

Survey year	Research Block	Waypoint	Spring		Autumn	
			Latitude (N)	Longitude (E)	Latitude (N)	Longitude (E)
2022	E1	101	38 32.77	128 50.08	38 32.77	128 32.01
		102	38 24.24	129 08.87	38 11.62	129 18.29
		103	38 11.79	128 41.54	37 59.16	128 51.04
		104	37 46.07	129 37.42	37 33.44	129 46.75
		105	37 33.62	129 10.32	37 20.99	129 19.74
		106	37 13.99	129 52.74	37 13.98	129 34.96
	E2	201	37 13.80	129 29.75	37 13.80	129 25.28
		202	37 00.36	130 01.23	36 57.89	130 01.23
		203	36 45.29	129 28.80	36 42.86	129 28.92
		204	36 41.64	129 29.13	36 39.90	129 27.18
		205	36 26.88	130 01.23	36 24.05	130 01.23
		206	36 10.07	129 24.80	36 07.05	129 24.80
		207	35 53.22	130 01.23	36 04.05	129 31.23
		208	35 37.14	129 27.14	36 01.84	129 35.74
		209	35 34.83	129 28.00	35 49.99	130 01.23
		210	35 19.39	130 01.23	35 34.51	129 28.43
		211	35 07.09	129 35.29	35 31.47	129 27.78
		212	-	-	35 15.70	130 01.23
		213	-	-	35 07.23	129 43.33
	E3	301	38 32.77	129 38.48	38 32.77	129 28.25
		302	38 17.69	130 54.00	38 15.16	130 54.00
		303	37 55.99	129 30.74	37 53.79	129 31.99
		304	37 38.50	129 43.13	37 35.19	129 46.11
		305	37 20.14	130 54.00	37 17.61	130 54.00
		306	37 14.27	130 31.29	37 13.82	130 39.29
	E4	401	37 13.80	130 53.18	37 13.84	130 25.40
		402	36 51.64	130 01.23	37 04.82	130 01.23
		403	36 29.48	130 54.00	36 42.66	130 54.00
		404	36 07.33	130 01.23	36 20.50	130 01.23
		405	35 47.97	130 47.70	35 58.35	130 54.00
		406	35 38.80	130 38.64	35 36.20	130 01.23
		407	35 23.02	130 01.23	35 24.40	130 26.20
		408	35 15.28	130 19.78	-	-
	E5	501	38 32.77	131 25.98	38 32.77	131 59.43
		502	38 17.69	132 00.00	38 32.27	132 00.00
		503	37 49.93	130 54.00	38 04.51	130 54.00
		504	37 22.18	132 00.00	37 36.75	132 00.00
		505	36 54.43	130 54.00	37 09.00	130 54.00
		506	36 26.68	132 00.00	36 41.25	132 00.00
		507	36 11.15	131 22.46	36 13.51	130 54.00
		508	-	-	36 10.81	130 59.79

Table 1. Continued.

Survey year	Research Block	Waypoint	Spring		Autumn	
			Latitude (N)	Longitude (E)	Latitude (N)	Longitude (E)
2023	W1	101	38 32.77	128 50.08	38 32.77	128 50.08
		102	38 24.24	129 08.87	38 24.24	129 08.87
		103	38 11.79	128 41.54	38 11.79	128 41.54
		104	37 46.07	129 37.42	37 46.07	129 37.42
		105	37 33.62	129 10.32	37 33.62	129 10.32
		106	37 13.99	129 52.74	37 13.99	129 52.74
		107	37 13.99	129 52.74	37 13.99	129 52.74
		108	37 13.99	129 52.74	37 13.99	129 52.74
		109	-	-	37 13.80	129 29.75
		110	-	-	37 00.36	130 01.23
	W2	201	36 41.64	129 29.13	36 41.64	129 29.13
		202	36 41.64	129 29.13	36 41.64	129 29.13
		203	36 26.88	130 01.23	36 26.88	130 01.23
		204	36 10.07	129 24.80	36 10.07	129 24.80
		205	35 53.22	130 01.23	35 53.22	130 01.23
		206	35 37.14	129 27.14	35 37.14	129 27.14
		207	37 13.99	129 52.74	37 13.99	129 52.74
		208	35 34.83	129 28.00	35 34.83	129 28.00
		209	35 19.39	130 01.23	35 19.39	130 01.23
		210	35 07.09	129 35.29	35 07.09	129 35.29
	W3	301	37 55.99	129 30.74	37 55.99	129 30.74
		302	37 13.99	129 52.74	37 13.99	129 52.74
		303	37 38.50	129 43.13	37 38.50	129 43.13
		304	37 20.14	130 54.00	37 20.14	130 54.00
		305	37 14.27	130 31.29	37 14.27	130 31.29
		306	37 13.99	129 52.74	37 13.99	129 52.74
		307	37 13.80	130 53.18	37 13.80	130 53.18
		308	36 51.64	130 01.23	36 51.64	130 01.23
		309	36 29.48	130 54.00	36 29.48	130 54.00
		310	36 07.33	130 01.23	36 07.33	130 01.23
	W4	401	35 38.80	130 38.64	35 38.80	130 38.64
		402	35 38.80	130 38.64	35 38.80	130 38.64
		403	35 23.02	130 01.23	35 23.02	130 01.23
		404	35 15.28	130 19.78	35 15.28	130 19.78
		405	37 13.99	129 52.74	37 13.99	129 52.74
		406	38 32.77	131 25.98	38 32.77	131 25.98
		407	-	-	38 17.69	132 00.00
		408	-	-	37 49.93	130 54.00