



SECRETARIAT OF THE EAST ASIAN–AUSTRALASIAN FLYWAY PARTNERSHIP

3F Bon-dong G-Tower, 175 Art center-daero, Yeonsu-gu

Incheon, Republic of Korea 22004

secretariat@eaaflyway.net

2024 Small Grant Fund for Working Groups and Task Forces Report

Monthly monitoring of the population and threats to Spoon-billed Sandpipers and other migratory shorebirds in the Gulf of Mottama Ramsar Site

**Project Duration: September 2024 – January 2025
Myanmar**

Submission Date: 30 April 2025

GRANTEE OVERVIEW

Describe your organisation by filling out the table below.

Grantee Details	Pyae Phyo Aung Executive Director pyaephyoaung@ncsimm.org
Organisation	Nature Conservation Society - Myanmar NGO
Country	Myanmar

List any contributions that your organisation or yourself might have been involved for the protection of the migratory waterbirds and their habitats across the East-Asian Australasian Flyway below.

Brief summary of your contributions. If applicable, please include the year, Flyway Network Sites, type of activities, and other relevant information.

Annual monitoring on the wintering population status of migratory shorebirds in the Gulf of Mottama Ramsar Site, 2021 – 2025.

Designation of the Nanthar Island as Flyway Network Sites and Ramsar Sites,

Safeguarding and monitoring migratory shorebirds and their habitat at the Nanthar Island, 2021 - 2024

1.1 PROJECT SUMMARY

Project Title	<i>Monthly monitoring of the population and threats to Spoon-billed Sandpipers and other migratory shorebirds in the Gulf of Mottama Ramsar Site</i>
Location	<i>The Gulf of Mottama Ramsar Site, Mon State, Myanmar</i>
Project Budget EAAFP	<i>5000 USD</i>
Co-funding	<i>10,000 USD, Mangrove Conservation Fund.</i>
EAAFP Working Group or Task Force	<i>Spoon-billed Sandpipers Task Force</i>
Relevant EAAFP Strategic Plan	<i>KRA 3.1: Establishing and Enhancing National Monitoring Systems KRA 3.2: Producing and Updating Conservation Status Reviews KRA 3.3: Updating the List of Sites of International Importance</i>

Project Overview and Outcomes

Please provide a brief summary of your project. In the summary, please include its objective and its location (Name of Place, City and Country), and explain the significance and relations of the species and its location (in link with [EAAF Key Species](#) and [Flyway Network Site](#)) for your project. Please also discuss how this project contributes to the implementation of the [EAAFP Strategic Plan 2019-2028](#).

This project aims to monitor the annual wintering population of Spoon-billed Sandpipers (SBS) and other threatened species in The Gulf of Mottama (GoM) and identify potential threats in collaboration with the local community. The GoM which is located within Yangon, Bago regions and Mon State, is one of Myanmar's eight Flyway Network Sites and designated as a Ramsar Site since 2017, and is a crucial habitat supporting a wide variety of species, including marine fish, invertebrates, and up to 150,000 migratory waterbirds during the non-breeding season. Moreover, it hosts six globally threatened bird species, including an estimated 60% of the Critically Endangered Spoon-billed Sandpiper's global population. During 2024-2025 wintering season, NCS-Myanmar in collaboration with local conservation groups (LCGs), has conducted monthly monitoring on the shorebird population in the GoM. A total of 83,816 wetland-dependent birds of 41 species were documented. Moreover, 333 individuals of seven terrestrial species including two migratory bird species; Critically Endangered Yellow-breasted Bunting and Least Concerned Chestnut-eared Bunting were also recorded. Notably, the survey identified 62 SBS, alongside other globally threatened species, including 12 Great Knots (EN), 21 Nordmann's Greenshanks (EN), 5,805 Curlew Sandpipers (VU), 159 Broad-billed Sandpipers (VU) and 48 Grey Plovers (VU). Furthermore, six Near Threatened species as Black-tailed Godwit, Eurasian Curlew, Ruddy Turnstone, Dunlin, Black-headed Ibis and Red-necked Stint (NT)/Little Stint (LC) were also recorded.

The annual wintering migratory shorebird population data is contributing to KRA (Key Result Areas) 3.1. for establishing and Enhancing National Monitoring Systems as the GoM Ramsar Site Management. Detailing the monthly population surveys and estimates of the wintering populations of Spoon-billed Sandpipers and other threatened birds is also contributes for estimating their global population status and for providing future population trend (KRA 3.2: Producing and Updating Conservation Status Reviews). Annual wintering population status will update the GoM as the List of Sites of International Importance (KRA 3.3) by highlighting its critical importance as the area with the largest known wintering population of Spoon-billed Sandpipers along the Southeast Asian coast. This update will aid in conservation management and prioritization efforts in flyway level.

1.2 PROJECT DETAILS

Detailed Project Implementation Process and Methodologies

Describe the process of your project, including timeline, methodologies, field work, interview, conference, etc. Please include analysis of your process, if applicable. (Any visual aids, including maps, graphs, tables, flowcharts, photos, etc. are strongly preferred)

A. Identifying the potential surveyed areas and accessing the mudflat changes (September and January 2025)

To understand the mudflat changes between 2018 and 2025 and also to identify the potential survey areas for the 2024-2025 wintering season, Landsat-8/9 OLI/TIRS images were obtained from the USGS Earth Explorer website (<https://earthexplorer.usgs.gov/>). Since Landsat-8 and Landsat-9 follow an orbital cycle that revisits the same location approximately every 5–16 days, up to two images per month were available for the study area prior to September 27, 2021—the launch date of Landsat-9. With both satellites operational, the number of available images increased to four per month.

For the comparison of mudflat changes, images were carefully selected based on the following criteria:

- Acquisition date (all images were taken in January).
- Low tide conditions to maximize visibility of mudflats.
- Minimal cloud cover to ensure clear and accurate observations.

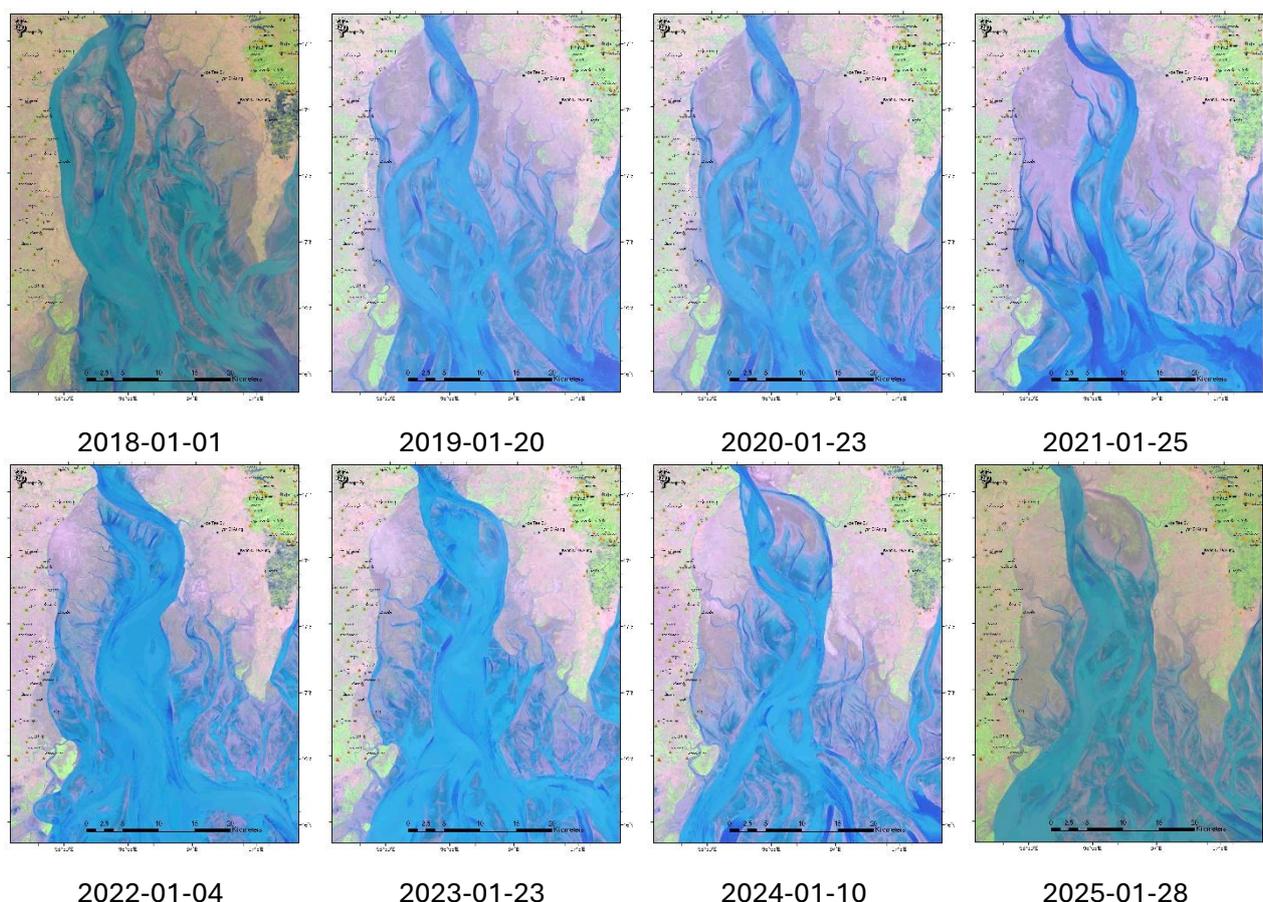


Figure 1. Landsat 8/9 OLI/TIRS images with their acquisition dates, showing the core area of the GoM and its intertidal mudflats, which have undergone changes over the past eight years (2018–2025).

The comparison of Landsat satellite images over the past eight years visualizes the changes of the mudflats at the core area of the GoM (Figure 3). While there were two main channels of Sittaung River in 2018, only one channel remains since 2019. The disappearance of the intertidal mudflat on the western bank between 2024 and 2025 also highlighted the difference of SBS populations detected in the western bank between those two years.

The surveyed areas were selected based on the mudflat formation, local knowledge and potential habitat map.

B. Monthly monitoring surveys of Spoon-billed Sandpipers (December 2024 and January 2025)
a) Field Surveys

The first monthly monitoring survey was conducted by four observers from 30 November 2024 to 4 December 2024 during the spring tide. The second survey by seven observers in January 2025 coincided both with the high spring tide (30Jan–2 Feb 2025), which provided optimal access to upper intertidal mudflats and the low neap tide (3-4Feb 2025), allowing access to lower mudflats that were otherwise unreachable during high tide.

To navigate the GoM, the survey team utilized shallow-draft fishing boats, enabling movement across various parts of the study area. These boats were grounded on intertidal mudflats during low tide, allowing surveyors to conduct bird observations during the period between two high tides. As the tide rose, the team moved to the next potential survey site.

Following the methodology outlined by Aung et al. (2018), the surveyors dispersed in multiple directions from designated anchor points (Figure 1). At low tide, they traversed the mudflats from the grounded boats, while during high tide, observations were primarily conducted from the boats or by approaching to the roosting sites.

During field surveys, observers used spotting scopes and binoculars to identify and count shorebirds, particularly before and after high tide. Each scan involved an observer systematically surveying a flock, recording species composition, individual counts, date, time, habitat type and GPS coordinates. The proportion of small waders was estimated by averaging species counts across multiple observed flocks. The total Spoon-billed Sandpiper population was then extrapolated from the overall small wader estimates.

b) Flock count

Our surveyors systematically scanned flocks of resting and foraging small shorebirds using telescopes. These flocks varied in size, ranging from 30 to 1,000 birds (Figure 2). During each scan, an observer carefully searched through a flock, identifying and recording the number of each shorebird species. Along with species identification, date, time, and GPS coordinates were recorded. An individual Spoon-billed Sandpiper was only recorded if it was clearly observed and identified.

In addition to SBS, the surveyed shorebird flock included Calidrid species—such as Curlew Sandpiper (*Calidris ferruginea*), Broad-billed Sandpiper (*Calidris falcinellus*), and Red-necked Stint/Little Stint—as well as various plovers, including Greater Sand Plover (*Charadrius leschenaultii*), Lesser Sand Plover (*Charadrius mongolus*), Kentish Plover (*Charadrius alexandrinus*), and Little Ringed Plover (*Charadrius dubius*).

c) Analysis

The proportion of each small wader species were estimated by calculating the average mean of each species recorded across all observed flocks totalling 280. Using these proportions, the total number of small shorebirds was extrapolated based on overall flock size estimates.

However, since estimates of total flock size varied between observers and were often less accurate than direct flock counts, the estimated number of SBS and other species fluctuated depending on the range of flock size estimations. Similar with the previous years, the surveyors tried to estimate the most plausible number of unidentified small waders for each surveyed area for each day, and there was general agreement among surveyors regarding the estimated size of small wader flocks, resulting in more consistent population assessments.

Problems Encountered/Adjustments/Challenges

If there were some changes made, please indicate them and explain (ex. unexpected circumstances, sudden cancellation, etc.)

1.3 PROJECT RESULTS

Explain and evaluate the outcomes and findings of your project (Any visual data, including maps, graphs, tables, photos, etc. are highly preferred).

A. Monthly counts of migratory birds and key threatened species

During five days of the first monthly survey between 30 November and 4 December 2024, an estimated 11,000 waders representing 28 species, 3,000 gull and terns of seven species, 700 individuals of seven other wetland-dependent species and nine individuals of four raptor species were recorded in the GoM. The survey team recorded 14 Critically Endangered SBS, 22 Endangered Nordmann's Greenshanks, 15 Endangered Great Knots, 1,736 Vulnerable Curlew Sandpipers, 240 Vulnerable Broad-billed Sandpipers and 38 Vulnerable Grey Plovers.

During eight days of the second monthly survey between 28 January and 4 February 2025, an estimated 68,000 waders representing 27 species, 14,000 gull and terns of 9 species, 702 individuals of six other wetland-dependent species and 31 individuals of 4 raptor species were recorded in the GoM. The total number of small waders within the survey areas was estimated at approximately 60,000, accounting for flocks that may have been missed in the extensive survey area.

The survey team recorded 62 Critically Endangered SBS, 21 Endangered Nordmann's Greenshanks, 12 Endangered Great Knots, 5805 Vulnerable Curlew Sandpipers, 2159 Vulnerable Broad-billed Sandpipers and 48 Vulnerable Grey Plovers. The number of 62 SBS is very higher than the last four years counts of 9-32.

For the comparison with the previous years and further analysis, the data of the second survey trip in January-February 2025 was used.

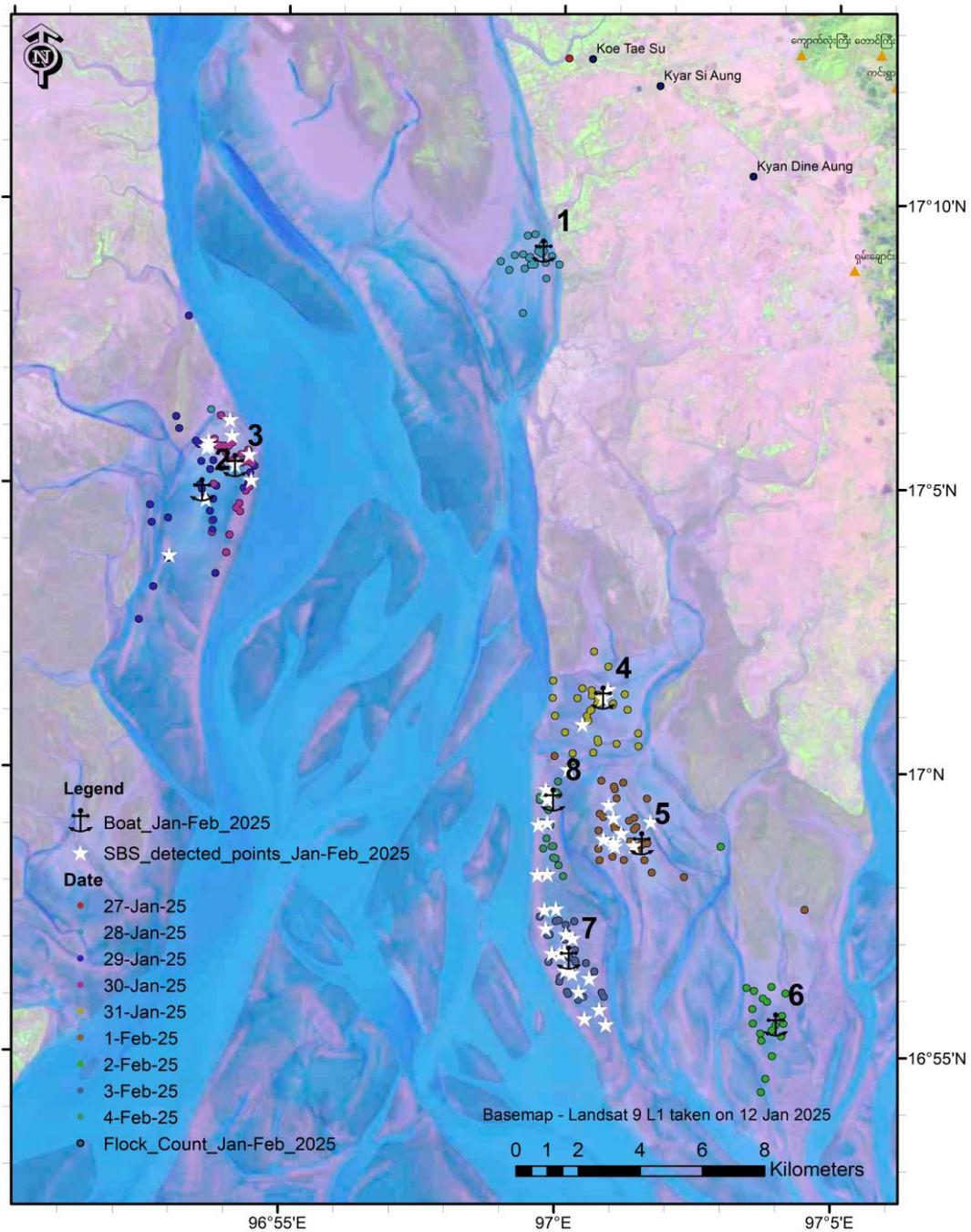


Figure 3. Map showing the location of boat stopover sites, flocks with different colors with different dates and locations of SBS detections

Over the past 17 years (2009–2025), the observed and estimated numbers of SBS in the GoM have fluctuated significantly. The observed numbers represent the actual counts recorded during surveys, while the estimated numbers are derived by adding additional estimate according to the proportion from the extrapolated flock counts.

In 2025, 52 SBS were directly observed, marking a sharp increase from the 19 individuals recorded in 2022. This is the highest number recorded in the GoM since 2020 (Figure 4).

The estimated SBS population for 2025 is only four individuals, based on the proportion 0.09% and a maximum small wader population estimate of 60,000, including missing flocks (Table 1). This estimate is considerably lower than the 15 individuals estimated in 2024.

Table 1. Average flock proportions of small waders in the GoM in January- February 2025 (n= 280)*, proportional observations for 2019, 2020, 2021, 2022, 2023, 2024 and 2025, total estimated number of each species based on the proportions.

English name	Scientific name	Total estimated number @60000 (2025)	Flock count total (2025)	Mean proportion in %						
				2019	2020	2021	2022	2023	2024	2025
Spoon-billed Sandpiper	<i>Calidris pygmaea</i>	56	52	0.18	0.19	0.08	0.05	0.03	0.04	0.09
Little Stint/Red necked Stint	<i>Calidris ruficollis/minuta</i>	10337	9547	22.37	18.06	18.36	11.85	15.14	10.29	17.23
Curlew Sandpiper	<i>Calidris ferruginea</i>	6286	5805	6.55	16.32	10.57	7.74	7.63	10.52	10.48
Broad-billed Sandpiper	<i>Calidris falcinellus</i>	2338	2159	5.32	7.66	4.05	2.38	7.51	6.49	3.90
Kentish Plover	<i>Charadrius alexandrinus</i>	10528	9723	31.41	12.53	33.60	6.87	11.74	17.62	17.55
Lesser Sand Plover	<i>Charadrius mongolus</i>	30042	27745	32.20	44.17	29.98	70.78	56.26	54.72	50.07
Greater Sand Plover	<i>Charadrius leschenaultii</i>	409	378	1.63	0.69	1.00	0.25	1.67	0.28	0.68
Little Ringed Plover	<i>Charadrius dubius</i>	4	4	0.34	0.39	2.36	0.07	0.03	0.05	0.01
			55413							

The highest observed number of SBS was recorded in 2015, with 143 individuals, whereas the highest estimated population was in 2009, reaching 240 individuals. This long-term trend highlights a substantial and continuing decline in the SBS population in the GoM, underscoring the urgent need for conservation actions.

Based on the number of sightings on the flagged individuals, mark-resighting analysis by using the BirdRing App estimated 62 individuals of SBS based on 62 sightings in which four sightings on four different flagged individuals were included.

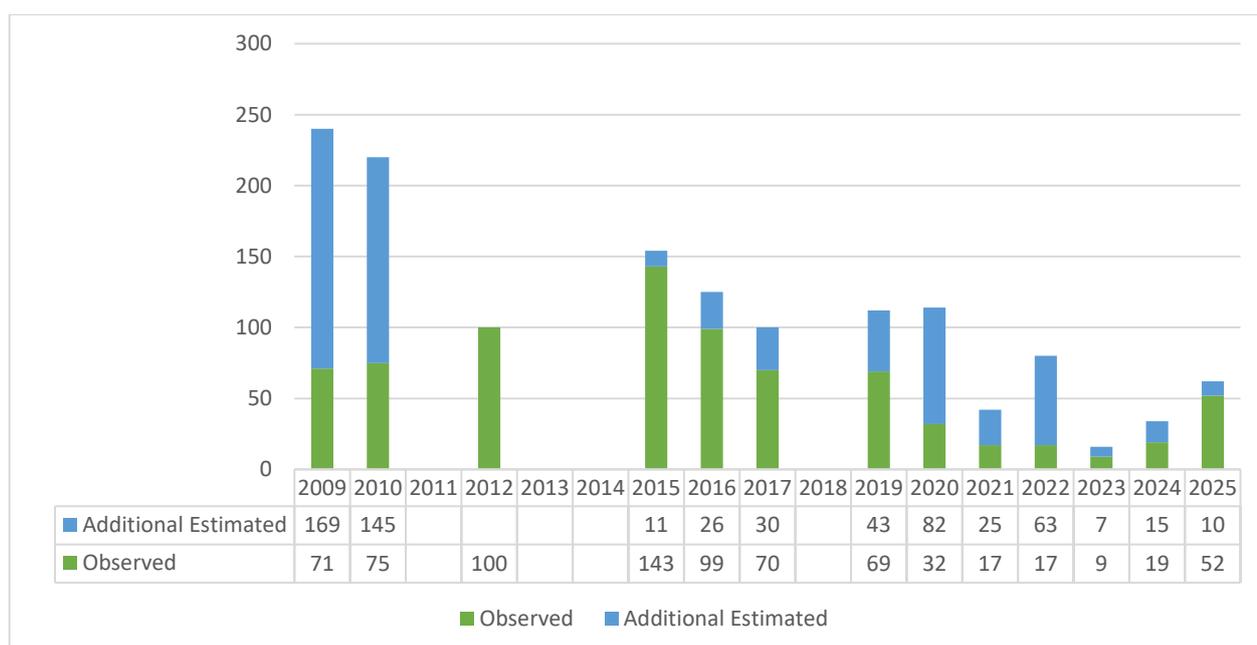


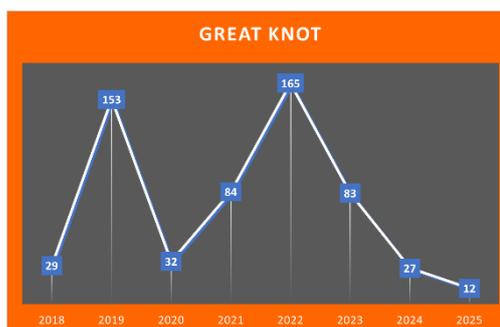
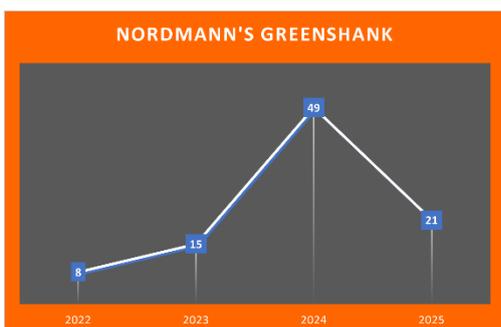
Figure 4. Spoon-billed Sandpiper population estimates in the GoM from 2009-2025

C. Red List species

One Critically Endangered, two Endangered, three Vulnerable species were recorded while nine Near Threatened species were also recorded. Among five recorded threatened species, Curlew Sandpipers, Broad-billed Sandpipers and Grey Plovers are the species that were uplisted to Vulnerable (VU) in 2024. This year, we haven't spotted two threatened raptor species Steppe Eagle (EN) and Greater Spotted Eagle (EN) while only two and one individuals were recorded last year respectively.

Table 2. Globally threatened and Near Threatened species recorded in January and February 2025 survey trip in the GoM compared to 2024, 2023, 2022, 2021, 2020, 2019 and 2018. Species with bold fonts were increasing and in italic style decreasing.

	Common Name	IUCN Status	2018	2019	2020	2021	2022	2023	2024	2025
1.	Spoon-billed Sandpiper*	CR	8	69	32	17	17	9	19	62
2.	Great Knot	EN	29	153	32	84	165	83	27	12
3.	Nordmann's Greenshank	EN	-	-	-	-	8	15	49	21
4.	Steppe Eagle	EN	-	-	-	-	-	-	2	0
5.	Greater Spotted Eagle	VU	-	-	-	-	-	16	1	0
6.	Curlew Sandpiper	VU	2333	3003	4512	2235	2703	2247	4538	5805
7.	Broad-billed Sandpiper	VU	-	1909	2138	856	831	2179	2799	2159
8.	Grey Plover	VU	6	-	18	385	27	321	95	48
9.	Black-tailed Godwit	NT	2512	2310	5625	14392	3723	2040	434	2109
10.	Bar-tailed Godwit	NT	279	21	4	24	3	91	14	0
11.	Eurasian Curlew	NT	751	280	597	1264	313	1072	383	509
12.	Asiatic Dowitcher	NT	-	49	-	2	-	183	27	0
13.	Red Knot	NT	10	-	-	478	-	21	3	0
14.	Ruddy Turnstone	NT	1	6	6	0	-	55	1	1
15.	Dunlin	NT	1	0	5	5	-	14	5	2
16.	Black-headed Ibis	NT	38	-	32	13	12	144	123	33
17.	Painted Stork	NT	-	-	1	55	13	4	19	-
18.	Little Stint/Red necked Stint	LC/NT	-	7690	4760	3884	4138	4373	4441	9547



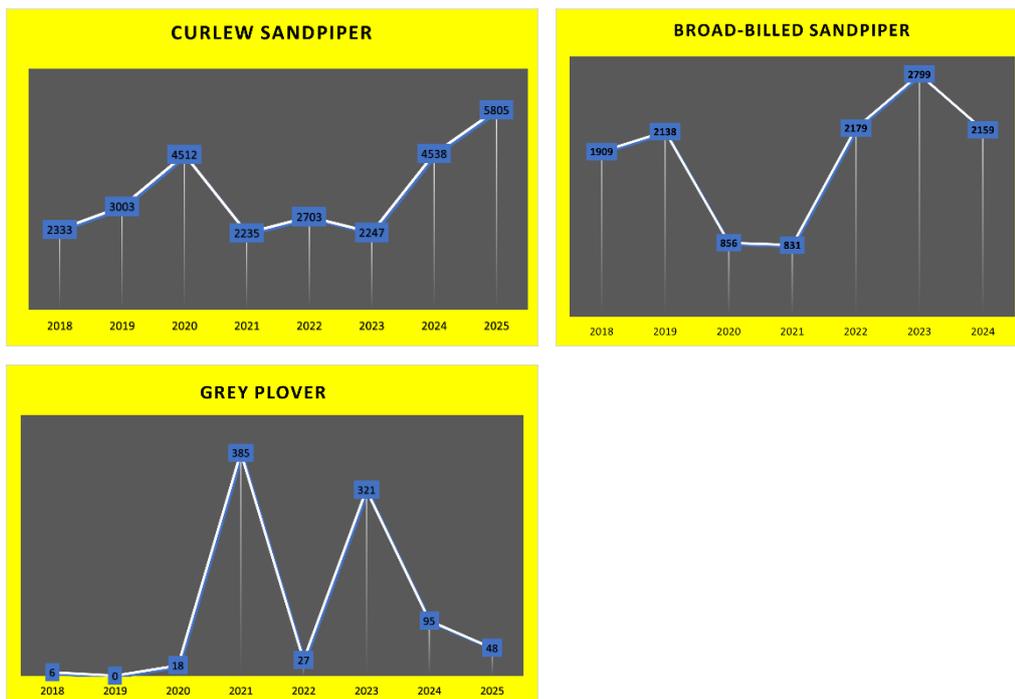


Figure 5. Wintering population trends of six Red List threatened species in the GoM from 2018 to 2025. Data on Nordmann’s Greenshank population were not available before 2022.

1.4 COMMUNICATION, EDUCATION, PARTICIPATION, AND AWARENESS (CEPA)

Please provide details on any CEPA-related activities associated with your project.

Awareness on the conservation status of shore birds and its importance wetlands were raised by setting up, three 3 information signboards at Kyaik Hto town, Koe Tae Su village and Kyar Si Aung village etc. These UV-resisted 6 feet x 4 feet vinyl poster included the information about the key wintering shorebirds species and message about their protection status by the Myanmar Biodiversity and Protected Areas Conservation law (2018).



Figure 6. Three signboards installed at the Gulf of Mottama Ramsar Site in 2024-2025 wintering season

1.5 RECOMMENDATIONS AND SUSTAINABILITY

Please provide suggested actions or improvements based on your findings. Sustainability focuses on how the project's outcomes or benefits can continue over time or be maintained.

Please also include how the outcomes of your project might be applied in future research or its implications for future research.

The observed number of SBS during the survey in 2025 was 62 individuals, marking a notable increase compared to the past four years. This rise could be attributed to several factors. One possible reason is the careful selection of survey sites, ensuring that observations were conducted at the right time and in the right places. Favourable climatic and environmental conditions may have also contributed to improved wintering suitability for the species. Additionally, some individuals may have been counted more than once, as birds stopping at multiple locations could have been recorded by different observers conducting surveys independently. Not only SBS numbers have increased in GoM, but also increased in South China. Stable population in Thailand and significantly decline in Bangladesh (see Table 3). However, despite this increase, the overall trend in the GoM indicates a continued decline.

Table 3. Yearly wintering population records of SBS in its different regions from different countries and number of flagged birds from 2023 to 2025 (Source: Annual winter census counts SBSTF 2025)

Site	Country	2025	Flags 2025	2024	Flags 2024	2023	Flags 2023
South China total	CHI	75	8	54	8	70	8
Gulf of Mottama	MYM	62	4	16(34)	5	9 (19)	1
Nan Thar	MYM	NA	NA	5	2	5	2
Delta	MYM	0		0		1	
Bokpyin	MYM	0		-		0	
Pak Thale	THA	4	1	4	1	6	2
Khok Kham	THA	3		3	0	3	0
Chonburi (Gleuca	THA	3	1	4	2	1	
Khlong Tamru	THA	0		1	0		
Sonadia	BGD	2	1	5	3	4	2
Nijjhum Dwip	BGD	0		0	0	0	
Banskhali	BGD	0		0	0	0	
Meghna Estuary	BGD	1		1	0	0	
Mekong Delta	VTN	4		5	1	4	1
Red River Delta	VTN	1		1	0	0	
South Central VN	VTN	0		0	0	1	
Selangor	MAY	1		1			
Buntak Bay	MAY	0					
Total counts		150	15	117		114	

Several factors may be contributing to this decline, including climate change, habitat shifts in intertidal mudflats, and water pollution. The availability of food sources could also be a limiting factor, along with the impact of contaminants such as mercury and microplastics from upstream sources. Additionally, our current research project on shorebirds use indicate that bird hunting has resumed in along coastal areas Ayeyarwaddy Delta, western coast of GoM in Yangon region where former ex-hunter is now again bird hunting for his daily livelihoods, highlighting the need for urgent intervention.

To better understand population trends, more intensive surveys are needed in both the GoM and other potential wintering sites. Due to changes in the intertidal mudflats that was visible in shifting our survey areas, it is not possible to survey the entire area, even during both spring and neap tides. The limited time available between two high tides each day, combined with the movement patterns of shorebirds, further restricts survey coverage. To improve population estimates and monitoring accuracy, identifying the key roosting sites along both the eastern and western shorelines of the GoM would be beneficial. Using high-technology as unoccupied aerial system (UAS) with drones may provide more coverage to the surveyed area.

Changing migration patterns, possibly influenced by rising temperatures, may also be affecting the species' distribution, with some birds remaining at stopover sites instead of completing their usual migration. Further research into pollution levels and its ecological impacts is also crucial, as these issues affect not only biodiversity but also human well-being. Strengthening conservation efforts, including habitat protection and enforcement measures, will be essential to reversing the long-term decline of the Spoon-billed Sandpiper.

2. BUDGET REPORT

Please provide a table for the expenditure breakdown. See example below.

Consumable items (details): Monthly shorebirds population surveys	2,250.00 USD
Local Transportation: Car rental fare from Yangon to GoM and accommodation cost	642.18 USD
Food	790.96 USD
Renting Boat	847.46 USD
Others (details): Setting up three UV-vinyl signboards	468.64 USD
Total	4,999.23 USD

ANNEXES

Annex 1. List of survey participants and boatmen

Sr. No	Name	Organization
1	Pyae Phyo Aung	Nature Conservation Society
2	Saw Moses	Nature Conservation Society
3	Gideon @ Sa Myo Zaw	Nature Conservation Society
4	Ye Min Aung	Nature Conservation Society
5	Nyan Linn	Nature Conservation Society
6	Shane Thu Lwin	Nature Conservation Society
7	Thura Soe Min Htike	Nature Conservation Society
8	Zaw Min Tun	Boatman , Koe Tae Su village
9	Min Zaw Latt	Boatman , Koe Tae Su village
10	Chit Min Ko(or)Tut Pi	Boatman , Koe Tae Su village
11	Kyaw Hlaing	Boatman , Koe Tae Su village
12	Kyaw Kyaw(or)Ashay Gyi	Boatman , Koe Tae Su village
13	Zin Bo	Boatman , Koe Tae Su village

Annex 2. Photos



Group photo of the surveyors (December 2024)



Group photo of the survey team (December 2024)



Group photo of the surveyors (January 2025)



Group photo of the survey team (January 2025)



Prepare to depart from Koe Tae Su



Waiting for the tide to depart



Moving boat to reach enough water level for moving to next station



Moving boat to reach enough water level for moving to next station



Boats stopover sites



Boats stopover



Moving boat to reach enough water level for moving to next station



Boats moving to the next station



Some fishing boats



Boats moving to the next station



Flock count during the low tide



Flock count during the low tide



Bird counts near roosting site during high tide



Flock count during the low tide



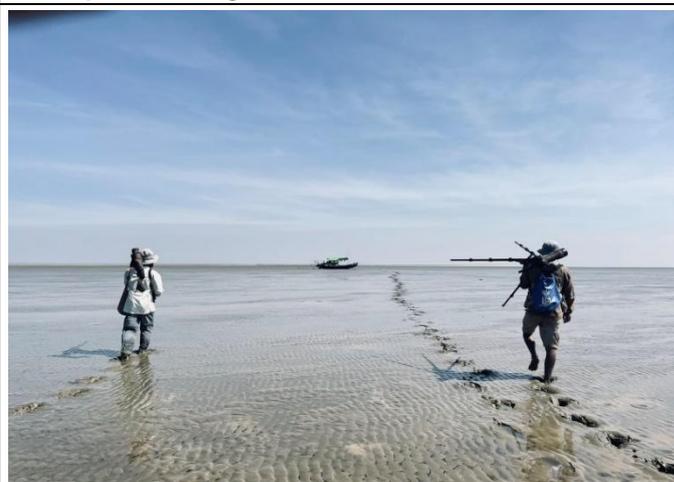
Surveyor checking the place with binocular



Surveyors coming back after flock counts



Surveyors coming back after flock counts



Surveyors coming back after flock counts



Surveyors approaching the roosting site during high tide



Lanterns for celebrating Chinese New Year in the Gulf of Mottama



LCG members and boatmen joining the flock count surveys



LCG members and boatmen joining the flock count surveys



Buring the plastic trashes before the end of the trip



Cleaning the tripods with freshwater



Spoon-billed Sandpiper *Calidris pygmea*



Spoon-billed Sandpiper *Calidris pygmea*



Common Redshank *Tringa totanus*



Tibetan/Siberian Sand Plover



Pallas's Gull *Ichthyaetus ichthyaetus*



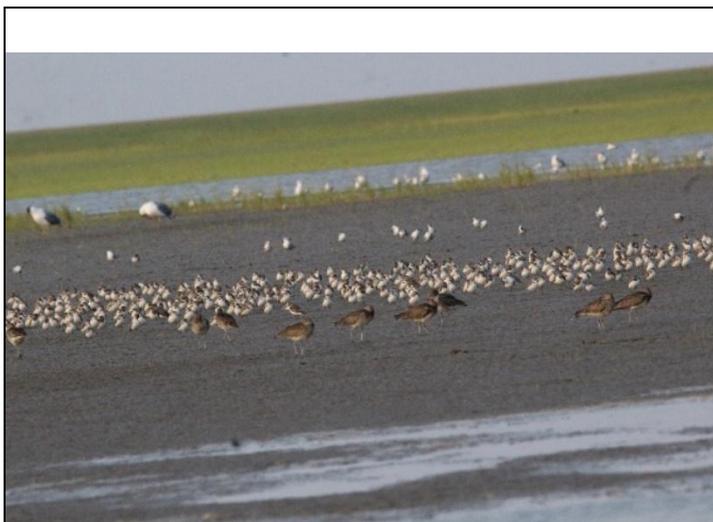
Grey Heron *Ardea cinerea*



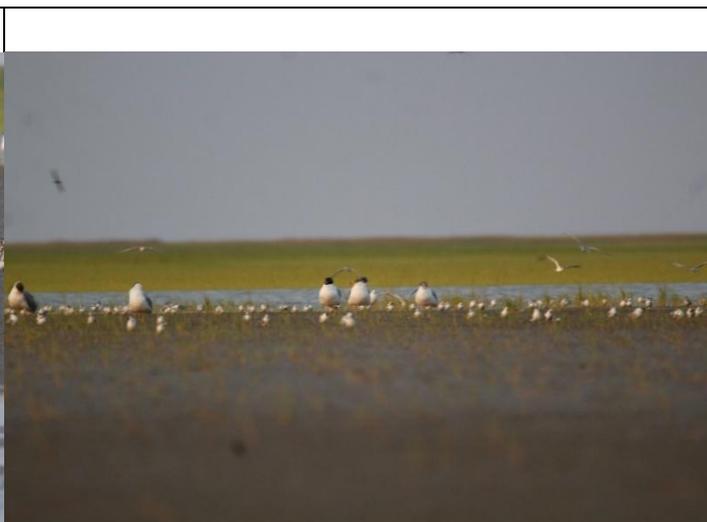
A flock of waders



A flock of waders



A flock of waders in the roosting site



A flock of waders in the roosting site



A flock of waders in the roosting site



A flock of waders in the roosting site



A flock of waders in the roosting site



A flock of waders in the roosting site



Flying Black-tailed Godwit *Limosa Limosa*



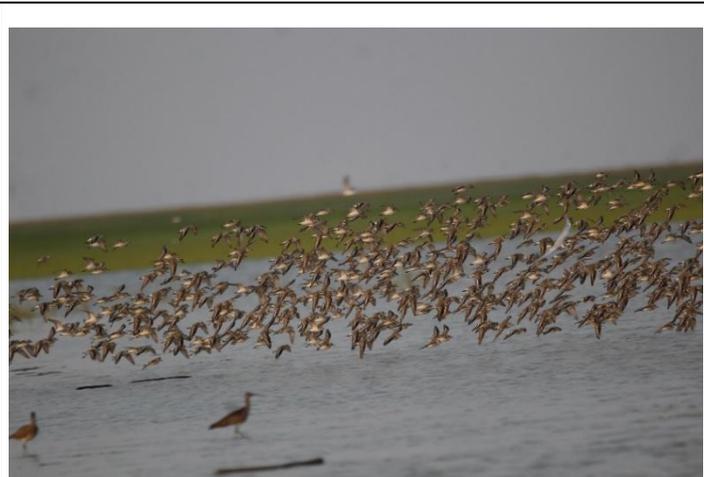
Flying Black-tailed Godwit *Limosa Limosa*



Flying waders



Flying waders



Flying waders



Flying waders



Flying waders



Flying waders



The raptor



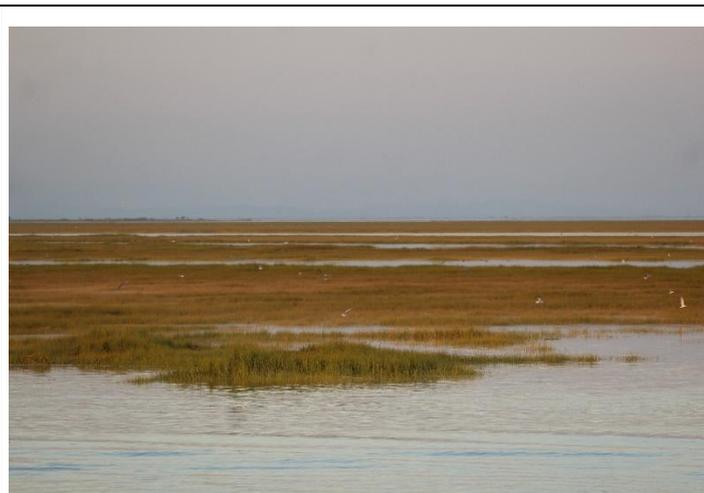
Short-toed Snake-eagle *Circaetus gallicus*



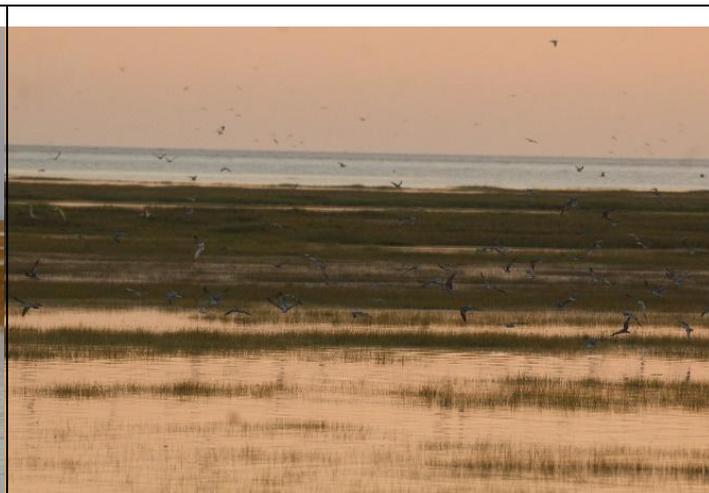
Chestnut-eared Bunting *Emberiza fucata*



Oriental Skylark *Alauda gulgula*



Wetland and waterbirds



Wetland and waterbirds



Mudflat and tide



Mudflat



Bird listing for each day



Bird listing for each day



A dead Indo-Pacific finless porpoise *Neophocaena phocaenoides* on a fisherman's boat recorded in January 2025



Green Turtle *Chelonia mydas* recorded in December 2024 during the preliminary survey

Annex 3. Daily summary bird lists from 30th November to 4th December 2024

No	Date	IUCN Status	30-Nov-24	1-Dec-24	1-Dec-24	2-Dec-24	2-Dec-24	3-Dec-24	3-Dec-24	4-Dec-24	Total
	Approximate centre of survey - Latitude	Red List Cat (2024).		Morning	Evening	Morning	Evening	Morning	Evening		
	Approximate centre of survey - Longitude										
	Survey units										
	Common Name										
1	Black-tailed Godwit	NT	60	17	2	50	1479	101	150	978	2837
2	Bar-tailed Godwit	NT				2	2			0	4
3	Whimbrel	LC			10		5	15		19	49
4	Eurasian Curlew	NT	80	8	8	5	116	91	30	7	345
5	Ruff	LC							5	0	5
6	Terek Sandpiper	LC				6	60	12	5	1	84
7	Common Sandpiper	LC					2			6	8
8	Ruddy Turnstone	NT	2			4	11			1	18
9	Asiatic Dowitcher	NT							3	0	3
10	Spotted Redshank	LC	1					-		0	1
11	Common Redshank	LC	15	68	31	18	58	52	6	8	256
12	Marsh Sandpiper	LC	1	2				-			3
13	Common Greenshank	LC	15	7	15		8	10		1	56
14	Nordmann's Greenshank	EN	4		4	4	10	-		0	22
15	Sanderling	LC				6	3	4			13
16	Spoon-billed Sandpiper ¹	CR			2	1		7		4	14
17	Little Stint/Red-necked Stint		30	32	123	50	167	243		165	810
18	Dunlin	NT	-					-			0
19	Temminck's Stint	LC	-					-			0
20	Long-toed Stint	LC	-					-			0
21	Great Knot	EN	4				9	2		0	15
22	Red Knot	NT	-					-			0
23	Curlew Sandpiper	VU	5	31	59	8	331	847		455	1736
24	Broad-billed Sandpiper	VU	10	27	18	6	74	63		42	240
25	Small Pratincole	LC		140				-			140
26	Oriental Pratincole	LC						-			0
27	Black-winged Stilt	LC						-			0
28	Pied Avocet	LC						-			0
29	Common Ringed Plover	LC						-			0
30	Little Ringed Plover	LC				1		-		75	76
31	Kentish Plover	LC	1500	317	186	400	165	476		343	3387
32	Lesser Sand Plover	LC	5	86	344	20	187	307		312	1261
33	Greater Sand Plover	LC	4	5	41	28	36	20		8	142
34	Pacific Golden Plover	LC	2		19	3		1		0	25
35	Grey Plover	VU	8				9	8		13	38
36	Wood Sandpiper					6			1	0	7
	Total Waders		1746	740	862	618	2732	2259	200	2438	11595

No	Date	IUCN Status Red List Cat (2024).	30-Nov-24	1-Dec-24	1-Dec-24	2-Dec-24	2-Dec-24	3-Dec-24	3-Dec-24	4-Dec-24	Total
	Approximate centre of survey - Latitude			Morning	Evening	Morning	Evening	Morning	Evening		
	Approximate centre of survey - Longitude										
	Survey units										
	Common Name										
	Estimated total small waders (includes unidentified spp)		3000	500	300	1500		1200			6500
1	Common Shelduck	LC									0
2	Pintail	LC				17					17
3	Ruddy Shelduck	LC						7			7
4	Ferruginous Pochard	LC									0
5	Garganey	LC									0
6	Lesser whistling duck	LC									0
	Total Wildfowl										0
1	Black-headed Gull	LC								0	0
2	Brown-headed Gull	LC	50	50	162	25	6	60	15	16	384
3	Pallas's Gull	LC	2		2	3		3	3	0	13
4	Gull-billed Tern	LC		3	37		27	24		0	91
5	Caspian Tern	LC	3	6	5	15			3	17	49
6	Little Tern	LC	8	11	1	4				4	28
7	Whiskered Tern	LC	12	16	13	18	15			5	79
8	White-winged Tern	LC	25	19	22	16	61	41	2000	15	2199
9	Indian skimmer	VU								0	0
10	Whiskered/White-winged Tern				50	150				0	200
11	Lesser Black-backed Gull									0	0
	Total Gulls and Terns										3043
1	Little Egret	LC				12					12
2	Intermediate Egret	LC									0
3	Great Egret	LC				13	25	20			58
4	Cattle Egret	LC									0
5	Grey Heron	LC		6	1	4	8	14		3	36
6	Pacific reef Egret	LC									0
7	Pond Heron spp.	LC									0
8	Black-crowned Night Heron	LC			7				10		17
9	Black-headed Ibis	NT					3	13			16
10	Painted Stork	NT			37	3	4	2	28		74
11	Asian Openbill	LC									0
	Glossy Ibis								480		480
	Total other dependent waterbirds										693
1	Peregrine Falcon	LC			1	1		1			3
2	Common kestrel	LC									0
3	Osprey	LC									0

No	Date	IUCN Status Red List Cat (2024).	30-Nov-24	1-Dec-24	1-Dec-24	2-Dec-24	2-Dec-24	3-Dec-24	3-Dec-24	4-Dec-24	Total
	Approximate centre of survey - Latitude			Morning	Evening	Morning	Evening	Morning	Evening		
	Approximate centre of survey - Longitude										
	Survey units										
	Common Name										
4	Black Kite	LC									0
5	Eastern Marsh Harrier	LC			1	1					2
6	Western Marsh Harrier										0
7	Pied Harrier	LC						2			2
8	Short-toed Snake-eagle	LC						2			2
	Total raptors										0
	Total wetland dependent species										9

1	Oriental Skylark	LC									
2	Red-throated Pipit	LC				3					3
3	Blue-tailed Bee-eater	LC				3	4				7
4	Germain's swiftlet	LC			5	4					9
5	Barn swallow	LC				15	13		7		35
	Other terrestrial bird species										54

Annex 4. Daily summary bird lists from 27th January to 4th February 2025

	Date		IUCN Status Red List Cat (2024).	2025.1. 27	2025.1. 28	2025.1. 29	2025.1. 30	2025.1. 31	2025.2. 1	2025.2. 2	2025.2. 3	2025.2. 4	Total
	Latitude			Longitude	17.2092	17.1526	17.0489	17.0887	17.0216	16.9790	16.9260	16.9452	
				97.0008	96.9942	96.5350	96.9016	97.0136	97.0257	97.0665	97.0041	96.9988	
	Survey units			Near Koe Tae Su	Kyar Si Aung Hteik	Man Mauk Apyin Thaug	Man Mauk Apyin Thaug	Anaing Hteik	Thinba w Auk	Kyun Thar Yar Auk	Thaun g Thit	Anaing Kyar	
No	Common Name	Scientific Name											
1	Black-tailed Godwit	Limosa limosa	NT		1535	148	41	250		135			2109
2	Bar-tailed Godwit	Limosa lapponica	NT										0
3	Whimbrel	Numenius phaeopus	LC		275	255	27	32	6	29	32	15	671
4	Eurasian Curlew	Numenius arquata	NT		111	75	166	43	74	20	8	12	509
5	Ruff	Calidris pugnax	LC		2			2					4
6	Terek Sandpiper	Xenus cinereus	LC					3	1	10	70	3	87
7	Common Sandpiper	Actitis hypoleucos	LC	5	13								18
8	Ruddy Turnstone	Arenaria interpres	NT							1			1
9	Asiatic Dowitcher	Limnodromus semipalmatus	NT										0
10	Spotted Redshank	Tringa erythropus	LC										0
11	Common Redshank	Tringa totanus	LC		1355	218	616	48	34	16	6	17	2310
12	Marsh Sandpiper	Tringa stagnatilis	LC		11	3	3	3		5			25
13	Common Greenshank	Tringa nebularia	LC		34	41	14	28	14	18	5	6	160
14	Nordmann's Greenshank	Tringa guttifer	EN		4	1		1	1	11	1	2	21
15	Sanderling	Calidris alba	LC							3	13	4	20
16	Spoon-billed Sandpiper ¹	Calidris pygmeus	CR			6	4	3	11		17	11	52
17	Little Stint/Red-necked Stint				858	556	316	722	2459	453	3390	793	9547
18	Dunlin	Calidris alpina	NT								1	1	2
19	Temminck's Stint	Calidris temminckii	LC							1			1
20	Long-toed Stint	Calidris subminuta	LC										0
21	Great Knot	Calidris tenuirostris	EN			4	2	2			4		12
22	Red Knot	Calidris canutus	NT										0
23	Curlew Sandpiper	Calidris ferruginea	VU		81	641	702	680	969	145	1881	706	5805
24	Broad-billed Sandpiper	Calidris falcinellus	VU		236	604	448	90	148	70	280	283	2159
25	Small Pratincole	Glareola lactea	LC			40							40
26	Oriental Pratincole	Glareola maldivarum	LC										0
27	Black-winged Stilt	Himantopus himantopus	LC										0
28	Pied Avocet	Recurvirostra avosetta	LC										0
29	Common Ringed Plover	Charadrius hiaticula	LC										0
30	Little Ringed Plover	Charadrius dubius	LC	4									4

	Date		IUCN Status Red List Cat (2024).	2025.1. 27	2025.1. 28	2025.1. 29	2025.1. 30	2025.1. 31	2025.2. 1	2025.2. 2	2025.2. 3	2025.2. 4	Total
	Latitude			17.2092	17.1526	17.0489	17.0887	17.0216	16.9790	16.9260	16.9452	16.9916	
	Longitude			97.0008	96.9942	96.5350	96.9016	97.0136	97.0257	97.0665	97.0041	96.9988	
	Survey units			Near Koe Tae Su	Kyar Si Aung Hteik	Man Mauk Apyin Thaun g	Man Mauk Apyin Thaun g	Anaing Hteik	Thinba w Auk	Kyun Thar Yar Auk	Thaun g Thit	Anaing Kyar	
No	Common Name	Scientific Name											
31	Kentish Plover	Charadrius alexandrinus	LC		2243	163	730	395	1581	189	1885	2537	9723
32	Lesser Sand Plover	Charadrius mongolus	LC		664	2825	4060	910	6728	1815	7457	3286	27745
33	Greater Sand Plover	Charadrius leschenaultii	LC		21	64	138	52		32	28	43	378
34	Pacific Golden Plover	Pluvialis fulva	LC			1760	4576	648		1	2		6987
35	Grey Plover	Pluvialis squatarola	VU		8	10	17	6	1	5		1	48
36	Wood sandpiper	Tringa glareola	LC			5							5
	Total Waders			9	7451	7419	11860	3918	12027	2959	15080	7720	68443
	Estimated total small waders (includes unidentify spp)				3000	10000	5000	25000	3500	3500	7000	3000	60000
1	Common Shelduck	Tadorna tadorna	LC										0
2	Pintail		LC										0
3	Ruddy Shelduck	Tadorna ferruginea	LC										0
4	Ferruginous Pochard	Aythya nyroca	LC										0
5	Garganey	Spatula querquedula	LC										0
6	Lesser whistling duck		LC										0
	Total Wildfowl												0
1	Black-headed Gull	Larus ridibundus	LC		2			1					3
2	Brown-headed Gull	Larus brunnicephalus	LC		40	860	37	543	100	23	45	45	1693
3	Pallas's Gull	Larus ichthyaetus	LC			285	337	38	8	28	10	1	707
4	Gull-billed Tern	Gelocheidon nilotica	LC		5	31	12	35	77	13	5	1	179
5	Caspian Tern	Hydroprogne caspia	LC		1	12	13	4					30
6	Little Tern	Sterna albifrons	LC		4	5		4	16	3	1	2	35
7	Whiskered Tern	Chlidonias hybrida	LC	110	14	388	378	360	17	30	34	70	1401
8	White-winged Tern	Chlidonias leucopterus	LC		70	1597	155	186	1445	1264	1565	60	6342
9	Indian skimmer	Rynchops albicollis	VU										0
10	Whiskered/White-winged Tern	<i>all tern species</i>			50				3000	1200			4250
11	Lesser Black-backed Gull	Larus fuscus											0
12	Heuglin's gull	Larus fuscus heuglini											0
	Total Gulls and Terns			110	186	3178	932	1171	4663	2561	1660	179	14640
1	Little Egret	Egretta garzetta	LC	3	19		7	16		35		5	85
2	Intermediate Egret	Ardea intermedia	LC										0
3	Great Egret	Ardea alba	LC	2	9	2	1	36	23	149		4	226

	Date		IUCN Status Red List Cat (2024).	2025.1.27	2025.1.28	2025.1.29	2025.1.30	2025.1.31	2025.2.1	2025.2.2	2025.2.3	2025.2.4	Total
	Latitude			17.2092	17.1526	17.0489	17.0887	17.0216	16.9790	16.9260	16.9452	16.9916	
	Longitude			97.0008	96.9942	96.5350	96.9016	97.0136	97.0257	97.0665	97.0041	96.9988	
	Survey units			Near Koe Tae Su	Kyar Si Aung Hteik	Man Mauk Apyin Thaug	Man Mauk Apyin Thaug	Anaing Hteik	Thinba w Auk	Kyun Thar Yar Auk	Thaung Thit	Anaing Kyar	
No	Common Name	Scientific Name											
4	Cattle Egret	Bubulcus ibis	LC										0
5	Grey Heron	Ardea cinerea	LC		14	16	17	12	4	27		20	110
6	Pacific reef Egret	Egretta sacra	LC										0
7	Pond Heron spp.	<i>Ardeola sp</i>	LC	20	206								226
8	Black-crowned Night Heron	Nycticorax nycticorax	LC			6		1		7	1	7	22
9	Black-headed Ibis	Threskiornis melanocephalus	NT			3				30			33
10	Painted Stork	Mycteria leucocephala	NT										0
11	Asian Openbill	Anastomus oscitans	LC										0
	Total other dependent waterbirds			25	248	27	25	65	27	248	1	36	702
1	Peregrine Falcon	Falco peregrinus	LC			2		1	1	1			5
2	Common kestrel	Falco tinnunculus	LC										0
3	Osprey	Pandion haliaetus	LC										0
4	Black Kite	Milvus migrans	LC	5	3	2		2					12
5	Eastern Marsh Harrier	Circus spilonotus	LC	3	2	1				3		1	10
6	Western Marsh Harrier												0
7	Pied Harrier	Circus melanoleucos	LC	3									3
8	Short-toed Snake-eagle	Circaetus gallicus	LC										0
9	Purple heron	Ardea purpurea	LC							1			1
	Total raptors			11	5	5	0	3	1	5	0	1	31
	Total wetland dependent species			155	7890	10629	12817	5157	16718	5773	16741	7936	
1	Oriental Skylark	Alauda gulgula	LC	40									40
2	Red-throated Pipit	Anthus cervinus	LC	32			4						36
3	Blue-tailed Bee-eater	Merops philippinus	LC										0
4	Germain's swiftlet		LC	5				25					30
5	Barn swallow	Hirundo rustica	LC	25		38	16	64		7	40		190
6	Chestnut-eared bunting	Emberiza fucata	LC	33									33
7	Yellow-breasted bunting	Emberiza aureola	CR	2									2
8	Plain prinia	Prinia inornata	LC										0
9	Red-rumped swallow	Cecropis daurica	LC								2		2
	Other terrestrial bird species												333