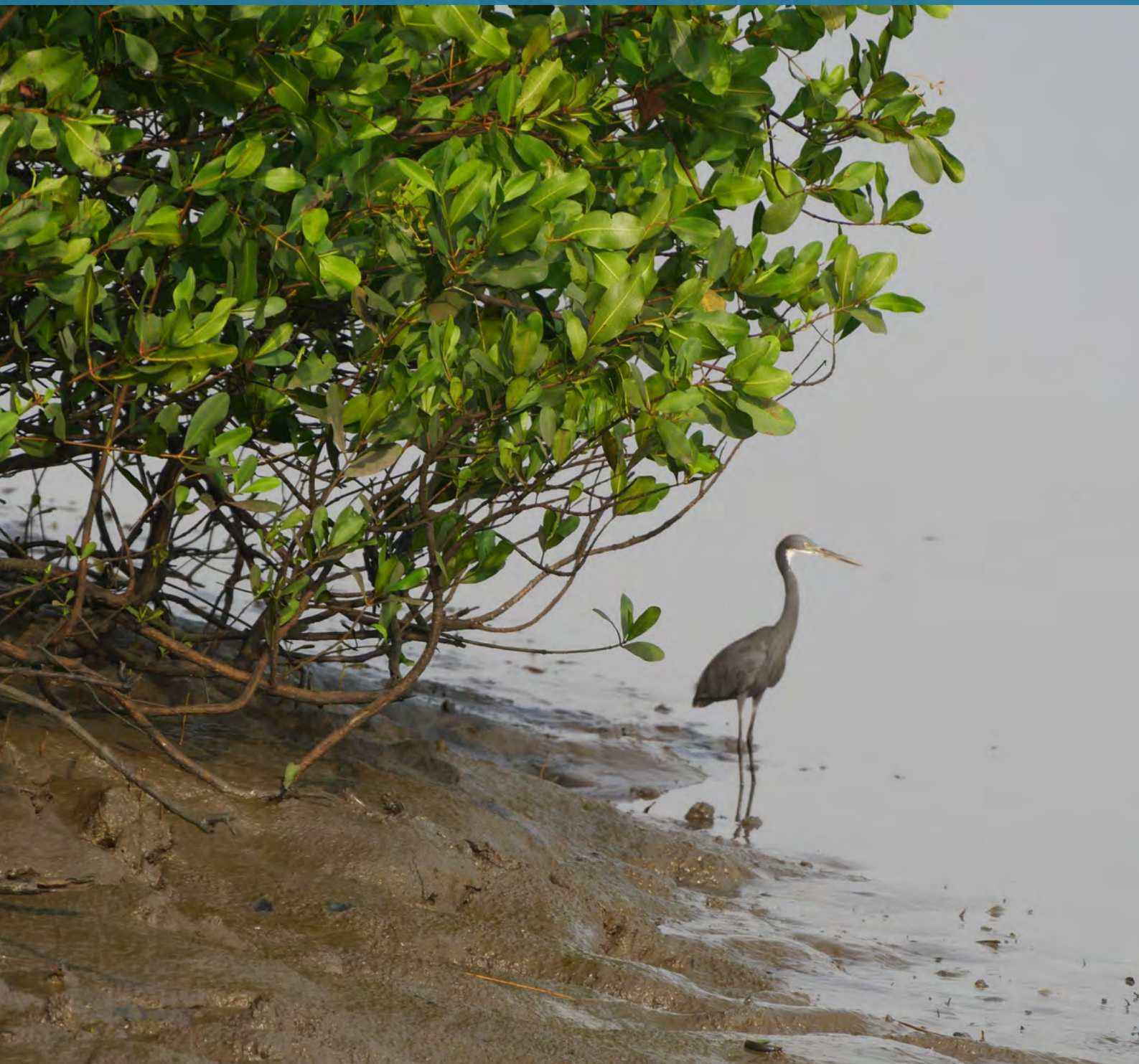


# Water Bird Census 2023

Country Report Sierra Leone



May 2023



# Table of Contents

- 1 Introduction and Background
- 2 Key Objectives of the Waterbird Census
- 3 Counting Methods used for the Waterbird Census
- 4 Results of the 2023 Waterbird Census
- 5 Conclusion and Recommendations
- 6 Appendix

**Produced by the Conservation Society of Sierra Leone (CSSL)**

**Authors:** Abdulai Dauda, Andrea Haffner and Papanie Bai-Sesay

**Photos:** Kathrin Prinzing

**Layout:** Kathrin Prinzing

**Acknowledgement and Appreciation** to the members of the bird counting teams:

Abdulai Dauda

Andrea Haffner

Jessy E.S. Kanu

Joost van Bruggen

Kathrin Prinzing

Momoh Bai-Sesay

Moses Luseni

Papanie Bai-Sesay

Rinse van der Vliet

Santigie Conteh

Tina Schulze



# Introduction and Background

Sierra Leone has an extensive coastline, of which a large part can be characterized as coastal wetlands. The coastal wetlands of Sierra Leone are very diverse in types of habitats ranging from rivers and their estuaries, to mangrove shallow and lagoons along the entire coast. In total, the entire coastline wetlands of Sierra Leone cover about 4,840 km<sup>2</sup> including intertidal mudflats, sandbanks, mangrove forests, coastal swamps, cultivated wetlands (rice fields), flood plains and lakes. The coastal zone has four main estuary systems. These are, from North to South: the Scarcies Estuary, Sierra Leone River Estuary, Yawri Bay, and Sherbro Island Estuary (including Turtle Island) with a total of 578,600 hectares of mangroves around 1,985 and 17,750 hectares of intertidal mudflats (Altenburg 1987, and Bah 1994).

The first bird counts of some parts (less than 10% of the total area) of these wetlands were carried out in the period 1982 – 1984. The results were indicating a high proportion of international flyway numbers of species like Ringed Plover, Curlew Sandpiper and Redshank. From that census to date, several efforts have been made to conduct water bird census in different parts across the coastal wetlands.

From 2018 to 2022, there has been a tremendous effort by the Conservation Society of Sierra Leone to carry out the counting of water birds in two of the major Estuaries (Yawri Bay and Sierra Leone River Estuary). However, the counting did not cover the entire coastal wetlands. The results from these successive counts indicated a high proportion of international flyways of the sites counted.

Amidst all the consecutive counts of water birds between 2018 and 2022 there has been no comprehensive documentation of International Flyways across the entire coastal wetlands to generate detailed and quantitative records of water birds.

It is against this backdrop that the Conservation Society of Sierra Leone with support from BirdLife International and the Waddensea Flyway Initiative has in January–February 2023 undertaken a comprehensive assessment of water birds across the entire coastal wetlands: The Scarcies Estuary, Sierra Leone River Estuary, Yawri Bay, and Sherbro Island Estuary (including Turtle Island).



Crested Terns (yellow/orange bill) and Sandwich Terns (dark bill) on the beach.



# Key Objectives of the Waterbird Census

**1** Determine birds' abundance at the sites.

**2** Determine the birds' composition of the sites.

**3** Investigate threats associated with the sites.

**4** Raise the profile of the wetlands through awareness-raising and education programs.



Pink-backed Pelicans sitting in the Mangroves.



# Counting Methods used during the Water Bird Census

Sites counted (Yawri Bay, Sherbro, Scarcies, Turtle Island and Sierra Leone River Estuary) were visited using small boats with outboard engines and waders were counted during low tides when they were present on the mudflats. For every day of counting, counting ended before high tide when the birds started flying to roost in the mangroves or on the inland plains. Counting was effective when birds were counted from the boat as it was driven along the shores of the mudflats (see also Trolliet & Fouquet 2004, Tye & Tye 1987). Large mudflats areas that could not be accessible by boat were counted by leaving the boat and walking along the shore, using telescopes and binoculars for those that were not easily identified using the naked eye or for more distant birds. Naked eyes were used to identify birds in close range. In some places, it was difficult to walk long stretches of the shore, but where the mud was very soft or there were many creeks it was necessary to make regular drop-offs by boat. Important mudflat areas and large sandbanks were always visited during low tide.

In Yawri Bay, an alternative counting method was used as large parts of this extensive area consist of extremely soft mud, which makes it extremely difficult for observers to walk with telescopes, even over a short distance. In some parts of the areas, counting was started two hours before high tide and the strategy was to approach the shore with the boat and drop off the observers in shallow water. In this way birds were counted when already concentrating near the mangroves, but before they flew to roost. Nevertheless, the observers found it difficult to keep in a stable position for counting because of the sinking into the soft mud. Creeks in the mangroves were counted from the boat and in such cases, only the banks were covered, not the forest interior.



# Main Results of the Waterbird Census 2023

## Nature of avian records

A total of 44,083 individuals belonging to 63 species including unidentified Terns and Waders were recorded during the survey across the sites. Based on the IUCN Red List categorization, 10 species of conservation importance were recorded during the survey as detailed in table 1 below.

## Bird abundance

Figure 1 shows the abundance of birds recorded across different sites during the survey. However, Yawri Bay had a higher bird abundance (22,025) while Scarcies River Estuary had a relatively lower bird abundance (1,381). Additionally, significant records were also obtained for Sherbro River Estuary (15,502) with a marginal record of 3,698 for Turtle Island.

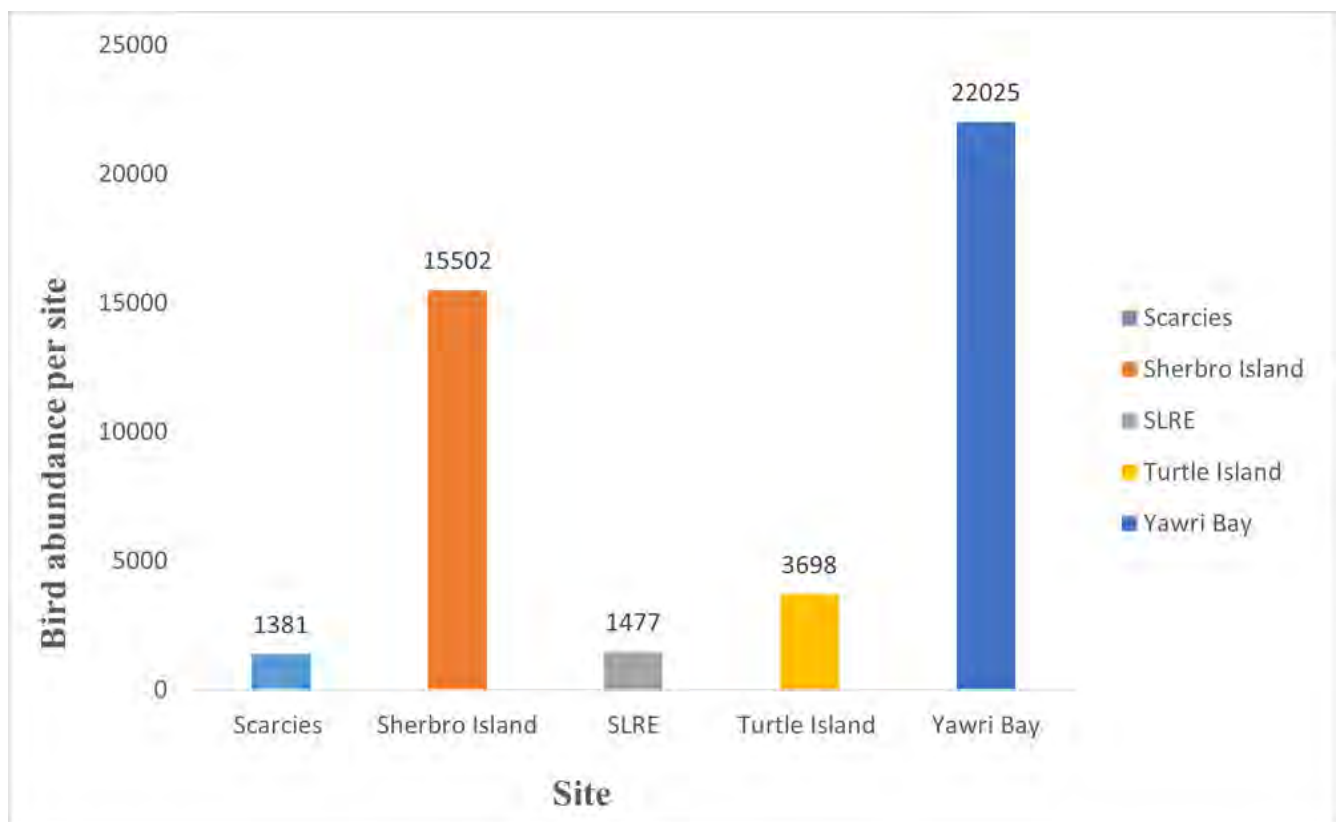


Figure 1: Differences in bird abundance across sites

## Bird composition across sites

Figure 2 shows that bird composition varies across sites. However, bird composition was higher for Sherbro River Estuary which indicated that 51 (26%) species were recorded while the least records were obtained for Sierra Leone River Estuary with a total of 28 (14%) species recorded. Further records of 44 (23%), 41 (21%) and 30 (16%) species were recorded for Yawri Bay, Scarcies River Estuary and Turtle Island respectively.



The record of at least 10 species of conservation interest proves the importance of the conservation and protection of the ecosystems of the Yawri Bay.

## Species of conservation interest

Of the total 63 species recorded across the sites during the assessment, 10 species of conservation interest were recorded. The occurrence of these species (Table 1) in other sites led to the designation of those sites as IBAs/KBAs and Ramsar sites respectively. Of the 10 species that are of conservation importance, African Skimmer, Eurasian Oystercatcher, Bar-tailed Godwith, Eurasian Spoonbill, Black-tailed Godwith, Curlew Sandpiper, Eurasian Curlew, Red Knot, and Woolly-necked Stork are listed as Near Threatened while the Lesser Flamingo and Woolly-necked stork are listed as endangered and vulnerable respectively. The occurrence of these birds in Yawri Bay is therefore evidence of the importance of Yawri Bay for its maintenance and conservation and underscores the potential of this site to be designated as a Ramsar site.

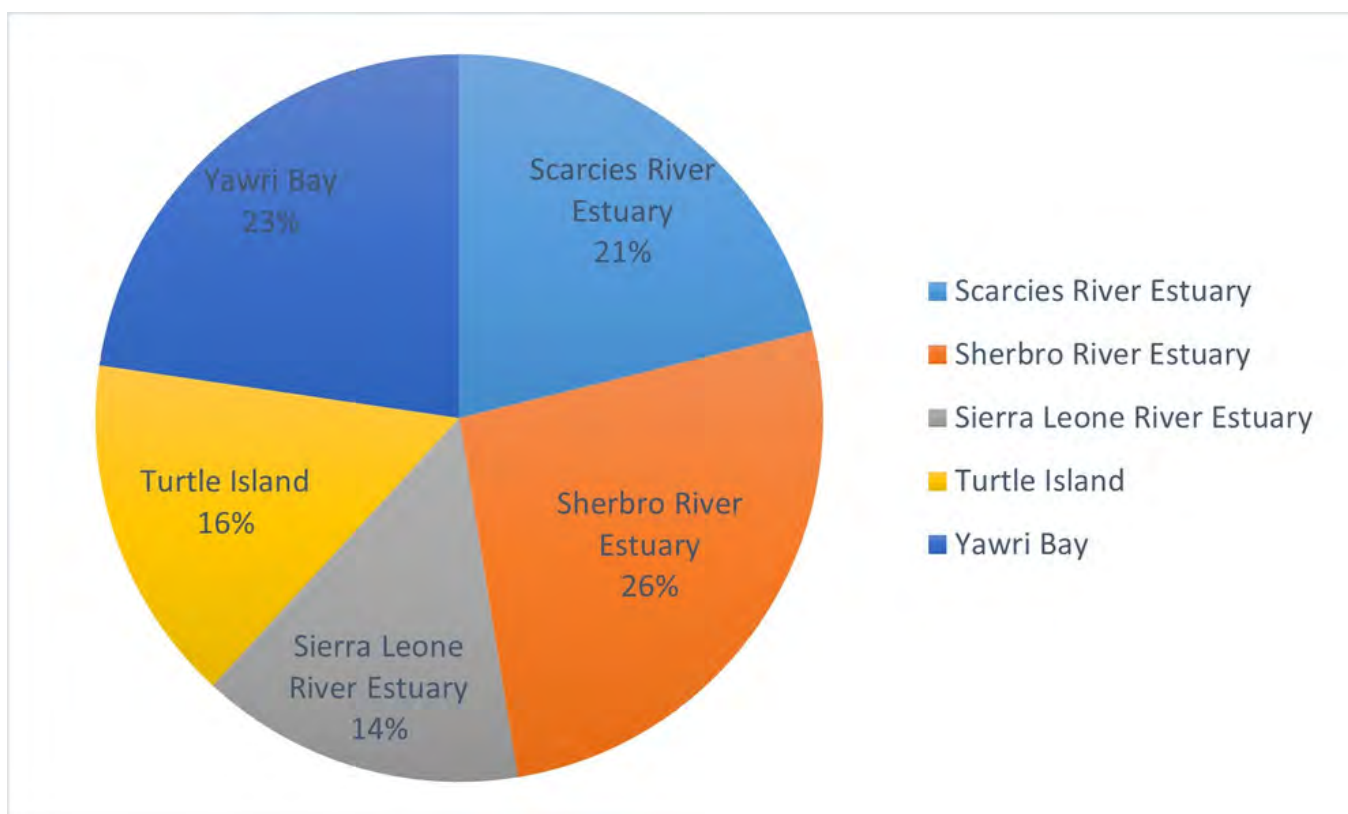


Figure 2: Percentage differences in bird composition across sites

## List of birds of conservation interest

No	Common name	Scientific name	Status	Count
1.	African skimmer	Rhynchops flavirostris	Near Threatened	317
2.	Bar-tailed Godwith	Limosa lapponica	Near Threatened	4749
3.	Woolly-necked stork	Ciconia episcopus	Vulnerable	60
4.	Eurasian Oystercatcher	Haematopus ostralegus	Near Threatened	75
5.	Eurasian Spoonbill	Platalea leucorodia	Near Threatened	5
6.	Red Knot	Calidris canutus	Near Threatened	77
7.	Redshank	Tringa totanus	Vulnerable	2104
8.	White Spoonbill	Platalea alba	Critically Endangered	1
9.	Curlew Sandpiper	Calidris ferruginea	Near Threatened	6825
10.	Black-tailed Godwith	Limosa limosa	Near Threatened	263
<b>Total</b>				<b>14476</b>

Table 1: A list of species of conservation interest recorded in Yawri Bay



## Observed Threats

Several cases of mangrove harvesting sold for cash and the use of inappropriate fishing tools such as monofilament were observed during this survey. Also, fishing activity in these communities was observed to be inherited from parents as children age between the ages of 12 to 15 were noticeably observed going out in the sea to fish with their parents.

Mangrove harvesting was not observed to be frequent at the edge of the shoreline but was predominantly observed occurring in the interior of the mangroves. However, despite the intense pressure posed on the mangroves in the study area, some areas still appear to be intact. The reported cases of shoreline erosion also appear to be having considerable effects on the environment of Yawri Bay as some parts of the environment is undergoing alteration.

## Discussion

The result from this assessment shows that there was a higher bird diversity across the sites than in the last counts. The higher diversity might be because there is an extensive soft clay, mudflats that hold a high number of waders and the combination of soft flats coupled with solid areas makes it possible for many species to occur in high numbers.

Still the total number of birds decreased significantly in comparison with the numbers from the count in 2020. Reasons might be found in the difficulty of the counting environment and many counts during high tide. But this development might also be a warning that something is wrong with the Eco-systems.

The increasing pressure on resources across the sites might be because residents along the coastal communities are dependent on the bay for their sustenance and as a result of their activities the resources are faced with tremendous pressure which in turn is contributing to habitat alteration in this area. Also, the lack of awareness among edge communities might be a contributing factor as the majority of the communities do not the conservation importance of Yawri Bay.



Sandwich Tern on a tree.

# Conclusion and Recommendations

The management strategy put in place, especially by the Ministry of Fisheries and Marine Resources is not quite effective as most of the vegetation seems to be undergoing rapid deterioration.

The wetland is certainly a valuable trace of a fast-disappearing habitat in this part of the world. Also, the occurrence of 10 species of conservation interest that have contributed to the designation of other areas as IBAs further highlights the important potential of these sites as biodiversity conservation reserves. However, these areas must be managed and protected from the increasing pressure for unsustainable exploitation of its wetland resources that only looks likely to increase as the population continues to grow.

Continued and sustained engagement and awareness programmes with the surrounding host community; continued investment in the protection of these sites and the restoration of other currently degraded habitats are therefore recommended as a measure to mitigate this potentially increasing pressure.

It is important also for an ornithological (and biodiversity) monitoring programme to be put in place to provide long-term data which is often needed to determine the effectiveness of management interventions.



Green Shank looking for food in the shallow water.

## Appendix 1: checklist of bird species recorded

No.	SPECIES	STATUS	MIGRANT	RESIDENT	YAWRI BAY/COUNT	SHERBRO/COUNT	SCARCIES/COU NT	SLRE/COUN T	TURTLE/COUNT
1.	African Finfoot	N/A		✓	0	0	0	0	1
2.	African Fish eagle	LC		✓	0	5	0	0	0
3.	African Skimmer	NT	X		0	317	0	0	0
4.	African Spoonbill	LC		✓	75	39	28	28	515
5.	Bar-tailed Godwit	NT	X		1722	2495	0	17	0
6.	Black Heron	LC	X		0	53	0	40	0
7.	Black Tern	LC	X		4	10	0	0	3
8.	Black-crown-Night-heron	LC	X		0	1	0	0	0
9.	Black-headed Lapwing	LC	X		0	0	3	0	0
10.	Black-tailed Godwit	NT	X		263	0	0	0	0
11.	Blue-breasted Kingfisher	LC			0	2	0	0	0
12.	Caspian Tern	LC	X		21	21	32	13	0
13.	Cattle Egret	LC		✓	0	219	17	32	0
14.	Common Sandpiper	LC	X		80	170	72	42	9
15.	Common Tern	LC	X		0	218	2	3	593
16.	Crested Tern	LC	X		2972	2338	20	7	981
17.	Curlew Sandpiper	NT	X		4965	1823	33	3	1
18.	Dunlin				0	0	14	0	0
19.	Eurasian Curlew	NT	X		65	10	13	13	0
20.	Eurasian Oystercatcher	NT	X		10	41	2	2	22
21.	Eurasian Spoonbill	LC	X		0	5		0	0
22.	Giant Kingfisher	LC		✓	0	1		0	0
23.	Great White Egret	LC		✓	896	118	15	44	1
24.	Great White Pelican	LC	X		49	35		0	0
25.	Green-backed Heron				7	39	16	16	3



26.	Grey Heron	LC			✓	222	49	32	47	2
27.	Grey Plover	LC	X			1325	1244	32	74	48
28.	Grey-headed Gull	LC		✓		3	1	4	18	0
29.	Grey-headed Kingfisher	LC	X			1	0		0	0
30.	Goliath Heron	LC		✓		2	0		0	0
31.	Greenshank	LC	X			314	119	22	52	17
32.	Gull-billed Tern	LC	X			78	341	16	18	7
33.	Hammerkop	LC		✓		0	7	0	0	0
34.	Intermediate Egret	LC		✓		6	2	36	11	0
35.	Lesser Black-backed Gull	LC	X			218	2	0	0	0
36.	Lesser Crested Tern	LC	X			0	15	3	11	8
37.	Little Egret	LC		✓		191	96	30	53	1
38.	Little Ringed Plover					0	0	34	34	0
39.	Little Stint	LC	X			0	8		0	0
40.	Little Tern	LC	X			1391	461	15	12	110
41.	Long-tailed Cormorant	LC		✓		53	98	50	450	15
42.	Malachite Kingfisher	LC		✓		7	4	0	1	0
43.	Marsh Harrier	LC	X			0	2	0	0	1
44.	Osprey	LC	X			8	22	0	0	0
45.	Palmnut Vulture	LC		✓		49	133	5	5	8
46.	Pied Avocet	LC	X			204	0	0	0	0
47.	Pied Kingfisher	LC		✓		69	84	17	20	11
48.	Pink-backed Pelican	LC	X			294	95	94	74	4
49.	Red Knot	NT	X			2	70	5	5	0
50.	Redshank	VU	X			947	965	60	86	42
51.	Ringed Plover	LC	X			2500	2263	55	6	45
52.	Ruddy Turnstone	LC	X			22	91	32	8	14
53.	Sacred Ibis	LC		✓		86	42	23	0	0
54.	Sanderling	LC	X			23	171	34	14	451
55.	Sandwich Tern	LC	X			250	367	52	55	694
56.	Senegal Thick-knee	LC		✓		0	0		0	1
57.	Unidentified Terns					0	0	129	29	0

58.	Unidentified Waders				0	0	1	1	0
59.	Western Reef Egret	LC		✓	482	279	43	100	32
60.	Whimbrel	LC	X		1790	457	75	33	58
61.	White Spoonbill	CR	X		1	0		0	0
62.	White-faced Whistling Duck	LC		✓	296	0	206	0	0
63.	Woolly-necked Stork	NT		✓	19	40	1	0	0
64.	Yellow-bellied Stork	LC		✓	40	14	6	0	0
	<b>Grand-total</b>				<b>22,025</b>	<b>15,502</b>	<b>1,381</b>	<b>1,477</b>	<b>3,698</b>



**The Conservation Society of Sierra Leone**

86A Main Road, Congo Town, Freetown

Sierra Leone

<https://cs-sl.org>

[info@cs-sl.org](mailto:info@cs-sl.org)