

## In short...

## February 2023 census

- 43 monitored sites
- **13** mobilized observers
- **56** counted species
- **159,386** counted waterbirds Including 150,163 shorebirds (145,416 Semipalmated Sandpipers)

## July 2023 census

- **36** monitored sites
- **9** mobilized observers
- 62 counted species
- **123,418** counted waterbirds Including 82,200 shorebirds (78,580 Semipalmated Sandpipers)

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GEPOG
431 route d'Attila Cabassou
F-97354 Rémire-Montjoly
French Guiana
www.gepog.org
association@gepog.org

## Background

## Geography of French Guiana

Along with Suriname, Guyana and part of Venezuela to the west, and the Brazilian state of Amapá to the east and south, French Guiana is part of a geomorphological complex known as the Guiana Shield, which forms the northeastern part of the South American continent, facing the Atlantic Ocean. It is made up of some of the oldest granitic rocks on Earth, and a sedimentary coastal plain of varying widths. In the Guiana Shield, French Guiana stands out by the virtual absence of a coastal plain. Over 90% of the region is covered by forest. As a result, marshlands and other continental wetlands are very little developed in French Guiana, and are mainly found at the western (Savanes Sarcelles, Mana polder) and eastern (Kaw marshland) ends of the coastal plain.

The majority of French Guiana's wetlands are made up of coastal mudflats and mangroves, which are particularly rich, in a good state of conservation and display an exceptional natural dynamic that is unique in the world: Under the effect of marine currents, the mud banks formed by the sediments of the Amazon move from east to west along the coast, which thus undergoes a cyclic alternation of facies ranging from sandy beach to uncovered mudflat to mangrove, before returning to the initial state of silt deposits and erosion after about fifteen years.

#### Waterbird census in French Guiana

Coordinated by GEPOG, waterbird census in their current form began in French Guiana in 2022 (Piolain 2022). After an initial failed attempt in the 1990s, this revival is part of a wider GEPOG action program dedicated to shorebirds. In view of the sharp decline in shorebird populations in North America and the importance of French Guiana on the West-Atlantic flyway, the need to monitor these species became apparent. The implementation of International Waterbird Census (IWC) in French Guiana is one of the actions that meet this objective, and as such benefits from financial support from the Canadian government and the French Office for Biodiversity (OFB).

We refer to the initial report (Piolain 2022) for a broader presentation of French Guiana, the situation of waterbirds in the territory and the context in which these census were set up.

### Census sessions 2023

Waterbird counts in French Guiana are part of the Neotropical Waterbird Census, the South American version of the International Waterbird Census. They therefore follow the same protocol in terms of dates and frequency. Two sessions are held each year:

- In February between the 1<sup>st</sup> and 3<sup>rd</sup> weekend, i.e., for 2023, between February 4<sup>th</sup> and 19<sup>th</sup>.
- In July between the 1<sup>st</sup> and 3<sup>rd</sup> weekend, i.e., for 2023, between July 1<sup>st</sup> and 16<sup>th</sup>.

In 2023, these sessions took place in French Guiana between February 4<sup>th</sup> and 20<sup>th</sup> and between June 28<sup>th</sup> and July 8<sup>th</sup>. Only two sites slightly exceeded the official counting periods for practical reasons, without affecting the results.

As in the previous year, coordinated counts were carried out simultaneously in nearby, interconnected sites: on the coast of Cayenne and Rémire-Montjoly (February 11<sup>th</sup>, July 1<sup>st</sup>), and in the rice fields of Mana (February 4<sup>th</sup>, July 8<sup>th</sup>).

#### Monitored sites

A total of **44 sites were monitored in 2023**. They are spread all along the coast, from Saint-Laurent-du-Maroni to Rémire-Montjoly and the Grand-Connétable Island. A number of non-coastal sites are also monitored: Pripris de Yiyi (Sinnamary), lakes of Kourou, pastures at the Route de Guatemala (Kourou), wetland at Matiti agricultural college (Kourou), Leblond marshes (Cayenne), lagoons of Larivot and Concorde (Matoury), and the Kaw marshland (Régina). Although these sites are of secondary importance in terms of numbers, they allow us to include non-migratory or freshwater species that are not, or only to a limited extent, considered at coastal sites.

Most of the sites were monitored in both sessions. Plage des Hattes (Awala-Yalimapo), the Guatemala quarry (Kourou), plots 8, 9 and pre-plots 10-13 of the Mana rice fields, as well as the three sectors of the Kaw river (Régina) were monitored in February but not in July. Conversely, plot number 12 of the Mana rice fields was surveyed in July but not in February. These variations may have had an effect on the total number of birds counted, particularly in the rice fields.

It should be emphasized that the majority of the surveyed sites were the same as in 2022. This continuity is important for comparing results and identifying long-term trends. One major difference should nevertheless be emphasized: the Savanes Sarcelles (Mana) were not surveyed in 2023.



Black Skimmers (Rynchops niger), Mana, 08/07/2023 © O. Claessens

## Observers

A total of **15 observers** were mobilized for the two sessions in 2023. This is only half as many as in 2022. This statement, however, needs to be put into perspective: Several attendants had been included in last year's figure without actually participating in the counts. In addition, a call for volunteers had been launched for the count in the rice fields of Mana last year, which had attracted numerous participants; this call did not take place this year. Finally, some secondary sites were not monitored. Nevertheless, all main sites were monitored in 2023 and most of the observers responsible for a site were present.

Three observers took part both professionally and on a voluntary basis. Four organizations were involved.

Our sincere thanks for their participation go to:

- La Maison de la Nature de Montsinéry, the Grand-Connétable Island National Nature Reserve, the Kaw-Roura National Nature Reserve, the Mont Grand Matoury National Nature Reserve;
- Mickaël Baumann, Pierre Braeuner (MNS), Grégory Cantaloube, Olivier Claessens (GEPOG), Fran de Coster (RNKR), Lilian Eprendre, Thibaut Ferrieux, Roland Jantot, Laurent Kelle, Geoffrey Monchaux (RNNGC), Solenne Monchaux-Lefèvre, Julien Piolain, Vincent Rufray, Sylvain Uriot, Fanny Veinante (RNMGM).



Scarlet Ibis (*Eudocimus ruber*), Greater Yellowlegs (*Tringa melanoleuca*) and Black-necked Stilt (*Himantopus mexicanus*), Cayenne, 21/04/2023 © O. Claessens

## Results

## February session: general results

A total of **159,386 waterbirds** were counted in February, belonging to **56 species**. This is slightly less than in February 2022 (-11,576). The difference is mainly due to the Semipalmated Sandpiper. The fluctuating distribution of shorebirds on mudflats and the difficulty of counting them accurately explain these variations.

Excluding the shorebirds, which account for 94% of the species counted in February, the majority of other species are Ardeidae (figure 1). Among them, the Little Blue Heron is highly dominant. Frigatebirds, larids and Black Skimmers share the other half of the population.

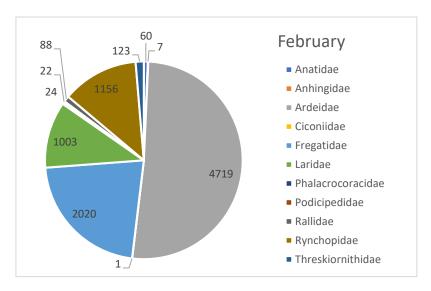


Figure 1: Taxonomic composition of waterbirds counted in February, excluding shorebirds.

## July session: general results

In July, a total of **123,418 waterbirds** belonging to **61 species** were counted. This is almost 42,000 more than in July 2022, even though no counts were carried out in some places. Unsurprisingly, the Semipalmated Sandpiper again explains much of this difference, for the same reasons as in February. The size of the coastal mudflats and the dispersion of sandpipers makes counting difficult. Some estimates therefore seem too imprecise and uncertain to be considered.

In July, most migratory shorebirds are still on their arctic breeding grounds or at staging sites before their actual departure for fall migration. In French Guiana, only birds that have failed to nest, or immature or weakened birds that have wintered here, are present. As a result, shorebirds now account for only 67% of the total number. This time, larids dominate the non-wader population (figure 2). With over 16,000 individuals from the colony on the island of Grand-Connétable, the Cayenne Tern is the main species in this group.

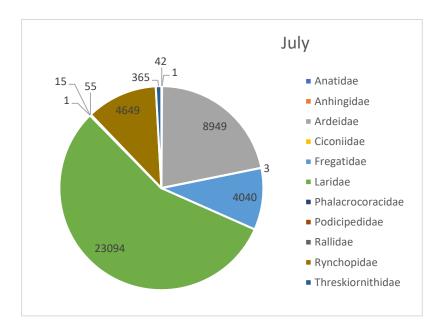


Figure 2: Taxonomic composition of waterbirds counted in July, excluding shorebirds.

Overall, **282,804 waterbirds** were counted in 2023 over the two annual sessions, compared to 252,416 in 2022. We emphasize once again the uncertainty surrounding these figures (see below).

## Specific results

#### Anatidae

How can we explain the almost absence of ducks during the two sessions in 2023, since there were more than 1,600 in 2022? All species are affected by this decline, except for the Muscovy Duck (actually less than 40 individuals). Overall, 2023 was a poor year for wintering ducks from North America. But the main reason for the observed low numbers is simple: The Savanes Sarcelles, the only breeding ground and main molting area for the Whistling-Duck and the White-cheeked Pintail and the main resting area for wintering Blue-winged Teal, were missing from the waterbird census this year. The results are therefore in no way representative or comparable.

#### Ardeidae

Most herons score lower than last year, but in proportions that remain in the usual range. Seasonal variations are consistent and insignificant, given the vagaries of counting these species. Only counts at roosts or at breeding colonies could provide comparable and representative results.

## - <u>Laridae</u>

Two terns non-resident in French Guiana show an opposite phenology, in line with the geographic origin of the populations: While the **Gull-billed Tern**, which breeds on the North American coasts, is mainly present during the wintering season, with around 200 individuals counted in February, the South American **Yellow-billed Tern** reaches its peak abundance in July, with almost 1,200 counted birds. These numbers are consistent with those of 2022. The **Large-billed Tern**'s phenology is similar to that of the Yellow-billed Tern, although the number of birds is significantly lower.

#### Shorebirds

The **Semipalmated Sandpiper** represents the overwhelming majority of shorebirds observed on the French Guiana coast. However, as mentioned above, numbers are difficult to estimate when populations are scattered over large mudflats that stretch as far as the eye can see. This is particularly the case in the Kourou river estuary. In fact, the estimate of 50,000 Semipalmated Sandpipers for this site in July (as many as in February) seems exaggerated, as the number of birds counted in Cayenne has decreased eightfold compared to February. In 2022, the same site hosted five times fewer sandpipers in July than in February. However, any arbitrary correction would be just as risky as the initial estimate; we have therefore retained this one, despite the weight it represents among total numbers.

Like the Semipalmated Sandpiper, most shorebirds are logically much more abundant in February than in July, when most of the birds that bred in northern Canada have not yet returned to French Guiana. One notable exception is the Red Knot: while February's very low numbers were well within norms, as the species does not winter in French Guiana, around 300 Red Knots were counted in July, ten times more than in 2022, an exceptional number for this season. Indeed, the first Red Knots on fall migration normally arrive in French Guiana in August (Pelletier *et al.* 2017). This early arrival might be a bad sign, as it could indicate a high rate of breeding failure this year.

Another boreal migrant, the **Semipalmated Plover**, also showed higher numbers in July, contrary to the classic pattern. Although these numbers were higher than in 2022, they remained very modest. The species is difficult to count accurately, as birds are scattered and not easy to see on the mudflats, particularly in the upper part of the intertidal zone partially colonized by young mangroves.

The **Collared Plover**, a neotropical breeder, has a reversed phenology compared to boreal migrants, with a peak in July. This year's total of 200 individuals is interesting for a species that is not highly migratory.



Collared Plover (Charadrius collaris), Cayenne, 26/02/2023 © O. Claessens

#### - <u>Rallidae</u>

As rails are discreet species that live hidden and solitary most of the time, they are difficult to count. They are also poorly considered by census that focus mainly on the coast and little on freshwater marshes. The anecdotal population figures reflect these difficulties rather than the rarity of these species. Nevertheless, the result of the **Common Gallinule** in February is remarkable, with almost fifty individuals counted at three sites.

## - Rynchopidae

The **Black Skimmer** follows a phenology comparable to that of South American terns. Over 4,600 individuals were counted in July. Although this represents only a quarter of the July numbers, the February population is still significant for a species that does not breed in French Guiana. It would be interesting to know the proportion of birds from the different North and South American subspecies during the two seasons.

#### - <u>Threskiornitidae</u>

The number of **Scarlet Ibises** counted during the census is particularly low, due to an unsuitable method. As with herons, counts at roosting sites would provide much more representative numbers.

The Mana rice fields stand out with two **Glossy Ibises**, a species that first appeared in French Guiana in 2018 and is now a regular sighting, and especially with a **Bare-faced Ibis** observed for the first time in French Guiana (see Faune-Guyane news of 15 July 2023). A paper is currently being written (Lenrumé *et al.*, in prep.).



Bare-faced Ibis (Phimosus infuscatus), Mana, 08/07/2023 © J. Piolain

## Results by location

Whatever the season, four geographical areas account for over 99% of the waterbirds counted within the IWC (figure 3 and 4).

In February, the coast of 'île de Cayenne' hosts more than half of the birds and the coast of Kourou 38%. These are mainly shorebirds. The old rice fields of Mana ('Mana polder') provide only 8% of the total numbers, as the land is only partially covered. At this time of the year, the island of Grand Connétable only hosts Frigatebirds, accounting for just 1% of the total number of birds counted.

In July, the Cayenne coastline loses some of its appeal, now outstripped by Kourou, which hosts half the birds, by the Mana polder and Grand Connétable Island. However, if the estimate of the number of sandpipers present in Kourou is revised downwards, the numbers in Kourou and Cayenne could be of the same order of magnitude. On the island of Grand Connétable, which is home to over 25,000 birds at this time of the year, seabirds are nearing the end of their breeding season.

In view of these high figures, the other monitored sites appear anecdotal in terms of headcounts.

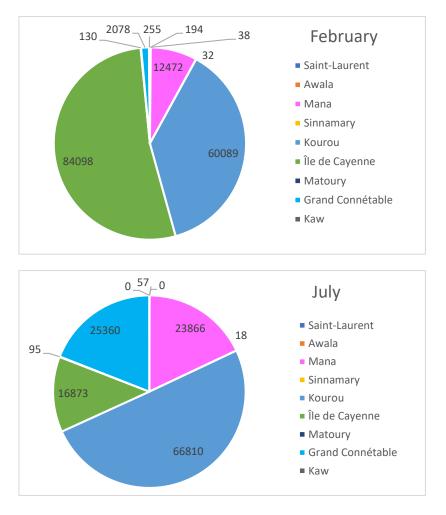
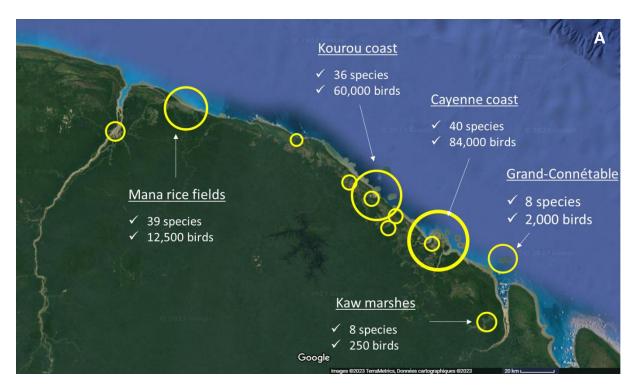


Figure 3 and 4: Distribution of waterbirds by geographical area, during the two censuses in 2023.

The geographical distribution of waterbirds across all sites during the two counting sessions is shown in figure 5 and 6. It should be remembered that this does not represent the overall distribution of all the waterbirds present in French Guiana, but only those present at the monitored sites.



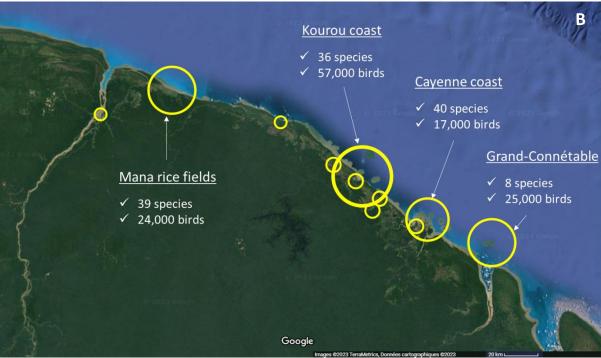


Figure 5 and 6: Distribution of waterbirds counted during the two 2023 sessions. A: February; B: July.

The numbers are rounded.

# Balance sheet by location

		Counts		% Counts		Number of species	
Municipality	Site name	February	July	February	July	February	July
Awala-Yalimapo	Plage des Hattes	38	-	0%	-	5	-
Cayenne	Anse de Bourda	58	77	0%	0%	6	10
	Anse de l'Hôpital	28,258	1,414	18%	1%	17	21
	Anse de Montabo	125	449	0%	0%	10	9
	Îlets Dupont et îlots rocheux à l'ouest	85	85	0%	0%	7	2
	Marais de la Crique Fouillée	294	236	0%	0%	7	6
	Marais Leblond	107	349	0%	0%	13	6
	Plage de Montjoly	52	148	0%	0%	11	11
	Pointe Buzaré et Anse Méret	3,600	5,521	2%	4%	16	19
	Pointe de Montjoyeux	83	736	0%	1%	8	15
	Pointe des Amandiers et Anse Nadeau	14,708	6,242	9%	5%	22	25
	Pointe et anse de Chaton	2,383	794	1%	1%	11	13
	Vieux port de Cayenne	34,500	984	22%	1%	18	22
Kourou	CSG – lac Orchidée	51	21	0%	0%	6	4
	Estuaire du Kourou	53,309	55,792	33%	45%	16	22
	Guatemala – carrière de sable	47	-	0%	=	7	-
	Guatemala - pâtures	49	268	0%	0%	15	5
	Lac Bois-Chaudat	105	38	0%	0%	9	7
	Lac Bois-Diable	83	29	0%	0%	14	8
	Lac Marie-Claire	12	11	0%	0%	4	4
	Pointe des Roches	2,288	178	1%	0%	7	8
	Pointes Pollux et de l'Etat Major	4,207	675	3%	1%	6	11
Mana	Littoral des rizières	167	16,732	0%	13%	6	25
	Polder de Mana - casier 10	6,212	2,416	4%	2%	24	29
	Polder de Mana - casier 11	4,238	1,849	3%	1%	24	29
	Polder de Mana - casier 12	-	2,982	=	2%	-	39
	Polder de Mana - casier plot 8	1,691	-	1%	=	22	-
	Polder de Mana - casier plot 9	104	_	0%	-	10	-
	Polder de Mana – pré-casiers 10-13	153	116	0%	0%	16	13
Matoury	Bassins de lagunage de Concorde	41	68	0%	0%	2	3
-	Bassins de lagunage du Larivot	112	169	0%	0%	5	3
Régina	Île du Grand-Connétable	2,027	25,296	1%	20%	5	7
	Île du Petit Connétable	55	95	0%	0%	6	6
	Rivière de Kaw - secteur Maripas	100	_	0%	_	8	-
	Rivière de Kaw - secteur Méziac	105	_	0%	_	6	-
	Rivière de Kaw - secteur Riché	51	_	0%	_	8	-
Remire-Montjoly	Dégrad des Cannes	85	52	0%	0%	8	4
	Plages de Rémire et Gosselin	24	12	0%	0%	6	2
	Pointe du Mahury et Base navale	85	455	0%	0%	5	13
	Salines de Montjoly	126	138	0%	0%	11	11
Saint-Laurent-du-M.	Bassins d'épuration de Fatima	30	296	0%	0%	4	6
	La Charbonnière	56	82	0%	0%	7	2
	Pointe de la Roche Bleue	186	65	0%	0%	5	5
Sinnamary	Pripris de Yiyi	33	20	0%	0%	9	7
General total	i iipiio do Tiyi	160,123	134,890	100%	100%	59	63

# Summary table by species

Family	Species name	Latin name	February	July
Anatidae	White-cheeked Pintail	Anas bahamensis		25
	Muscovy Duck	Cairina moschata	33	4
	Black-bellied Whistling-Duck	Dendrocygna autumnalis	1	13
	Blue-winged Teal	Spatula discors	26	
Total Anatidae			60	42
Anhingidae	Anhinga	Anhinga anhinga	7	1
Total Anhingidae			7	1
Ardeidae	Little Blue Heron	Egretta caerulea	3,094	3,996
	Little Blue Heron / Snowy Egret	Egretta thula / caerulea imm.	131	2,486
	Little Egret	Egretta garzetta	3	5
	Egret species (undefined)	Egretta sp.	20	
	Snowy Egret	Egretta thula	991	1,790
	Tricolored Heron	Egretta tricolor	63	239
	Black-crowned Night-Heron	Nycticorax nycticorax	27	44
	Yellow-crowned Night-Heron	Nyctanassa violacea	71	76
	Great Egret	Ardea alba	160	140
	Cocoi Heron	Ardea cocoi	42	13
	Cattle Egret	Bubulcus ibis	51	93
	Striated Heron	Butorides striata	66	64
	Least Bittern	Ixobrychus exilis		3
Total Ardeidae			4,719	8,949
Charadriidae	Collared Plover	Charadrius collaris	9	204
	Semipalmated Plover	Charadrius semipalmatus	679	1,111
	Black-bellied Plover	Pluvialis squatarola	219	87
	Plover species (undefined)	Pluvialis sp.		3
Total Charadriida	e		907	1,405
Ciconiidae	Wood Stork	Mycteria americana	1	3
Total Ciconiidae			1	3
Fregatidae	Magnificent Frigatebird	Fregata magnificens	2,020	4,040
Total Fregatidae	ŭ ŭ		2,020	4,040
Jacanidae	Wattled Jacana	Jacana jacana	429	347
Total Jacanidae			429	347
Laridae	Gull species (undetermined)	Larus sp. (magna)	1	
	White-winged Tern	Chlidonias leucopterus		1
	Laughing Gull	Leucophaeus atricilla	412	1,306
	Black-headed Gull	Chroicocephalus ridibundus	1	1
	Brown Noddy	Anous stolidus		241
	Large-billed Tern	Phaetusa simplex	12	23
	Yellow-billed Tern	Sternula superciliaris	240	1,174
	Cayenne Tern	Thalasseus (sandvicensis)	6	16,110
	Sooty Tern	eurygnathus Onychoprion fuscatus		40
	Gull-billed Tern	Gelochelidon nilotica	197	57
	Common Tern	Sterna hirundo	120	12
	Royal Tern	Thalasseus maximus	9	4,127
	Sterninae sp.	Sterninae sp.	5	.,
Total Laridae		,	1,003	23,094

Phalacrocoracidae	Neotropic Cormorant	Phalacrocorax brasilianus	24	1
Total Phalacrocoracidae			24	1
Podicipedidae	Pied-billed Grebe	Podilymbus podiceps	7	5
	Least Grebe	Tachybaptus dominicus	15	10
Total Podicipedida	ae		22	15
Rallidae	Common Gallinule	Gallinula galeata	47	17
	Gray-cowled Wood-Rail	Aramides cajaneus		3
	Gray-breasted Crake	Laterallus exilis	13	16
	Mangrove Rail	Rallus longirostris		3
	Russet-crowned Crake	Anurolimnas viridis	1	2
	Ash-throated Crake	Mustelirallus albicollis	1	1
	Azure Gallinule	Porphyrio flavirostris	7	2
	Purple Gallinule	Porphyrio martinica	19	11
Total Rallidae			88	55
Recurvirostridae	Black-necked Stilt	Himantopus mexicanus	1	143
Total Recurvirostridae			1	143
Rynchopidae	Black Skimmer	Rynchops niger	1,156	4,649
Total Rynchopidae	9		1,156	4,649
Scolopacidae	Stilt Sandpiper	Calidris himantopus	2	83
	Red Knot	Calidris canutus	16	296
	Least Sandpiper	Calidris minutilla	75	
	Sanderling	Calidris alba	4	1
	Semipalmated Sandpiper	Calidris pusilla	14,5416	78,580
	Short-billed Dowitcher	Limnodromus griseus	1,492	462
	Spotted Sandpiper	Actitis macularius	191	6
	Willet	Tringa semipalmata	66	71
	Solitary Sandpiper	Tringa solitaria	15	
	American Whimbrel	Numenius phaeopus hudsonicus	177	88
	Greater Yellowlegs	Tringa melanoleuca	661	367
	Lesser Yellowlegs	Tringa flavipes	310	119
	Ruddy Turnstone	Arenaria interpres	401	132
	Shorebirds (undefined)			100
Total Scolopacidae		Charadriiformes sp.	148,826	80,305
Threskiornithidae	Bare-faced Ibis	Phimosus infuscatus		1
	Glossy Ibis	Plegadis falcinellus		2
	Scarlet Ibis	Eudocimus ruber	94	333
	Green Ibis	Mesembrinibis cayennensis	7	
	Roseate Spoonbill	Platalea ajaja	22	31
Total Threskiornithidae			123	365
Total			159,386	123,418

## Conclusion

This second year of the Neotropical Waterbird Census in French Guiana lived up to expectations, both in terms of site monitoring and observer participation. Although there were slightly fewer observers than last year, the objectives of the campaign were achieved with almost all designated sites being monitored.

The shifting of mud banks and the rapid development of mangroves on certain coastal sites that make counts impossible, are natural and unavoidable components of the Neotropical Waterbird Census in French Guiana and must be taken into account. This is achieved by including sites into the monitoring program that are less favorable today, but may become so tomorrow, when others become less hospitable to waterbirds or more difficult to monitor. The particular (and hopefully temporary) situation of the Mana rice fields and the (also temporary?) lack of an observer in the Kaw marshes are two other difficulties encountered this year.

Waterbird numbers and species diversity were remarkable this year again, despite the virtual absence of wintering ducks. Resident species in French Guiana, such as the Black-necked Stilt and the Black-bellied Whistling-Duck, are particularly worth monitoring.

Regarding rarities, we should mention the prolonged stay of a Black-headed Gull in Cayenne, present during both sessions, as well as a non-identified gull in February; three Little Egrets in February, and five in July (the discovery of a breeding pair is expected); two Glossy Ibises in July in the Mana rice fields; and above all, the first sighting of a Bare-faced Ibis (*Phimosus infuscatus*) for French Guiana during the July census in the Mana rice fields!

Thank you again to all observers who participated in the waterbird census this year. See you in February 2025 for the third year!

# Acknowledgements

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Egrets, Scarlet Ibises and Roseate Spoonbills, Mana, 04/02/2023 © O. Claessens