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January 2017 Waterbird Counts in the Rift Valley Lakes, Nairobi Area, Coast and Nyanza

Titus Imboma[1], Paul Mungai[2], Fleur Ng'weno[3], Lennox Kirao[4], Alice Bett[2], Peter Njoroge[1] and Oliver Nasirwa[1]

[1]National Museums of Kenya, PO Box 40658-00100, Nairobi, Kenya.
timboma@museums.or.ke

[2]Kenya Wildlife Service, PO Box 20241–00100, Nairobi, Kenya.
research@kws.go.ke

[3]Nature Kenya (EANHS), PO Box 44486-00100, Nairobi, Kenya.
office@naturekenya.org

[4]A Rocha Kenya, PO Box 383–80202, Watamu, Kenya.
lennox.kirao@arocha.org

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Summary
Coordinated annual waterbird counts have been carried out consistently in Kenya since 1991. In January 2017, a total of 32 sites across the country were covered by the counts, where a total of 186,459 individuals of 120 waterbird species were recorded. Lake Bogoria had the highest number with 69,144 individuals of 34 waterbird species followed by Lake Magadi with 23,690 individuals of 43 species and Lake Nakuru with 17,491 individuals of 72 species. The highest number of waterbird species was recorded in the Tana Delta with 77 species, followed by Lake Nakuru with 72 species and Lake Naivasha with 65 species. The most abundant species was Lesser Flamingo *Phoeniconaias minor* with 69,932 individuals followed by Little Stint *Calidris minuta* with 15,412 and Great Cormorant *Phalacrocorax carbo* with 10,279 individuals.

Overview
Coordinated annual waterbird counts have been carried out consistently in Kenya every January and July since 1991 (Nasirwa & Bennun 2000). Unfortunately these counts were missed in the Kenyan Rift Valley lakes for the first time last year (2016) due to financial constraints. We are happy to report that they picked up again in January 2017. This year's counts were marked by high water levels in many sites especially in the Rift Valley lakes. At the time of counting, Lake Naivasha water levels had been at about 4 meters above the water level recorded in January 2010 (WRMA unpublished data). A total of 166 volunteers were involved to count five major southern Rift Valley lakes, eight wetland sites in Nairobi and adjacent areas, thirteen areas along the Kenyan coast, and two sites in Yala Swamp. Unfortunately this year, Lake Ol'Bolossat was missed out due to limited resources. This report summarises the results of the waterbird counts in January 2017.

The counts covered a total of 32 sites across the country recording a total of 186,459 individual waterbirds of 120 species. The Rift Valley sites recorded the highest number with 145,752 individual waterbirds, followed by sites along the coast with 24,698 and Nairobi and adjacent areas with 15,359 individual waterbirds (Table 1). More details of the counts are summarized in the text below and in Tables 2 to Table 7.

Across all the sites, the most abundant species was Lesser Flamingo with 69,932 individuals followed by Little Stint with 15,412 and Great Cormorant with 10,279 individuals. Lake Bogoria had the highest number of Lesser Flamingo with 82.4% (57,597), Lake Magadi had the highest number of Little Stint with 54.2% (8,350) and Lake Naivasha had the highest number of Great Cormorant with 67.1% (6,897).

In the Rift Valley, waterbird counts were carried out at Lakes Bogoria, Elmenteita, Magadi, Naivasha, Nakuru, Oloidien, Sonachi (Crater Lake), Nakuru Sewage Works and Njoro Sewage Works. A total of 145,752 individual waterbirds of 91 species were recorded. Lake Bogoria had the highest number of waterbirds with 69,144 individuals of 34 species, followed by Lake Magadi with 23,690 individuals of 43 species, and Lake Nakuru with 17,491 individuals of 72 species.

Table1. Summary results of the January 2017 Waterbird Counts in Kenya.

Wetland	Date	No. of birds	No. of species
1.1 Nairobi and adjacent areas			
Brookside Dairy Ponds	25-Jan-2017	696	36
Dandora Sewage Works	18-Jan-2017	8324	48
Hillcrest High School Dam	11-Jan-2017	47	12
Kenyatta University Sewage Works	25-Jan-2017	968	36
Limuru Sewage	4-Jan-2017	25	8
Manguo Floodplain	4-Jan-2017	526	34
Nairobi National Park	11-Jan-2017	672	39
Thika Sewage Works	15-Jan-2017	4101	44
	Total	**15359**	**67**
1.2 Rift Valley			
Lake Bogoria	28-Jan-17	69144	34
Lake Elmenteita	21-Jan-17	15261	65
Lake Magadi	8-Jan-17	23690	43
Lake Naivasha	22-Jan-17	15194	65
Lake Nakuru	29-Jan-17	17491	72
Lake Oloidien	21-Jan-17	2324	45
Lake Sonachi	21-Jan-17	75	13
Nakuru Sewage Works	29-Jan-17	1712	40
Njoro Sewage Works	29-Jan-17	861	28
	Total	**145752**	**91**
1.3 The Coastal Region			
Kensalt Works	19-Jan-17	1596	37
Kilifi Creek	21-Jan-17	446	15
Lake Jilore	27-Jan-17	1256	31
Lake Mikimba	11-Feb-17	851	24
Lake Tiwi	15-Feb-17	14	9
Malindi Casuarina Beach	22-Jan-17	314	6
Malindi Harbour	22-Jan-17	324	18
Malindi Saltworks	27-Jan-17	855	20
Mida Creek	20-Jan-17	3246	21
Sabaki River	20-Jan-17	2621	37
South Coast	14-17-Jan-2017	3624	54
Tana Delta	2-Feb-17	7839	77
Watamu	16-17-Jan-17	1712	23
	Total	**24698**	**94**
1.4 Yala Swamp			
Lake Bop	14-Jan-2017	365	27
Somba Ranch	13-Jan-2017	285	23
	Total	**650**	**34**

In Nairobi and adjacent areas, the sites covered by the counts included ponds and dams in Nairobi National Park, Dandora Sewage Works, Hillcrest High School Dam, Kenyatta University Sewage Works, Brookside Dairy Ponds, Limuru Sewage, Manguo Floodplain and Thika Sewage Works. Dandora Sewage Works had the highest number of waterbirds with 8,324 individuals of 48 waterbird species, followed by Thika Sewage Works with 4,101 individuals of 44 species and Kenyatta University Sewage Works with 968 individuals of 36 species. The most abundant species, across these sites in Nairobi and adjacent areas, was Red-knobbed Coot *Fulica cristata* with 2,101 individuals, followed by Ruff *Philomachus pugnax* with 1,765 individuals and Black-winged Stilt *Himantopus himantopus* with 1,615 individuals. Dandora Sewage Works had the highest numbers of Red-knobbed Coot 73.0% (1,534) and Black-winged Stilt 53.8% (869), and Thika Sewage Works had the highest number of Ruff with 66.4% (1,172).

At the Coast the counts were carried out at Kensalt Works, Kilifi Creek, Lake Jilore, Lake Mikimba, Lake Tiwi, Malindi Casuarina Beach, Malindi Harbour, Malindi Saltworks, Mida Creek, Sabaki River, South Coast, Tana River Delta and Watamu Beach areas. Lakes Chem Chem and Lake Mbaratum were also visited, but had no waterbirds. The Tana River Delta had the highest number of waterbirds with 7,839 individuals of 77 species, followed by South Coast with 3,624 individuals of 54 species and Mida Creek with 3,246 individuals of 21 species. The most abundant species across these sites was Little Stint with 2,383 individuals, followed by Curlew Sandpiper *Calidris ferruginea* with 2,288 individuals and Ringed Plover *Charadrius hiaticula* with 1,438 individuals. Mida Creek had the highest numbers of Little Stint 49.9% (1,188) while Sabaki River Mouth had the highest numbers of Curlew Sandpiper 35.2% (805) and Ringed Plover 21.1% (304).

The sites covered in Yala Swamp situated in Nyanza in the Lake Victoria Region were Lake Bob and Somba Ranch. A combined total of 650 individual of 34 waterbird species were counted. Lake Bop with 365 individual of 27 species, had a higher number than Somba Ranch which had 285 individuals of 23 species. Worth noting is the record of 40 individuals of the Grey Crowned Crane *Balearica regulorum* at Lake Bob.

Results

1. Rift Valley Lakes

Lake Bogoria

This alkaline lake is a Ramsar site, IBA and is included in the serial nomination of UNESCO's World Heritage sites of the African Great Rift Valley (Bennun & Njoroge 1999; Go, K 2010). It is located within the gazetted Lake Bogoria National Reserve. The lake was counted on 28th January 2017 from 6:55 to 11:00h by a team of 49 volunteers, divided in 10 groups. During the counts, the lake water level was high corroborated by the flooded shorelines stretching into the adjacent acacia woodland in some areas. The Fig and acacia trees at the southern tip of the lake were partially submerged. Some of

these flooded trees were dead. A total of 69,144 individual of 34 waterbird species were recorded. This number was five times higher compared to the January 2015 count at this site, when 13,802 individuals of 36 waterbird species were recorded. The most abundant species was the Lesser Flamingo with 57,597 individuals followed by Little Grebe *Tachybaptus rufocolis* with 3,312 individuals and Greater Flamingos with 2,421 individuals.

Lake Elmenteita

This alkaline lake is a Ramsar site, IBA, wildlife sanctuary and is included in the serial nomination of UNESCO's World Heritage sites of the African Great Rift Valley (Bennun & Njoroge 1999; Go, K 2010). During the count, the water level was still high despite the prolonged dry spell. The lake was counted on 21st January 2017 from 7:30 to 11:30h by a team of 74 volunteers divided into 14 groups. The weather was sunny and calm with clear skies at 5% cloud cover. A total of 15,261 individuals of 65 waterbird species were recorded. This number was slightly higher than in January 2015, when 14,312 individuals of 65 waterbird species were recorded. The most abundant species was Greater Flamingo *Phoenicopterus roseus* with 2,181 individuals, followed by Little Grebe *Tachybaptus rufocolis* with 1,519 individuals and Whiskered Tern *Chlidonias hybridus* with 1,466 individuals.

Lake Magadi

This alkaline lake is an IBA (Bennun & Njoroge 1999). It was counted on 8th January 2017 from 07:20 to 10:30h by a team of 50 volunteers divided into eight groups. The skies were clear with about 5% cloud cover. A total of 23,690 individuals of 43 waterbird species were recorded. Lesser Flamingo was the most abundant species with 11,466 individuals, followed by Little Stint with 8,350 individuals and Chestnut-banded Plover *Charadrius pallidus* with 1,039 individuals.

Lake Nakuru

This lake is a Ramsar site, IBA and is included in the serial nomination of UNESCO's World Heritage sites of the African Great Rift Valley (Bennun & Njoroge 1999; Go, K 2010). It is located within the gazetted Lake Nakuru National Park. During the count, the water levels were high corroborated by the increased lake surface to the extent of partially submerging the terrestrial riparian vegetation. This site was counted on 29th January 2017 from 07:20 to 11:45h by a team of 81 volunteers divided into 14 groups. A total of 17,491 individuals of 72 waterbird species were recorded. This number was higher than in January 2015, when 14,168 individuals of 70 waterbird species were recorded. Great Cormorant was the most abundant species with 1,949 individuals, followed by Grey-headed Gull *Larus cirrocephalus* with 1,659 individuals and Northern Shoveler *Anas clypeata* with 1,416 individuals.

Nakuru Sewage Works

This site is located just outside the northern boundary of Lake Nakuru National Park. Counts at this site were carried out on 29th January 2017 from 07:26 to10:20h by nine volunteers. A total of 1,712 individuals of 40 waterbird species were recorded. Northern Shoveler was the most abundant with 547 individuals, followed by Egyptian Goose *Alopochen aegyptiacus* with 318 individuals and Little Stint with 126 individuals.

Njoro Sewage Works

This site is located to the North-Western side of Lake Nakuru National Park. Counts were carried out on 29th January 2017 by a team of five volunteers from 07:46 to 09:00h. A total of 861 individuals of 28 waterbird species were recorded. Hottentot Teal *Anas hottentota* was the most abundant species with 211 individuals, followed by Red-knobbed Coot *Fulica cristata* with 140 individuals and White-winged Tern *Chlidonias leucopterus* with139 individuals.

Lake Naivasha

This lake is a Ramsar site and an Important Bird Area (IBA) (Bennun & Njoroge 1999). This lake was counted on 22nd January 2017 from 7:45 to 11:45h. The counts were carried out on boats by a team of 70 volunteers divided into 13 counting groups. The morning was cool with clear sky at about 5% cloud cover, but got warmer in the later hours of the morning. The lake water level was relatively high; having risen by up to 4 m compared to January 2010 levels (WRMA data unpublished). The riparian trees i.e. the Yellow-barked Acacia (*Acacia xanthophloea*) were partially submerged. A total of 15,194 individuals of 65 waterbird species were recorded. This was higher than in January 2015, when 13,535 individuals of 69 waterbird species were recorded. The most abundant species was the Great Cormorant with 6,897 individuals, followed by Egyptian Goose with 1,273 individuals and Red-knobbed Coot with 1,001 individuals.

Lake Oloidien

This lake is situated adjacent to Lake Naivasha on the South-West and is included as part of Lake Naivasha Ramsar site and IBA. Its water is usually fresh, but sometimes becomes alkaline when water levels are low. Counts were carried out on 21st January 2017 from 16:36 to 17:40h by a team of 15 volunteers divided into two groups. The weather was calm and cool with the sky at 40% cloud cover. This site is normally counted on foot, but due to high water levels that submerged the edges making it not possible to count on foot, boats were used. A total of 2,324 individuals of 45 waterbird species were recorded. This was more than twice the number counted in January 2015, when 980 individuals of 33 species were recorded. The most abundant species were Great Cormorant with 761 individuals, followed by Egyptian Goose with 598 individuals and Red-knobbed Coot with 136 individuals.

Lake Sonachi (Crater Lake)

This is a small alkaline lake situated as a satellite to Lake Naivasha on the North-West and is included as part of Lake Naivasha Ramsar site and IBA. The lake was counted on 21st January 2017 from 16:58 to18:11h by one team of seven volunteers. A total of 75 individuals of 13 waterbird species were recorded. The most abundant species was the White-winged Tern *Chlidonias leucopterus* with 36 individuals, Southern Pochard *Netta erythrophthalma* with eight individuals and Black-necked Grebe *Podiceps nigricollis* with seven individuals.

2. Nairobi and adjacent areas

Brookside Dairy Ponds

This site includes Sukari Dam and settling ponds for the dairy. It was counted on 25th January 2017 from 9:40 to 11:00h. A total of 696 individuals of 36 waterbird species were counted. The most abundant species was Black-winged Stilt with 97 individuals, followed by Hottentot Teal with 84 individuals and Wood Sandpiper with 53 individuals.

Dandora Sewage Works

This large sewage treatment works is situated in Ruai on the eastern extremes of Nairobi and is an IBA (Bennun & Njoroge 1999). It is the main sewage treatment for Nairobi. Counts at this site were carried out on 18th January 2017, from 10:30 to 12:50 h by 22 volunteers divided into five groups. The weather was calm, sunny with clear skies of about 10% cloud cover. A total of 8,324 individuals of 48 waterbird species were recorded. This was a much higher count compared to 5,463 individuals of 43 waterbird species counted in January 2015 at this site. Red-knobbed Coot with 1,534 individuals was the most abundant, followed by Black-winged Stilt with 869 individuals and Little Stint with 851 individuals.

Hillcrest High School Dam

This site was counted on 11th January 2017 using a boat. A total of 47 individuals of 12 species were recorded. The most abundant species was Grey Heron *Ardea cinerea* with eight individuals, Sacred Ibis with eight individuals, and Yellow-billed Duck with six individuals.

Kenyatta University Sewage Works

This site was counted on 25th January 2017 from 11:13 to 11:30h by a team of 22 volunteers that included eight undergraduate students from Kenyatta University – Environmental Science Department. A total of 968 individuals of 36 waterbird species were recorded. These are more waterbirds compared to January 2015, when 674 individuals of 28 waterbird species were recorded. The most abundant species was Black-winged Stilt with 331 individuals, followed by Little Grebe 149 individuals and Wood Sandpiper *Tringa glareola* with 59 individuals.

Limuru Sewage Works

This site was counted on 4th January 2017 from 11:50 to 13:24h (same day as Manguo Floodplain). A total of 37 individuals of eight waterbird species were recorded. The most abundant species was Hadada Ibis *Bostrychia hagedash* with six individuals and Black-winged Stilt with six individuals, followed by Ruff with three individuals, Glossy Ibis *Plegadis falcinellus* with three individuals and Wood Sandpiper with three individuals.

Manguo Floodplain

This site was counted on 4th January 2017 from 09:45 to 11:30h. It was a cool morning, slightly windy with a clear sky. The water levels were fairly high with an abundance of sedges and no exposed mud flats. A total of 526 individuals of 34 waterbird species were recorded. The most abundant species were Red-knobbed Coot with 272 individuals, followed by White-faced Whistling Duck *Dendrocygna viduata* with 36 individuals and Yellow-billed Duck *Anas undulate* with 27 individuals.

Nairobi National park

This park, situated on the southern part of Nairobi, is an IBA (Bennun & Njoroge 2000). It was counted on 11th January 2017 from 10:20 to 12:50h by a team of 19 volunteers. The volunteers were divided into three groups that visited different areas in the park, counting waterbirds in the dams, ponds, marshes and swamps. A total of 672 individuals of 39 waterbird species were recorded. The most abundant species was Marabou Stork *Leptoptilos crumeniferus* with 253 individuals, followed by Egyptian Goose with 110 individuals and Sacred Ibis with 63 individuals.

Thika Sewage Works

This site is the main sewage treatment works for Thika Town situated about 40 km north of Nairobi. A marshland adjacent to the sewage works was also counted. The count was conducted in the morning of 15th January 2017, by a team of 25 volunteers. The weather was sunny with a clear sky of about 15% cloud cover. A total of 4,101 individuals of 44 waterbird species were recorded. This number is higher than in January 2015, when 3,070 individuals of 47 species were recorded. The most abundant species was Ruff *Philomanchus pugnax* with 1,172 individuals, followed by Sacred Ibis *Threskionis aethiopicus* with 498 individuals and Red-billed Teal *Anas eythrohyncha* with 333 individuals.

3. Kenyan Coast

Kensalt Works

This site was counted on 19th January 2017. A total of 1,596 individuals of 37 waterbird species were recorded. The most abundant species was Greater Flamingo with 651 individuals, followed by Curlew Sandpiper with 241 individuals and Little Stint with 154 individuals.

Kilifi Creek

This site was counted on 21st January 2017 by a team of six volunteers. A total of 446 individuals of 15 waterbird species were recorded. The most abundant species was Lesser Crested Tern *Sterna bengalensis* with 110 individuals, followed by Curlew Sandpiper *Calidris ferruginea* with 96 individuals and Ringed Plover with 71 individuals.

Lake Jilore

This site was counted on 27th January 2017. A total of 1,256 individuals of 31 waterbird species were recorded. The most abundant species was Glossy Ibis with 267 individuals, followed by White-winged Tern with 136 individuals and Little Egret *Egretta garzetta* with 129 individuals.

Lake Mikimba

Counts were carried out on 11thFebruary 2017 by five volunteer counters. A total of 851 individuals of 24 waterbird species were recorded. The Long-tailed Cormorant *Phalacrocorax africanus* was the most abundant species with 484 individuals, followed by the White-faced Whistling Duck with 73 individuals and African Open-billed Stork *Anastomus lamelligerus* with 60 individuals.

Lake Tiwi

This site was counted on 15th February 2017. A total of 14 individuals of nine waterbird species were recorded. The most abundant species was Little Egret with four individuals, followed by Three-banded Plover *Charadrius tricollaris* with two individuals and Wood Sandpiper with two individuals.

Malindi Casuarina Beach

Counts were carried out on 22nd January 2017 by two volunteer counters. A total of 314 individuals of six waterbird species were recorded. The most abundant species was Common Sandpiper *Actitis hypoleucos* with 131 individuals, followed by Ringed Plover *Charadrius hiaticula* with 104 individuals and Sooty Gull *Larus hemprichii* with 53 individuals.

Malindi Harbour

This site and surrounding beaches are an IBA (Bennun & Njoroge 2000). It was counted on 22nd January 2017. A total of 324 individuals of 18 waterbird species were recorded. The most abundant species was Sooty Gull with 108 individuals, followed by Grey Plover *Pluvialis squatarola* with 39 individuals and Greater Crested Tern *Sterna bergii* with 39 individuals.

Malindi Saltworks

At this site, Counts were conducted on 27th January 2017 by a team of six volunteers. A total of 855 individuals of 20 waterbird species were recorded. The most abundant species was Curlew Sandpiper with 295 individuals, followed by Little Stint with 213 individuals and Black-winged Stilt with 140 individuals.

Mida Creek

This site is an IBA (Bennun & Njoroge 1999). It was counted on 20th January 2017, by a team of six volunteers. A total of 3,246 individuals of 21 waterbird species was recorded. The most abundant species was Little Stint with 1,188 individuals, followed by Curlew Sandpiper with 617 individuals and Crab-plover *Dromas ardeola* with 526 individuals.

Sabaki River Mouth

This site is an IBA (Bennun & Njoroge 1999). It was counted on 20th January 2017 by seven volunteer counters. A total of 2,621 individuals of 37 waterbird species were recorded. The most abundant species was Curlew Sandpiper with 805 individuals, followed by Lesser Flamingo with 353 individuals and Ringed Plover with 304 individuals.

South Coast

The sites on South Coast were counted between 14th and 17th February. These sites include Gazi Beach, Gazi Creek, Giratum Dam (Msambweni), Chale Island & Beach, Leisure Golf Club, Msambweni Beach, Muambe Dam (Msambweni), Nyali Beach, Shelly Beach, Shimoni & Kisite Island, Tiwi Estuary and Twiga Lodge Beach. A number of sites in this list are included in the coastal IBAs (Bennun & Njoroge 2000). A total of 3,624 individuals of 55 waterbird species were recorded from all these sites combined. The most abundant species was Lesser Crested Tern with 303 individuals, followed by Saunders's Tern *Sterna saundersi* with 273 individuals and White-faced Whistling Duck with 264 individuals.

Tana River Delta

This site is an IBA (Bennun & Njoroge 1999). Sites within this area were counted on various dates in late January to mid February 2017 by five counters. The counts were done in sections covering the main Tana River, its distributaries, the creeks and the beaches within the Delta area. The sections grouped as having fresh water were as follows: Tana Delta Camp to Kalota; Kalota to the main river; along the main river from Kau to Ozi; the distributary branching from the main Tana River to Mbililo; then Mbililo to Moa, then Moa Channel, then Mzindini Channel to the East; and Main Tana River from Ozi to Kipini. The sections grouped as having saline water are: around the Delta Dune Sandbar from Kingfisher Cliff- Tana Delta Camp; the Ozi Saltpans; "*Suez Canal"* and Kipini Beach. A total of 7,839 individuals of 77 waterbird species were recorded from all these sections combined. The most abundant species was Spurwing Plover *Vanellus*

spinosus with 1,099 individuals, followed by Ruff with 877 individuals and Lesser Crested Tern with 671 individuals.

Watamu

The beaches around Watamu are within an IBA (Bennun & Njoroge 1999). The site was counted between 16th and 17th January 2017 by a team of five volunteers. The counts were done in two sections namely: From Jacaranda to Mayungu Beach; and from Darakasi to Mwamba Beach. A total of 1,712 individuals of 23 waterbird species were recorded from these two sections. The most abundant species was Whimbrel *Numenius phaeopus* with 350 individuals, followed by Sooty Gull *Larus hemprichii* with 262 individuals and Lesser Crested Tern with 240 individuals.

4. Yala Swamp

Somba Ranch and **Lake Bob** were counted on 13th and 14th January 2017 respectively. A combined total of 650 individuals of 34 waterbird species were recorded in these two sites. The most abundant species was African Open-billed Stork with 89 individuals, followed by Fulvous Whistling Duck *Dendrocygna bicolor* with 58 individuals and Whiskered Tern with 57 individuals.

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Table 2. Waterbird numbers in the Rift Valley sites in January 2017

Species	Lake Bogoria	Lake Elmenteita	Lake Magadi	Lake Naivasha	Lake Nakuru	Lake Oloidien	Lake Sonachi	Nakuru Sewage Works	Njoro Sewage Works	Total
Great Crested Grebe					2					2
Black-necked Grebe	240	1	1				7	15	31	295
Little Grebe	3312	1519		92	792	46				5761
Great White Pelican		1361	1	72	660	52			1	2147
Pink-backed Pelican		127	14	79	237	57		73	1	588
Great Cormorant		626	3	6897	1949	761				10236
Long-tailed Cormorant	85	201		324	665	126				1401
African Darter				19	342			34		395
Little Bittern				1						1
Dwarf Bittern					3					3
Black-crowned Night Heron		4	26	13	4	8				55
Cattle Egret		43	3	67	109	9			2	233
Little Egret		98	47	87	152	17				401
Dimorphic Egret			7							7
Black Heron			29	9						38
Common Squacco Heron	3	37		579	64	5				688
Green-backed Heron					4					4
Yellow-billed Egret		18	1	345	115	4				483
Great Egret		58		522	293	8				881
Grey Heron		117	6	305	168	36		2	1	635
Purple Heron		6	1	174	9					190
Goliath Heron				23	1					24
Black-headed Heron		1	1	29	10			1		42
Unidentified herons					19					19
Hamerkop	1	3		60	14		3			81
White Stork	13	56			65	1		1		136
Saddle-billed Stork				4	2			6		12
Marabou Stork			38	40	120			72	2	272
African Open-billed Stork		6								6
Yellow-billed Stork		682	88	116	270	24		1	2	1183
Sacred Ibis	28	60	3	643	282	2		32	42	1092
Hadada Ibis	27	7	1	231	102	3	1	21	4	397
Glossy Ibis		4	1	10	70	1				86
African Spoonbill		332	58	20	92	18				520
Greater Flamingo	2421	2181	83		170					4855

Species	Lake Bogoria	Lake Elmenteita	Lake Magadi	Lake Naivasha	Lake Nakuru	Lake Oloidien	Lake Sonachi	Nakuru Sewage Works	Njoro Sewage Works	Total
Lesser Flamingo	57597	469	11466		35	1			1	69569
White-faced Whistling Duck		8		5	30			30		73
Spur-winged Goose				24	12			12		48
Egyptian Goose	15	108		1273	773	598	5	318	56	3146
Knob-billed Duck			1							1
Cape Teal	932	481	117		118	3			22	1673
Garganey		11			63			5		79
Yellow-billed Duck		2	11	167	19	1		3	7	210
Northern Pintail		13			16			12		41
Red-billed Teal	6	27			46			6	17	102
Hottentot Teal	8	12		1	290	50		31	211	603
Northern Shoveler	2	289			1416			547	7	2261
Southern Pochard		111					8			119
Maccoa Duck		14								14
Unidentified ducks		38			5					43
Osprey				3						3
Eurasian Marsh Harrier	1	8		66	35	1				111
African Fish Eagle	2	3		242	21	23	2			293
Black Crake		1		51	11			3		66
Purple Swamphen				28						28
Common Moorhen				67	15	1		7		90
Red-knobbed Coot		77		1001	891	136		70	140	2315
Grey Crowned Crane		1		11	3			3	1	19
African Jacana		1		462	8			6		477
Pied Avocet		3	409					38	19	469
Black-winged Stilt	2119	391	360	8	443	9	2			3332
Ringed Plover	39	77	33	2	137	7	1	7	13	316
Kittlitz's Plover	63	58	232	7	49					409
Three-banded Plover	29	62	14	8	55	5	3	3		179
Chestnut-banded Plover			1039							1039
Long-toed Plover				228	9					237
Blacksmith Plover	1	130	91	117	244	20		5	2	610
Spur-winged Plover	70	15		61	79	8		21	19	273
Crowned Plover				3	1					4
Little Stint	1358	845	8350	2	1354	13		126	40	12088
Curlew Sandpiper		4	2					109	14	129

Species	Lake Bogoria	Lake Elmenteita	Lake Magadi	Lake Naivasha	Lake Nakuru	Lake Oloidien	Lake Sonachi	Nakuru Sewage Works	Njoro Sewage Works	Total
Ruff	529	355	777	41	1368	56	3			3129
Common Snipe				10	11			5		26
Unidentified snipes				3	2					5
Black-tailed Godwit		3				3				6
Bar-tailed Godwit		1								1
Spotted Redshank	2				1					3
Common Redshank					1					1
Marsh Sandpiper	34	67	9	9	226	2	2	9	58	416
Common Greenshank	24	54	16	4	57			1		156
Green Sandpiper	8	10	13	2	58	2		8		101
Wood Sandpiper	47	47	13	52	284	13	2	47	7	512
Common Sandpiper	57	55	15	27	150	35		4	2	345
Red-necked Phalarope	5									5
Unidentified sandpipers	28		200							228
Unidentified waders	30									30
Grey-headed Gull		921	14	101	1659	1				2696
Black-headed Gull		3		1						4
Unidentified gulls						1				1
Gull-billed Tern		102	6	39	22	33				202
Whiskered Tern		1466	61	77	146					1750
White-winged Tern		1329	29	96	471	64	36	17	139	2181
Unidentified Terns		26								26
African Skimmer	5					2				7
Grey-headed Kingfisher				1	1					2
Malachite Kingfisher	3			26	6					35
Giant Kingfisher				11		1				12
Pied Kingfisher		15		96	65	57		1		234
Total	**69144**	**15261**	**23690**	**15194**	**17491**	**2324**	**75**	**1712**	**861**	**145752**
Species	**34**	**65**	**43**	**65**	**72**	**45**	**13**	**40**	**28**	**91**

Table 3. Waterbird numbers in Nairobi and adjacent areas in January 2017

Species	Brookside Dairy Ponds	Dandora Sewage Works	Hillcrest High School Dam	Kenyatta University Sewage Works	Limuru Sewage	Manguo Floodplain	Nairobi National Park	Thika Sewage Works	Total
Little Grebe		799		149		25		126	1099
Pink-backed Pelican		2						6	8
Long-tailed Cormorant		11		16		3	4	12	46
Black-crowned Night Heron	2			1				5	8
Cattle Egret	4	60		2		8	22	135	231
Little Egret		3		3					6
Common Squacco Heron	3	1		6		5	2	20	37
Yellow-billed Egret	13	4	5	9	1	5	2	50	89
Great Egret				1		1	2	2	6
Grey Heron	3	8	8	2		3	4	5	33
Purple Heron						1			1
Black-headed Heron	1	2	2	1			2	4	12
Hamerkop		1				4	1		6
White Stork							5	170	175
Marabou Stork	14	22		52		1	253		342
Yellow-billed Stork	3	8		1			4	2	18
Sacred Ibis	21	163	8	17	1	12	63	498	783
Hadada Ibis	33	37	1	8	6			78	163
Glossy Ibis	18	37		1	3	13		45	117
African Spoonbill	9		4				9	3	25
Fulvous Whistling Duck		167				13			180
White-faced Whistling Duck	38	143		49		36	6	26	298
White-backed Duck						3			3
Egyptian Goose	11	243		18		5	110	31	418
Knob-billed Duck							1		1
Cape Teal		3							3
Garganey		57				1		182	240
Yellow-billed Duck	2	16	6	2		27		36	89
Northern Pintail		5							5
Red-billed Teal	25	253		38		12	11	333	672
Hottentot Teal	84	4				7		60	155
Northern Shoveler		3				7			10
Southern Pochard		307						1	308
Maccoa Duck						6			6

Species	Brookside Dairy Ponds	Dandora Sewage Works	Hillcrest High School Dam	Kenyatta University Sewage Works	Limuru Sewage	Manguo Floodplain	Nairobi National Park	Thika Sewage Works	Total
Eurasian Marsh Harrier	1	8				1			10
African Fish Eagle	3						1		4
Black Crake	2					1	9	12	24
Purple Swamphen						5			5
Common Moorhen						22	4	24	50
Red-knobbed Coot	29	1534		9		272	2	255	2101
Grey Crowned Crane	36	30		2	2	2	10	4	86
African Jacana	14	5		1		4	5	45	74
Black-winged Stilt	97	869	2	331	6	6	21	283	1615
Ringed Plover		309					1	1	311
Kittlitz's Plover							1		1
Three-banded Plover	8	12	3	12		3	12	15	65
Long-toed Plover		43					5	52	100
Blacksmith Plover	30	273		10		7	37	156	513
Spur-winged Plover	19	286		20			9	136	470
Crowned Plover	14								14
Little Stint	1	851		35			4		891
Ruff	37	494		58	3		1	1172	1765
Common Snipe	2						14		16
Black-tailed Godwit			2						2
Spotted Redshank								2	2
Marsh Sandpiper	15			31			2	2	50
Common Greenshank	4	25		3			7	3	42
Green Sandpiper	22	3					2	6	33
Wood Sandpiper	53	524	5	59	3	4	18	83	749
Common Sandpiper	25	73	1	16		1	4	15	135
Unidentified sandpipers		13							13
Grey-headed Gull		2							2
Black-headed Gull		30							30
Unidentified gulls		11							11
Gull-billed Tern		2		1				1	4
Whiskered Tern		12						3	15
White-winged Tern		553		1					554
Malachite Kingfisher		3		2			2	1	8
Pied Kingfisher				1					1
Total	**696**	**8324**	**47**	**968**	**25**	**526**	**672**	**4101**	**15359**
Species	**36**	**48**	**12**	**36**	**8**	**34**	**39**	**44**	**67**

Table 4. Waterbird numbers along the Kenyan Coast in January 2017

Species	Kensalt Works	Kilifi Creek	Lake Jilore	Lake Mikimba	Lake Tiwi	Malindi Casuarina Beach	Malindi Harbour	Malindi Saltworks	Mida Creek	Sabaki River Mouth	South Coast	Tana River Delta	Watamu	Total
Little Grebe											6			**6**
Great White Pelican	4													**4**
Pink-backed Pelican	27				1			1		4		1		**34**
Great Cormorant	38							3			2			**43**
Long-tailed Cormorant	40		1	484	1			13			69	18		**626**
African Darter				7							10	1		**18**
Black-crowned Night Heron	1											5		**6**
Cattle Egret			25								42	356		**423**
Little Egret	14	1	129	10	4			2	2	3	27	16	9	**217**
Dimorphic Egret	1		9					4		1	40	3	4	**62**
Black Heron	1		53						7		10	2		**73**
Common Squacco Heron				2	1						2	9		**14**
Green-backed Heron							2				8	28	1	**39**
Yellow-billed Egret				2							68	9		**79**
Great Egret	7		5	23					2	1	12	5		**55**
Grey Heron	2			3		1	2		1	7	19	34	7	**76**
Goliath Heron											9	20		**29**
Black-headed Heron			3		1					9	15	18		**46**
Hamerkop					1							1		**2**
Woolly-necked Stork	1										40	11		**52**
Saddle-billed Stork												2		**2**
Marabou Stork												9		**9**
African Open-billed Stork			38	60								55		**153**
Yellow-billed Stork				2					13	10	32	19		**76**
Sacred Ibis	21		4	4		2	2		7	19	57	161	1	**278**
Hadada Ibis											8	24		**32**
Glossy Ibis			267	27								148		**442**
African Spoonbill	24		35							23		37		**119**
Greater Flamingo	651							1						**652**
Lesser Flamingo	10									353				**363**
Fulvous Whistling Duck			5									1		**6**
White-faced Whistling Duck			18	73							264	89		**444**

Species	Kensalt Works	Kilifi Creek	Lake Jilore	Lake Mikimba	Lake Tiwi	Malindi Casuarina Beach	Malindi Harbour	Malindi Saltworks	Mida Creek	Sabaki River Mouth	South Coast	Tana River Delta	Watamu	Total
Spur-winged Goose												332		**332**
Egyptian Goose											2	109		**111**
Knob-billed Duck				45								81		**126**
African Pygmy Goose				20										**20**
Garganey			10									2		**12**
Northern Pintail				11										**11**
Red-billed Teal												3		**3**
Osprey										1				**1**
Eurasian Marsh Harrier				2										**2**
African Fish Eagle				1							8	25	4	**38**
Palm-nut Vulture											19			**19**
Black Crake				2							5			**7**
Common Moorhen				1										**1**
African Jacana			20	32							2	156		**210**
Crab-plover									526	2	155	112	173	**968**
Eurasian Oystercatcher										2	1			**3**
Black-winged Stilt	16		67					140				19		**242**
Water Thick-knee										3	29	184		**216**
Collared Pratincole			66									47		**113**
Ringed Plover	37	71	62			104	24	88	220	304	80	349	99	**1438**
Kittlitz's Plover	1		11							93		163		**268**
Three-banded Plover					2		6		1					**9**
White-fronted Plover	1							1		11		11		**24**
Lesser Sandplover	4	4							144	92	13	127		**384**
Greater Sandplover	1								171		145	46	1	**364**
Grey Plover	24	49				23	39	10	33	21	173	43	199	**614**
Long-toed Plover												91		**91**
Spur-winged Plover			6							53	2	1099		**1160**
Little Stint	154		67					213	1188	160	23	578		**2383**
Curlew Sandpiper	241	96	47					295	617	805	71	79	37	**2288**
Sanderling	3	57							2		90	33	11	**196**
Ruff			75									877		**952**
Common Snipe			4									10		**14**

Species	Kensalt Works	Kilifi Creek	Lake Jilore	Lake Mikimba	Lake Tiwi	Malindi Casuarina Beach	Malindi Harbour	Malindi Saltworks	Mida Creek	Sabaki River Mouth	South Coast	Tana River Delta	Watamu	Total
Bar-tailed Godwit									1			6		**7**
Whimbrel	1						10		23	9	40	70	350	**503**
Eurasian Curlew									5			2		**7**
Spotted Redshank												1		**1**
Marsh Sandpiper	8		16					12		8		65		**109**
Common Greenshank	15	4	18				4	24	231	23	64	65	108	**556**
Wood Sandpiper			42	2	2					3	1	113		**163**
Common Sandpiper	7	14	6	1	1	131	26			264	19	274	97	**840**
Terek Sandpiper							1			3	33	111		**148**
Ruddy Turnstone		13									19		42	**74**
Sooty Gull		8				53	108			149	112	130	262	**822**
Heuglin's Gull							8					8		**16**
Lesser Black-backed Gull							25			35		17		**77**
Grey-headed Gull	5													**5**
Black-headed Gull												6		**6**
Gull-billed Tern	62						1	26	47	8	10	56	10	**220**
Caspian Tern	75							9		56	4	48		**192**
Greater Crested Tern		14					39			53		37	49	**192**
Lesser Crested Tern	24	110					24	2	5	29	303	671	240	**1408**
Sandwich Tern												2		**2**
Common Tern	4	1					1			1	2	6	1	**16**
Saunders's Tern	64	2						5			273	40		**384**
White-winged Tern		2	136	22				4			63	59		**286**
Brown Noddy											218			**218**
Unidentified Terns											830	13		**843**
African Skimmer												44	1	**45**
Unidentified small waders											22	150		**172**
Grey-headed Kingfisher											3	39		**42**
Mangrove Kingfisher	1										3	18		**22**
Malachite Kingfisher			2							2	9	68		**81**
Pied Kingfisher	6		9	15			2	2		1	38	62	6	**141**
Total	**1596**	**446**	**1256**	**851**	**14**	**314**	**324**	**855**	**3246**	**2621**	**3624**	**7839**	**1712**	**24698**
Species	**37**	**15**	**31**	**24**	**9**	**6**	**18**	**20**	**21**	**37**	**54**	**77**	**23**	**94**

Table 5. Waterbird numbers counted at Lake Bob and Somba Ranch in Yala Swamp in January 2017

Species	Lake Bob	Somba Ranch	Total
Great White Pelican		14	**14**
Long-tailed Cormorant	20	1	**21**
Cattle Egret	2		**2**
Little Egret	2	23	**25**
Common Squacco Heron		1	**1**
Yellow-billed Egret	2	1	**3**
Grey Heron	2	3	**5**
Purple Heron	2	2	**4**
Black-headed Heron	1		**1**
Hamerkop	2	2	**4**
African Open-billed Stork	53		**53**
Sacred Ibis	2		**2**
Hadada Ibis	5		**5**
African Spoonbill		19	**19**
Fulvous Whistling Duck	7	51	**58**
White-faced Whistling Duck	49	40	**89**
Egyptian Goose	2		**2**
Knob-billed Duck	21		**21**
Garganey		19	**19**
Black Crake	4	8	**12**
Common Moorhen	1	1	**2**
Red-knobbed Coot		32	**32**
Grey Crowned Crane	40		**40**
African Jacana	18	5	**23**
Black-winged Stilt	2	2	**4**
Ringed Plover		1	**1**
Kittlitz's Plover	5		**5**
Long-toed Plover		6	**6**
Spur-winged Plover	5	2	**7**
Little Stint	50		**50**
Wood Sandpiper	3		**3**
Gull-billed Tern	17	39	**56**
Whiskered Tern	47	10	**57**
Malachite Kingfisher	1	3	**4**
Total	**365**	**285**	**650**
Species	**27**	**23**	**34**

Table 6. Number of waterbirds by groups in the different regions counted in January 2017 in Kenya.

	Region					
Groups	**Central**	**Coast**	**Nairobi**	**Nyanza**	**Rift Valley**	**Total**
Birds of prey		60	14		407	481
Cormorants	12	669	34	21	11637	12373
Cranes	4		82	40	19	145
Darters		18			395	413
Ducks	669	1065	1719	189	8413	12055
Flamingos		1015			74424	75439
Grebes	126	6	973		6058	7163
Gulls		926	43		2701	3670
Hamerkop		2	6	4	81	93
Herons	221	1119	202	41	3704	5287
Ibises & Spoonbills	624	871	464	26	2095	4080
Jacanas	45	210	29	23	477	784
Kingfishers	1	286	8	4	283	582
Oystercatcher		3				3
Pelicans	6	38	2	14	2735	2795
Plovers	360	5320	1114	19	3067	9880
Pratincoles		113				113
Rails & coots	291	8	1889	46	2499	4733
Sandpipers	1283	8241	2415	53	17151	29143
Skimmers		45			7	52
Stilts & Avocets	283	242	1332	4	3801	5662
Storks	172	292	363	53	1609	2489
Terns	4	3761	569	113	4159	8606
Thick-knees		216				216
Waders		172			30	202
Total	**4101**	**24698**	**11258**	**650**	**145752**	**186459**

Table 7. List of waterbird species, scientific names and summary of numbers counted across the regions (Rift Valley, Nairobi, Nyanza and Coast) in the January and February 2017. Name and order of listing is according to the Bird Committee (2009).

Species name	Number
Great Crested Grebe *Podiceps cristatus*	2
Black-necked Grebe *Podiceps nigricollis*	295
Little Grebe *Tachybaptus ruficollis*	6866
Great White Pelican *Pelecanus onocrotalus*	2165
Pink-backed Pelican *Pelecanus rufescens*	630
Great Cormorant *Phalacrocorax carbo*	10279
Long-tailed Cormorant *Phalacrocorax africanus*	2094
African Darter *Anhinga rufa*	413
Little Bittern *Ixobrychus minutus*	1
Dwarf Bittern *Ixobrychus sturmii*	3
Black-crowned Night Heron *Nycticorax nycticorax*	69
Cattle Egret *Bubulcus ibis*	889
Little Egret *Egretta garzetta*	649
Dimorphic Egret *Egretta (g.) dimorpha*	69
Black Heron *Egretta ardesiaca*	111
Common Squacco Heron *Ardeola ralloides*	740
Green-backed Heron *Butorides striatus*	43
Yellow-billed Egret *Mesophoyx intermedia*	654
Great Egret *Casmerodius alba*	942
Grey Heron *Ardea cinerea*	749
Purple Heron *Ardea purpurea*	195
Goliath Heron *Ardea goliath*	53
Black-headed Heron *Ardea melanocephala*	101
Unidentified herons	19
Hamerkop *Scopus umbretta*	93
White Stork *Ciconia ciconia*	311
Woolly-necked Stork *Ciconia episcopus*	52
Saddle-billed Stork *Ephippiorhynchus senegalensis*	14
Marabou Stork *Leptoptilos crumeniferus*	623
African Open-billed Stork *Anastomus lamelligerus*	212
Yellow-billed Stork *Mycteria ibis*	1277
Sacred Ibis *Threskiornis aethiopicus*	2155
Hadada Ibis *Bostrychia hagedash*	597
Glossy Ibis *Plegadis falcinellus*	645
African Spoonbill *Platalea alba*	683
Greater Flamingo *Phoenicopterus (r.) roseus*	5507

Species name	Number
Lesser Flamingo *Phoeniconaias minor*	69932
Fulvous Whistling Duck *Dendrocygna bicolor*	244
White-faced Whistling Duck *Dendrocygna viduata*	904
White-backed Duck *Thalassornis leuconotus*	3
Spur-winged Goose *Plectopterus gambensis*	380
Egyptian Goose *Alopochen aegyptiacus*	3677
Knob-billed Duck *Sarkidiornis melanotos*	149
African Pygmy Goose *Nettapus auritus*	20
Cape Teal *Anas capensis*	1676
Garganey *Anas querquedula*	350
Yellow-billed Duck *Anas undulata*	299
Northern Pintail *Anas acuta*	57
Red-billed Teal *Anas erythrorhynchos*	777
Hottentot Teal *Anas hottentota*	758
Northern Shoveler *Anas clypeata*	2271
Southern Pochard *Netta erythrophthalma*	427
Maccoa Duck *Oxyura maccoa*	20
Unidentified ducks	43
Osprey *Pandion haliaetus*	4
Eurasian Marsh Harrier *Circus aeruginosus*	123
African Fish Eagle *Haliaeetus vocifer*	335
Palm-nut Vulture *Gypohierax angolensis*	19
Black Crake *Amaurornis flavirostra*	109
Purple Swamphen *Porphyrio porphyrio*	33
Common Moorhen *Gallinula chloropus*	143
Red-knobbed Coot *Fulica cristata*	4448
Grey Crowned Crane *Balearica regulorum*	145
African Jacana *Actophilornis africanus*	784
Crab-plover *Dromas ardeola*	968
Eurasian Oystercatcher *Haematopus ostralegus*	3
Pied Avocet *Recurvirostra avosetta*	469
Black-winged Stilt *Himantopus himantopus*	5193
Water Thick-knee *Burhinus vermiculatus*	216
Collared Pratincole *Glareola pratincola*	113
Ringed Plover *Charadrius hiaticula*	2066
Kittlitz's Plover *Charadrius pecuarius*	683

Species name	Number
Three-banded Plover *Charadrius tricollaris*	253
Chestnut-banded Plover *Charadrius pallidus*	1039
White-fronted Plover *Charadrius marginatus*	24
Lesser Sandplover *Charadrius mongolus*	384
Greater Sandplover *Charadrius leschenaultii*	364
Grey Plover *Pluvialis squatarola*	614
Long-toed Plover *Vanellus crassirostris*	434
Blacksmith Plover *Vanellus armatus*	1123
Spur-winged Plover *Vanellus spinosus*	1910
Crowned Plover *Vanellus coronatus*	18
Little Stint *Calidris minuta*	15412
Curlew Sandpiper *Calidris ferruginea*	2417
Sanderling *Calidris alba*	196
Ruff *Philomachus pugnax*	5846
Common Snipe *Gallinago gallinago*	56
Unidentified snipes	5
Black-tailed Godwit *Limosa limosa*	8
Bar-tailed Godwit *Limosa lapponica*	8
Whimbrel *Numenius phaeopus*	503
Eurasian Curlew *Numenius arquata*	7
Spotted Redshank *Tringa erythropus*	6
Common Redshank *Tringa totanus*	1
Marsh Sandpiper *Tringa stagnatilis*	575
Common Greenshank *Tringa nebularia*	754
Green Sandpiper *Tringa ochropus*	134
Wood Sandpiper *Tringa glareola*	1427
Common Sandpiper *Actitis hypoleucos*	1320
Terek Sandpiper *Xenus cinereus*	148
Ruddy Turnstone *Arenaria interpres*	74

Species name	Number
Red-necked Phalarope *Phalaropus lobatus*	5
Unidentified sandpipers	241
Unidentified waders	30
Sooty Gull *Larus hemprichii*	822
Heuglin's Gull *Larus heuglini*	16
Lesser Black-backed Gull *Larus fuscus*	77
Grey-headed Gull *Larus cirrocephalus*	2703
Black-headed Gull *Larus ridibundus*	40
Unidentified gulls	12
Gull-billed Tern *Sterna nilotica*	482
Caspian Tern *Sterna caspia*	192
Greater Crested Tern *Sterna bergii*	192
Lesser Crested Tern *Sterna bengalensis*	1408
Sandwich Tern *Sterna sandvicensis*	2
Common Tern *Sterna hirundo*	16
Saunders's Tern *Sterna (a.) saundersi*	384
Whiskered Tern *Chlidonias hybridus*	1822
White-winged Tern *Chlidonias leucopterus*	3021
Brown Noddy *Anous stolidus*	218
Unidentified Terns	869
African Skimmer *Rynchops flavirostris*	52
Unidentified small waders	172
Grey-headed Kingfisher *Halcyon leucocephala*	44
Mangrove Kingfisher *Halcyon senegaloides*	22
Malachite Kingfisher *Alcedo cristata*	128
Giant Kingfisher *Ceryle maxima*	12
Pied Kingfisher *Ceryle rudis*	376
Total	**186459**
Total number of species	**120**