

MIDWINTER WATERFOWL CENSUS 2013



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INTRODUCTION

The mid-winter waterfowl census is a coordinated international scheme for the collection and dissemination of knowledge on wetland birds and wetland. This activity is conducted globally since 1970's and had been coordinated by International Waterfowl Research Bureau and Asian wetlands bureau, results of which are being published since 1987. Presently wetlands International are coordinating these activities (Wetlands International 2007).

The main objectives of these surveys are to monitor waterfowl population annually and also study the trends of their population at various wetlands during migratory season i.e. winter (non-breeding). In addition to monitor the status and condition of wetlands and also create awareness and interest among local communities about water birds and wetlands and thereby promote their conservation.

In Pakistan these surveys have been carried out since 1972 and Zoological Survey of Pakistan (ZSP) is a part and parcel of these surveys. For better management and conservation of waterfowl it is necessary to monitor their migratory pattern, analyze population trends, status and distribution of waterfowl species, assessing wetland values and identification of important sites for protection of threaten species.

The current report deals with the counts of waterfowl population on some major wetlands of Pakistan, Which include: -

Manchar Lake, Kalarkahr lake, Khabbeki, Head Maralla, Head Qadirabad, Kabul River, Khanpur and Terbela Dam

SITE DESCRIPTION

Manchar Lake

Manchar Lake is one of the largest fresh water lakes of Asian sub-continent located at a distance of about 18 km from Sehwan town of district Jamshoro, Sindh (longitude 67°-34' E to 67°-43' E and latitude 26°-23' to 26°-28' N). The lake covers an area of approximately 200 km², in district Jamshoro at one side and district Dadu on the other. During Monsoon season (July-September), water from Indus River and other seasonal streams originating from Kirthar range i.e., Nai Gaj, Nai Baran and Nai Angai fall in lake spreading over an area up to 300 km². The surrounding area of the lake is classified as arid subtropical, with very hot summers and cold winters (Scoot and Poole, 1989).

Khabbaki Lake

Khabbaki lake is 32° 37'N 72° 14'E, 10 km north of Nowshehra and 38 km North West of Khushab. The lake has an area of 283ha. Water level of the lake increased excessively in the 1985-1987 but after wards it became completely dry in past few years. Currently it has regained some water since 2007.

As lake has been completely dry in the past many years it is almost without aquatic vegetation.

Khalar Kahar Lake

The lake is situated at 32° 46'N, 72° 42'E, about 25 km South-west of Chakwal is adjacent to Kalar Kahar town having an area of 220ha. It is a small brackish lake in salt range. The lake has dense marginal vegetation having *Typha angustifolia*, *Saccharum spp* and *pharagmites karka*. The lake has also light submerged vegetation. There are fruit orchards at southern hanks of the lake. Vegetation in surrounding of the lake is typical of salt range.

Head Qadirabad

Qadirabad Barrage is situated 32° 19'N, 73 °39'E, 53 km NW of Gujranwala in Punjab province. The wetland consists of a water reservoir on the Chenab River, surrounded by agricultural land.

The embankments extend out into the reservoir and have back shallow lagoons as the water level in the main river channel fall. The wetland has an area of 2,850 ha.

The pond area of the wetland has dense aquatic submerged, floating and marginal aquatic vegetation. The aquatic vegetation includes *Carex fedia*, *Hydrilla verticillata*, *Nelumbo nucifera*, *Nymphaea lotus*, *Phragmites karka*, *Potamogeton crispus*, *P. pectinatus*, *Typha angustata*, *Vallisneria spiralis*, *Zannichellia palustris*, *Saccharum spp* and *Chara sp*.

The natural vegetation of the surrounding plains is tropical thorn forest with species such as *Acacia nilotica*, *Capparis decidua*, *Prosopis cineraria*, *Tamarix aphylla*, *Zizyphus mauritiana*, *Z. nummularia*, *Calotropis procera*, *Eleusine compressa* *Panicum antidotale*, and *Dalbergia sissoo*.

Head Maralla

Head Maralla is located at 32°45 N, 74°31 E 25 Km north of Sialkot. The wetland consists of a reservoir on the Chanab River, constructed for irrigation purpose and surrounded by agriculture lands. The embankments extend out into the reservoir and hold back shallow lagoons and hold back shallow lagoons as the water level in main river channel falls. The depth of water in the lagoons varies from 0.2-5.0 m.

The aquatic vegetation in the wetland consist of *Carex fedia*, *Hydrilla verticillata*, *Nelumbo nucifera*, *Nymphaea lotus*, *Phragmites karka*, *Potamogeton crispus* *P.pectinatus*, *Typha angustata*, *Vallisnaria spiralis* and *Zannichellia palustris*. The natural vegetation of the adjacent plain is tropical thorn forest mainly with species as *Acacia nilotica*, *Capparis decidua*, *Prosopis cinararia*, *Tamarix aphylla*, *Zizyphus mauritiana*, *Z. nummularia*, *Eleusine compressa*, *Erianthis sp.*, *Dalbargia sisso*, *Acacia nilotica* etc.

Khan Pur Dam

Khan pur Dam is one of the important water reservoir of District Hari Pur, NWFP, located at 33° 80 N and 72° 93 E, at an elevation of 590 m from sea level. This artificial water body is fed by Haro River and allied seasonal tributaries. The total catchment's of this water body is approximately 308 Km² irrigating 13,685 acres of agricultural land. The maximum storage capacity of the dam is 107,000 acre-feet (AF).

Tarbella Dam

Terbella dam is one of the largest dams of the country which not only provides a good storage capacity of water for irrigation but is also a major source of electricity production. This reservoir is located at 34°00 N to 72 36 E, about 13Km northwest of District Haripur (NWFP) at an altitude of 471m. This reservoir covers an area of 25,000 hec. with the capacity of 11.62 MAF (Million Acre Feet) water. This wetland has been designated as wildlife sanctuary. As the depth of the water body varies from 50 m to 137 m with average depth of 76 m, no submerged, floating or emergent aquatic vegetation was observed.

Kabul River

Kabul River starts from Nooristan in Afganistan and enters in Pakistan through NWFP in Mohmand Agency. On this river, Warsak Dam was build for electricity generation and water storage. This dam is about 16 Km away from Peshawar. In the down stream, River Kabul flows through district Charsada, district Peshawar and district Nowshera. In Charsada, Swat River and other tributaries join this river. After traveling a distance of about 80 Km, it joins Indus River near Khairabad (District Nowshera). Due to rich submerged flora and surrounding lush green fields, river Kabul provides a favourable wintering and staging ground for a large number of different water fowl and waders species.

Survey Methodology

The wetlands were surveyed from 12th to 29th of the January 2013. Each wetland was visited at least three times during the survey period and counts were made at different selected points. The birds were directly observed, identified and counted with the help of binoculars (Olympus 8-16 X 40, DPS I) and spotting scopes (Nikon w/ 15-45 X). The GPS receiver (Magellan SporTrack) was also used to record the coordinates of the wetland. For the identification of water birds, Sonobe and Usui (1993) were referred. The total number of the birds was determined by direct counts and the data then computed to find out the total population of migratory water birds at different wetlands.

RESULTS AND DISCUSSION

DETAIL OF WATER BIRDS ON THE WETLANDS OF PAKISTAN 2013

S. No	Scientific Name	Common Name	Manchar	Kalar kahar	Khabbeki	Head Maralla	Head Qadirabad	Khanpur Dam	Tarbella Dam	Kabul River	Total
1.	<i>Tachybaptus</i>	Little Grebe	121	56	125	47	135	0	19	0	503
2.	<i>Pediceps cristatus</i>	Great Crested Grebe	0	0	0	0	0	0	6	0	6
3.	<i>Phalacrocorax carbo</i>	Large Cormorant	70	37	47	45	21	7	73	0	300
4.	<i>Phalacrocorax niger</i>	Little Cormorant	690	120	68	240	326	9	42	11	1506
5.	<i>Ardeola grayii</i>	Indian Pond Heron	82	42	35	27	210			0	396
6.	<i>Ixobrychus minutus</i>	Little Bittern		0	0	0	0	0	7	6	13
7.	<i>Nycticorax nycticorax</i>	Night Heron	10	6	0	0	5	0	29	0	50
8.	<i>Bubulcus ibis</i>	Cattle Egret	78	38	73	15	56	0			260
9.	<i>Egretta garzetta</i>	Little Egret	1250	76	126	23	946	13	43	49	2526
10.	<i>Egretta intermedia</i>	Intermediate Egret	217	68	87	9	725		29	14	1149
11.	<i>Egretta alba</i>	Large Egret	370	38	108	0	342	5	12	5	880
12.	<i>Ardea cineria</i>	Gray Heron	51	7	7	2	6	0	5	0	78
13.		Purple Heron	0	2	3	0	4	0	0	0	9
14.	<i>Tadorna ferruginea</i>	Ruddy Shelduck	0	0	0	15	0	0	0	0	15
15.	<i>Anas penelope</i>	Eurasian Wigeon	129	0	0	0	0	0	0	0	129
16.	<i>Anas strepera</i>	Gadwall	203	0	0	25	0	0	0	0	228
17.	<i>Anas crecca</i>	Common Teal	5836	0	0	340	0	0	40	13	6229
18.	<i>Anas platyrhynchos</i>	Mallard	86	0	46	52	0	58	1100	305	1647
19.	<i>Anas acuta</i>	Northern Pintail	1560	0	0	35	0	0	18	0	1613
20.	<i>Anas clypeata</i>	Shovler	1728	0	0	67	0	0	30	0	1825
21.	<i>Aythya ferina</i>	Common Pochard	680	0	0	52	0	0	0	0	732

22.	<i>Aythya nyroca</i>	White-eyed Pochard	54	0	0	0	0	0	0	0	54
23.	<i>Amauornis phoenicurus</i>	White-Breasted Water Hen	0	0	0	0	27	0	0	0	27
24.	<i>Gallinula chloropus</i>	Indian Moorhen	125	42	35	0	68	0	0	4	274
25.	<i>Porphyrio porphyrio</i>	Purple Moorhen	60	33	5	0	35	0	0	0	133
26.	<i>Fulica atra</i>	Common Coot	2534	120	340	0	351	0	0	300	3645
27.	<i>Himantopus himantopus</i>	Black-winged Stilt	315	16	6	47	45	0	0	0	429
28.	<i>Charadrius alexandrinus</i>	Kentish Plover	12	12	0	0	0	0	0	0	24
29.	<i>Vanellus leucurus</i>	White-Tailed Plover	56	0	0	0	0	0	0	0	56
30.	<i>Charadrius hiaticula</i>	Ringed Plover	10	0	0	0	0	0	0	26	36
31.	<i>Charadrius dubius</i>	Little Ringed Plover	0	0	0	0	0	0	0	32	32
32.	<i>Holopterus indicus</i>	Red-wattled Lapwing	19	13	10	25	25	11	19	9	131
33.	<i>Calidris minuta</i>	Little Stint	219	25	22	0	0	0	0	40	306
34.	<i>Gallinago gallinago</i>	Common Snipe	16	2	12	0	0	0	0	0	30
35.	<i>Tringa erythropus</i>	Spotted Redshank	32	0	0	0	0	0	0	0	32
36.	<i>Tringa totanus</i>	Redshank	190	0	0	8	0	0	0	0	198
37.	<i>Tringa nebularia</i>	C - Greenshank	67	8	0	2	0	0	0	0	77
38.	<i>Tringa ochronus</i>	Green Sandpiper	8	0	11	7	0	0	0	0	26
39.	<i>Actitis hypoleucos</i>	Common Sandpiper	317	4	21	0	0	0	9	6	357
40.	<i>Tringa glareola</i>	Wood Sandpiper	0	16	15	3	0	0	0	10	44
41.	<i>Larus ichthyaetus</i>	Great Black-Headed Gull	6	6	0	0	0	0	0		12
42.	<i>Larus ridibundus</i>	Common Black-headed Gull	7029	36	57	240	201	0	0	56	7619
43.	<i>Larus argentatus</i>	Herring Gull	3631	0	0	0	0	0	0	0	3631
44.	<i>Sterna aurantia</i>	Gray River Tern	690	15	10	35	0	0	0	0	750
45.	<i>Sterna hirundo</i>	Common Tern	1230	4	0	0	27	0	13	19	1293
46.	<i>Sterna albifrons</i>	Little Tern	0	0	0	0	0	0	0	13	13
Grand Total:			29781	842	1269	1361	3555	103	1494	918	39323

The Manchar lake one of the largest fresh water lakes was having the largest population of water birds especially Common Coot and different species of ducks a few decades ago, but due to ruthless hunting of birds the migratory bird population has decreased alarmingly. The migratory birds can be observed on the lake in the beginning of season i.e. early September to Mid of December, but during this period the hunters besiege the lake and use different techniques to catch the birds. While, in January the birds can only be seen in few protected

patches (protected by local influential for entertaining their friends who come to hunt the birds) at the lake.

This is all due to negligence of provincial wildlife department and unawareness of local people around the lake. Thus only a few migratory birds can be observed at some remote corners of the lake.

The Kalar kahar lake is a small brackish lake most of which is surrounded by Kalar kahar town. The site is also a recreational spot having tourist boat. During the last two years the lake is facing drought like conditions and almost half of the lake has dried and rest of the watered area was disturbed due to recreational boats.



(Figure- 1 Ducks (Mallard) at Kalarkahar lake)

Kalar Kahar Lake

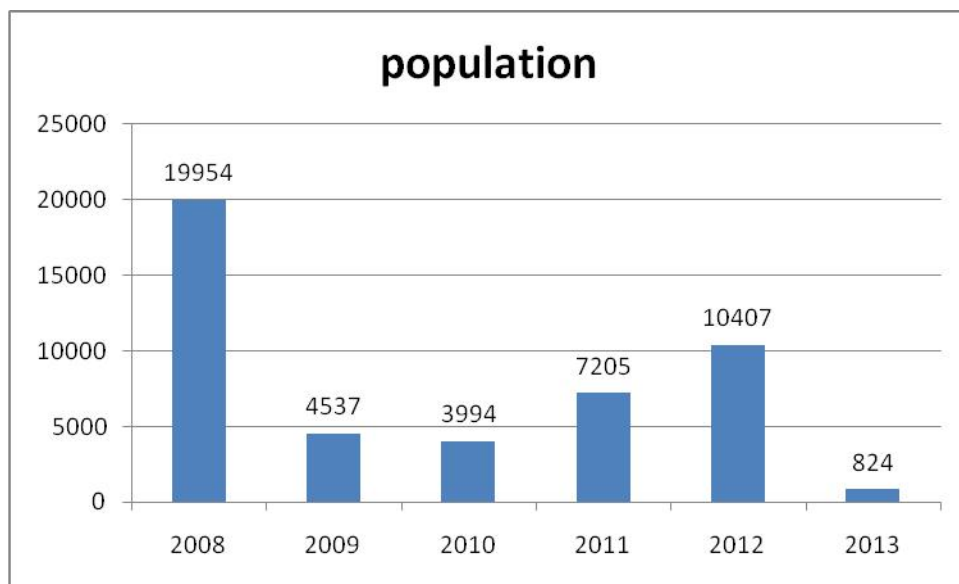


Figure: 1 Population of waterfowl in different years.

Khabaki Lake

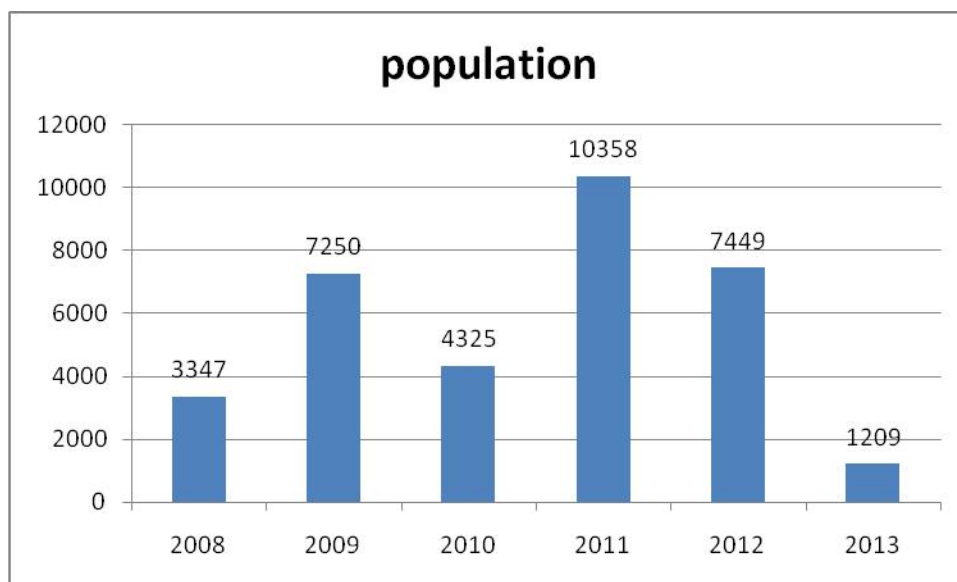


Figure: 2 Population of waterfowl in different years.

Head Maralla

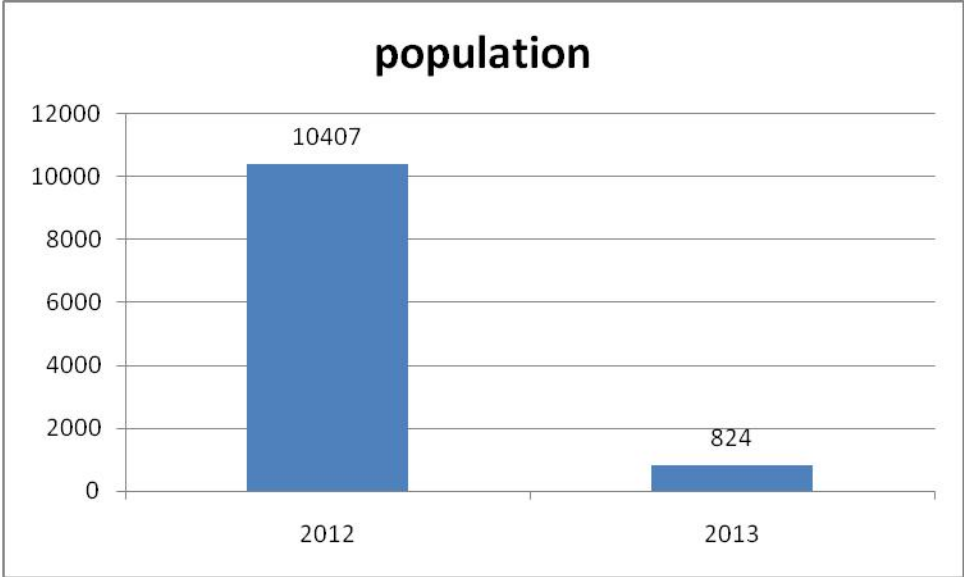


Figure: 3 Population of waterfowl in different years.

Head Qadirabad

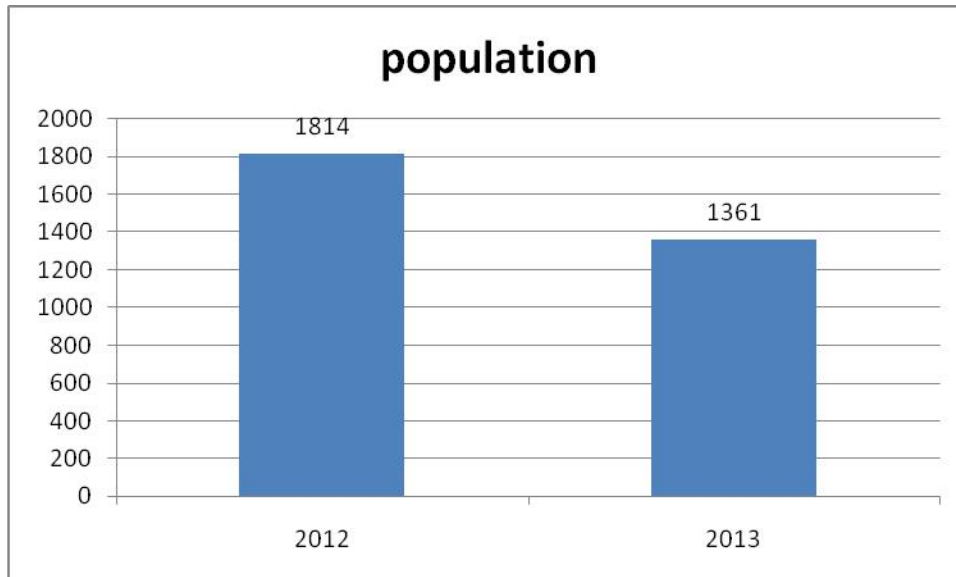


Figure: 4 Population of waterfowl in different years.

So the lake is almost wintering water birds for last two years. During the current survey only a small number of resident water birds were found at the lake. The Khabbaki lake has small population of migratory water birds including, Mallard, Black-headed Gull and Common Coot only.

Head Qadirabad has big lake on upstream of right bund. The lake is mainly a wintering site of migratory water fowl. Currently the Head Qadirabad was also facing the shortage of water. Relatively the smaller pond area was found disturbed by fishing boats and other vehicular traffic, so the wetland was almost devoid of wintering waterfowl and only White Grebe, Cormorants, Egrets, Herons were found at the lake.

Small populations of migratory waterfowl were observed at Head Marralla in addition to resident birds. Occurance of Ruddy Shelduck was important at the wetland. Other wintering Anatides were found include, Gadwal, Common Teal, Mallard, Pintail, Shoveler, and Common Pochard.

Rasool barrage has very small population of water birds and only consisted of resident water birds.

References

- Ali S 2002. The Book of Indian Birds. Oxford University Press, Bombay.
- Ali Z and M Akhtar 2005. Bird surveys at wetlands in Punjab, Pakistan with special reference to the present status of white-headed duck (*Oxyura leucocephala*). Forktail. 21: 43–50.
- Azam MM 1994. The Birds of the Salt Range. Rec. Zoo. Sur. Pak. 12: 63-97.
- Azam MM, MA Brohi and W Ahmed 2008. Studies on the Population Status of Water Birds in Major Wetlands of Upper Punjab. Rec. Zoo. Sur. Pak. 18: 1-11.
- Roberts TJ 1992. The Birds of Pakistan. Oxford University Press. Pakistan.
- Scot DA and CM Poole 1989. A Status Overview of Asian Wetlands. AWB, Kuala Lumpur, Malaysia no.53
- Sonobe K and Usui S 1993. A Field Guide to the Water Birds of Asia. Wild Birds Society of Japan, Tokyo.