

A STUDY ON KAPLA WETLAND COMPLEX -THREATENING WETLAND OF WESTERN ASSAM

A.K.DEWAN^{a1} AND P.K SAIKIA^b

^aDepartment of Zoology, Nabajyoti College Kalgachia, Assam India
E-mail:kashemdewan00@gmail.com

^bDepartment of Zoology, Gauhati University ,Assam India
E-mail: saikiapk@rediffmail.com

ABSTRACT

The Kapla wetland complex situated in between Daulasal and Sarthebari, covering 91 hactre. The inlet is degenerated. The Beel lies in between 26° 39'N to 26° 50'N and 90° 39'E. This is an unique avian habitat, flora and fauna make the area rich in biodiversity. This paper revealed that 58 species and 14 families of aquatic birds species were recorded from Kapla wetland, Assam.

KEYWORDS : Degenerated, longitude, flora and fauna, biodiversity, macrophytes

On the northern bank of river Brahmaputra at a distance of 25 km, east from Barpeta town lies a vast stretch of lowland called Kapla Beel in between Doulasala and Sarthebari town covering a total area of 91 ha. The average depth in 1990 was 7-9 feet but presently in 2005 (survey done by Author) which was found to be having an average depth of 5-6 feet. The inlet to this mighty wetland Kokarjan is degenerated and outlet on the same direction of the wetland.

The diversity and abundance of aquatic avifauna indicate the high ecological diversity of Assam (Saikia and Bhattacharjee 1993). There was records of 184 species and subspecies of wetland birds in Assam. A study was done by Hume, 1888; Baker, 1921; Parson, 1939; Ali and Ripley, 1983; Betts, 1947; Saikia and Bhattacharjee, 1989. But at present only 113 species are reported which indicate 38% reduction of avifauna from the wetlands of Assam. Due to avifaunal peculiarities and potentialities in Kapla wetland complex a proposal was submitted to Ibcn {BNHS} to declare this wetland as Iba site in 2008 by the author.

STUDY AREA

The study was carried out in Kapla wetland complex situated in Assam, which lies in between 26°39'N to 26°50'; N latitude and 90°39'E to 90°39'E longitude. Inside the above mentioned study area contains all total 4 wetlands providing unique and suitable habitat for avian diversity and other flora fauna making the area rich in biodiversity. The average rainfall of the area is 300 cm and the average highest temperature is between 30°-36° C and lowest is of 8°C.

METHOD OF STUDY

Regular survey were conducted on weekly basis in the study area from the month of April, 2005 to April, 2006. The study was carried from 05:30 hours to 17:00 hours by using camera and binoculars (10×50). There were altogether 48 field trips which were made during the study period of twelve month having at least four field trips each month.

• Altogether 14 families of aquatic birds were found during the study period of which migratory and terrestrial birds were observed in Greater Kapla wetland complex, (Saru-Kapla, Salmara and Borkona) together constitute a greater Kapla Complex. Altogether 58 species of water birds were observed. As stated by the local leading personalities it was a big river before 1897. But after the earthquake in 1897 this mighty wetland came into existence. Historically the record of the Kapla Wetland was written in the Namghosa (holy book) of Srimanta Sankardeva (spiritual leader of 15th century). But for commercial fish farming embankment was constructed in the year 1991 and converted to this biodiversity rich area into a cultured fishery. But presently the fish research centre has been abandoned by the authority and no further in initiative is taken by the concerned authority to resume the activity of the centre in Kapla wetland. Owing to the construction of the artificial embankment the water outlet is blocked & the wetland condition is degrading day by day. The main inlet of the Kokarjan is no longer feeding the wetland as degenerated drastically as a result of which water inlet and outlet is disturbed.

¹Corresponding author

Despite of numerous disturbance of artificial, natural and anthropogenic still persisted in the wetland is the best site for watching Avifauna and research on them in the whole western Assam. Other than the avifaunal diversity 32 species of Macrophytes floating, submerged & rotating vegetations were recorded during the study period in the Kalpa Beel complex of which *Eichornia crassipes*, *Euryl farox*, Water lilly, *Riccia Vallisnaria* are the dominant macrophytes, 55 species of exotic and indigenious varieties fishes, amphibian and snakes are rich wetland fauna.

Greater Kapla Wetland complex is the most biodiversity rich wetland of Barpeta district. The nature is prolific with abundant growth of trees, shrubs, and aquatic plants, Amphibians, Reptiles, Molluscus, Annelidas, Arthropoda, Aves and mammals.

Kapla Wetland becomes a natural habitat of a varied number of beautiful birds some of which are very rare. Many of these birds have been enlisted under endangered category.

OBSERVATIONS

Enumeration of Birds

In the enumeration birds have been arranged with local name, scientific name and family during survey.

Family: Phalacrocoracidae

1. Little Cormorant(*Phalacrocorax niger*)
2. Indian Cormorant(*Phalacrocorax fuscicollis*)
3. Darter (*Anhinga rufa*)

Family: Podicepidae

4. Little grebe(*Podiceps ruficollis*)

Family: Ardeidae

5. Little egret(*Egretta garzetta*)
6. Large egret(*Egretta alba*)
7. Cattle egret(*Bululcus ibis*)
8. Pond heron(*Ardeola grayii*)
9. Night heron(*Nycticorax nycticorax*)
10. Yellow bittern(*Ixobrychus sinensis*)

Family: Ciconidae

11. Asian open bill stork (*Anastomus oscitans*)

Family: Anatidae

15. Large whistling Teal(*Dendrocygna bicolor*)
16. Lesser whistling Teal(*Dendrocygna javanica*)
17. Greylag goose(*Anser anser*)

18. Barheaded goose(*Anser indicus*)
19. Ruddy shelduck(*Tadorna ferruginea*)
20. Common shelduck(*Tadorna tadorna*)
21. Cotton teal(*Nettapus coromandelianus*)
22. Mallard (*Anas platyrhynchos*)
23. Pintail(*Anas acuta*)
24. Shoveller(*Anas clypeata*)

Family: Rallidae

25. Water rail(*Rallus aquaticus*)
26. White breasted waterhen(*Amaurornis phoenicurus*)
27. Water cock(*Gallicerax cinerea*)
28. Moorhen(*Gallinula chloropus*)
29. Coot(*Fulica atra*)

Family: Jacanidae

30. Pheasant-tailed Jacana(*Hydrophasianus chirurgus*)
31. Bronze winged jacana(*Metopidius indicus*)

Family: Caradriidae

32. Grey headed lapwing(*Vanellus cinereus*)
33. Red wattled lapwing(*Vanellus indicus*)
34. Yellow wattled lapwing(*Vanellus malabaricus*)
34. Eastern golden plover(*Pluvialis dominica*)
35. Little ringed plover(*Charadrius dubius*)

Family: Glareolidae

36. Small pranticle(*Lareola lacta*)
37. Indian coarser (*Cursorius cormadlicus*)

Family: Scolopacidae

38. Marsh sandpiper(*Tringa stagnatilis*)
39. Pintail snipe(*Gallinago stenura*)
40. Common snipe(*Gallinago gallinago*)
41. Wood cock(*Scolopax rusticola*)
42. Temmincks stint(*Callidris subminuta*)
43. Spotted sandpiper(*Tringa nebularia*)

Family: Laridae

44. Black backed gull (*Larus fuscus*)
45. Black headed gull(*Larus ridibundus*)
46. River tern (*Sterna aurantia*)
47. Whiskered tern (*Chlidonias hybridus*)

Family: Apodidae

50. Palm swift(*Cypsiurus parvus*)
51. House swift(*Apus affinis*)

Family: Alcedinidae

52. Common king fisher(*Alcedo atthis*)
53. Storkbilled king fisher(*Haleyon capensis*)

54. White breasted kingfisher(*Haleyon symrnensis*)

55. Pied king fisher(*Ceryle rudis*)

Family: Motacillidae

56. Forest wagtail(*Motacillia indica*)

57. White wagtail(*Motacilia alba*)

58. Yellow wagtail(*Motacilia flava*)

RESULTS AND DISCUSSION

A variety of aquatic flora and fauna of tropical wetland types were found in Kapla wetland complex. The wetland is surrounded by bushes, herbs, grasses and reeds. The giant water lilly of the wetland is economic importance. The variety of aquatic vegetation and smaller phytoplankton and zooplankton provide good food item for water birds. The flora of wetland has been described by Saikia and Bhattacharjee, (1989).

The water birds of the study period were systematically summarized in table,1. Altogether 58 species with 14 families were recorded. The most dominant family being represented by Anatidae. Among the total bird species

we consider 20 no of species important to kapla wetland complex (Saikia and Bhattacharjee, 1993) showing in table,2.

The records of 58 no. of species of water birds having diverse habitat requirements. The no of water birds decreases as compared to 1989, 1990 and 1991(An MRP submitted by the author in 1991). This is due to the direct or indirect anthropogenic impact on the water birds and its habitat. The direct effect are netting, trapping and killing by using different decoy traps. The indirect effect are the over exploitation of fish resources, large scale removal of aquatic vegetation from wetland by the fisherman has greatly deteriorated the quality of the wetland. Agricultural practices in the peripheral area directly reduced the avifaunal diversity and some of the wetlands are converted to agricultural field and human habitation centre. The susceptibility of aquatic avifauna population to changes in wetlands (Vijayan, 1986) has made them useful indicators of the ecological status of wetland ecosystem. Increase fishing activity by using Furadon medicine and by draining the whole wetlands is the prime factor influencing the bird's population (Dewan and Saikia, 2007,2010).

Table 1: Important Water Birds of Kapla Wetland Complex

Species	Status	Remarks
Cormorant	r/RLM	Very rare
Darter	r	Rare
Purple heron	R	Less in number
Night heron	R	Rare
Asian openbill stork	LM	Common, local migrant
Lesser adjutant stork	C/R	Common rare in kapla
Greater adjutant stork	vr	Very rare in kapla
Large whistling teal	R	Rare in kapla
Ruddy shelduck	C/P	Common and abundant
Mallard	r/p	Rare in kapla
Pintail	C/P	Common
Water rail	r/R	Very rare
Water cock	c/RLM	Very rare
Coot	C/P	Common
Pheasant tailed jacana	c/p	Irregular visitor
Little ringed plover	r	Rare species
Indian coarser	r	Rare in kapla
River term	C/RLM	Very rare
Pied kingfisher	r/p	Abundant
Yellow wagtail	C/P	Irregular visitor

CONCLUSION

1. Water birds in kapla wetland of Assam, India represented 14 families and we have recorded 58 species during the study period.
2. The family Anatidae constitutes the bulk of the water bird population.
3. Out of 58 species recorded in the wetland, we have identified 20 species important to Kapla wetland complex as compared to the status of wetland birds in Assam.
4. Over finishing, uses of mist net, furadon (fish killing medicine) and at last total draining of wetland is the main hindrance of water birds.
5. Excess removal of aquatic hydrophytes deteriorated the habitat condition of water birds.
6. Netting, trapping, and killing of water birds by using different decoy traps and ringing of bell at night for hypnotizing birds are the direct adverse effect on the water birds population.
7. Encroachment for overgrowing human population and

land use pattern in and around the wetland has converted into agricultural land and human habitation centre.

8. The unplanned uses of pesticide in the agricultural practices ultimately deposited in the wetland and consumed by the water birds (Biomagnification) and as a result there is occurrence of pre-mature hatchlings (*L. dubius*), a chief cause for extinction of a species.

REFERENCES

- Ali S. and Ripley S.D. ,1983. A hand book of the birds of India and Pakistan. Oxford University Press, New Delhi.
- Baker, E.C.S. ,1921, Indian Ducks and their Allies. 2nd edition, Bombay.
- Betts F.N. ,1947. Bird life in Assam jungle. Journal of BNSH, **46**:667-684.
- Coltart H.N., 1902, Notes on some Lakhimpur Birds. Journal of BNHS, **14**:3.
- Dewan A.K and Saikia P.K., 2010. Nesting records and population counts of adjutant Stork (GAS and LAS) in Barpeta and Nalbari, District of Assam, India. News Letter Assiig, **3**(5):17-18.
- Dewan A.K and Saikia P.K., 2007, Threat perspective of wetlands of Barpeta District and its impact on Environment. UGC Sponsored National Seminar organized by Nabajyoti College, Kalgachia, Assam, India, **1**:63-68.
- Hume A.O. ,1888. The birds of Manipur, Assam Sylhet and Cachar. *Streay feather*, **11**:1-353.
- Parson's, R.E. ,1939. Notes on wild ducks and geese in Sadeya frontier tract, Assam. Journal of BNHS, **41**:422-426.
- Saikia P.K. and Bhattcharjee P.C., 1993 Status, diversity and decline of water birds in Brahmaputra valley, Assam, India. Bird Conservation strategy for the nineties and Beyond, Ornithological Society of India:20-27.
- Saikia, P. K. and Bhattacharjee, P. C ,1989. A preliminary survey of Adjutant Storks in Assam.. Assam Wetland News, **2** (2): 14-15.
- Vijayan V.S. ,1986 . Conserving the bird fauna of Indian Wetlands. Proc Indian.