

Journal of Bioresource Management

Volume 5 | Issue 4

Article 1

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Recommended Citation

Bhatti, Z., Nazir, F., & Shah, S. A. (2018). Population Trend of Herons and Egrets (Family: Ardeidae) in Marala Head From Oct 2000- Sep 2001, *Journal of Bioresource Management*, 5 (4).

DOI: <https://doi.org/10.35691/JBM.8102.0095>

ISSN: 2309-3854 online

(Received: Dec 10, 2019; Accepted: Dec 10, 2019; Published: Dec 10, 2018)

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POPULATION TREND OF HERONS AND EGRETS (FAMILY: ARDEIDAE) IN MARALA HEAD FROM OCT 2000- SEP 2001

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ABSTRACT

The species cited from Pakistan included *Ardea goliath*, *Ardea cinerea cinerea*, *Ardea cinerea rectirostris*, *Ardea purpurea manilensis* and *Butorides striatus javanicus*, *Ardeola grayii grayii* and *Bubulcus ibis coromandus*, *Ardea alba alba*, *Ardea alba modesta*, *Egretta intermedia intermedia*, *Egretta garzetta garzetta* and *Egretta gularis schistacea*, *Nycticorax nycticorax nycticorax*, *Ixobrychus minutus minutus*, *Ixobrychus sinensis* and *Ixobrychus flavicollis flavicollis*. The study was carried out from October 2000 to September 2001, spanning the area from Kikar Post to Head Marala. Point count method was used to record the number of birds observed (Ralph et al., 1995). The birds were further identified using literature. Cattle egret (*Bubuleus ibis*), little egret (*Egretta garzetta*), intermediate egret (*Egretta intermedia*) and pond heron (*Ardeola grayeii*) were present at river Jammu Tawi, river Chenab and river Manawar Tawi throughout study period. However, *Egretta alba* was only observed from December to January.

Keywords: heron, water bird, bittern, egret, Marala headworks

INTRODUCTION

Birds from Family Ardeidae belonged to the order Ciconiiformes. According to Grzimek (2002), this order consists of six families and 120 species. However, after the year 2008, their classification was modified and they were placed under the order Pelecaniformes (Redrobe, 2015). Predominantly, Ardeidae birds have a pectinate middle-claw, with bills that resemble the form of a dagger.

Ali and Ripley (1978) also placed the genus *Ardea* in the order ciconiiformes. They recorded 21 herons and egrets from the Indian subcontinent region. The species cited from Pakistan included: *Ardea goliath* (a rare species observed above the confluence of Chenab and Sutlej and in Balochistan), *Ardea*

cinerea cinerea (sighted in Balochistan and Sindh), *Ardea cinerea rectirostris*, *Ardea purpurea manilensis* (Quetta and Nushki) and *Butorides striatus javanicus* (Sindh); from the genus *Ardeola*, they cite *Ardeola grayii grayii* (Kashmir) and *Bubulcus ibis coromandus* (Himalayas); from the genus *Egretta*, they cite *Ardea alba alba* (lakes and marshes), *Ardea alba modesta*, *Egretta intermedia intermedia*, *Egretta garzetta garzetta* and *Egretta gularis schistacea*; from the genus *Nycticorax* T, they cite *Nycticorax nycticorax nycticorax*; from the genus *Ixobrychus*, they cite *Ixobrychus minutus minutus* (Sindh and Kashmir), *Ixobrychus sinensis* and *Ixobrychus flavicollis flavicollis* (Sindh).

MATERIALS AND METHODS

The study was carried out from October 2000 to September 2001, spanning the area from Kikar Post to Head Marala.

Point count method was used to record the number of birds observed (Ralph et al., 1995). The birds were further identified using literature.

RESULTS AND DISCUSSION

Table 1. Number of Ardeidae (Pelecaniformes) observed at head Marala wetland during different months (Oct. 2000 to Sep. 2001)

Common Name	Scientific Name	Months											
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Pond Heron	<i>Ardeola grayii</i>	17	13	11	15	7	19	15	4	7	10	7	19
Cattle Egrette	<i>Bubulcus ibis</i>	23	17	25	7	5	21	30	33	47	217	145	75
Little Egrette	<i>Egretta gazetta</i>	15	24	33	43	45	14	17	22	18	43	313	60
Intermediate Egrette	<i>Egretta intermedia</i>	27	15	13	25	17	71	14	39	29	30	-	97
Great White Egrette	<i>Egretta alba</i>	-	-	25	21	15	-	-	-	-	-	-	-

Cattle egret (*Bubuleus ibis*), little egret (*Egretta garzetta*), intermediate egret (*Egretta intermedia*) and pond heron (*Ardeola grayeii*) were present at river Jammu Tawi, river Chenab and river Manawar Tawi throughout study period. However, *Egretta alba* was only observed from December to January.

The highest number of pond herons (19) was observed in March and September and the least number was recorded in May. According to Ali and Ripley (1978) this species breeds during May to September giving three to five eggs. This may be cause of increasing trend in population numbers during the summer. Akbar et al. (2009) conducted a similar study from 1996 to 2005 at two locations; Chashma Barrage and Marala Headworks. They found 516 Pond herons at Chashma barrage and 1018 at

Marala Headworks. They also reported Purple heron and Grey heron which were not observed in the current study.

The highest number of Cattle egrets was observed in July (217). According to Ali and Ripley (1978) they mainly breed from June to August. Overall their highest population recorded was only second to that of the Little Egret (313 in August). Akbar et al. (2009) reported 2127 cattle egrets at Chashma barrage and 653 at Marala headworks.

Little egrets seem to have the healthiest population trend where the highest number observed was 313 during the breeding season and the lowest population was 15 in October. The number of Little egrets recorded at Chashma barrage was 3308 and 1485 at Marala Headworks.

All the birds recorded appear to follow a similar trend where the numbers are

higher during summers and less during the winters especially in the month of February. However, some numbers show anomalous behavior. The population of the Intermediate egret suddenly dropped during the month of April and was not observed at all during August. During mid-winter periods of 1996 to 2005, 1457 intermediate egrets were observed at Chashma barrage and 190 at Marala Headworks (Akbar et al., 2009). Ali and Ripley (1978) cite that the Intermediate egret migrates with respect to the conditions of the water available.

The numbers of Great White egret continuously dropped in the three months in which it was observed. At Chashma barrage and Marala Headworks, 723 and 217 Great egrets were observed respectively.

Dewar (1920) describes birds from east Himalayan, west Himalayan and Kashmir region in summers. From the Ardeidae family, it included the European Hoopoe and herons (common heron and night heron).

The results of the current research and that done by previous studies (Akbar et al., 2009) highlight the decreasing population of water birds at Marala Headworks. Possible reasons for this decline include threat to life by illegal hunting, loss of habitat and decrease in the availability of food. Some factors identified may be controllable however, some such as flooding are natural events that require careful planning for execution.

CONCLUSION

Cattle egret (*Bubuleus ibis*), little egret (*Egretta garzetta*), intermediate egret (*Egretta intermedia*) and pond heron (*Ardeola grayeii*) were present at river Jammu Tawi, river Chenab and river Manawar Tawi throughout study period.

However, *Egretta alba* was only observed from December to January. All the birds recorded appear to follow a similar trend where the numbers are higher during summers and less during the winters especially in the month of February. However, the population of the Intermediate egret suddenly dropped during the month of April and was not observed at all during August. The results of the current research and that done by previous studies (Akbar et al., 2009) highlight the decreasing population of water birds at Marala Headworks. Possible reasons for this decline include threat to life by illegal hunting, loss of habitat and decrease in the availability of food. It is essential to conserve the population of these aquatic birds; their decline is an indicator of how their immediate ecosystem is changing for the worse and is negatively affecting other inhabitants too.

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