

Conservation of aquatic avifauna: A case study in proposed Kotuattawala Nature Reserve, Sri Lanka

D. Diwakara and S. Wickramasinghe

Faculty of Applied Sciences, Rajarata University of Sri Lanka, Sri Lanka

Riparian areas and freshwater tanks are typical freshwater ecosystems for water birds. These habitats provide niches for breeding and roosting activities. Majority of water fowls are living as flocks in these ecosystems. Present study was aimed at determining the avifaunal abundance, species richness, diversity and threats due to anthropogenic activities in the reservoir during breeding and non breeding seasons. The research was conducted in August 2009 to February 2010 in the proposed Kotuattawala nature reserve which is located in the Kurunegala district. Line transect, point counts and opportunistic methods were conducted daily in the morning and evening to determine the species richness, abundance and diversity.

A total of 117 species of birds were recorded and thousands of waterfowls inhabit the reservoir. Fourteen common roosting species belonging to 5 families were recorded. Kotuattawala nature reserve had a Shannon's diversity (H') Index of 2.6 and species evenness (0.82). The dominant species were *Threskiornis melanocephalus* (46.9%), *Pelecanus philippensis* (8.5%), *Pelecanus onocrotalus* (1.5%) and *Phalacrocorax niger* (3.6%). The number of birds peaked during breeding season, when juveniles formed the bulk of foragers, and then sharply declined until January when numbers generally stabilized during non breeding seasons. This is one of the major remaining roosting sites for Spot-billed pelican. The average flock size of Spot-billed pelican varied according to availability of food.

The results revealed that deforestation in surrounding water catchment area, changing water quality due to bird guanos and uncontrolled fertilizer usage, hunting birds and juveniles for flesh, illegal egg collection and less awareness of people influence population of birds.

Because of the high potential for wildlife conservation, the reservoir and its surrounding has been recommended by the local government for protection as a nature reserve and bird paradise. However, at present it has no legal protection as a conservation area. Appropriate conservation measures such as conducting awareness programs, declaring the site as a nature reserve and stopping illegal activities with the help of locals should be implemented to conserve this important roosting area for aquatic avifauna.

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