

Population and Species Diversity Fluctuations of Birds in Karun River Ecosystem in Ahvaz City as Bio-indicators

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Abstract

The avifaunal diversity and population fluctuation of birds of Karun River ecosystem in Ahvaz City was studied for period of six months from April-2015 to September-2015 based on observational and total count methods with Zeiss binoculars (10×40) and telescopes (15×60). A total of 1919 bird individuals from 41 bird species were recorded in Karun River ecosystem. Out of the total 41 species, 8 species (19.51%) of all detections belong to swimmer waterbirds, 8 species 19.51% of bird species belong to wading birds and 25 species (60.98%) terrestrial birds, that 22 species of them were breeder (12 species belong to terrestrial birds, one species to water birds and 9 species to wading birds). Reduction population of waterbirds in 2015 compared to 2001 was 95 percent and breeding population reduction was 20.76 percent. The terrestrial birds were dominant with 836 individuals in spring and 390 individuals in summer as compared to water birds, 529 individuals in spring and 164 individuals in summer. The highest waterbirds abundance was recorded for Cormorant *Phalacrocorax carbo* (3.66% in spring), the highest terrestrial birds abundance was recorded for House Sparrow *Passer domesticus* (15.16% in spring) and Swallow *Hirundo rustica* (9.74% in summer), and the highest wading birds abundance was recorded for Little Egret *Egretta garzetta* (57.77% in spring). The highest species diversity i.e. Shannon's index (3.27), species richness i.e. Margalef's index ($R1 = 6.227$), species evenness, i.e., McIntosh's index ($E = 0.6733$) and Fisher alpha's index (11.26) was recorded for all birds. Six species of protected and one species of globally threatened species observed in Karun River ecosystem. The aim of this study demonstrates the importance of Karun River Ecosystem in Ahvaz City limits to protect the birds.

Keywords: Karun River ecosystem, Bio-indicators, Population fluctuation, Species diversity, Ahvaz.