

Habitat suitability modeling of red-winged pratincole (*Glareola pratincola*) in Shadegan International Wetlands

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Abstract

The Survey of the ecological characteristics of the species and determining their habitat suitability is one of the main principles of management and conservation of wildlife species. Hence, we need methods that can help assess habitats and can estimate, over time, reduce of their quality. To understand the effects of human activities and the changes of a habitat, it is necessary to make quantitative assessment of the habitat. In this study, the habitat suitability of the red-winged Pratincole (*Glareola partincola*) in the Shadegan international wetland was investigated using binary logistic regression methods based on presence and absence data, as well as Maxent methods (maximum entropy) based on presence-absence data in 2018. For this purpose, in all accessible sites for randomly, sampling of habitat variables, including vegetation type, water depth, water temperature, water soluble oxygen (DO), PH, water conductivity (EC), vegetation density index (NDVI), distance from the village with the presence and absence data of the red-winged Pratincole was done. Totally, 62 sampling stations were registered in Shadegan international wetlands. The results of the binary logistic regression model showed that the most important environmental variables affecting the presence of the species included water temperature, vegetation type and electrical conductivity of water with the inverse relationship and water depth with direct relation. The results of Maxent analysis showed that the electrical conductivity, PH and water temperature were the most effective factors in the presence of the red-winged Pratincole. In general, factors related to the water characteristics of wetland had the most effect on the presence of the red-winged Pratincole. Therefore, attention to factors affecting water quality and preventing the entry of polluted wastewater into the wetland to maintain the optimal habitat for the red-winged Pratincole can be of great importance.

Keywords: Habitat evaluation, Red-Winged Pratincole (*Glareola partincola*), binary logistic regression.