

as a scientific basis for managing and conserving Houbara habitats. The study advocates for strategies that utilize opportunities to mitigate or eliminate threats. It is important to note that adopting aggressive strategies does not imply neglecting defensive or conservative approaches; rather, it indicates a need to reinforce such strategies given the current management status of the region.

Keywords: Habitat destruction, Hubreh, Far Sanseh, South Khorasan



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Title:

**Assessment of land use changes in the habitat of
the Asian chlamydotis (*Chlamydotis macqueenii*) in
South Khorasan province**

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Autumn 2024

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Abstract:

The Asian Houbara (*Chlamydotis macqueenii*), a semi-migratory bird from the order Gruiformes and family Otididae, is distributed across dry, semi-dry, and steppe habitats from China to the Arabian Peninsula. It is a key species in Iran's steppe ecosystems. This study aims to assess habitat changes for the Houbara in South Khorasan Province using data mining techniques and strategic planning for its conservation, employing a SWOT matrix model. The research reviews existing studies on the ecology and biology of the Houbara to identify potential habitats based on critical habitat selection criteria such as rainfall, temperature, Normalized Difference Vegetation Index (NDVI), wind speed, elevation, and slope. Satellite imagery from Google Earth Engine (GEE) is utilized to analyze habitat conditions over three time periods: 2000, 2013, and 2023. The study effectively calculates "from-to" changes, illustrating land use trends and landscape alterations through mapping. Significant changes in the extent of suitable habitats were observed between 2000 and 2013, indicating an increase in desirable habitat areas. Over a 23-year period, the results suggest that habitat suitability for the Houbara has potentially improved. Moreover, the analysis reveals that strategic management for sustainable conservation of the Houbara presents more opportunities than threats. The findings position the conservation strategy within an aggressive (SO) quadrant, emphasizing the need to leverage strengths and opportunities for effective species and habitat management. These results can serve