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GIS-BASED HABITAT MODEL OF JAVAN HAWK-EAGLE (SPIZAETUS BARTELSI) USING INDUCTIVE APPROACH IN JAVA ISLAND, INDONESIA

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ABSTRACT

The Javan Hawk-Eagle (JHE) is categorized in the IUCN Red List of Threatened Species (CITES Appendix 2) as one of the world's rarest and most endangered raptors in the remaining original natural forests of Java, Indonesia. Since it is not feasible to conduct complete field surveys for a landscape-scale, this paper proposes a GIS-based extrapolation model based on local-scale model in order to generate a map of potential and present habitat suitability for JHE in the entire landscape. Using autologistic regression, we developed a GIS-based habitat model for JHE in Java Island and subsequently estimated the population number of JHE. The obtained model will be the most useful for the wildlife management conservation planning process in order to help identify "hot spots" that are most likely to harbor JHE. Most of the predicted suitable habitats in Java Island are distributed in the mountainous area. The area with the largest proportion of suitable habitat for JHE is located in East Java, and then followed by West Java and the last in Central Java. Totally, about 41 locations (85%) of 48 historical localities recorded were recognized as suitable habitat. The estimated number of JHE pairs based on model extrapolation would place the population size about 108-542 (median = 325) pairs. Although this estimated population is higher compared to other

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