

Habitat suitability and assessment of corridors setup for Javan Gibbon conservation: A case study in Gunung Gede Pangrango National Park, Indonesia

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ABSTRACT

The habitat of Javan Gibbon, *Hylobates moloch*, in Gunung Gede Pangrango National Park has been fragmented due to habitat loss. Therefore, connectivity development among the fragmented habitats is crucial to conserve Javan Gibbon population. This study is conducted to identify habitat suitability and plan corridor setup for Javan Gibbon using Geographic Information Systems (GIS) technology. Principal component analysis and general linear model were used to statistically process the weight of each environmental variable for Javan Gibbon habitat. From the total area of 22,851 ha, the results showed that 17.15% (3,918 ha), 38.61% (8,823 ha) and 44.24% (10,110 ha) are classified to have high, moderate and low suitability for Javan Gibbon habitat, respectively. The application of least-cost path analysis in GIS produced seven corridors, which have the potential to connect several fragmented Javan Gibbon habitats in the park. It is expected that the implementation of these corridors would increase the threatened population of the Javan Gibbon in the park.

Key words: Connectivity, GIS, habitat fragmentation, habitat loss, threatened population