

APPLICATION OF AN INTEGRATED GIS- AHP MODEL IN HABITAT'S QUALITY EVALUTION FOR ASIATIC BLACK BEAR (*Ursus thibetanus* Cuvier, 1823) IN PU LUONG NATURE RESERVE

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Summary

In order to determine the suitable habitat areas for natural activities of Asiatic black bear (*Ursus thibetanus*) in Pu Luong Nature Reserve, seven habitat factors have been selected as the indicators representing the food abundance, water resources, the quietness of the resident, and the levels of habitat fragmentation/ preventing the movement of the species. The study applied Analytic Hierarchy Process- AHP method to determine the weighted factor of each habitat. In addition, the characteristic of habitat was used to compute the weighted factor of each level. The weighted factors, then, were integrated by GIS to generate the map of suitable levels for each area. The results of the study showed that the area of very high and high suitable habitat account for about 67.73% of the area of the nature reserve. Especially, the forest compartments hold the large suitable habitat (>60% of forest compartment area) including TK27 (84.41%), TK30 (89.57%), TK74 (82.11%), TK84 (68.12%), TK115 (65.23%), TK250 (90.78%), TK252 (63.94%) and TK264 (78.07%). The results also demonstrated the usefulness and suitability of integrating GIS and AHP method to model the ecological niche of Asiatic black bear in nature reserve scale. Furthermore, the study provided reliable and useful data for planning and protecting forest to conserve Asiatic black bear population in Pu Luong Nature Reserve.

Keywords: *AHP, GIS, habitat's quality index, map of habitat's quality, Pu Luong Nature Reserve, ursus thibetanus.*