ABSTRACT

The existence of invasive alien species influenced the ecosystem, and at the same time could not be controlled. This could cause disturbance of ecosystem function and also declined forest value, ecologically and economically. Some national parks have been facing serious threat caused by invasive alien species and 37 species were identified in Gunung Gede Pangrango National Park (GGPNP). It is important to carry out this research in GGPNP since the information on the distribution and habitat suitability for invasive alien species, especially for kirinyuh, is still limited. The objectives of this research were to determine the distribution and habitat suitability model for kirinyuh and the suitability degree of GGPNP as habitat for kirinyuh. Binary Logistic Regression Analysis and Principal Component Analysis were used to predict probability of habitat suitability for kirinyuh. Fifty percent of recorded data was used to build a predictive model and the rest was used to validate the model. Habitat requirements were analyzed and quantified from digital topographic maps, ASTER DEM and Landsat 7 ETM+. The result showed that predictive model of habitat suitability for kirinyuh was affected by elevation, NDMI, NDVI, distance to farmland and distance to trail. The result suggested Principal Component Analysis was more appropriate than Binary Logistic Regression.

Keywords: habitat suitability, binary logistic regression analysis, principal component analysis, kirinyuh, Resort Mandalawangi Gunung Gede Pangrango National Park, GIS

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