

ABSTRAK

PEMODELAN SPASIAL KESESUAIAN HABITAT RAPTOR DIURNAL DI KESATUAN PENGELOLAAN HUTAN BATUTEGI

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Raptor diurnal merupakan kelompok burung pemangsa yang berperan sebagai predator puncak dan bioindikator. Keberadaan raptor di Kesatuan Pengelolaan Hutan (KPH) Batutegi menghadapi tekanan degradasi habitat, dan deforestasi. Penelitian ini bertujuan mengidentifikasi keanekaragaman jenis raptor, menganalisis distribusi spasial, serta memodelkan kesesuaian habitat raptor di KPH Batutegi. Pengumpulan data melalui observasi lapangan yang dikombinasikan dengan data SMART Patrol. Pemodelan kesesuaian habitat menggunakan metode Maximum Entropy (MaxEnt) dengan variabel lingkungan elevasi, suhu, kelembapan, curah hujan, kecepatan angin, indeks vegetasi, tutupan lahan, jarak terhadap sungai, jalan, dan pemukiman. Hasil penelitian menunjukkan 16 jenis raptor dari famili Falconidae, Pandionidae, dan Accipitridae dengan total 99 individu. Indeks keanekaragaman tertinggi di Way Rilau ($H' = 1,77$) dan terendah di Waduk Batutegi ($H' = 1,30$). Indeks kekayaan jenis tertinggi di Way Rilau ($R = 2,22$) dan terendah di Waduk ($R = 1,78$), indeks kemerataan tertinggi di Way Rilau ($E = 0,91$) dan terendah di Waduk ($E = 0,67$). Indeks kesamaan jenis Sørensen menunjukkan kesamaan tertinggi pada Rindingan dan Agroforestri (0,71) dan terendah pada Waduk dan Agroforestri (0,13). Distribusi spasial raptor menunjukkan pola sebaran yang berbeda sesuai preferensi habitat masing-masing spesies. Elang gunung (*Nisaetus alboniger*) lebih banyak ditemukan pada kawasan hutan pegunungan, sedangkan elang tiram (*Pandion haliaetus*) terkonsentrasi di kawasan perairan. Model MaxEnt memiliki tingkat akurasi sangat tinggi dengan nilai AUC 0,992 dan 0,995. Habitat sesuai elang gunung seluas 267,04 ha (15,16%), sedangkan elang tiram 457,48 ha (60,68%). Faktor yang berpengaruh terhadap kesesuaian habitat elang gunung adalah kecepatan angin (33,8%), elevasi (29,4%), dan suhu (11,7%), sedangkan elang tiram dipengaruhi oleh tutupan lahan (50,2%), curah hujan (15,8%), dan jarak terhadap pemukiman (13%).

Kata Kunci: Raptor, KPH Batutegi, Maxent, Habitat, Keanekaragaman Jenis, Kekayaan Jenis, Kemerataan Jenis, Kesamaan Jenis

ABSTRACT

SPATIAL MODELING OF HABITAT SUITABILITY FOR DIURNAL RAPTORS IN THE BATUTEGI FOREST MANAGEMENT UNIT

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*Diurnal raptors are a group of birds of prey that serve as apex predators and bioindicators. The presence of raptors in Batutegi Forest Management Unit (KPH) is under pressure from habitat degradation and deforestation. This study aims to identify raptor species diversity, analyze spatial distribution, and model raptor habitat suitability in the Batutegi KPH. Data were collected through field observations combined with SMART Patrol data. Habitat suitability modeling employed the Maximum Entropy (MaxEnt) method, incorporating environmental variables such as elevation, temperature, humidity, rainfall, wind speed, vegetation indices, land cover, and distance to rivers, roads, and settlements. The results of the study identified 16 raptor species from the families Falconidae, Pandionidae, and Accipitridae, totaling 99 individuals. The highest diversity index was recorded at Way Rilau ($H' = 1.77$) and the lowest at Reservoir ($H' = 1.30$). The highest species richness index was recorded at Way Rilau ($R = 2.22$) and the lowest at the Reservoir ($R = 1.78$); the highest evenness index was at Way Rilau ($E = 0.91$) and the lowest at the Reservoir ($E = 0.67$). The Sørensen species similarity index showed the highest similarity in Rindingan and Agroforestry (0.71) and the lowest in the Reservoir and Agroforestry (0.13). The spatial distribution of raptors showed distinct patterns corresponding to the habitat preferences of each species. Elang gunung (*Nisaetus alboniger*) is more commonly found in mountain forest areas, while elang tiram (*Pandion haliaetus*) is concentrated in aquatic areas. The MaxEnt model demonstrated very high accuracy, with AUC values of 0.992 and 0.995. Suitable habitat for elang gunung covered 267.04 ha (15.16%), while that for elang tiram covered 457.48 ha (60.68%). Factors influencing habitat suitability for elang gunung are wind speed (33.8%), elevation (29.4%), and temperature (11.7%), while elang tiram is influenced by land cover (50.2%), rainfall (15.8%), and distance from settlements (13%).*

Keywords: *Raptors, Batutegi KPH, Maxent, Habitat, Species Diversity, Species Richness, Species Evenness*