

KEANEKARAGAMAN BURUNG DI EKOTON LAHAN PERTANIAN-HUTAN DESA GIRIMULYO, KARANGANYAR, JAWA TENGAH

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INTISARI

Burung memiliki peran penting di ekosistem dengan menyediakan jasa ekosistem yang beragam melalui fungsi ekologisnya. Ekoton merupakan zona transisi ekologis yang bersifat sempit, stokastik, dan tidak stabil yang merupakan campuran dua tipe komunitas homogen yang berbeda. Perubahan kondisi biotik dan abiotik di ekoton lahan pertanian-hutan mempengaruhi komposisi spesies, struktur, dan berbagai proses ekologis di dalamnya. Penelitian ini bertujuan untuk mempelajari keanekaragaman burung di lahan pertanian, hutan, dan ekoton desa Girimulyo, Karanganyar; mempelajari pengaruh struktur vegetasi di lahan pertanian, hutan, dan ekoton terhadap keanekaragaman burung. Pengamatan burung menggunakan metode *point count distance sampling*. Terdapat 20 stasiun pengamatan pada setiap habitat dengan interval 150 m. Pengamatan dilakukan pada pukul 06.00–09.30. Pengamatan struktur vegetasi menggunakan petak ukur berukuran 20 m x 20 m untuk pohon, 5 m x 5 m untuk pancang, dan 1 m x 1 m untuk semai.

Hasil analisis menggunakan software DISTANCE 7.3 *release 1* menunjukkan bahwa densitas burung tertinggi ditemukan di habitat ekoton, yaitu 10,73 individu/ha, diikuti habitat hutan yaitu 7,50 individu/ha, dan terendah di habitat lahan pertanian yaitu 7,26 individu/ha. Kekayaan spesies tertinggi terdapat pada habitat ekoton yaitu 41 spesies, diikuti habitat hutan yaitu 36 spesies, dan terendah pada habitat lahan pertanian yaitu 18 spesies. Secara umum, kemelimpahan vegetasi tertinggi terdapat di habitat ekoton, diikuti habitat hutan, dan terendah di habitat lahan pertanian. Meskipun demikian, habitat ekoton memiliki nilai indeks Shannon-Weaver dan indeks kemerataan yang lebih rendah daripada habitat hutan. Hal ini disebabkan ketidakmerataan di habitat ekoton yang disebabkan oleh adanya satu atau beberapa spesies burung yang mendominasi, sehingga mengurangi tingkat keanekaragaman burung di ekoton. Diperlukan kontrol dan pengawasan terhadap aktivitas pembukaan lahan pertanian dan ekowisata di hutan untuk menjaga keanekaragaman burung.

Kata kunci: Ekoton, indeks kemerataan, indeks Shannon-Weaver, *point count distance sampling*, struktur vegetasi

BIRD DIVERSITY ON AGRICULTURAL LAND-FOREST ECOTONE OF GIRIMULYO, KARANGANYAR, CENTRAL JAVA

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ABSTRACT

Birds have an important role in the ecosystem by providing diverse ecosystem services through their ecological functions. Ecotone is a narrow, stochastic, and unstable ecological transition zone which is a mixture of two different types of homogeneous communities. Changes in biotic and abiotic conditions on agricultural land-forest ecotone affect the species composition, structure, and various ecological processes. This study aims to learn bird diversity in agricultural land, forest, and ecotone in Girimulyo, Karanganyar; learn the influence of vegetation structure on birds diversity. Birdwatching using point count distance sampling methods, 20 observation stations with an interval of 150 m each station. Observation were conducted from 6.00-09.30 a.m. Observation of vegetation using a 20 m x 20 m quadrat plot for tree, 5 m x 5 m for sapling, and 1 m x 1 m for seedling.

The results of the analysis using DISTANCE 7.3 release 1 showed that the highest bird density was found in ecotone, which was 10,73 individuals/ha, followed by forest which was 7,50 individuals/ha, and the lowest in agricultural land that was 7,26 individuals/ha. The highest species richness was found in ecotone, that was 41 species, followed by forest that was 36 species, and the lowest in agricultural land that was 18 species. In general, the abundance of stands were highest on ecotone, followed by forest, and lowest on agricultural land. However, ecotone has a lower Shannon-Weaver index and evenness index value than forest. This shows that there were inequality in ecotone caused by the presence of one or several dominant bird species, thereby reducing the level of bird diversity in the ecotone. Control and supervision of agricultural land and ecotourism activities in the forest are needed to maintain bird diversity.

Key words: Ecotone, evenness index, Shannon-Weaver index, point count distance sampling, vegetation structure