

# Analisis keterkaitan keberadaan sampah dengan kelimpahan relatif berbagai jenis Burung di Muara Gembong, Kabupaten Bekasi = Correlation analysis between waste and relative abundance of various types of Birds in Muara Gembong, Bekasi Regency

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## Abstrak

Muara Gembong merupakan wilayah yang rentan terhadap pencemaran sampah karena letaknya berada di pesisir. Keberadaan sampah tersebut berpotensi mempengaruhi kelimpahan burung karena sampah organik dapat menjadi sumber pakan burung, sementara sampah anorganik dapat menyebabkan perubahan struktur habitat. Penelitian ini bertujuan untuk (1) mengetahui jenis burung yang memiliki kelimpahan tinggi dekat sampah, (2) mengetahui hubungan antara jumlah dan jenis sampah dengan kelimpahan relatif burung, serta (3) mengetahui faktor yang mempengaruhi probabilitas keberadaan burung dekat sampah. Penelitian dilakukan pada bulan Juni 2020 di wilayah Pantai Mekar dan Muara Blacan. Pengamatan burung dilakukan dengan metode jelajah dan kelimpahan relatif setiap jenis burung ditentukan berdasarkan nilai encounter rates. Adapun pendataan dan perhitungan konsentrasi sampah dilakukan berdasarkan protokol yang dikeluarkan oleh NOAA. Dilakukan uji korelasi Spearman antara kelimpahan tiap spesies burung dengan konsentrasi sampah, serta dilakukan Principal Component Analysis (PCA) terhadap kondisi habitat dan karakteristik burung dekat sampah. Hasilnya, bondol jawa (*Lonchura leucogastroides*) dan kuntul besar (*Egretta alba*) merupakan dua spesies yang memiliki kelimpahan tertinggi dekat sampah dengan nilai encounter rates berturut-turut sebesar 39,13 dan 38,89. Selain itu, konsentrasi sampah anorganik berkorelasi negatif dengan kelimpahan relatif raja udang biru (*Alcedo coerulescens*), tekukur biasa (*Streptopelia chinensis*), dan dederuk jawa (*Streptopelia bitorquata*). Adapun berdasarkan analisis PCA, faktor yang mempengaruhi probabilitas keberadaan burung dekat sampah diantaranya yaitu tutupan kanopi (0,952), salinitas (-0,84), jumlah pohon (0,791), foraging habitat (0,782), jenis substrat (0,777), dan tipe habitat (0,749).

Muara Gembong is vulnerable to waste pollution because it is located on the coast. The existence of such waste is potential to affect the bird abundance because organic waste can be a source of bird food, while inorganic waste can cause changes in habitat structure. This study aims to (1) determine the types of birds that have a high abundance near trash, (2) determine the relationship between the amount and types of trash with the relative abundance of birds, and (3) determine the factors that influence the probability of the presence of birds near trash. The study was conducted in June 2020 in Pantai Mekar and Muara Blacan areas. Observation of birds was done using the exploration method and the relative abundance of each species of bird was determined based on the encounter rates. The data collection and calculation of trash concentration was carried out based on the protocol issued by NOAA. The Spearman correlation test was carried out between the abundance of each bird species and the concentration of trash. Principal Component Analysis (PCA) was performed on the habitat conditions and characteristics of birds near the trash. As a result, the Javan munia (*Lonchura leucogastroides*) and Great egret (*Egretta alba*) are the most abundant species near trash with encounter rates of 39.13 and 38.89, respectively. Moreover, the concentration of inorganic waste is negatively correlated with the relative abundance of Cerulean kingfisher (*Alcedo coerulescens*), Spotted dove (*Streptopelia chinensis*), and Sunda collared dove (*Streptopelia*

bitorquata). Based on PCA analysis, factors that influence the probability of birds being near trash include canopy cover (0.952), salinity (-0.84), number of trees (0.791), foraging habitat (0.782), substrate type (0.777), and habitat type (0,749).