

Study on the bird distribution in the University of Tsukuba during the Winter Season A case study done covering south and west parts of the university

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Abstract

University of Tsukuba is one of the green universities in the Japan. It was developed with Tsukuba science city development. Present environment of the university can be seen as greenish in almost possible locations. It is covered with trees, bushes, lakes and many varieties of natural habitats. Occupancy of bird species can be considered as one of the key factors which will indicate the richness level of the environment. Currently it can be seen that the environment which is built as a result of construction of buildings is more synthetic, hence the natural quality of the habitat may not exist, which causes less diversity of birds in the area. It is important to maintain ecological balance in the environment because it leads to the continuous existence of the organisms. It ensures that no particular species is exploited or overused.

The main objective of the study is to identify the distribution diversity of the bird species in the south and west part of the university during the winter season. The study was carried out with initially identifying two trails (transects) within the area. Bird observations were done by two visits per day during morning and afternoon time along the identified trails. GPS locations of the bird observation points were collected with the photograph of the bird. Further bird count was indexed.

Using Arc GIS collected information was mapped and the diversity index of the birds along each trail was calculated using Simpson's Index of Diversity. Results can be used to identify the most diversified trail for the bird habitat by comparing the calculated diversity index of the two trails. Based on the identification it can be concluded that the trail was more suitable for birds' habitats even in winter season. Continuing the study during the other seasons will assist in identifying that bird diversity as an indicator of environmental changes in the area.