World Academy of Science, Engineering and Technology
International Journal of Environmental and Ecological Engineering
Vol:11, No:09, 2017

Impact of Fire on Bird Diversity in Oil Palm Plantation: Case Study in South Sumatra Province

Authors : Yanto Santosa, Windi Sugiharti

Abstract : Fires occur annually in oil palm plantations. The objective of the study was to identify the impact of fire on bird diversity in oil palm plantations. Data of bird diversity were collected using the line transect method. Data were collected from February to March 2017. To estimate species richness, we used the Margalef index, to determine the evenness of species richness between site, we used an Evenness index, and to estimate the similarity of bird communities between different habitat, we used the Sørensen index. The result showed that the number of bird species and species richness in the post burned area was higher than those in unburned area. Different results were found for the Evenness Index, where the value was higher in unburned area that was in post burned area. These results indicate that fires did not decrease bird diversity as alleged by many parties whom stated that fires caused species extinction. Fire trigger the emerging of belowground plant and population of insects as a sources of food for the bird community. This result is consistent with several research findings in the United States and Australia that used controlled fires as one of regional management tools.

Keywords : bird, fire, index of similarity, oil palm, species diversity
Conference Title : ICWERC 2017 : International Conference on Wildlife Ecology, Rehabilitation and Conservation
Conference Location : Paris, France
Conference Dates : September 21-22, 2017

Open Science Index, Environmental and Ecological Engineering Vol:11, No:09, 2017 publications.waset.org/abstracts/79626/pdf