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Influence of Recreational Trails on Tertrapod Vertebrates within the Horton Plains National Park

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Abstract

Influence of recreational trailson tetrapod vertebrates was studied within Horton Plains National Park (HPNP) for a period of one year from December 2017 to November 2018. In order to study quantification of visitor disturbance, three main habitats were identified as cloud forest, aquatic habitats and grasslands. Hundred-meter fixed length line transects were marked along the recreational trails in three selected habitat types. Disturbances were quantified under the categories; road kills, photography, animal feeding, trampling, visitor noise level. Visitor noise were measured using sound meter software (mobile app). Road kills were recorded while walking in transects. Visitor activities were recorded, including photography, trampling and animal feeding under number of disturbances. Amphibians and reptiles road kills were higher compared to other tetrapod road kills during vacation periods. Photography and animal feeding were highly recorded in aquatic habitat. Highest average percentage of disturbances were occurred by trampling in the grasslands of recreational trails. Behavioral response of species to visitor disturbances included avoidance, habituation and attraction. When the visitor noise was between (42±1.75) dB to (57±1.75) dB habituation behavior was displayed. When visitor noise range was in the range of (58±2.88) dB to (83±2.88) dB avoidance behavior was displayed. Results of the present study indicate that visitor disturbance interfered to disturb the tetrapod vertebrates within HPNP. Therefore, visitor activities are interfering the natural behavior of tetrapod vertebrates within HPNP. Therefore, it is advisable to educate the visitors to be vigilant when traversing the recreational trails. Awareness posters should be displayed regarding of reducing noise level and prohibition of trampling in the recreational trails. The results of this study can be used to integrate with the future visitor and park management practices.

Keywords: Visitor disturbance, HPNP, Behavioral response, Tertrapod vertebrates