ESTIMATING THE POPULATION OF THE ENDANGERED ANIMAL (TAPIR) IN PENINSULAR MALAYSIA BY USING RUNGE-KUTTA METHOD AND LEAST SQUARE METHOD

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ABSTRACT

Tapirs are animals we usually hear about extinction. The rate of increase in the number of endangered Tapirs population in every year is much different and the number always remains high. Data for the endangered Tapirs population can be seen in the open data at the latest distribution map from the IUCN Red List and database of the Malaysian Department of Wildlife and National Parks (PERHILITAN). By using this data, estimation endangered Tapirs population for the next year can be implemented. For this project, a mathematical model was used to estimate the data on the number of endangered Tapirs in Peninsular Malaysia. Among the mathematical models used are the Runge-kutta method and least square method. These two method were used to estimate the data and compare by analysing the error of the methods for the purpose of determining which method is the best. Based on this study, it was found that cubic least square method is the best method because it has high accuracy. Then, the total of endangered Tapirs population in Peninsular Malaysia for year 2020 and 2021 was estimated using the best method.

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IN THE NAME OF ALLAH, THE MOST GRACIOUS, THE MOST MERCIFUL

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