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**DISTRIBUTION, ABUNDANCE AND DENSITY OF
IRRAWADDY DOLPHIN (*Orcaella brevirostris*) IN RAJANG RIVER
OF SARAWAK, EAST MALAYSIA**

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ABSTRACT

The Irrawaddy dolphin (*Orcaella brevirostris*) locally known as “empesut” or “pesut” is the most common marine mammal and considered as the flagship species in Sarawak. Their habitats overlap with areas of intensive human activities. A study was conducted in Rajang River from April 2009 to October 2010 using a modified strip-transect boat survey where the river system was divided into two segments: Kuala Rajang-Sarikei (lower segment) and Sarikei-Sibu (upper segment). The main goal of the study is to provide scientific information to be used as a basis to plan conservation management strategies for Irrawaddy dolphins in the Rajang River system. Results of the study revealed that Irrawaddy dolphins were found in both segments of Rajang River but they were not evenly distributed. Higher mean sighting frequency, means the number of individual sighted per survey and sighting rate of Irrawaddy dolphins were recorded at the

lower river segment of Rajang River. Number of individuals recorded in each sighting was highly statistically significant difference between the river segments with higher number individual per sighting recorded at the lower river compared to upper river segment (Mann-Whitney: $U=17,487.0$, $n=240$ and 187 , $p=0.000$).

The farthest sighting was recorded 86 km from the river mouth of Rajang River. Higher probability of sighting of Irrawaddy dolphins were recorded at the lower part of Rajang River with statistically highly significant difference (McNemar: $=38.726$, $df=1$, $p=0.000$). The mean density and abundance values of Irrawaddy dolphins were higher at the lower river segment with abundance, $N=12$, 97.5% CI=5-18; CV=64.8% and Density, $D = 0.20$ animal per km², 97.5% CI= 0.08-0.33 in Kuala Rajang-Sarikei segment. In Sarikei-Sibu segment, $N=2$, 97.5% CI=0-6; CV=76% and $D = 0.10$ animal per km², 97.5% CI= 0.00-0.23. This study has contributed to the understanding of spatial and temporal distributions of Irrawaddy dolphins in both river segments of Rajang River. Data from this study provided should be assessed to ensure that the information can be used for the management and conservation of the species. There are research priorities that are recommended to overcome the knowledge gaps such as diet, threats, home range and applying new research technology for population estimation.

Key words: Irrawaddy dolphin, Distribution, Abundance and Density, Rajang River, Sarawak, Malaysia, Borneo