Proposed title: Genetic diversity of Fraser's dolphin (*Lagenodelphis hosei* Fraser, 1956) in the Philippines: implications to conservation

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ABSTRACT

Marine mammals such as Fraser's dolphin (*Lagenodelphis hosei* Fraser, 1956) play an important role in the ecosystem. They are highly mobile species that exhibit a degree of population structuring despite the lack of visible genetic barriers found in the marine environment. Understanding the population dynamics is fundamental for effective and accurate conservation and management strategies. To the best of our knowledge, information about its population structure in the Philippines is lacking. The only information available is that the population structure of the Philippines has a distinct population. However, their analysis has a limited sample size and sampling points. This does not provide a clear picture that can be used for the conservation and management of the Philippine Fraser's dolphins. This study aims to characterize the genetic diversity of the Fraser's dolphin population in the Philippines. There are at least 22 tissue samples available from the archives of the Philippine Marine Mammal Stranding Network. DNA will be extracted from the tissue samples and amplified using the mtDNA control region and 18 microsatellite loci molecular markers. The mtDNA sequences and the microsatellite genotypes will be analyzed for genetic diversity and population structure. Sequences from other populations globally will be obtained from GenBank for comparison with the Philippine population. Understanding the genetic diversity and structure of a population is critical for a better understanding of its environment and habitat. It can help assess the demographic history and connectivity of the population. It would also provide information useful for defining management units relevant to conservation and policymaking in the Philippines.

Keywords: Fraser's dolphins, genetic diversity, cetaceans, conservation and management, Philippines.