Triangulating Titanic Turtles: Species Distribution Modeling and Habitat Suitability Analysis of the Leatherback Turtle, *Dermochelys coriacea*, in the Philippines

Matthew Louis Rutledge, MSc

Abstract

Within the Philippine archipelago, the spatial ecology of the leatherback sea turtle, *Dermochelys coriacea*, remains poorly understood. Confirmed nesting events have occurred in Cagayan, Bicol, Samar, and Mindanao, while feeding aggregations have been reported in the country's western waters, particularly near Palawan and Mindoro. Historically, sightings, strandings, and bycatch have been recorded across nearly the entire archipelago, but the specific locations and spatiotemporal extents of consistent feeding habitats, nesting areas, and migratory routes in the Philippines have never been comprehensively analyzed. To effectively conserve and manage this highly mobile and critically endangered species, its local habitat characteristics, movements, and distribution must be understood. By combining an extensive review of historical occurrence data, key informant interviews, remotely sensed physical and environmental data, and cluster analysis, species distribution models and habitat suitability analyses will be developed to project suitable nesting and foraging habitats. These models will be ground-truthed through additional analyses and survey efforts, and can be used to inform the design of future research and management for the species in the Philippines. This PhD research will produce the first comprehensive study of the ecology of the leatherback turtle in the Philippines, species distribution models and habitat suitability analyses, and a foundation for future conservation and management of this species in the Philippines.

Keywords: Leatherback, species distribution model, habitat suitability analysis, Philippines