

Aerial survey & satellite tagging of Manta Rays in coastal waters of Northeast Florida

T. Mullican¹, J. Hampp² and J. Tyminski³

¹Georgia Aquarium, USA

²Associated Scientist at Woods Hole, USA

³J. Tyminski, Mote Marine Laboratory, USA

Manta rays occur worldwide in tropical and sub-tropical waters, including the coastal waters of Georgia and Florida. Observations made over the past four years along the northeast Florida coast reveal that the number of manta rays increases in the early spring when sea surface temperatures warm to 20-21 °C (68-70°F) and then decreases with the onset of summer. Aerial surveys performed during the spring and summer for 3 years reveal the majority of manta rays were sighted on the 0.5 nm transect and along the shoreline with few sighted on the 1.5 nm and 2.5 nm transects.

To further study this apparent spring migration of mantas a novel method of satellite tagging mantas from a boat was implemented. Satellite tags tracking geolocation, water temperature and diving depth of 8 mantas demonstrated a preference for vertical habitat in the 2-20m range with a maximum depth of 550m achieved by one manta, representing one of the deepest dives on record for this species.

With the recent inclusion of mantas in CITES Appendix II it is critical to understand the migratory patterns and natural history of mantas in all of the geographical niches they occupy including the coastal waters of Northeast Florida. A summary of survey material and methods and results to date will be presented along with future plans for continued research.

Biography

Vice President of Veterinary Services and Husbandry, Timothy Mullican, DVM, oversees laboratory and clinical support, nutrition services and develops training to maintain the highest quality staff and exhibits at the Georgia Aquarium. He also plays a major role in managing the Aquarium's aquatic animal pathology program in cooperation with the University of Georgia College of Veterinary Medicine. Mullican graduated from the University of Dayton with a bachelor's degree in biology and continued his education at Purdue University, where he received his Doctor of Veterinary Medicine degree. During his time in school, he also studied at the Marine Biological Laboratory in Woods Hole, Massachusetts, to receive his AQUAVET certification. Mullican has more than 20 years of experience in the veterinary field. Mullican worked with the Newport Aquarium in Newport, Kentucky. He started as a Consulting Veterinarian and later became Executive Director, a position he held until 2005. After working for nine years in a clinical veterinary practice, Mullican became President of the Medical Division at Observatory Group, Inc. While at this company, Mullican also became President of Digital Education Publishing. In this position he published custom medical textbooks and created CD-ROMs for medical and scientific audiences.

tmullican@georgiaaquarium.org