

Survivorship and post-released behavior of prohibited sharks captured in the land-based recreational shark fishery

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Worldwide, shark populations have shown drastic declines largely due to overfishing, making the conservation and management of many species a critical need. Specifically, recreational land-based shark fishing has been growing in popularity coast-wide but has suffered some negative setbacks in states where critically endangered sharks are



Students measure a sand tiger shark (*Carcharias taurus*), record data and prepare tags to be deployed.

being targeted and suffer mortality. Although this land-based fishery is largely catch and release, there are many uncertainties related to the survivorship of releasing sharks because some species are highly susceptible to lethal and sub-lethal capture effects and mortality due to the physiological stress of the capturing process.

Dr. Dunton's research will be filling key critical data gaps by examining specific aspects of the unknown recreational land-based shark fishery in New Jersey, utilizing innovative pop-off survival satellite tag technology to evaluate post-release mortality and post-release behavior of released sharks, and using acoustic telemetry to observe long-term coastal movements and migrations. Understanding survivorship, population demographics, as well as migratory pathways within this fishery has direct management and conservation



Dr. Keith Dunton (center) is mounting a survival pop-off archival satellite tag (sPAT) through the dorsal fin of sand tiger shark (*Carcharias taurus*) while students restrain the shark and anglers overlook the process.

implications for this coastal shark fishery, particularly with the management of prohibited species.

Working with recreational anglers to tag and monitor post-release effects and mortality, Dr. Dunton's team is able to evaluate the relative abundance, species, and sex of sharks that are most susceptible to capture and whose populations can be impacted over time.

In regard to the future of the project, the next steps are to continue to analyze the collected data. The acoustic tags used in this project are long-term transmitters and have an estimated tag life of 10 years. This means these animals can be continually tracked over that time along the entire coast. Dr. Dunton is currently working with other shark researchers in the region to examine coast-wide movements. While this project focused on sub-adults and adult sharks he is hoping to also explore shark nursery areas in New Jersey.