

FIELD NOTES

RESEARCHER: *Lukas Müller*
PhD Candidate, Wageningen University

STUDY SPECIES: *Great Hammerhead Shark*
STUDY LOCATION: *South Bimini, The Bahamas*



Lukas Müller

BACKGROUND:

When I was 5 years old, I saw a Spanish fisherman kill a shark. At 18, I decided to do an internship with great white sharks to reconnect with my childhood curiosity about sharks. Today, I study Marine Resource Management and try to spend as much time as possible face-to-face with the animals that I now know as some of the most charismatic creatures of the sea, and not the monsters that we've made them out to be.

OBJECTIVES:

The great hammerhead shark is classified as "endangered" by the IUCN. As a highly mobile predator, it has been shown to travel long distances, crossing international territories. Great hammerheads are naturally low in abundance and a very elusive study subject. However, South Bimini is a hotspot for great hammerheads and offers the opportunity to tackle research questions about these amazing creatures.

KEY RESEARCH QUESTIONS:

- How do great hammerheads use coastal and pelagic habitat?
- How do they use the water column to forage, feed, and travel?
- To which regions in The Bahamas and along the US East Coast are great hammerhead sharks migrating?
- How does temperature influence habitat use?



Lukas and a great hammerhead shark.
Photo by William Winram

APPROACH:

We used High Rate and Standard Rate X-Tags to track horizontal movements, vertical movements, and temperature use. The great hammerhead is one of the most agile and fastest shark species, capable of performing incredibly sharp turns. Therefore, we required a tag that would not only record the data we need, but would also withstand the swimming behavior of these animals. The tags were deployed using freediving and a tagging gun, as well as modified fishing methods to minimize the impact on sharks. Especially when placing tags using a tagging gun while underwater the tag needs to be reliable and rugged.