



Cocos Island Trip Report

April 3-13, 2019

Underwater Visibility: Mostly good (0-90 feet)

Water Temperatures: Warm (surface temperature 82°F, coldest recorded temperature 79°F with no thermocline)

Currents: Calm - warm and sunny

In April, a crew of volunteer divers, marine biologists, scientists, and dive masters joined Turtle Island Restoration Network (TIRN) on one of the organization's yearly research expedition to Cocos Island National Park, located 350 miles off the coast of Costa Rica.

During the 10-day trip, expedition participants helped TIRN accomplish a number of important objectives:

Download Acoustic Receivers

All eight receivers were recovered and data downloaded including a new site at Shark Fin Rock at the south end of the island, and a replacement receiver for a lost receiver at Ulloa at the northeast end of the island. A total of 247,101 detections were recorded between December 2018 - April 2019, but this number is likely to reduce significantly once further analysis is complete and transmitters that may have fallen off near a receiver are subtracted.

Acoustic Shark Tagging Underwater on Scuba

Five hammerhead sharks were tagged at cleaning stations at Dirty Rock, a small islet on the west side of the island.

Biopsy Samples

Nine white tip reef sharks and five marbled rays muscle tissue biopsies using spear poles on scuba were taken for genetic analysis. In addition, one sample each of a coral and barnacle were also collected.

Video Transects

Four video transects (two at Dirty Rock and one at Manuelita Out and Dos Amigos) were taken to quantify space-time distribution patterns of large predators associated with Cocos Island reefs.

Survey for Sea Turtles at Dive Sites

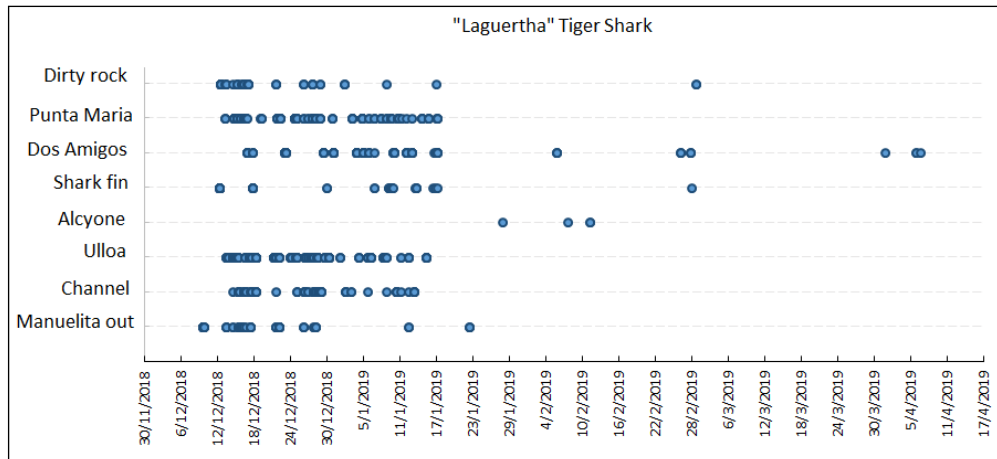
Sea turtles were searched for on all 21 dives. Only one hawksbill juvenile turtle was seen at Ulloa.

Tiger Shark Presence

Only one definite sighting of a juvenile tiger shark at the Coral Garden was corroborated by photo-documentation, though a few other possible sightings were made around Manuelita. The large tiger shark tagged with an acoustic transmitter in December was present at Cocos up until three days before we arrived. It had apparently



moved from her preferred habitat around Manuelita at the north end of Cocos, down to the southern dive sites before moving out of range.



Illegal Fishing Vessel

An apparent illegal fishing vessel was sighted ~1 mile south of Shark Fin Rock. As we headed it toward it, the vessel began moving away from us. The incident was reported to Cocos Island rangers.

Unusual Sighting

A baby sea lion was sighted on land in a cove between Chattham and Wafer Bay. Galapagos sea lions are recorded as a rare occurrence at Cocos, and this is the first individual seen by expedition leader Todd Steiner in his 27 expeditions to Cocos (2007-present). The animal seemed quite young and was possibly still weaning, yet no adult was seen.

Shark and Ray Counts

Eleven shark and ray counts were completed.

Research Expedition Participants:

- Mark Stabb, DiveMaster, Turtle Island Scientific Advisor, PhD Engineering*
- Todd Steiner, Turtle Island Executive Director, MS Biology*
- Elpis Joan, Turtle Island Cocos Permit Coordinator, MS Biology*
- GP Schmahl, Superintendent Flower Garden Banks National Marine Sanctuary, MS Marine Biology*
- Julia Janacki, Turtle Island scholarship recipient, MS Biology*
- Brock Cahill, founder Sea Change Agency, underwater filmmaker, BA*
- Deborah Kearney, Trip Sponsor/Organizer, citizen scientist volunteer
- Sarah Gardner, Vet Technician, BA Marine Science
- Bill Whitmarsh, Dive Trainer, PhD Engineering Hughes ED,
- Pooja Srivastava, Turtle Island Volunteer Diver, Senior Manager Deloitte, BE Electronics
- Laura Kelleher, DiveMaster, citizen scientist volunteer
- Karen Drete, citizen scientist volunteer
- Kirk Gardner, pilot, citizen scientist volunteer
- Brian Chadwick, citizen scientist volunteer
- David Stoll, citizen scientist volunteer
- Kim Jackson, citizen scientist volunteer
- Tom Warshaw, Rescue and research diver, citizen scientist volunteer
- Felipe Chacon Rodriguez, UnderSea Hunter dive master
- Roy Mora Cordoba, UnderSea Hunter dive master
- Shtefan Glezer, UnderSea Hunter dive master
- Merlin Aguierra Ruiz, UnderSea Hunter dive master
- The entire UnderSea Hunter crew

If you are interested in joining our research, visit our website at www.seaturtles.org/cocos or email Todd Steiner, trip leader and executive director, at tsteiner@seaturtles.org.