

## Sea Turtle Field Research Protocol

### Overview

Students will participate in an ongoing turtle monitoring program run by Grupo Tortuguero. Sea turtles have been monitored by community scientists in Bahía since 1980 (Antonio Resendiz and Co. but the community began to be more involved around 1998-2000). Ocean Discovery Institute has been involved in sea turtle research since 2004.

Bahía de los Ángeles is a small-scale coastal gillnet fishery. Coastal gillnet fisheries are one of the most common forms of fishing throughout the world. A gillnet is a wall of netting that hangs in the water column, typically made of monofilament. Mesh sizes of the gillnet are designed to allow fish to get their head through but not their body. The fish's gills then get caught in the mesh as the fish tries to back out of the net. Unfortunately, this type of fishing has high rates of bycatch (shark spp., turtle spp., fish spp., etc.). Bycatch is when other marine species, which aren't the fisherman's target species, are caught in the gillnets.

Sea turtles are one species that have been subject to bycatch over the years. Turtles need to come to the surface every few minutes to breathe, but when they get caught in gillnets, they are unable to surface and can die.

In the past, Ocean Discovery has worked with several scientists to study ways to reduce sea turtle bycatch from gillnet fishing, including the use of sensory-based deterrents. Sensory-based deterrents attempt to help an animal use its senses (sight, hearing, smell, taste, or touch) to locate a net and be able to avoid it. Ocean Discovery students and their scientist mentors have tested visual deterrents (attaching shark shapes – a natural predator of sea turtles and lights to nets so animals can see them) and acoustic deterrents (attaching speakers to nets so animals can hear them). These types of sensory deterrents were all effective in reducing the number of sea turtles caught.

### Research Protocol

*\*During net checks, sometimes students and adults are able to check the nets with the fishermen.*

- *An Ocean Discovery adult/mentor must accompany any student.*
- *All students and adults must wear a life jacket while checking nets.*

### Data Collection

*\*Students will rotate through these three jobs. Field Research Manager/Team Leads will try to rotate students so that each group gets to experience each job with a minimum of one sea turtle.*

#### Sea Turtles

- When fishermen arrive back from nets help unload turtles from the boat.

#### Data Collection:

##### **1. Morphometrics**

- Maximum number of people around a turtle is FOUR (including one Grupo Tortuguero person).
- Assign roles:
  - Turtle Intake Card:
    - Records information on laminated card provided by Grupo Tortuguero.
    - See example Turtle Intake Card below.
  - Photographer:
    - Takes photos of:
      - Completed Turtle Intake Card near head of turtle
      - Overhead shot of turtle with the completed Turtle Intake Card visible.
  - Morphometrics helper:
    - If Grupo Tortuguero volunteer feels it is appropriate, students may help take some measurements.
    - Emphasize the importance of precise measurements.
  - Materials person:
    - Hands supplies over as needed.
    - Stands to the back of the group.

## 2. Data Collection

- Data Recorders (all students but two) work alongside a Grupo Tortuguero volunteer to record morphometric data.
  - Each student receives a clipboard, pencil and “Ocean Discovery Sea Turtle Morphometrics” data sheet.
  - Record measurements from Morphometrics team.
    - All students are recording the same data.
    - Collect completed datasheets.
  - Grupo Tortuguero volunteer records on a separate data sheet for Grupo Tortuguero data collection.
- Capture/Recapture persons (2) – (stands to the back of the group) - checks turtle tag number for whether this turtle has been captured before and shares data with the group.
  - Set up map of Baja (pin to posterboard and set on the easel).
  - If data is available show past locations of turtle using map and pins.

## 3. Barnacle Removal

- Students will help clean barnacles off turtles.

## Sea Turtle Release

- When all turtles have been measured help release them back to the ocean by way of the beach.
- Make this a big deal – these sea turtles have helped us learn more about sea turtles in general.