Fisheries Field Research Protocol

Overview

Students will be building on prior research done by Ocean Discovery Institute, looking at how visual deterrents (shark shapes, lights) can be used to reduce bycatch, but not target species catch rate, in Bahia's coastal gill net fishery. All prior research was conducted on gill nets, however, much of summer fishing in Bahía de los Àngeles is done with traps and students will expand on previous research by looking at how visual deterrents work on traps. The goal is for students to determine if the use of a visual deterrent (lights) on traps would reduce the amount of bycatch (puffer fish and small manta rays) while not impacting the fisherman's target catch in traps (octopus, trigger fish, and sea bass).

Research Protocol

*Research will take place on Hector's boat. Students will transfer from their boat to Hectors boat on the water. Research will take place under the guidance of Hector and the Community Relations Manager.

Data Collection (on Hector's Boat)

- Community Relations Manager/Hector describe how traps were set.
    - Include: Flagging tape to distinguish between experimental and control.
        - Experimental has flagging tape.

- Assign roles to students:
    - Trap puller: Wears gloves and helps Hector pull the trap in.
    - Data recorder: Listens to the species name and makes a tick mark on the datasheet for each one collected. Has clipboard with datasheet and pencil.
    - Fish handlers: Unload the trap and says the species name of each fish (helped by Hector) to be recorded by data recorder.

- Review Echo Data Recording:
    - The fish handler says the species of fish and the data recorder repeats the species back and records it on the datasheet.

- Pull Trap

- Fish Data:
    - Collect data using "Echo Data Recording."
        - **One data sheet will be used by all groups!**
    - Fish handlers should place target species in buckets and release bycatch species.

Data Collection (not on Hector's boat)

- Record observations and questions in science notebook.

Be sure the last group takes the datasheets and gives them to the Field Research Manager!

Potential questions to ask students throughout the data collection process:

- What observations/questions do you have?
- Which do you think are the experimental traps? Control? Why?
- Why do you think collecting fisheries data like this is important? How does it make a difference?
- Do you feel like you are doing science right now? Why or why not?

Data Sheet

Intro to Research

Fisheries Data Sheet

Names:	
Location:	**Date:**

Control Traps		
Species Name	**Bycatch or Target**	**Number Counted**
	☐ Bycatch ☐ Target	
	☐ Bycatch ☐ Target	
	☐ Bycatch ☐ Target	
	☐ Bycatch ☐ Target	
	☐ Bycatch ☐ Target	
	☐ Bycatch ☐ Target	
	☐ Bycatch ☐ Target	
	☐ Bycatch ☐ Target	
	☐ Bycatch ☐ Target	

Experimental Traps		
Species Name	**Bycatch or Target**	**Number Counted**
	☐ Bycatch ☐ Target	
	☐ Bycatch ☐ Target	
	☐ Bycatch ☐ Target	
	☐ Bycatch ☐ Target	
	☐ Bycatch ☐ Target	
	☐ Bycatch ☐ Target	
	☐ Bycatch ☐ Target	
	☐ Bycatch ☐ Target	
	☐ Bycatch ☐ Target	
	☐ Bycatch ☐ Target	