Wetlands Field Research Protocol

Overview

Wetlands are areas of land that are wet and inundated by water, at least sometimes. The wetlands we will be studying are formed mainly by the saltwater that the tides bring into lowland areas. Wetlands provide many important functions, which include wildlife habitat, plant production and growth, stopover sites for migratory birds, water treatment, air purification, erosion prevention, and flood control. Before Ocean Discovery began in 2004, no previous studies on wetlands in BLA had been conducted. Since then, monitoring efforts have occurred in five wetlands (El Rincon, Coronado, Punta Arena, La Gringa, and Las Animas). This work helped lead to the area's designation as a Biosphere Reserve in 2017.

Wetlands are areas of land that are wet and sometimes covered with water. Due to small changes in elevation, some areas of the wetland are wetter (lowlands) and some are drier (uplands).

Research Question: Does the amount of water affect plants and animals?
Investigation: Collect plant and animal data along a transect that runs from the uplands (drier) down to the lowlands (wetter). Students will be assigned to collect data on plants or animals.

Research Protocol

***Mentors will be in charge of collecting data with a small group of students**. Data collection methods will be reviewed by the Team Lead before releasing groups to collect data.

Hypotheses:

Plant Group

- If the amount of water impacts plants, then we will see a change in the types and amounts of plants as we move from the uplands (drier) to the lowlands (wetter).

Animal Group

- If the amount of water impacts animals, then we will see a change in the types and amounts of animals as we move from the uplands (drier) to the lowlands (wetter).

Data Collection

- Two groups of students will be assigned an area to lay their transect tape.
    - One group will work on one side of the transect tape, and another group will work on the other side.

- From the starting point, have one student hold the end of the transect tape and another student walk towards the lowlands (water) while unrolling the transect tape 100m and then lay it down on the ground as flat as you can.
    - Be sure you are running your transect tape parallel to other groups.

- Place your first quadrat and collect data at 50m along the transect tape.
    - Plant Group Data Collection:
        - For each quadrat take the below plant measurements*:
            - % cover *Batis maritima*
            - % cover *Distichlis spicata*
            - % cover *Sarcocornia pacifica*
            - % open space

              *Should equal ~100%

    - Animal Group Data Collection:
        - For each quadrat, take the below epifauna measurements, be sure to move the plants aside gently to see the ground:
        - Capture and count anything moving quickly out of the quadrat (i.e., crabs).
            - # of Horn snails (*Cerithidea mazatlanica)*
            - # of Fiddler Crabs (*Uca crenulate*)
            - # of other crabs
            - # of other snails

- All Groups
    - Continue to collect data every 50m along the transect tape (50, 100, 150, etc.)
    - When you run out of transect tape, pick up the tape from the end and have another student walk it out the next 100m and continue collecting data.
    - Repeat until you reach the waterline.

Data Sheet

Wetlands Data Sheet: PLANTS

Names:	**Date:**
	Air Temp:

Measurement	**50m**	**100m**	**150m**	**200m**	**250 m**
% cover *Batis maritima*					
% cover *Distichlis spicata*					
% cover *Sarcocornia pacifica*					
% open space					

Measurement	**300m**	**350m**	**400m**	**450m**	**500m**
% cover *Batis maritima*					
% cover *Distichlis spicata*					
% cover *Sarcocornia pacifica*					
% open space					