COPR: Bird Walk

Next Generation Science Standards

2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats. [Clarification Statement: Emphasis is on the diversity of living things in each of a variety of different habitats.] [Assessment Boundary: Assessment does not include specific animal and plant names in specific habitats.]

3-LS4-2. Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing. [Clarification Statement: Examples of cause and effect relationships could be plants that have larger thorns than other plants may be less likely to be eaten by predators; and, animals that have better camouflage coloration than other animals may be more likely to survive and therefore more likely to leave offspring.]

3-LS4-3. Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all. [Clarification Statement: Examples of evidence could include needs and characteristics of the organisms and habitats involved. The organisms and their habitat make up a system in which the parts depend on each other.]

4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. [Clarification Statement: Examples of structures could include thorns, stems, roots, colored petals, heart, stomach, lung, brain, and skin.] [Assessment Boundary: Assessment is limited to macroscopic structures within plant and animal systems.]

Lesson Plan: The Threatened Western Snowy Plover and Other Shorebirds

Objective: Students will learn about the life cycle of the Snowy Plover, why it is considered threatened, as well as the implications of a species being declared as "threatened." Students will learn about the Western Snowy Plover's habitat and habitat loss on the California coast. Students will gain experience with binoculars to locate and identify several other local shorebirds.

Materials: KIN Journals, Binoculars, Beach blanket or sheet

Preparation: Prior to the student's arrival, walk down the beach and locate the nesting plovers and any other points of interest. Spread out a blanket or sheet on the beach. The purpose of the sheet is to keep sand off of the fragile binoculars.

Introduction: First, gather around the blanket to discuss the general concepts of the lesson. Ask if anyone might know what threatened, endangered, or extinct means. Emphasize that **extinction** means the end of a species, **endangered** means that a species may go extinct, and that **threatened** means that a species may soon be endangered. The Western Snowy Plover (*Charadrius alexandrinus nivosas*) was declared threatened under the Endangered Species Act, which is a law. Sands Beach, at Coal Oil Point Reserve, is designated as "Critical Habitat" for the Western Snowy Plovers, which have suffered a population decline due to loss of dune habitat along the Pacific coast.

Discuss in more detail the habitat of the Western Snowy Plover. (pg of the KIN Journal) Western Snowy Plovers build their **scrapes** under the protection of dunes, vegetation, or driftwood near the ocean or nearby streams and ponds. They feed on insects and other beach **invertebrates** in the intertidal area or in beach **wrack**. (Note: This introduction can take place around the blanket, walking down the beach, or at the Plover nesting area depending on time limitations.)

The students should have already received a short lesson on using the binoculars, but a short review and a little practice may be necessary as well as a special caution to keep the equipment free of sand. (Note: hand out binoculars after the introduction discussion to avoid distraction.)

Procedure: With binoculars ready, take a walk down the beach searching for various shorebirds as you move toward the Plover nesting area. Assist the students with locating and identifying any shorebirds that are present. Ask them to refer to pgs in their KIN Journal for identification and to mark on the checklist any that they see.

Conclusion: Let the students explore the beach with their binoculars on the way back taking caution to put them away properly back on the blanket.