

# Bay to Dunes South Spit

## Classroom Presentation Script

1. Tomorrow we are going on a field trip with Friends of the Dunes. I have a lot of cool pictures to show you to prepare us for the field trip, but in order for me to get through all of my pictures I need everyone to save their questions and comments until the end. I might ask you some questions, and if you think you have the answer please raise your hand.
2. This is a map of the Humboldt Bay Area. Tomorrow you will be visiting this long skinny strip of land called the South Spit. (Point out where your school is, and trace the route to the south spit)
3. Here is a photograph of what the map showed us. This is the South Spit, it is in between 2 big bodies of water. Can anyone name this big body of water out here? (Pacific ocean). What about this body of water that is surrounded by land? (Humboldt Bay). Since our field trip is on a *peninsula*, we will get to visit both the ocean and the bay in one day!
4. Tomorrow our bus (or vehicles) will arrive at the South Spit, and we will be greeted by your field trip guides.
5. We will split up into smaller groups, and half of us will explore the dunes while the other half explores the bay.
6. We will come back to the bus for lunch. After lunch and then the groups will switch sides, so everyone gets to see and do everything.
7. We will come back to the bus for lunch. After lunch and then the groups will switch sides, so everyone gets to see and do everything.
8. The Humboldt Bay has been a really important place for people for a very long time. Does anyone know what group of people lived around the bay long before any settlers arrived? (The Wiyot people). Here is a map showing the ancestral Wiyot territory, which is the area surrounding the bay. (If you feel comfortable doing so, you can talk more about the Wiyot people...there is some information on our website under "Nature and Science")
9. Humboldt Bay is still a very important place for people. Can anyone name a way in which we use the bay today? (Fishing, dock boats, research, recreation)
10. Besides being important for people, the bay and the saltwater marshes surrounding the bay are very important *habitats* for plants and animals. What is a *habitat*? (A home) Here is a picture of the bay at high tide, and these kids are standing in the saltwater marsh habitat. (If necessary, discuss with students what a marsh is... it's a wetland, which means the ground is saturated with water).
11. There are a lot of cool plants in the saltmarsh, and they all use saltwater instead of freshwater. What would happen if you watered your house plants or garden plants with salt water? (They would die) **This plant is called pickleweed**, and it has a special adaptation for dealing with salt water. *An adaptation is something special about a plant or animal that helps it survive in it's habitat.* Pickleweed puts the salt into the tip of the plant, then the tip falls off, and that is how it gets rid of salt. Pickleweed is also edible. How do you think pickleweed might taste? (Salty). If it's OK with your guides, chaperones and teachers, you can take a taste of pickleweed tomorrow.
12. This is another saltmarsh plant called the **saltmarsh birds beak**. This plant is rare, that means there aren't many of them left. So if we see one on our field trip tomorrow, you should be careful not to step on it.

13. Here is a picture of the bay at low tide. Where did all the water go? (to the Ocean) What causes the tides? (the gravitational pull of the moon) At low tide another habitat is exposed, it is called the mudflats. What kind of animals do you think we might find in mudflats? (crabs, clams, worms, insects, etc)
14. **Here is a gaper clam**, which lives in the bay mud. This dime is there just to show you how big it is. Clam's have some pretty cool adaptations for living in the mud. They have a big strong muscle called a foot to help them dig down under the mud. Why would a clam want to be under the mud instead of on top of it? (To hide from predators, to avoid drying out). They also have a built in straw called a siphon. When they are under the mud they stick this siphon out of the mud into the bay water and they suck in water to eat all the tiny creatures that live in the bay. This is called filter feeding, because they are filtering out the food from the water. Any ideas what tiny creatures they might be eating? (plankton).
15. **Here is a purple shore crab**. Do you think we should pick up crabs on our field trip tomorrow? (No) Why not? (Crab could pinch you AND you could hurt the crab). This goes for any animal we see tomorrow, you shouldn't pick up anything living unless your guide says that it's ok.
16. We will also get a chance to do some bird watching tomorrow. **This is a Marbled Godwit** feeding during low tide. Birds love the salt marsh! Why do you think that is? (Food-clams, worms, fish, insects). There is a ton of good stuff for birds to eat in the bay!
17. During certain times of the year there are also seasonal freshwater ponds out on the South Spit. What time of the year do you think these ponds will form? (Rainy season, winter/spring) This is a great place for animals to find freshwater, and for water-loving plants to grow.
18. When these seasonal ponds are present we are more likely to find animals that depend on freshwater, like frogs.
19. We just talked about the saltwater marsh, which were on Humboldt Bay side of the peninsula. Now we are going to head over to the Pacific Ocean side, where the dunes are.
20. Can anyone tell me what a dune is? (A hill made of sand) What made these ripples in the sand? (wind). Wind is a very important part of the dune habitat, in fact wind is what makes the dunes by moving sand to form these big hills.
21. The open dunes are a great place to look for animal tracks. There are lots of animals we won't see because they sleep during the day and are active at night, what's that called? (Nocturnal) But we will find signs of animals. Let's practice now. What animal might have made these tracks? Its feet look like a dog, but the tracks make a straight line because this animal walks in its own footprints to save energy (Fox).
22. We might also find other signs that animals have been around. This is some scat (scat is the scientific word for poop). What kind of animal left them behind? (Brush Rabbit)
23. Another dune habitat we will visit is the foredunes, the dunes closest to the beach. There are over 40 plant species that live in the dunes. The plants in this picture are all native. What does that mean? (This is their natural habitat).
24. The native plants are important for many animals. **Here is a bumble bee on a beach buckwheat flower**. The bee is also important for the flowers. Does anyone know how this bee is helping the flower? (It is pollinating the flower)
25. Some animals need the plants for shelter. Here is a **garter snake** slithering through yellow sand verbena and wild strawberry, two native plants.
26. This is a very special native plant called the **Humboldt Bay Wallflower**. The only place in the whole world this plant grows is in our dunes around the Humboldt Bay. This plant is

endangered. If something happens to its habitat, what will happen to the plant? (It will go extinct).

27. Native dune plants are threatened by invasive plants, which are plants that were brought here by people and take over the habitat. **This is iceplant**, which was brought from Africa in the ballast of boats a long time ago. Ballast is something you put in the bottom of a boat to make it more stable in the water. Once the boats got here, they didn't need the ballast anymore, so they dumped it out. Then the iceplant started to grow and took over. It grows like a carpet out on the dunes and pushes out native plants.
28. **This is European beachgrass** aka *Ammophila*. Can you see any other plants growing here? European beachgrass pushes out the native plants, and it also holds the sand in place so it can't move. It was brought here on purpose to help stabilize the dunes. About 100 years ago people were building railroad tracks to move the big logs they were cutting down from the forest to the mills out on the peninsula. Near the dunes, sand kept blowing onto the railroad tracks, so the railroad company planted beachgrass to hold the sand in place. Now we don't use the railroad tracks anymore, but the beachgrass is still going strong, and it takes over the habitat so no other plants can grow.
29. Tomorrow on our field trip, you will become restorationists. Restoration means we are trying to restore something to its original state. In this case we will be removing beachgrass so that the native plants can move back into the habitat. You might notice the really long roots. It's really important to pull out the roots, so we may have a competition to see who can pull out the longest root.
30. After the beachgrass is removed, then the native plants can move back into the habitat and make the dunes healthy again. Here is a picture of a dune that has been restored.
31. The last habitat we will visit is the beach, where we will have some free time to explore and play.
32. While we're there you can collect shells or build sand sculptures if you want. But, we will leave all the shells we collect behind when we go back, and take nothing with us.
33. On the field trip tomorrow, the number one rule is to have fun! In order to have fun, here are some things you should remember so you will be prepared for your field trip. (Go over things to remember on the list on the screen). Are there any questions about your field trip tomorrow?