Mudflat Exploration at Candlestick Point State Recreation Area

Hi my name, as you already know, is Ranger Ron Garrison, and this is Candlestick Point State Recreation Area. This park has been here since 1979, which is long before any of you guys were born. Probably, maybe some of your parents, they were little kids at the time. We do this program every year, and what we try to do is bring you out here to go out into the mud flats on a low minus tide. You know what a minus tide is?

STUDENT: Low tide.

RON: Yeah, low tide when the water goes all the way out. This is an extreme low tide, so we can go out and see some of the animals that are out there in the mud. And what I brought were a couple of these things here. They’re like magnifying glasses, but we’ll just put the insects or the animals inside this and you can look at it. What I want you to do is pretty much stay together down there and then after awhile maybe I’ll let you go off and you can see some of the other things that are in the rocks out there, some of the crabs that are out there.

One of the things I want you to know, and I tell all the classes when they come out here, is we’re going into somebody else’s house, which means that we have to have respect for their house, like you would want somebody to have respect for your house. So everything that is alive we put back in the water. I know some of you guys may have aquariums at home that you think you can bring some of these crabs home. Well this is saltwater, and I’m sure you guys probably have freshwater aquariums at home and they would die. Before they get there they would die, but even if they made it to your house they’d die because it’s a totally different environment.

So when we go down there some of the things we’ll be looking at—we’ll be looking for crabs, we’ll be looking for pile worms, and we’ll also be looking for ghost shrimp out here. The ghost shrimp are probably this big and they have a real big claw. Some of the things I’ll show you will be how these animals protect themselves against predators, and their predators are fish. And anybody know what the most sensitive part of a fish is?

STUDENT: Gills?

RON: No.

STUDENT: Fins?
RON: No.

STUDENT: Mouth?

RON: The mouth. The mouth is the most sensitive part of a fish. So in order for these small animals to protect themselves from predators they have pinchers. What they try to do is pinch the fish on his lip, and the fish goes a little crazy and then they take off. They get a chance to escape. Not all the time do they bite them on the lip, they wind up getting bitten. They wind up becoming fish food. So what we'll do now is we'll go down here to the water.

Don’t venture out too far, especially the adults. Don’t venture out too far because the mud is really unforgiving. It’s a mud version of quicksand, so the more body mass you have out there the faster, you’re going to go down. I’m not going out too far myself, but these kids are so light that they can walk on it and not have any problems. But if they stand in one area long enough and shake it up, it just gets this whole liquid thing going and next thing you know they’re starting to sink.

Okay, so somebody carry this down, and we'll start heading down towards the mud. You can leave everything here. The only thing we’ll bring down is this basket. You can leave all your stuff up here and nobody’s going to take it.

STUDENT: Do you have those type of clams that have that long thing?

RON: Oh yeah, the gooseneck clams? There may be a few here.

You won’t sink over here. See this is still hard. Wait, we’ll gather everybody up over here first. Okay, see these things around here, these little holes? Sometimes, they’re air holes for some of the clams and the other animals that are out here. You guys can walk around here. Look under some of these rocks here; see if you see worms.

You can turn over some of these rocks and I’ll dig over here and see what I can find. Whoa, wait a minute. How lucky did we get? Check this out.

Here we go. We just found something that we normally don’t find. You guys must be good luck to me. Okay, this is what I was telling you up there is a ghost shrimp, and it usually goes from a pinkish color to a white color. That’s why they call it ghost shrimp.

What they usually do, they burrow down into the ground and then they go to the side and they keep a little hole so they can feed on it. How do they defend themselves? You see that claw right there. That’s how he bites the lips of fish.

STUDENT: What is that? A lobster?

RON: No, it’s a ghost shrimp. Yeah, put that on top and look at it.

Oh, here we go. They call this a pile worm. This is one of the main sources of food for the fish out here. They come out here, and they go after these. Okay, one thing I want to tell you about this is this is like a centipede. If you look at it, it’s almost like a centipede from all the
little legs it has on it. The way it defends itself is that it pushes blood up through its body and if you look real close I'll show you what it does when it does push the blood. You see these little hooks that come out? Watch. There he is, he's trying to bite me. That's what he does to the fish, he bites them on the lip.

Hey, come here. Have you seen the shrimp? Look at the little claws in there. That's how he defends himself against fish.

Let me see if we can—oh, look at that. Oh, there's another one. That's a bigger one. Show them that one. That's a bigger one. Here let me have this one out. We'll let him go back. We got a bigger one. Here you can hold this. Show that to them. See how he backs up? That's how he digs his way back into the hole. His tail actually pushes all the sand out of the way.

STUDENT: Look what I found. A crab.

RON: Oh, that's a baby. This spot is hot.

STUDENT: Are we good luck or something?

RON: Yeah, you guys are good luck. Hey, has everyone seen the pile worm? Boys, we're going to go over here to the rocks, and we'll look for some crabs.

You know what I want you to do for me right now? We're going to go onto the rocks, and I want you to pull over some of these rocks. I want you to find me the smallest crab. Who can find the smallest crab? I mean the smallest crab. Okay. Charge!

I want the smallest and the biggest crab. Naw, there's bigger than that. That's small but there's smaller than that, too.

Come on, show me where the smallest crab. Let's get the smallest. The smallest? That's too big. We're looking for the smallest. Hey guys show me a real big one. If you're going to show me a big one—A BIGONE.

STUDENT: How about one of these?

RON: Naw, they're average. Now that's a small crab. That is the smallest crab.

STUDENT: They look like tarantulas.

RON: Yeah, you see how they raise up like that? You know what? They're afraid that you're a predator. They battle each other and they battle until they take a claw off. Okay, but you know what? You see all these barnacles on here? That's how you grab them. Naw, he's not going to fit in there. They can't get that arm all the way around there. Another hermit. Let's see. It's yours? Oh, that's a small one. Yeah you're right. That is awful small.

STUDENT: Is this where we started?

RON: Yep, this is the beginning. Okay, it's time to get washed up. Let's go.
STUDENT: He found a worm that was stuck to a rock. It squirted water out of its mouth or something.

RON: Yeah, because what it does is when the water is at low tide, these worms are used to living in water, so what they do is they take water in their system until the tide comes back, so they don’t dry out.


Oh yeah, the worms. You’re my man, though. You did it bro. Give me five. You did it. So what did we find down there today?

STUDENTS: Crabs.

RON: That’s one thing. What else did we find? Some worms. Well, what did we find when we first got down there? Remember I told you some of the animals that we would find? What was the first thing that we found? A shrimp. That’s right we found a ghost shrimp down there. We found two different sizes, and we saw how they battle each other and how the claws help defend them against fish. We also saw the worms with the little pinchers on them. So we found everything. And because you guys were good out there and helped find all the animals, I have a present for you. You guys are now all Junior Rangers. So each one of you gets a badge. Here everybody gets one of these.

STUDENT: Hey I want to get one of your badges.

RON: You have to go to school to get my badge. Long time. Here you get to pin on a junior ranger badge. Okay, well thank you very much for coming out.

STUDENTS: Thank you, Ranger Garrison.