California State Parks

Video Transcript

Elephant Seals: A Link to the Ocean World at Año Nuevo State Reserve

We're entering a really special area. We're at Año Nuevo State Reserve, entering the domain of the elephant seals. We are visitors here—just visiting. It's their home. Año Nuevo is so special that it is a State Reserve, and that gives it very special status in that it's the most restrictive in terms of protecting the habitat and the wildlife that's here (as compared to a state recreation area or a state beach where the purpose is also for recreation and beach access, etc.). So really a special place. People come from all over the world to Año Nuevo to see the elephant seals. This is our chance to learn about them and learn about the habitat and the ocean, too. The elephant seals can teach us a lot about what goes on out at sea.

We're at Año Nuevo State Reserve, and this is the equal access trailhead. It's a very special trail that allows access for disabled individuals to be able, in chairs, to come down along the boardwalk and see the elephant seals. We have a van that's equipped for access, and it can come right out to this area. We go down the boardwalk, and there's a harem at the end of the boardwalk where we have females and pups, and usually quite a few bulls along the way that sometimes seal off the trail—but it provides access. It's a program where you need to call ahead and make reservations. The walk is led by volunteer docents that we have at Año Nuevo.

Look what we have here. We've got a sub-adult bull in the trail—one right next to the boardwalk and the fellow we see over here. These are bull elephant seals—sub-adult bulls. They're some of the younger bulls that are away from the harems and where the pups are being born because they're not dominant enough to have access. But they do a lot of socializing back here.

Most of these younger bulls arrived in December, as do all the bulls. In late November, early December they haul out—they haul up onto land. Their story really is one of energy conservation. They've been eating out at sea for the last six months—since they molted in the summer.

I've actually seen a bull crush the boardwalk—a full-sized bull—fighting across the boardwalk and actually break the two-by-fours and two-by-sixes—just crush them. Now let's see what happens with him.

Now notice in their ambulation that he's using his foreflippers to pull himself up. Elephant seals are true seals. They're phocids, and thus they sort of move like slugs, using their foreflippers

on land to pull themselves along. But they're quite agile—they can actually scratch any spot on their body. He found a very comfortable spot there.

I think it's a blockade. He doesn't want us to go further today. He probably finds it comfortable, although usually the water—the puddles—are prime real estate to elephant seals. They have a tremendous amount of blubber on them. This is a very hot day for the elephant seals, and so you notice a lot of the bulls are in the ponds or in the water. That keeps them cool, so that is very advantageous. A lot of times they play king-of-the-pond, where they keep other bulls out of the water, because that's very prime. Now this guy may become comfortable here and just relax in that location or he may get into one of the ponds. But usually they like the puddles to themselves—they don't want to share.

Okay—question about the age/size of the juvenile males. The sub-adult bulls generally range. They start to get their nose at about three years old—when you can differentiate the male from the female. The nose starts to grow, and of course the bigger the nose, usually the more dominant the bull. It really pays to have a big proboscis, and of course that's why they're called elephant seals. So at three it starts. We call those young bulls sometimes "rat noses"—it looks sort of like a rat nose—and then the nose gets longer as they get older. An alpha bull or dominant bull will usually be about ten or eleven years old. You also can see the chest shield on their neck, and that becomes more prominent. It's a callous-like area and that becomes more developed.

Now these two . . . he does not like that bull getting close to him. Watch him—you can see who's dominant. Look at that—the bull that was on the boardwalk is backing up. He is less dominant. So even the younger bulls have a dominance hierarchy. But look, he's looking at this bull to see if another bull heard him because that bull over there may be dominant over him.

We stay as a group, and we'll work our way through around these animals. Stay with me, and let's see what we can discover.

We hit the boardwalk again. We took the way around the side. The range for the elephant seals is from generally Point Reyes—there's a few colonies farther north, but Point Reyes—north of San Francisco, down to central Baja California. The largest colony is at Channel Islands National Park off of Santa Barbara.

At the remote colonies the animals are more sensitized to people—they react to people more. But here the elephant seals tend to be more habituated. Also, one reason they're not afraid of people is they have to expend a lot of energy in order to move away from people, and they don't have a lot of energy to give because the bulls are going up to three months without eating or drinking anything. The females are nursing a pup, giving a third of their body weight and at the same time not eating or drinking, which is just incredible to be able to nurse, transfer weight to that pup, and not eat or drink. So they really need to conserve energy when they're here. It really is an energy conservation story. They can't spend a lot of time running away.

They're so big, running away from threats and expending energy is one reason they were hunted to near extinction. In the last century they were decimated—it was really prior to the late 1800s—they were hunted extensively. The Marine Mammal Protection Act provided

protection after the extreme hunting. In fact, just a few animals survived out on Guadalupe Island and off of Baja in a remote location. They've made a comeback from that, but they were hunted so easily because they could walk right up to them and club them and then take the oil. They were hunted for their oil. So elephant seals are really a remarkable success story that they've come back from near extinction. The population now is over 150,000. There are other species that are not so successful, where the fish supplies have been decimated in the ocean and are dropping. We'll talk about that later.

VISITOR: What's the population here now?

GUIDE: We're at the peak of the breeding season so usually we have about almost 2,000 pups born during the winter. For every pup born you've got a mother—that's another 2,000 animals. Then you've got over 1,000 bulls and juveniles. So over 5,000 animals at Año Nuevo right now. But there are animals here year around. The low point is in late August into September, when we only have few hundred animals here.

Why is it the bulls can't leave to go out and feed? Why would the alpha bull not be able to leave and go out and feed? What would happen if he went out and fed?

Other bulls would sneak into the harem and mate with the females, and thus his purpose of being here. Other bulls would get in there in the gene pool. Also, why don't the females go out and eat? The females don't go out and eat because they would leave their pups, and they'd get separated. They may not be able to find their pups. Sea lions will go out and feed and come back and they can find their pups, but elephant seal females—the bond they vocalize to each other—is only for the four weeks the mother's nursing the pup. It's a very short bond between the mother and the pup. If the mother were to go out, the pup wouldn't get enough milk, and she probably wouldn't find her pup.

Well, let's continue on. I'm going to just check the trail. We're going around a corner here. We have to slip by this bull, and it's best to let sleeping bulls lie.

So when we're walking by the bull, we want everyone to move quickly. Don't stop right in front of the bull. You can take photos from the other side. We're going to walk when this guy's sleeping. The goal is to get by this bull without anyone waking this animal up.

Here we have a harem of elephant seals. This is where the females give birth to the pups. What you can see is the little black pups in the harem and the moms next to the pups. Then there's the alpha bull and other bulls around the site. How much do you think those pups weigh? Find the smallest little black pup you can find out there and, looking at the size of it, how much do you think one of those pups might weigh?

VISITOR: A hundred pounds.

GUIDE: Around 100 pounds—there about. When they're born, they weigh about 70 pounds, and they grow up when they're weaned. They get four weeks worth of milk, and when they're weaned, they weigh over 200 pounds. We have a few pups that suckle off of more than one mother that we call super weaners or "double mother sucklers." We actually had one go up to 624 pounds in just two months. That one probably had three mothers. At the same time there

are quite a few orphans that have been separated from their moms and that are starving—so it's really a contrast between success and the starving pup. You can get both, but it's normal in an elephant seal rookery to have approximately 10% pup mortality. The greatest danger to the pups would be from high tide and storm surf. This harem right here is up higher. All the females came up along the cliffs up above, and they're able to stay out of the high tide and storm surf. So there is very little pup mortality in this harem.

The females have two teats—two nipples—where sea lions have four. The pups suckle on milk that is up to 55% fat—very, very rich milk. What's the percentage of fat in the milk that you drink?

VISITOR: 0%

GUIDE: We have a 1%, maybe a 2%, but can you imagine if you drank 55% fat milk? What that would be like? In the beginning it's more liquid, and in the end it almost gets like yogurt—just because as they get more dehydrated later in the period the milk gets thicker. Sometimes they roll over, and you can actually see the milk squirting out. After the pup is born, it usually takes a few hours to a day for them to find the nipples—to find where they can get the milk. But once they find it, it's really important that they take maximum advantage of the food source.

This harem, believe it or not, is a very small harem at Año Nuevo. Later we'll see one that's even bigger. If you see a female that does not have a pup next to her and if she has a fairly rounded back, then there's a good chance that she's pregnant and we could possibly see a birth. We're here in late January, and January is the month for birthing. They go into estrus approximately three to four weeks after giving birth, so right now a lot of females are just about to wean their pup and then we could get some mating activity. But we still could have some birthing. That one there on the left could be a pregnant female. Usually the ones who are on the edge are the latest females to come up, so those would be the ones that are still pregnant, that haven't given birth yet. Also, on their flippers they have five nails, on each flipper. There's one right there that's nursing—right there.

VISITOR: You can see the milk dripping down.

GUIDE: Right, you can see that there's milk—the milk will sometimes ooze out.

Right here the one that's nursing in the foreground just lifted his head, and you could see a lot of milk right there.

The females do a lot of arguing about space. The prime space is away from the tide, in the middle of the harem. They're pretty quiet. This harem is pretty quiet right now, but usually the females are doing a lot of arguing. In fact they probably spend more time arguing than the males do.

The mainland is where we have the elephant seals, but the island right off shore here we have Stellar sea lions, California sea lions, and harbor seals—it's very rich. One of the favorite activities of sea lions is to sleep on the back of elephant seals. They think that elephant seals

are very comfortable, so they'll pull up on a big bull and sleep on the back of a bull elephant seal.

In 1975 the first pup was born on the mainland. The numbers have gone up from one pup in 1975 to almost 2,000 pups now. Now I want to go back to the feeding. We said the females are more pelagic and feed on squid out in the open ocean. The males are more benthic, which means they feed closer to the continental shelf. So the males go all the way up to the Aleutian Islands following the coastline more. We have some maps that show the path that they take—very interesting to see. The researchers put time and depth recorders on the animals and satellite tracking devices.

Oh look. We have a placenta over there. The gulls are coming. There was a birth that just occurred there.

Now the placenta may have just been covered by the female, but I've seen gulls fight to the death over placenta—it's such a delicacy. They've actually broken wings going for the placenta. Because the female just gave birth, they're coming to eat the afterbirth. The female that gave birth, I think, is the one on the right. See the one that's real agitated to the right of the gulls? There's the new born pup, I think. You see that pup to her right, or do you see another one? That one is real small. And watch—she's vocalizing. Really watch her vocalization, because she'll talk to that pup.

Look at her lift her. She's lifting her tail flippers way up in the air.

As soon as the female gives birth to the pup, it's like putting down an anchor. She has to stay there. Before you give birth, if you didn't like one location, you could move, but once you give birth, then she's to be right there for the next four weeks.

GUIDE: No, they're not very good at that. Sometimes the pup will roll down a little embankment and the mother and pup don't get back together after that. That's probably the newborn pup to the right of her. Look at the pup sort of squealing at her. The first day after a female gives birth she does a lot of talking like that. Females have one voice that tells a male to get lost and another voice to talk with her newborn pup.

Look at the alpha—just looked at that other sub.

This may stir things up in this harem a little bit. You get one sub-adult coming in, and it may start stirring things up.

He'll probably go after him. He wants him out of there rather than us. The male fights. You get major battles, but usually they won't end up in one of the bulls dying. They fight and one backs off eventually, it's not fatal.

Here comes a pregnant female. Look at the alpha right now—vocalizing. The beta vocalized and now the alpha. There's the alpha.

Come up onto the overlook and we will hand off the overlook to him. It's their home, and he gets to choose where he wants to go. The way you tell which bull is the most dominant—look

at the chest shield, who has the callous-like material and who has the longest nose. The most important factor, probably, is the biggest nose. That's really important.

The really big harems are like the super bowl. They're so prime. The bull there is so big that even a relatively . . . he could probably go over there to that two female harem and have that to himself, but he chooses to be out here and then try to sneak into the 500 female location.

He's saying, "Lay off of that juvenile! Get out of there!"

He's smaller than that guy but look at the difference in their size. Normally the younger animals they just play together—usually it's more in play, and he's got something more serious. You know that it has the sexual end because he's got the flipper over the back. You start to see the os penis or the baculum, but he could get it slapped. We're looking at those two young bulls we saw in the beginning play fighting. They're sort of up in the bachelor pad. The bulls that are not in the harems—not the dominant bulls—why would they be attracted to these ponds?

GUIDE: Keep them cool. That's right. They have all that fat, and this is a warm day for the elephant seals. So they're very attracted to these. But they don't like to share the ponds very much. This bull was trumpeting, telling that bull farther up, "This is my pond. Stay away." The water helps to keep him cool. This helps him to conserve energy and perhaps give him that energy that he might be able to get nearer to the harems later.

Each animal has a different vocalization. Each rookery has a different dialect. So there is a different dialect for the bulls at each of the rookeries. Now, you wonder if there was a fish in one of these ponds, would they gulp it down? Maybe inadvertently. He's not looking at us—he's looking at that bull back there.

Here we have the largest harem on the mainland. This is Año Nuevo Point. If you look down, there's so many females, probably between 300-400-500 females, that there's more than one alpha bull—one bull could not control the whole area. This is the first harem that forms, so we have pups that are older here. We have pups that were born back in December whose mom has already left—they're weaners. They're weaned pups by now. If you look in this harem, you'll see some pups that are a little larger than what we saw earlier. There also are a lot of bulls waiting on the beach to catch females as they go out to sea when they're in estrus, to try to mate with the females on the way out. This is a pretty safe. It's very easy access to this harem—there aren't cliffs and such. It's the first area they hit when they come in from sea and it's easy access, so it's really a perfect spot for giving birth.

So there are bulls patrolling the beach, waiting for females to depart—to mate with leaving females and also they keep the riff-raff off the beach. If some young bull tries to come up on the beach, that's what he just did—he cleared it. I heard a female do a guttural call—that's alerting the males. Whenever a younger male comes and tries to mate with them, they'll put out a call to let the alpha bull know, too, so that he'll chase the younger bull away. But occasionally you'll get a female that's right in estrus and very passive. I've actually seen a younger bull sneak in, keeping his nose very low to the ground so no one notices him, and sneaks right up, finds the perfect female, and successfully mates with her without being noticed. That has happened. There's a mating—it's a younger bull going in by that female

thinking he can get away with it. He keeps looking over at the alpha, knowing he may get in trouble. He keeps looking to see if the alpha has seen him yet. Yep, the alpha just looked at him. Nope, he's still trying. Now look at the alpha—the alpha's about to get rid of him.

You wonder why some sub-adults like this one are pushing the envelope and being competitive and trying to get in, and other ones are laying way back there in the willows just hanging out. You wonder if the ones that are being aggressive will be the ones that end up as alphas.

Here we get a real good view of the ocean and other species that we have at Año Nuevo. If you look out, you can see the little black spots, which are sea otters. What do you call a group of sea otters? A raft of sea otters, where a group of seals would be a pod. You have a raft of sea otters out there. Sea otters are a species unlike elephant seals. They don't have the fat that you have on elephant seals so they're dependent on their fur. They have the greatest number of hair follicles per square inch of any species and they've got to keep that fur clean. Oil would be a great danger to a sea otter. They were hunted to near extinction but, for the southern sea otter which is the sea otter we have in our range, their numbers have only rebounded to around 2,000 animals. There always is a danger that an oil spill could present to them. This is more at the northern range for the southern sea otter. You see more of the animals in the Monterey area but we do have a good number. I see approximately eight sea otters out here today.

This is the southern most rookery for the Stellar sea lion, which is larger than the California sea lion. Also there are California sea lions on the island, which are the sea lion that you'll see at Pier 39, and you'll see in Santa Cruz and in Monterey, that bark. They're the ones that perform in circuses and marine parks—the California sea lion—and their numbers are much larger than the Stellar sea lion. They're not as threatened, where the Stellar sea lion is threatened. Then also we have harbor seals, which are true seals, much smaller than elephant seals. You find them on the beaches of the island. So altogether there are four different species of pinnipeds, which are the seals and sea lions, here at Año Nuevo.

He's greeting us with a breath.

We've been able to see real large harems and really learn about the different habitats that the elephant seals will utilize here. They're a successful species that has come back from near extinction. It shows that with humans planning properly, creating state reserves to protect the habitat for this animal and controlling the hunting that occurred, you can have a species come back from near extinction. But there are many other species, such as the sea otter that we saw today and the Stellar sea lion, whose numbers are threatened or dropping. I really hope that everyone will go back and think about what other species you might have in your backyard or in other locations that are threatened and work towards preserving and educating the public about protection so these guys will have a home.

Running Time: 30:13