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FROM: Patrick Robinson
TO: Team Elephant Seal Virtual Science Team
SUBJECT: How to get an elephant seal's view of ocean life

Hello Team Elephant Seal!

The past two days in the field have been VERY exciting. We did an experiment called a "translocation" to test a new type of video camera that can be attached to a seal. We wanted to know how a seal swims through coastal waters and if it interacts with any other wildlife along the way. A video camera is a great way to see how a seal experiences the world.

The translocation involves 6 steps:

(1) Going to Año Nuevo State Park to find a juvenile seal.
(2) Putting the seal gently into a cage.
(3) Attaching a special video camera to the fur of the seal using a special glue.
(4) Driving the seal from Año Nuevo to Monterey. That's about 65 miles away -- or a one-hour drive along the coast,
(5) Releasing the seal at a beach in Monterey
(6) Waiting for the seal to return to Año Nuevo and recovering the video camera.

These sound like simple steps, but nothing is simple when working with large wild animals. The most challenging part of a translocation is simply moving the seal. Even juvenile seals weigh several hundred pounds. It requires 5 or 6 very strong people to lift one. There are also no roads near the seals, so we have to transport the seal from the beach to our truck. We have to use some specialized equipment to make this possible.

Knowing the above information, if you and your Team had to move an elephant seal, how would you do it?

We choose the seal and carefully place it inside a special seal transportation cage. You can see this custom seal transportation cage and the beach-wheel cart used to move the seal.

Once we had the seal in the cage, we turned on the special video camera and attached it to the seal's fur. How?

—more —

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First, we cleaned the fur with a cleaning solution. Then, we mixed some epoxy (a fancy type of glue that hardens quickly). We spread it onto a small patch of fur and to the base of the video camera. Finally, we placed the video camera onto the seal and waited several minutes for the epoxy to harden.

We then carefully lifted the cage onto the back of our truck and drove very carefully to a beach in Monterey. After arriving, we carried the cage down to the beach and opened the door on the cage. The seal was a bit hesitant to come out, but eventually poked his head out and went quickly into the water and disappeared from view.

This morning, we found the seal back at Año Nuevo. He swam all night to get back! We quickly removed the video camera and brought it back to the lab to download the footage.

Here is a still image from the camera attached to the back of the seal – as if you are riding on the seal's back. The black object on the seal's head is a satellite tag to help us track where the seal goes. The seal is swimming through a kelp forest near Monterey as he finds his way back home to Año Nuevo.

How do you think this kind of footage will help us understand elelphant seals?

Your teacher has a YouTube link to watch the video footage from this seal's migration back to Año Nuevo. (Note: if you go to time-stamp 2:45 you will see a very interesting interaction with a harbor seal!)

Thank you for taking the time to read this research update. As always, please let me know if you have any questions!

Take care,

Patrick

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