



Donna Matrazzo
The Writing Works

19300 NW Sauvie Island Rd.
Portland, OR 97231
(503) 621-3049
matrazzo@msn.com

**U.S. Geological Survey
Western Ecological Research Center
HD-TV**

**"PRECIPICE OF SURVIVAL:
The Southern Sea Otter"**

Final Script

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The Southern Sea Otter"

This script sample includes only pages 17 through 25

To see the complete 35- page script, contact me at matrazzo@msn.com

beginning with Page 17, Part 7:

A sequence of otter scenes:

- An otter in the distance swimming through a massive kelp bed, it swims up to other resting otter, bumps into it, sniffs it, shakes its fur then swims on.
- Wide quiet bay, nice light, zoom in to glassy water, cypress trees over rocky cliff/beach.
- Otter swimming; kelp bed behind.
- Extreme closeup of an otter eating a crab.
- A sleeping otter in a massive amount of kelp, rolling with a gentle swell, close enough to make out its whiskers.
- Historic images as available interwoven with shots.

Narrator: (voiceover)

**By the end of the 1800s,
sea otters had been hunted
to the brink of extinction.**

**In 1911, there were about a
dozen surviving colonies of sea
otters ... maybe a thousand
animals.**

They were given protection by the International Fur Seal Treaty.

In California, the southern sea otter was presumed extinct, but about fifty were found along the Big Sur coast in the 1930s.

These were the only remaining sea otters between Prince William Sound, Alaska, and Baja, Mexico:

A miraculous kernel of survival, unique and fortuitous.

Greg Sanders interviewed on camera.

Greg Sanders: (on camera)

"We're having some significant changes in the way we've been able to look at animals. In the past we could put colored tags on their rear flippers and try to follow them around, but that was fairly limiting. You need a lot of people to follow them around, but when they went diving you didn't know exactly what was going on under water.

Michelle at Monterey Bay Aquarium

Michelle: (on camera)

"The wild otter study project that we're currently doing is working with Jim Bodkin from USGS in Alaska and we have a permit

to capture over 30 sea otters here in the Monterey Bay and we're going to put time depth recorders in them and VHF transmitters. The time depth recorder is to basically record the depths that they dive and where they're getting their prey, how deep they're diving to get their prey items, and the VHF transmitter is to just locate them."

A sequence of boat and diver preparation. A scientist prepares the dive locomotion device, which he reseals, and a rebreather dive tank. A capture net is loaded on the boat. Tim Tinker gets the boat ready to launch. An antenna is attached to the boat, and a kennel is prepared for the otters. As the boat takes off, the camera follows from behind with a wide shot, then zooming in to them. Tim Tinker is talking on Live Wireless.

Tim Tinker: (on camera)

"I just talked to Candice and it sounds like their otter's still feeding at Pt. Pinos and then the other observer team right now has got a faint signal from one of the potential targets so they're sort of off El Torito, sort of between El Torito and the Aquarium. Sounds like that animal might need a receiver more than the Pt. Pinos animal because the shore team there hasn't been able to get a fix on them yet. So, we'll be out there shortly and maybe we'll stick on that one and you guys can head on to Pt. Pinos, over....."

Cutaway to the spotters on shore with their spotting scopes set up. Alicia Cage describes what they're doing. Alicia steps up and looks into scope. Gena Bentall lifts the antenna and looks out at water. A telemeter is beeping.

Alicia Cage: (on camera)

"So we have VHF receivers set to certain frequencies for each individual animal and we're able to go out with antennas and scopes and we find a signal of an animal and then we can narrow it down using the antennas. We can get out the big scopes, the Questars and we start looking for an

animal. And every animal has an individual, a different tag combination. So, those tag, color combinations allow us then to identify individuals."

Back to Tim Tinker on the boat.

Tim Tinker:

"Oh hi Kristine, it's Tim here on the Coln. I just talked to Candice and she said that you guys may have 165102 off El Torito there -- is that correct?"

Kristine reply via radio:

"We're not sure if it was actually a signal or not and I guess she took it as we definitely heard the..."

Tim:

" Oh Ok so it's not a certain thing then. You haven't heard anything else since then, over."

Kristine reply via radio:

"No we went to the Monterey Bay Inn, and we didn't hear her, so we're going to continue on to El Torito and the Aquarium, over."

Tim: "Oh, ok sounds good. We're right off the Inn right now and headed toward El Torito, so, we have a receiver so we're listening."

Cutaway to a sequence with the divers in the water. One dives in, Tim hands him the propulsion device and the capture net. The second diver enters the water. They move slowly through a kelp bed. Tim gives hand signals to the divers, then watches them through binoculars.

Tim:

"So, a shore observer might find an otter that's feeding. And then they'll follow that otter as it feeds until it finally starts to groom and then it settles down for a rest."

And, otters are pretty predictable that way they tend to divide their day into activity bouts of two or three hours so they might feed for two hours and then groom and then they'll rest for two hours. And, usually this whole time we'll be communicating with the shore spotters who are on shore and they can give us more detailed information because they have these powerful telescopes that don't really work in a boat so they can tell us something like, 'so the target otter is the otter that's farthest to the left or the third otter from the right in the group, facing away from the shore,' or detailed information like that."

The divers return with an otter and climb back on board the boat. The otter struggles in the net and tries to bite the metal frame. Tim lifts the propulsion tank. The diver jostles the frame of the trap. The otter is moved from the net and lifted into the bag before the kennel.

Gena Bentall:

"Well, we'll see the trap come up out of the water and we can usually see from the dive boat right away whether or not they have an otter in the trap or not. And then we wait in the boat for a signal from the diver and when they give the signal we respond - - drive the boat over there as quickly as possible in between the two divers and then secure the otter immediately that's in the trap -- and then help the divers on board. Then the otter's transferred from the trap into a netbag which is how we transport it - - put into a kennel on board the dive boat and then we rendezvous with the transfer boat.

The otter is moved into the kennel, and the boat with the otter speeds over to Monterey Bay Aquarium, where the kennel is carried into the lab. A sign says "Animal Health Laboratory." They give the otter anesthesia and wait for it to take full effect. The vet Mike Murray carries the sedated otter in the net across the room and lays it gently on the first table. Two women step in to help.

Michael J. Murray:

"Currently this week we are on the next phase of an ongoing project in which animals are captured from the wild. They're brought into a veterinary facility like the one we're standing in right now. They're anesthetized. We make an abdominal incision. Implant a VHF radio which allows us to follow the animal. And, then a small instrument that dictates, or generates data concerning time of diving and depths of diving and things like that..."

Mike gets a tape measure and wraps it around the otter's belly to measure the girth, then pries open the mouth to measure the teeth.

"Michael:

... Girth, 68.5 ... 7.2, 7.3 ...

"...This is very, very important. A number of things happen while this animal's in hand. First we're able to collect morphometric data to give us an idea of what the size, the weight ...give us an idea of how this animal works a little bit. "

Mike pulls the otter off the board and rotates it onto its tummy. With two sets of hands, the vet and assistant draw blood which fills a syringe. Then the otter is lifted off the table and carried into operating room. An oxygen tube is placed in its mouth, and the assistant uses a gel to separate hairs to isolate the skin for the incision and combs the incision spot. The vet opens up a pack of instruments and sets the items out on a cloth.

"Michael:

We collect a number of biologic samples, the blood samples, serum, plasma. We collect samples for cultures, fecal, we also collect tissue so that we have a bit of a DNA fingerprint on this animal should we need it in the future ... We are also able then to put these instruments, we can follow the animal. Get an idea of how it's foraging

how much work it takes to make a living as a sea otter. By taking that information we can then transpose that into the bigger picture of the population.