



The Natural Laboratory Podcast Transcript: Searching for the Endangered Black Abalone in Northern California

Introduction

This is the Natural Laboratory, a podcast exploring science for Bay Area National Parks. I'm Cassandra Brooks.

Black abalone is one of seven abalone species found in California's intertidal waters. This small abalone, with a smooth dark shell, has succumbed to the same fate as most abalones: overfishing. Commercial fisheries for black abalones began in 1968, and by the 1990s, landings plummeted to zero.

But fishing wasn't the only culprit. Black abalones have gotten sick—really sick—with withering syndrome. This disease, caused by a bacterial infection, halts the abalone's production of digestive enzymes. No longer able to digest food, the abalone must consume its own body mass.

The disease was first recognized in the mid-1980s and has since decimated black abalone populations by up to 99% in some regions. As a result, black abalones have been classified as critically endangered by the IUCN.

Southern California populations have been especially hard hit by withering syndrome, yet little is known about the status of Northern populations.

Darren Fong Interview

Darren Fong: We got a request from the federal agency—National Marine Fisheries Service—for information about the status and trends of, uh, black abalone in our park and we actually had no information to provide them because we never did any surveys for that species within our park.

Cassandra Brooks: That's Darren Fong, Aquatic Ecologist with the Golden Gate National Recreational Area. Per request, Fong set out with interns Amy Henry and Kari Eckdahl looking for black abalones in the Golden Gate National Recreational Area and Point Reyes National Seashore. Here's Amy Henry.

(over)

Amy Henry Interview

Amy Henry: Well, no large-scale survey has been done of black abalone north of San Francisco Bay before, or even in the Bay Area. Black abalone have never been particularly common in this area, but no one has ever been out and surveyed these sites before. So, although we know that they're rare, we don't know how rare. So, the data and information that we're collecting is going to provide information for future studies, for the studies of these endangered species, and will lead to better legislation and how to protect them.

CB: So far, they've found black abalones, but not very many of them, and none with withering syndrome. But these surveys are just the first step.

Part of their challenge is getting down to the rocky—and sometimes treacherous—intertidal, where the abalones live.

AH: So, the sites that we've been surveying have been identified using Google Earth and a project, a few years back, called "The Coast Biophysical Inventory." This project identified areas of rocky coastline where abalone possibly could live. So, basically, all that we know going to a site beforehand is that it's rocky. So, we've interviewed park rangers from the local area to find out about the best trails to get down to

sites. Sometimes this requires a rope to climb down crumbly steep cliffs, sometimes we get there and it doesn't look like good abalone habitat at all and we are sorely disappointed.

We're also working at very early in the morning hours. The timing of our surveys have to be going with the low tides, and they have to be negative tides, below zero tide. And some of these will occur at 4:30 in the morning. We've woken up at 3 am before and taken a hike out in the dark with flashlights where we think there are spooky creatures behind every turn.

CB: To Amy and Kari, all the early mornings and scrambling over cliffs have been worth it.

AH: The Park Service really has a mission that you can get behind. You can really support and know that the work you're doing is for the benefit of all the citizens of America and California and to protect it for future generations. And even for our small little piece of protecting black abalone, it's a really beautiful creature that I never appreciated before, never knew much about before. And, hopefully, because of our work, we'll be able to show it to our children in the future and say, "We had a piece in protecting this animal from going extinct."

Conclusion

CB: With the Pacific Coast Science and Learning Center, I'm Cassandra Brooks.