

POINT REYES NATIONAL SEASHORE ASSOCIATION

Voices ^{at} _{the} *Seashore*



Hooked on Fisheries

BY ZOE DUERKSEN-SALM

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Hear from Tara and Natale, two Point Reyes Fisheries Crew team members, about the importance of long-term monitoring programs, communicating research findings to the public, and including diverse voices in science.



Natale Urquhart & Tara Blake

Redwood Creek travels gently down from the slopes of Mount Tamalpais and out with the tide at Muir Beach. But every year, the Point Reyes Fisheries Crew watches as the creek's waters come to life, disturbed by salmon returning home. From the banks of the creek, Tara Blake and Natale Urquhart could tell that this was going to be a record-breaking year for salmon.

The three-year life cycle of coho and steelhead salmonids is short, but intentional. Born in the shallow waters of streams, the tiny salmonids,

known as fry, are so small they can hardly be seen from above the water. They survive in the calm stream habitats for over a year before they begin the transformation that allows them to travel from their freshwater streams out to the ocean. Life in the ocean is rough, and only one to two percent of salmonids survive.

And yet, against all odds, a handful of salmon return every year – bigger, stronger, and with one goal, spawning. It's a wondrous sight, seeing so many big, beautiful fish in such a

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tiny creek, fighting as hard as they can against the current. The females lead the way, using their whole body, all their fins, and all their energy to dig nests in the creek floor. And then they die, leaving the nutrients of their bodies behind so their eggs have a better chance of surviving.

Three months into their positions with the Watershed Steward Program (WSP), a program that places early career biologists in internships around California, Tara and Natale were amazed by the determination of the spawners – Tara was even on the brink of tears – and simultaneously bracing themselves to process the fish carcasses that were left behind.

Finding Fisheries

Working side by side with NPS and PRNSA conservation staff, Tara and Natale have been integral members of the team that supports fisheries recovery at Point Reyes National Seashore. Neither Tara nor Natale envisioned a career in fisheries, but somehow they both got hooked. Natale grew up in central Marin County, just a drive away from Point Reyes. While she always loved fishing, and just being near creeks and water, she considered it more of a hobby than a career. But then, while attending Cal Poly Humboldt for a degree in Environmental Science, she realized that she could incorporate her personal enjoyment of

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watersheds with her passion for conservation and restoration by working with WSP and then extending this work through PRNSA this fall.

Tara found her way to Point Reyes from 2,500 miles away in Ohio. Tara has always been interested in the outdoors, and she even studied Environmental Science at the University of Pittsburgh, but she credits her ability to handle a fishing net to years playing lacrosse. Tara was specifically drawn to the community service aspect of WSP, and the opportunity to conduct field work in a way that not only preserves the biodiversity of public lands, but also invites local stakeholders to learn and participate.

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Why Counting Fish Matters

Over the course of their year-long positions with WSP, Tara and Natale worked alongside the Point Reyes Fisheries Crew to monitor the status of coho and steelhead salmon at the park. The crew has monitored salmon populations since 1997 as part of the San Francisco Bay Area Network’s (SFAN) effort to defend and restore threatened and endangered species. Led by Fisheries Biologist Michael Reichmuth (NPS) and Fisheries Crew Lead Brentley McNeill (PRNSA), the team conducts systematic, long-term monitoring of salmon populations and life stages in the watersheds of Marin County.

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Crew observed a crash in adult salmon numbers in the section of Redwood Creek down by Muir Beach. Paired with the unnatural state that the creek had taken on due to

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Inventory and monitoring programs often kickstart restoration projects since these teams are able to see the long-term effects on the species they track. A couple of years ago, the Fisheries

human activity, the Fisheries Crew suggested a project to reconstruct the parking lot at Muir Beach to create more habitat in the lower area of the creek. Since then, stream flow and juvenile coho numbers have improved in the creek.

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“You need people looking at what’s happening in the creek year-round in order to understand where the restoration needs to be done,” Natale confirms, “We’ve all heard all these stories of how well the salmon did this year – there’s no way we would have known that without years of monitoring data to compare it to.”

Community Stewards

The Fisheries Crew also plays an important role in cultivating community connections in West Marin. Thanks to the efforts of WSP team members at Point Reyes over the last 11 years, the

Fisheries Crew has become an integral part of the local community. Each year, WSP folks host volunteer days that create opportunities for the local community to learn and engage with restoration efforts. This year, with support from PRNSA and NPS staff, Tara and Natale hosted two volunteer creek restoration events along Lagunitas Creek. During these events, volunteers from around the Bay Area learned about watershed health, assisted in pulling invasive species, and planted native plants near the creek’s edge.

“There’s this communication barrier between the hard

sciences and translating that information to the public,” says Natale, “But to keep people motivated to support conservation projects, it’s so important to help people understand what we’re doing.”

The importance of science communication also extends to younger generations! Through their roles with WSP, Tara and Natale were able to teach science education curriculums for two local elementary schools—West Marin and Bolinas-Stinson School. Many of the local teachers look forward to having the WSP team members come to teach a

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series of lesson plans pertaining to water usage, the life of a salmon, human impacts, water conservation, solutions to pollution, and the importance of biodiversity in nature. These lessons, and the salmon dissection that follows, are a fun way for students to learn and explore their watershed.

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Building Pathways

Fisheries work has historically been a male-dominated field. As we find ways to engage our local audiences in science, we must

consider how these voices differ from the ones that currently dominate the field. “The way that we’ve been going about conservation work hasn’t been totally effective,” says Natale, “and being able to include more voices, from more diverse backgrounds in planning for restoration projects is so important in coming to a more holistic and sustainable solution for our future.”

One approach is increasing the availability of science to new audiences—audiences such as the local students in West Marin. Some of these students have lived in the county their whole lives, but have never had the opportunity to explore the Seashore through a scientific lens. Tara and Natale’s hands-on education approach, gave these students the opportunity to see themselves as scientists and to feel that they had something to contribute to the field of fisheries.

The school fisheries curriculum that Tara and Natale developed concluded with a fish dissection. As the kids explored the intricacies of the smelly fish guts in front of them, one little girl looked up beaming at Tara and Natale and said, “When I grow up, I want to do what you do! I want to work with fish!”