

**News**

# Adriana Morales Makes a Difference as a Career USDA Forest Service Fisheries Biologist

By Catherine Caruso, Pacific Northwest Region, USDA Forest Service

**A**driana Maria Morales did not grow up near any ocean. She was born and raised in Bogota, Columbia; a metropolis high in the Andes mountains, 8660 ft. above sea level. But technology brought the ocean closer. Every Sunday at 8 p.m., she watched Jacques Cousteau on television, and fell in love with marine biology.

Today, Morales is a district fisheries biologist in Hebo, Ore., on the Siuslaw National Forest. In college, she moved to Brazil, earning a Bachelor's of Science degree in marine biology and a master's degree in Biological Oceanography. Then she moved to Scotland, where she learned to speak English - and earned a second master's degree, this one in aquaculture.

"I fell (in love) with aquaculture, cultivating fish, alligators, algae and shrimp with the idea to educate others about it" she said.

After a few years working in California, Morales moved to Oregon eight years ago and became fascinated with the state's salmon fisheries.

"I was amazed," she said. "I have been working to improve their habitat since."

Salmon isn't the first thing many people think of when it comes to land management, but forests play an important role the lifecycle for the Northwest's iconic ocean salmon, many species of which are threatened or endangered.

Fallen trees create

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turbulent stream conditions that allow spawning salmon to swim upstream to their hatcheries without strong currents sapping all their strength. The cover to hide in, gravel bars they collect, and insects they attract help young salmon that hatch from those eggs grow and thrive.

Trees also provide the shade that keeps alpine stream temperatures cool as the water runs down towards the ocean, which improves conditions for salmon and their eggs.

As a Forest Service district fisheries biologist, Morales coordinates fish habitat improvement projects for the agency, and with its partners. Recently, she worked with the Umatilla Tribe on restoration work on Mit-cham Creek, in Eastern

Oregon.

"It was a perfect collaboration between the tribes, agencies and the local community," she said.

But the Siuslaw National Forest, located on the Oregon coast, is the place this well-travelled biologist currently calls

"home."

"(It) has streams, rivers and ocean...all connected with agriculture, timber, cities and rural areas," she said. "Working projects improving water quality and aquatic habitats in-land is a good way to protect the ocean... all the waters run to the sea," she said.

When she isn't caring for salmon and steelhead, Morales is often found working to share her love of the natural world with others. She leads bilingual outreach and education events for young people in an effort to open outdoor experiences to under-served communities, and to communicate the value of natural resources, including importance of using them rationally and preserving them for future generations. She's



Adriana Morales, a fisheries biologist with the USDA Forest Service, works on a fisheries project on the Siuslaw National Forest

also is a strong advocate for Science, Technology, Engineering and Math (STEM) education, and introducing young people to STEM concepts

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and ideas. "STEM is like a seed to inspire young people, to

engage them in any professional area they want to be (in). It is opens a door in their minds," she said.

Morales said she also encourages young people to consider exploring career opportunities in the sciences and natural resources, including with her current employer, the USDA Forest Service.

The agency's intern and fellowship programs provide opportunities for students to learn and get hands-on experience in technical and scientific fields, in outdoor classrooms that offer contact with Mother Nature, while interacting with Forest Service professionals knowledgeable in a diverse array of natural resources fields, she said

Morales adds that while her mental image of a National Forest is one of diverse plant and animal life, the diversity found in America's

culture is often missing from campsites and trails on the forest she works on.

The reasons are many, but enmeshed in both in historical and present-day barriers. For example, a city-dweller may lack access to a vehicle or public transportation to rural areas. Children may be in school during the week, but have a parent who works weekends. Non-native English speakers may have trouble finding recreation information in a language they can read.

Together, the barriers result in demographics that are largely under-served by lands they have a right to access.

"National Forest Lands are (a) place where humans can (enjoy) recreational activities including picnic, camping, hunting, fishing, and more.... Public Lands (are) for all of us," she said.

Sharing recreational knowledge with others is a form of environmental stewardship, Morales said.

"Land stewardship is the conscious and responsible use of the land by human activities. This is tied to the Environmental Stewardship term by Aldo Leopold... the interrelation between the land, the animals and plants which grow upon it," she said.

"We are sharing this planet ... and we need to recognize and ensure that conservation, preservation and rational use of natural resources needs have a balance with the interest of the society, and with other animal and plant species, because this is our legacy for future generations."

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