

Connecting Her Native Roots to Wildlife

AN EARLY CAREER PROFESSIONAL'S JOURNEY IN WILDLIFE WORK

By Dana Kobilinsky

► Serra Hoagland examines a deer mouse in a bag on the Mescalero Apache Indian Reservation in south-central New Mexico. The tribe had conducted a prescribed fire at the site — which also served as a Mexican spotted owl breeding area — and Hoagland, in partnership with the Collaborative Forest Restoration Program, was there to monitor the owl's prey base.



Credit: Elisha Flores

Growing up in a small town in the foothills of the Sierra Nevada Mountains in Placerville, Calif., Serra Hoagland cared deeply for the animals that she came across in the oak woodland forests and savannas. On a daily basis, birds flew past her, snakes slithered by and rabbits hopped along. Hoagland even recalls a mountain lion sighting near her elementary school.

One warm summer day when she was in elementary school, Hoagland, her mother and brother were taking a stroll to their mailbox and enjoying the summer weather and wildlife surrounding them. Suddenly, Hoagland saw something that disturbed her — a fawn was caught in a neighbor's barbed wire fence as its mother stood nearby. "I get sad thinking about it," said Hoagland, who is now a biological scientist and co-point of contact for tribal relations at the U.S. Forest Service's Southern Research Station. Hoagland watched forlornly as game wardens came to euthanize the young deer, putting a damper on the sunny summer day. "I remember the exact spot, even though it was 25 years ago," she said.

Years later, in 2011, when Hoagland was completing her master's degree at the University of California, Santa Barbara, she realized how deeply that single incident had affected her. On top of working on a master's thesis on oak woodland forest ecology and management, she pioneered a project on wildlife corridors that help native wildlife cross roads and barriers like barbed wire fences. A poster resulting from this research won The Wildlife Society's best student poster award at the 2011 TWS Annual Conference.

Much of Hoagland's respect and appreciation for wildlife comes from her mother, who is Native American. "She's the one person who taught [my brother and me] to respect everything, even if it's a spider or an annoying fly," she said.

As a member of the Laguna Pueblo tribe from the village of Pagate, Hoagland has participated in Powwows, a Native American ceremony involving feasting, singing and dancing, and other important dances on the reservation throughout her life. And she believes these gatherings, as well as annual hunts on her reservation, keep her connected to her cultural heritage. But Hoagland sees the need for more Native Americans to take up natural resource careers. "We have limited natural resource staff," Hoagland said of the reservation. "This plagues not just my tribe but a lot of tribes. There's a lack of Native American resource professionals to manage their own lands. Fortunately I was provided some unique educational opportunities and I knew I had to take advantage of them for my native community and other communities as well."

Building a Wildlife Career

A TWS member since 2010, Hoagland is now a role model for other Native American wildlifers with the USFS and is actively involved in the TWS Native Peoples' Wildlife Management Working Group.

She received her bachelor's degree in ecology and systematic biology at Cal Poly, San Luis Obispo, where she specialized in marine biology. After finishing her degree, she took a year off from school and worked with the National Park Service in Texas patrolling beaches for nesting Kemp's ridley sea

turtles (*Lepidochelys kempii*), the smallest and rarest sea turtle species that faced threats from vehicles driving on beaches.

In 2010, she entered a master's degree program at University of California, Santa Barbara, where she launched a TWS student chapter. Hoagland served as president of the chapter, which put her in touch with members of the TWS Western Section as well as other student chapter members.

Research on Tribal Lands

Six months after completing her master's degree, Hoagland attended an Intertribal Timber Council annual timber symposium in Minnesota where she was unexpectedly asked to speak about getting students involved in forestry. Danny Lee, director of the U.S. Forest Service Forest Environmental Threat Center, was in the audience, and approached Hoagland after her presentation. "He said to me, 'The Forest Service can help pay for your PhD,'" Hoagland recalls, "and I went, 'Ding, ding, ding! Where can I sign up?'" A few months later, Hoagland enrolled in the forestry program at Northern Arizona University and started working with TWS member Paul Beier, a regents' professor in the School of Forestry.

For her PhD dissertation, Hoagland assessed Mexican spotted owl (*Strix occidentalis lucida*) habitat as well as the health of populations on tribal lands owned and managed by the Mescalero Apache tribe in south central New Mexico that sits adjacent to a national forest. "The tribe was concerned that their forest was at risk to wildfire from the adjacent U.S. National Forest [nearby]," Hoagland said, adding that the land had been managed for owls, but not fire.

After uncovering habitat differences between the tribal and national forest land, Hoagland and Beier determined that the owls fared well on the tribe's land, despite the fact that they manage the land slightly differently with goals of preventing large-scale, stand-replacing wildfire as well as for providing for sustainable forest harvesting. With a heavy emphasis around assessing the impact of fuel reduction treatments on Mexican spotted owl habitat, Hoagland's research fit well into filling knowledge gaps identified in the 2012 Mexican spotted owl Recovery Plan.

Hoagland hopes this research shows how important it is to bring together tribal natural resource management as well as government agencies such as the USFS and the Bureau of Land Management. She also says that while the Mescalero tribe's

Mexican spotted owl management practices are unique, traditional ecological knowledge from all Native American tribes can be useful and provide an important perspective about wildlife and the landscape. "Wildlife is not only part of their guiding documents and management plans, but wildlife are a significant part of their culture," she said. "It's in their songs and prayers, not just on paper. Integrating science and technology with that wisdom component, I think, will be a wonderful thing."

Tying Together Science and Tribal Culture

Now that she holds a USFS tribal liaison position, Hoagland has the perfect opportunity to work toward her long-term goal of integrating tribal knowledge and wildlife science. For example, she conducts short training workshops for native tribes in which she displays tools that the Forest Service uses to monitor forest threats such as invasive species and other forest disturbances.

Hoagland also stays involved with TWS Native People's Wildlife Working Group and helps coordinate their Native American student professional development program. In this role, she helps arrange wildlife research scholarships for Native American students. "It isn't easy finding funding and anything we can do to help native students help their communities is a win-win for everybody," she said.

"She serves as a mentor to the students that come into our [professional development] program," said Paige Schmidt, who is also an officer in the working group and a zone biologist with the U.S. Fish and Wildlife Service and National Wildlife Refuge System. "It's incredibly helpful for them to be able to look up to her."

Schmidt, a member of the Potawatomi tribe based in Tulsa, Okla., feels lucky to have had the opportunity to work with Hoagland. "She's quickly making a name for herself in our field and with The Wildlife Society for doing good work and being dependable," she said. "You see her as a rising star and other people do, as well. Collaborating with Serra orients your career to her position in the sky." ■



Credit: Serra Hoagland

▲ A female Mexican spotted owl perches on a tree on the Mescalero Apache Indian Reservation in south-central New Mexico. Hoagland studied how the species was faring on lands owned by the tribe as part of her doctoral dissertation at Northern Arizona University.



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