

TEND, GATHER AND GROW

NORTHWEST TREE COMMUNITIES

CAREER-CONNECTED LEARNING

Among the Northwest Native Peoples, trees are honored as teachers. Trees demonstrate how to be resilient. They adapt to changes, collaborate with others, are flexible yet strong, and practice generosity. Each tree has a unique gift that contributes to the health of the forest community. Each person also has unique gifts, and perhaps you can use yours to pursue a career related to trees.





TREE COMMUNITIES

Explore Career Connections

There are many careers related to trees! Now more than ever, we need people who listen to, speak for, and protect trees and forest communities for current and future generations.

Arborist: The word “arbor” means tree. Arborists care for trees by making sure they are healthy and well. They also remove diseased or overgrown trees, especially in urban areas! If you love climbing trees, this might be the career for you!

Biology or Ecology Teacher: Oftentimes when we think of being a teacher, we think of being inside a classroom and sitting at a desk. However, many biology or ecology teachers look for every opportunity to teach outside! This might include field trips, setting up experiments in the natural world, and investigating how the environment works. You can help students explore questions such as, “How do trees communicate with each other?”

Environmental Scientist: If you love detective work, solving puzzles, learning new things, and being outside, an environmental scientist could be your gig! These scientists may research issues that cause harm to the environment (like pollution, for example) and potential solutions to help make the environment healthy again.

Forester: Foresters are those who take care of public or private forests and make sure they are able to survive when diseases, insect infestations, or natural disasters like floods and forest fires come their way. Foresters may include forest managers, technicians, and engineers, and can work in urban or rural settings.

Multi-Media Artist: Believe it or not, you can actually get paid to travel the world (or to your nearby forest) while documenting nature. In this career path you might capture images and stories as a videographer or photographer, or you might record sounds. Illustrators may draw plants, animals, and other species to include in educational resources.

Natural Resource Ecologist: This career is all about finding ways to manage renewable natural resources (e.g., light, wind, water, rock, plants, animals, trees), study their relationships, and conserve them for future generations.



TREE COMMUNITIES

Explore Career Connections

Nursery Manager: People in this career grow plants, shrubs, and trees—making sure all the plant babies are cared for and ready to plant while also working with staff and the public.

Park Ranger: In this career you'd support city, state, or national parks! There are many roles you can specialize in as a park ranger, such as a naturalist where you teach visitors about the forest and other natural resources and systems. Some park rangers might focus on law enforcement while others spend their days helping people navigate the park.

Forest Cultural Resources Specialist: People in this field investigate and preserve cultural sites, helping to safeguard both sites and their associated artifacts for future generations in accordance with tribal and federal preservation laws. Projects might enlist the efforts of archaeologists, museum curators, archivists, and historians

Wildland Firefighter: These people work to keep our forest and grasslands alive and well in times of crises such as fires. This job requires hard physical work and collaborating with a team in the middle of a dangerous situation.

Wildlife Biologist: Have you ever tracked an animal before or wondered what animals, plants, and bugs do when we are not watching? Wildlife biologists do just that! They observe animals in their natural environment, collect information, and find ways to protect animals and the habitats they live in.

Work with Water: Wetlands Biologist, Fisheries Habitat Biologist, Forest Hydrologist, Riparian Ecologist, Forest Water Specialist

Get Dirty and Study Soils: Forest Geologist, Forest Geomorphologist, Forest Soils Specialist

Explore Culture, History, and People: Native Forests Anthropologist, Archaeologist, Ethnobotanist, Historical Ecologist, Local Forests Environmental History Specialist, Human Dimensions/Ecocultural Wellbeing Specialist, Forestlands Subsistence Manager, Historical Ecologist, Cultural Resource Specialist

Be in the Woods: Tree Conservationist, Forest Ecosystems Specialist, Old-Growth/Forest Restoration Specialist, Native Forests Education Specialist

Use Computers and Math to Help Forests: Statistical Data Specialist, Geographical Information Systems Data Specialist



CAREER HIGHLIGHT

WILDLIFE BIOLOGIST

WHAT EXACTLY IS A WILDLIFE BIOLOGIST?

Considering many wildlife biologists are continually tracking animals and observing wildlife in their natural environment, these jobs tend to occur deep in the forests, grasslands, deserts, oceans, or really anywhere outside! Wildlife biologists commonly use technology to understand wildlife behavior and are also in labs where they can make sense of all the information they have collected.

Some wildlife biologists spend countless days tracking a single animal such as a mountain lion, while others spend years learning as much as they can about the tree system of a forest. Your "office" location depends on what you are most interested in researching and exactly what question it is you want answered!

Wildlife biology is an important field of research when it comes to health. In order for humans to be healthy, we must also have a healthy environment. Wildlife biologists work towards better understanding the natural world so that we can continue protecting the ecosystems that animals, plants, and insects thrive in, which of course, also helps humans thrive.

QUOTE FROM A WILDLIFE BIOLOGIST...

"Researching forest-dependent wildlife in the Northern Cascade Mountain range was, and always will be, one of the greatest experiences of my life. I was able to spend two summers sharing the same space where the animals and plants that I was studying lived. My research helped me discover that sometimes it is necessary to thin small sections of thick forest stands in order for understory vegetation to access sunlight and flourish, which in turn provides food and forage for wildlife such as deer and woodpeckers. If you love the outdoors and wildlife, you will not regret pursuing a career as a wildlife biologist."

-Landon Charlo (Flathead Salish / Blackfeet), quote from time spent as a Masters' student in Natural Resource Science at Washington State University.

HOW DO WILDLIFE BIOLOGISTS SPEND THEIR TIME?

- A love for animals and plants tends to be this job's calling.
- Track and monitor various animals and plants
- Protect wildlife by managing hunting and fishing permits and inventory
- Run field surveys and experiments in the wild
- Educate others about the importance of a healthy environment
- Take care of injured wildlife
- Advocate for various wildlife policies to aid in the protection of endangered forests and animals
- Explore research questions related to the natural world, evolution, behavior, and conservation



MEET ADRIEN JAMES

(Muckleshoot Tribe)

Forest Technician, Tomanamas Forest



I am a Muckleshoot tribal member and a forest technician for our Tomanamas Forest. For the longest time, I didn't feel I belonged here. I was never this outdoorsy person who went hunting or hiking with a pocket full of granola. I knew zero about anything to do with this mountain. I really didn't plan to stay in this field, it was just supposed to be a summer thing. But as the summer was ending, and with what I was learning from school, things started to get really interesting. The science behind it all had me hooked. The more I learned, the more I wanted to learn.

JOB RESPONSIBILITIES

- Marking and investigating trees that are ready to be harvested
- Interpreting aerial photographs of plots
- Evaluating areas to be burned prior to and after burning
- Using forest measurement instruments and electronics
- Inspecting trees for hazardous potential
- Assisting in wildfire prevention and response
- Conducting technical forestry work including: timber marking, volume estimation, technical assistance for use of forest, sale of forest products
- Preparing contracts for harvesting forest products and other contract services

EDUCATIONAL PATHWAY

I have my Associate of Arts in Forestry and am currently working on my BA. I have also done multiple internships for Muckleshoot Federal Corporation. I worked on a silviculture crew and a road crew for a few years, and am currently working as a forest technician. But even when I finish with schooling, I will still have a lot to learn.

WHAT I LIKE ABOUT MY JOB

My favorite part of my job is buffering riparian management zones for our salmon habitat. We use a laser and math to leave some trees in timber harvest units. It's pretty important that we don't ruin our salmon's homes while extracting timber.

FUTURE FOREST TECHNICIAN CAREERS

I think there will be more jobs for youth in the future, and I look forward to our tribe managing the Tomanamas forest ourselves without a need for other organizations. I think that Native youth entering this career path will need support from other Natives who are working in this field—someone who has gone through the same path before them. Being one of the first out here, I didn't have that. And I could have benefited from some sound advice. I hope I'm useful in the future in that regard.



MEET STEPHANIE COWHERD

(San Carlos Apache Tribe)

Educator, Forests and Community Program Director, Ecotrust



When I was younger, I spent a lot of time outside with my mom tending to our family garden. I would follow my mom and learn about when to plant different things, in what kind of soil, what kind of light. My mom would also take me outside on walks and she knew a lot of the different plants, so she'd teach me the names and we'd make things from tea to daisy crowns. I've always felt the happiest when I'm outside in nature learning new things, and I knew that I wanted to work with or for Tribes and other Native People. I think I've found that in my current role as a teacher and program director with the nonprofit, Ecotrust.

JOB RESPONSIBILITIES

- Teaching forestry distance learning classes to Yakama Nation Tribal School students through the EnvironMentors program
- Curriculum development
- Grant writing
- Meeting facilitation
- Supporting Tribe's in centering their goals, values, and knowledge systems in natural resource planning and management.

WHAT HELPS YOU BE SUCCESSFUL?

What helps me to be successful is my ability to listen, I mean really listen to the people and communities I am working with, and then responding based on that. I think it's also important to take care of yourself in your career, and for me, that looks like maintaining my strong sense of connection to my family and my community. When things seem a bit overwhelming, I know that I always have them to rely on to support me in chipping away at the tasks one piece at a time. Outside of these things, I think it's important to be empathetic, patient, dedicated, and adaptable.

I have many mentors. I think about all the educators in both formal classroom settings and in community-based ones, and how much they've impacted me in my life, both personally and professionally. I cannot imagine being where I am today without them.

EDUCATIONAL PATHWAY

My education pathway isn't linear, but I think that resonates with a lot of Native folks. The way we connect with our community, natural systems, and ways of knowing often doesn't fit into one box. In college I struggled to balance my interests in Indigenous studies, plants, and teaching into one "major." I found that I could accomplish all of these things in Forestry.

Most recently, I earned a Master of Forestry degree from Oregon State University. For my MF project, I supported my Tribe in mapping and inventorying the oaks we use to gather acorns, a traditional food. I also earned degrees in English at Humboldt State University (MA) and Cal Poly San Luis Obispo. I took many classes in Indigenous studies and botany, and explored our cultural connections to plants and natural systems.

I pull from all of these experiences to support me and my students in my current role. I love that I get to learn new things every day, and I love getting out into the field to learn new plants and work with our Indigenous communities.

TREE COMMUNITY RESOURCES

LEARN MORE ABOUT TREE-RELATED CAREERS

- [American Institute of Biological Scientists](#)
- [Botanical Society of America](#)
- [Career Girls - How to Become a Zoologist and Wildlife Biologist](#)
- [Native American Fish and Wildlife Society](#)
- [Pacific Education Institute \(PEI\)](#)
- [Project Learning Tree](#)

LOCAL PROGRAMS

- [Central Washington University](#)
- [Oregon State University \(OSU\)](#)
- [Northwest Indian College \(NWIC\)](#)
- [Spokane Community College](#)
- [Treasure Valley Community College](#)
- [The Mountaineers: PNW Wildlife and Tracking: Naturalist Lecture Series](#)
- [Washington State University \(WSU\)](#)
- [Wilderness Awareness School: Wildlife Tracking Intensive](#)

BOOKS

- *Can You Hear the Trees Talking (Young Readers Edition)* by Peter Wohlleben
- *Discovering Wild Plants* by Janice Schofield
- *Olympic National Park: A Natural History* by Tim McNulty
- *Plants of the Pacific Northwest Coast* by Pojar, J. and MacKinnon, A.
- *Northwest Trees* by Arno, S. and Hammerly, R.
- *The Hidden Life of Trees* by Wohlleben, P.
- *The World of Northern Evergreens* by Pielou, E.C..

VIDEOS

- *Teachings of the Tree People: The Work of Bruce Miller*: Documentary, 2006. Jennings, Katie.
- *Forest Fast Breaks*: short videos on forest management, tree biology, wildlife, wood products, etc.

WEBSITES

- [Blog on Douglas fir](#)
- [Conifers](#)
- [Conservation Native American Style](#)
- [Goodreads: Wildlife](#)
- [Northwest Conifers](#)
- [Pacific Education Institute](#)
- [Project Learning Tree](#)
- [Recipes on cooking and medicine making with conifers](#)
- [Recipes on cooking and medicine making with conifers](#)
- [Starflower Habitat Education Activities](#)
- [U.S. Fish and Wildlife Sciences: National Native American Programs](#)
- [USDA: Wildlife and Biological Resources](#)

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Tend, Gather and Grow is a K-12 curriculum on native and wild plants of the Pacific Northwest. For more information visit

<https://www.goodgrub.org/tend-gather-grow>