

Growing the Tribal Forestry Workforce

PRESENTED BY STEPHANIE GUTIERREZ

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IN PARTNERSHIP WITH

The Intertribal Timber Council

Affiliated Tribes of Northwest Indians Economic Development Corporation

United South & Eastern Tribes

Heritage University, Yakama Nation

Ecotrust

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Project Phases

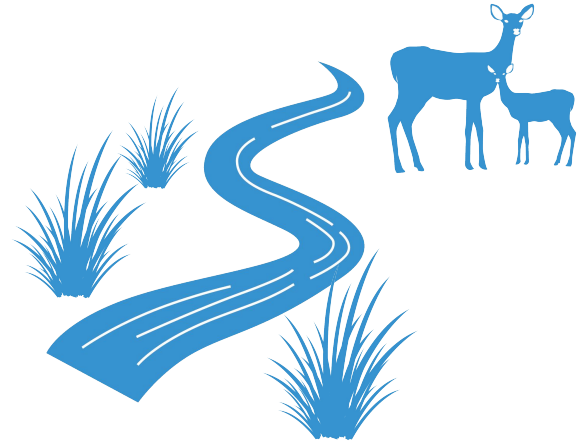
- 1** Gap and Opportunity Assessment (Survey)
- 2** Key Stakeholder Interviews
- 3** Intergenerational Mentorship Program (NEXT GEN)

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USFS National Urban & Community Forestry Challenge Cost-Share Grant Program.

Steering Committee Representatives

Intertribal Timber Council, Affiliated Tribes of Northwest Indians-Economic Development Corporation, United South and Eastern Tribes, Heritage University on the Yakama Nation, and Ecotrust.





Interview Focus

What tribal forestry workforce projects and programs exist?

What are the key needs, resources, and gaps for success of these projects and programs?

◀ Swinomish Tribal Forester working on Firewood program for Elders

PHOTO CREDIT: Sean Gutierrez

Tribal Forestry Workforce Development Inventory List

- 87 unique programs/projects
 - TREES Program, Washington Ag Forestry Leadership, AISES
- 9 Policies/Legislation
 - Public Law 93 638
- 38 unique resources
 - Native American Natural Resource Research Scholarship (Truman Picard Scholarship)
- 181 unique partners
 - Forest Service, Bureau of Indian Affairs, Intertribal Timber Council

Tribal Workforce Key Interview Data

Interviewees mentioned leadership development for women was mentioned as a need.

Since then, three events and/or mentorship programs have emerged for women in sciences, technology, engineering, and mathematics (STEM); forestry; and more broadly natural resources. These events and programs include:

- Rematriation: Indigenous Womxn in STEM Leadership Program (AISES)
- Women's Forest Congress
- Native Women in Agriculture and Natural Resources Symposium

Gender-specific Challenges Women Face in Forestry

“...[F]orestry research shows that women’s roles in forestry management are still restricted by a ‘masculine gender order’ (richardson et al., 2011, p. 525) that tends to marginalize women’s contributions and participation, especially in leadership and decision making (Varghese & Reed, 2012; Evans et al., 2017; Essougong et al., 2019).

“Several authors noted that decision-making bodies need to include at least 30% women for them to effectively influence decisions (agarwal, 2010a; Butler 2013).

“Women often interact with, use, understand and value the environment differently than men (e.g. Aswani et al., 2015; Purcell et al., 2016; Allendorf & Yang, 2017; Yang et al., 2018).”

Gender-specific Challenges Women Face in Forestry

Recommendations to address challenges include:

- Gender and systems analysis at project and program level to ensure inclusion of women
- Internal gender audits should be conducted within conservation and natural resource management organizations
 - Setting targets for women's representation in high-status science and leadership positions
- Better understand what women's leadership and empowerment means
- Actively encourage women to lead research and publish findings
- Efforts are required to value women's knowledge, and to enable them to share their knowledge and experience regardless of their formal education
- Specific efforts and resources need to be directed towards engaging women who are excluded by conservation projects
- Work with men to improve understanding of negative impacts of gender inequality to be accountable in addressing these challenges

(James et al 2021)



Existing Programs

Ag Forestry Leadership
- Washington State

AISES Professional
Mentorship Program

TREES

◀ *Fungi relatives on Coast Salish
lands*

**PHOTO CREDIT: Sean
Gutierrez**

Challenges in Higher Education

- Personal Relationships to Land and Community as Motivation
- Lack of Faculty as Mentors in Tribal Issues
- Insufficient Instruction in Tribal Issues and TEK
- Campus Culture: Being asked or obliged to Represent Native Communities
- Social and Cultural Supports
- Financial Supports
- Barriers to Pursuing Graduate Education

Gervais, Breanna K., Chase R. Voirin, Chris Beatty, Grace Bulltail, Stephanie Cowherd, Shawn Defrance, Breana Dorame, Raymond Gutteriez, Jessica Lackey, Candy Lupe, April B. Negrette, Natalya C. Robbins Sherman, Ruth Swaney, Kevin Tso, Marvin Victor, Royale Wilson, Kimberly Yazzie, Jonathan W. Long, and Serra J. Hoagland. 2017. "Native American Student Perspectives of Challenges in Natural Resource Higher Education." *Journal of Forestry* 115(5):491–97. doi: 10.5849/jof.2016-065R1.

Insights from Tribal Forestry Students

Need to highlight the diversity of Forestry careers:

“...forestry isn't like this field that I feel like, there's a clear understanding of what it is like to be like a forester, that career path as an opportunity. And so I think partly it comes down to sort of that classic misunderstanding of what forestry is, and I think a lot of folks still associate it to, like clear cutting in the Pacific Northwest, but it's so much more than that...”

—2022 Tribal Forestry Workforce Interview Participant

Cohorts as Student Support Systems

Cohorts within higher education programs contribute to student success:

“that's always what made the biggest difference to me...having this support and the people just mentors and even like, friend level, because, you know...part of the reason why I was encouraged to apply [to OSU] is because there was a scholarship that was specific for Native students [in the...] sustainable forest management program. And then we had our little cohort that we live together...it always comes down to like the support and the people and just having that available.”

—2022 Tribal Forestry Workforce Interview Participant

Educational Opportunities for Partnership

Build relationships with neighboring universities to increase awareness of tribal forestry stewardship and workforce opportunities:

“ Exposing university students to Indian forestry practices can provide them with a better understanding of the role that tribal vision and culture plays in guiding forest practices and the overall importance of natural resources to tribal communities”

Hoagland, Serra J., Ronald Miller, Kristen M. Waring, and Orlando Carroll. 2017. “Tribal Lands Provide Forest Management Laboratory for Mainstream University Students.” Journal of Forestry 115(5):484–90. doi: 10.5849/jof.2016-064R1

NEXT GEN - EnvironMentors

NEXT GEN builds on an existing program framework called EnvironMentors (EM).

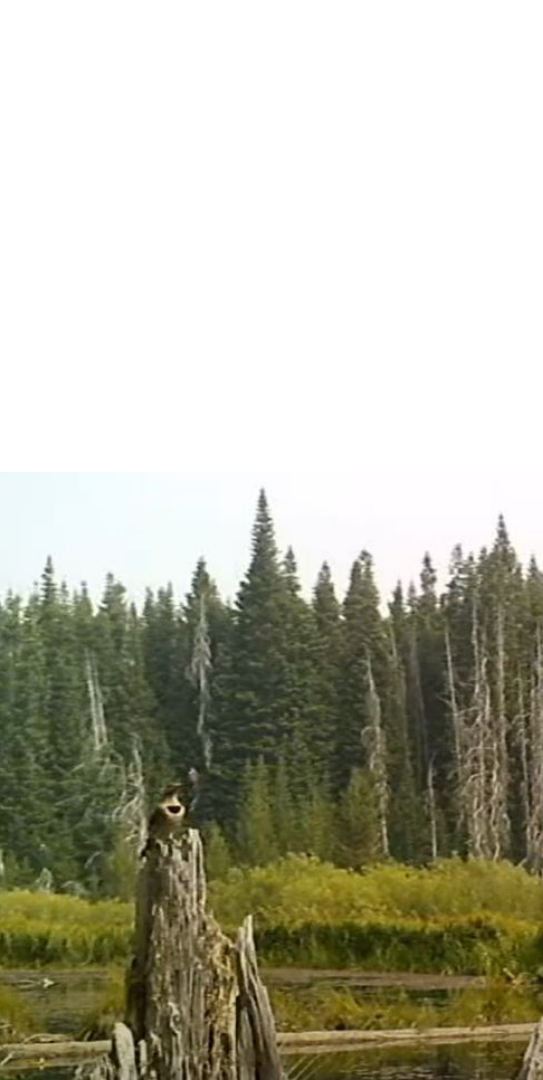
EM is a nation-wide program under the National Council for Science and the Environment.

Provides students with hands-on research experience and support of a caring mentor outside of school.

Native Heritage University students were paired with Native Yakama Nation Tribal School Students (high school-aged)

Adapted for distance learning, we used Zoom to provide two classes each week focused on forestry topics and activities.

Mentors would meet with HU faculty and Ecotrust outside of the class period to prepare for the classes with the students.



FOREST ECOLOGY ENVIRONMENTORS LESSON PLANS

Created by Stephanie Cowherd
June 2020

Ecotrust

Lesson Plans and Activities

In-classroom tools:

- Google Suite (Drive, Maps, Slides)
- YouTube
- NRCS Web Soil Surveys
- Zoom (breakout rooms)

Lesson plans centered around Forestry related topics e.g.

- Ecological communities
- Tree and plant identification,
- Elevation/Topography
- Soils
- Wildlife habitat

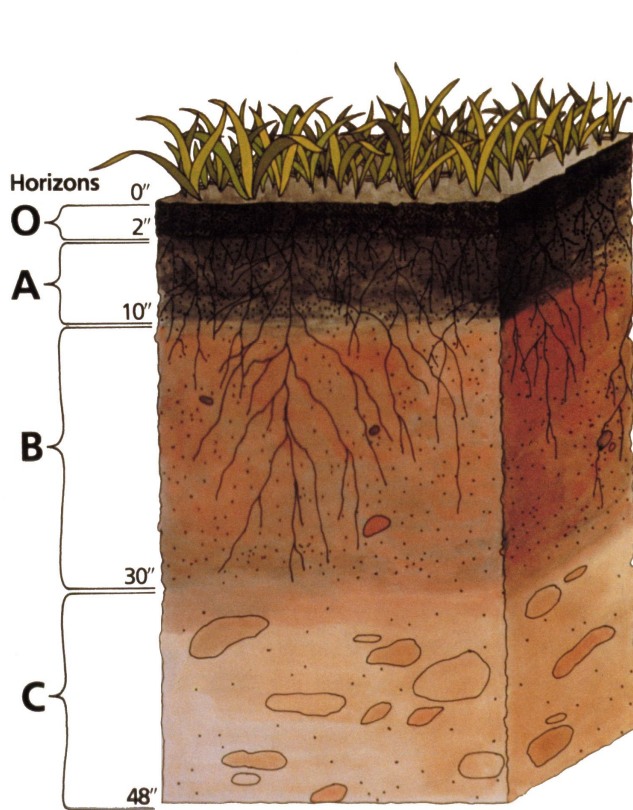
◀ A screenshot of one of the wildlife cameras used for class (left). The cover of lesson plans made available to Indigenous Science and Forest Educators Workshop series.

PHOTOG CREDIT



A photo of a Willow species found in the Xwayama Urban Forest.

[Yakama Nation Natural Resources](#)



A photo of illustrating an example of soil horizons.

[NRCS](#)



A Google map satellite image of a forest with downed trees with a creek.

[Google](#)

“It felt like home,” he says. “It made me feel happy and joyful all the time. I wanted to be like (the instructors): happy and outgoing.”

--EnvironMentors Student Jonas ScabbyRobe

Indigenous Science & Forests Educator Workshops

Participants met for two virtual workshops for a total of 6 hours to share with each other curriculum materials and activities they use and adapt for forestry related activities.

Participants also discussed specific success, challenges, and resources needed for distance learning.

- ◀ A screenshot of participants during one of the virtual workshops hosted by Ecotrust.

