



STEM preparation in natural resources education

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NASEM Town Hall, May 13 2021

by Adrian Leighton, Dean Division of Natural Resources

IT STARTS WITH THE MISSION AND VISION STATEMENTS

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GROUNDING IN TRADITION.
CHARGING INTO THE FUTURE.



American Forests

March 8 at 8:39 AM · 🌐

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She calls herself the Whitebark Pine Witch. That's because ShiNaasha Pete of the Navajo Nation lives for the moments when she can hike into the forest at Flathead Indian Reservation in northern Montana to spend weeks studying whitebark pine. Without her, the reservation cannot bring its whitebark pine restoration strategy to life. The need to do so is urgent, given that 90 percent of this tree species--important from a cultural and environmental standpoint--is dead in her region. On International Women's Day, American Forests honors people like ShiNaasha who work so hard to #ReforestAmerica. Photo by Morgan Heim and Jenny Nichols

- **FROM THE MISSION:** The mission of Salish Kootenai College is to provide quality post-secondary educational opportunities and support for Native Americans, locally and from throughout the United States, to achieve their academic and career goals.
- **FROM THE VISION:** The college will empower students to improve the lives of their families and communities through research, leadership and service.

A clear need in workforce preparation



Table C.5. Native American enrollment in natural resources fields of study. Data from 85 institutions and supplied to IFMAT III by Bill Richardson, FAEIS.

	2004	2005	2006	2007	2008	2009	2010	2011
Environmental Science and Studies	28	36	29	34	40	43	44	36
Fish and Wildlife	47	39	44	48	56	56	76	67
Forestry	52	49	38	54	48	50	55	53
Natural Resource Conservation and Management	33	33	41	32	34	55	50	46
Natural Resources Recreation	15	16	19	18	15	13	8	9
Range Science and Management	11	14	13	9	9	15	18	17
Watershed Science and Management	0	0	0	2	2	0	0	1
Wood Science/Products	2	2	7	5	4	2	2	1
Totals, all majors	188	189	191	202	208	234	253	230

- Tribes manage over 18 million acres "commercial forest" & 40 million woodlands
- In 1991, only 22% of BIA/Tribal foresters were Native. By 2013, increased to almost 50%
- SKC has an average of 40 Native forestry majors and also offers Bachelor's degrees in Hydrology (15-20 students) and Wildlife and Fisheries (40 + students)
- This means that SKC has approximately 40% or more of all Native forestry and wildlife students in the country at any given time
- Partnerships are key
- Alumn making a difference

Student preparation for success

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- Small faculty that teaches and advises
- Average faculty member teaches 3-4 courses a quarter (10-12 classes a year)
- Many of our students suffer from “poor academic self esteem”- mentoring essential
- Work closely with math department, life sciences and others to ensure student success- applied examples
- Small classes, lots of hands-on and field time and accessible tribal lands



Keys to success

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American Forests

February 21 at 6:25 PM · 🌐

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Always energizing to meet the people who make it happen. Like Tony Jr., who is leading the effort to restore the forests at Flathead reservation in Montana. And Tony Sr., who is responsible for making sure the tribe's rich culture is passed down to the next generation. We are honored to work with them to [#ReforestAmerica](#).



- Internships critical
- Alumni input on critical skills
- NRD created and maintains GIS coursework for SKC
- Drones, R both emerging needs leading to new courses
- Amazing opportunities to teach science hand in hand with cultural practices
- Students from different tribes share perspective and teach each other

Research

- Undergraduate- senior thesis requirement
- Grant writing and research an “additional duty” for most faculty
- Online journal access a limiting factor
- Capacity issue- even with new acces to Capacity funds
- New MNR at SKC will create new opportunities

