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Forestry in Indian Country:
Solving Federal Forestry's Rubik's Cube

Investing in the Next Generation of Indian Foresters

By Serra Hoagland and Breanna Gervais

Indian self-determination and sovereignty can be achieved when tribes have complete autonomy over their natural resources. Fortunately, more Indian students are entering natural resource programs though Indian student graduation rates are still low and there are challenges that must be acknowledged in order to foster the next generation of Indian foresters.

Today, more than ever, Indian forests need a diverse, talented, dedicated workforce to address the unique challenges that are impacting native communities. Fortunately the number of Indians enrolled in natural resource programs is increasing and the number of current Indian natural resource professionals is at a high¹ and continues to rise.

Don Motanic, Intertribal Timber Council (ITC) Technical Specialist, has represented ITC and Bureau of Indian Affairs Forestry for more than 20 years at the American Indian Science & Engineering Society (AISES) National Conferences, which is the largest gathering of Indian students in science, technology, engineering, and mathematics (STEM) disciplines.

"I meet an overwhelming number of Indian students that are studying wildlife, forestry, biology and the environmental sciences," Motanic says. "This trend wasn't there historically. It's apparent that more students are pursuing these degrees and they now carry a stronger commitment to go back to their tribal communities to address various environmental issues."

Others see the same trend as well. Orvie Danzuka, ITC Education Committee Chair, oversees the Truman Picard Scholarship. He reports there are more students applying for the scholarships, and that the students who are applying are more competitive.

"Every year it seems more and more difficult to select top applicants from a pool of already outstanding students" says Danzuka. "These trends are encouraging at a time when many tribal natural resource professionals are close to retirement."

Federal, State, non-profit and private

natural resource management employees often lack enduring personal connection to the lands they serve¹. However, many Indian students are deeply connected to the land through various traditional practices and ceremonies. What's more important is approximately 22% of Native Americans² live in rural areas and depend on the health and productivity of the natural resources for subsistence and economic benefit. Increasing numbers of Native American resource professionals, educated in 21st century science and acquainted with traditional approaches to landscape stewardship, can bring valuable perspectives and capabilities to management programs on tribal and non-tribal lands.

Survey results of tribal and BIA foresters

University/College ⁷	Attendees
Northern Arizona University	21
University of Washington	17
Washington State University	15
Humboldt State University	12
University of Montana	12
Oregon State University	10
Colorado State University	9
University of WI, Stevens Pt.	8
Salish Kootenai College	7
Haskell Indian Nations Univ.	7
Oklahoma State University	6
New Mexico State University	5

Table 1: The number of attendees from various institutions from a survey of tribal and BIA foresters.

Many universities and tribal colleges actively engage in recruitment and retention programs that focus on Indian students in natural resource related fields. We pooled data from several databases^{3, 4, 5, 6, 7} to identify where Indian students were enrolled in natural resource programs at public, private and tribal colleges. Our investigation led us to believe that there is a wide range of opportunities for Native students.

Northern Arizona University at Flagstaff and the University of Oregon at Eugene administer regional Tribal Climate Change Programs, which host a variety of STEM research opportunities for Indian students. The University of Washington (UW), Seattle, with the second most tribal and BIA forestry graduates (Table 1), has an agreement with the ITC to waive tuition when students receive the Truman Picard scholarship. This partnership leverages funding support and is also available at Salish Kootenai College (SKC) at Pablo, Montana, and the nearby University of Montana at Missoula provides numerous opportunities, including its Native American Natural Resource Program, Sloan fellowships, waived tuition and several internship programs⁸.

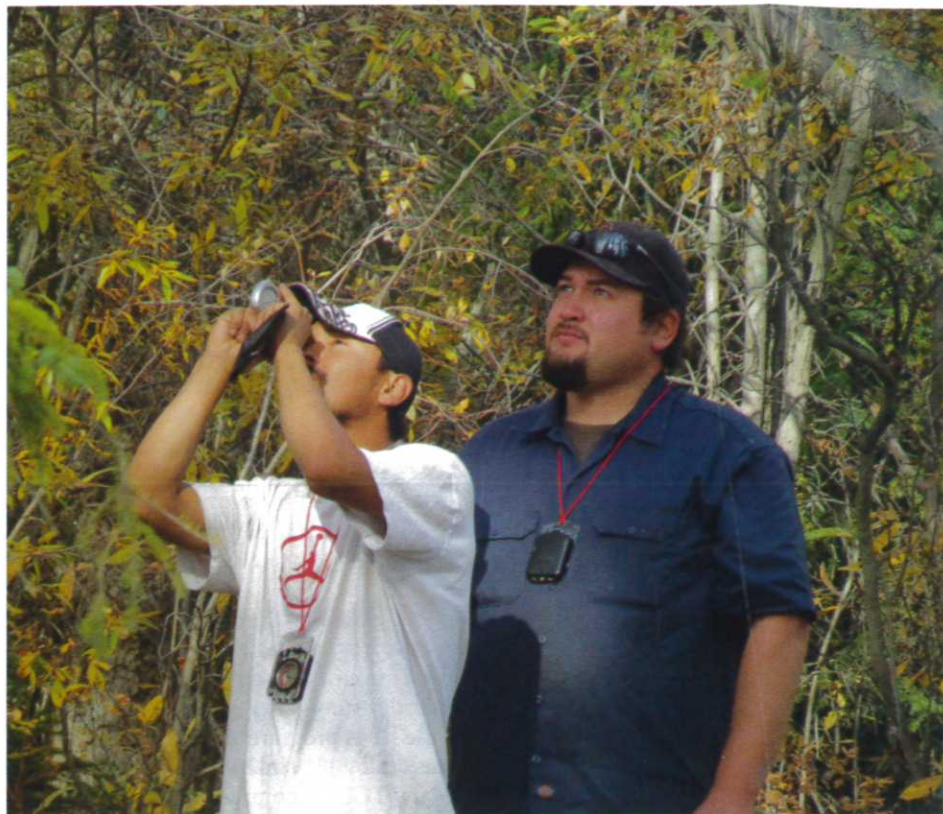
In California, Humboldt State University at Eureka has a Wildland Multicultural Scholars program as well as an Indian Natural Resources, Science and Engineering Program⁹. Stanford University at Palo Alto covers tuition and provides a dormitory for Indian students, offers numerous Indian student organizations, and has a 90 percent graduation rate [the highest in the nation] among its Indian students.¹⁰ Cal Poly at San Luis Obispo, California is initiating a new interdisciplinary minor entitled Indigenous Studies in Natural Resources and the Environment that incorporates Indigenous viewpoints and perspectives as well as traditional knowledge and sovereignty-related topics in required coursework with the intent to, foster improved communication and collaboration among disciplines and enhance the understanding of diversity¹¹. Tribal colleges, including Salish Kootenai College, Southwestern Indian Polytechnic Institute at Albuquerque, New Mexico, Haskell Indian Nations University at Lawrence, Kansas, the College of Menominee Nation at Keshena and Oneida, Wisconsin, Northwest Indian College in Bellingham, Washington and Navajo Technical College at Crown Point, New Mexico provide opportunities for Indian students in natural resources. For more information on tribal colleges see the following article. Several of the aforementioned colleges were among the top twelve commonly listed universities attended by tribal and BIA foresters (Table 1).

Tribes also provide opportunities for Indian youth to get involved in natural resources. The Mescalero Apache Tribe in New Mexico offers a Youth Conservation Corps that introduces students to a wide realm of natural resource issues such as managing the tribal fish hatchery and providing wood for tribal members. The Eastern Band of Cherokee forestry department in North Carolina partners with local schools to incorporate a native plant program where tribal youth can learn about culturally significant plants. Furthermore, Menominee foresters in Wisconsin work closely with the Sustainable Development Institute at the College of Menominee Nation to host over a dozen tribal student interns per year to work on various research projects related to sustainable forest management¹².

As Indian students attempting to complete a post-secondary education we've created the following recommendations that may foster the next generation of Indian foresters:

Integrated coursework: Many natural resource curriculums within mainstream colleges do not include mention of Native American traditional knowledge and cultural influences upon the landscape. When discussion is included there is a tendency to talk about Native Americans in past tense overlooking the many accomplishments of contemporary tribal resource programs. Curricula should include topics like Indigenous science and Native perspectives in natural resource courses. Culturally congruent coursework that integrates tribal perspectives with western science and partnering students with tribal elders has proven to be highly successful and rewarding¹³.

Funding for schools and the students they serve: The success of recruitment and retention programs at various schools was highly correlated to the historical and continued funding and commitment from upper level administration to support such programs. Programmatic funding to establish and maintain programs for Native students is greatly needed¹⁴. Lack of adequate financial resources is one of the top reasons why students drop out of school. The average student debt has risen to \$35,000¹⁵. With rising tuition, the continually widening gap between the haves and have-nots, shrinking job markets and disproportionately high poverty rates, Native students are often at a severe disadvantage^{16,17}. Providing scholarship opportunities such as the UW/SKC ITC tuition-waiver or work programs conveniently located on campus could help al-



Young tribal foresters practice with the tools of the trade during a training exercise at the Yukon Flats Center at the University of Alaska Fairbanks Interior Aleutians Campus. IFMAT III team member, Adrian Leighton took this picture

leviate the financial burden on students.¹⁸

Family: Many Native American students have family obligations and responsibilities that do not allow for travel or relocation to higher education institutions. Student family housing and relocation planning assistance could mitigate the stress of relocating the family unit. For example, the Educational Opportunity Program at Washington State University is a great example that gives members priority-housing placement.

Mentorship and Internships: Non-conventional, first generation, Native natural resource students typically struggle with access to the national higher education system. Larger universities can help by establishing partnerships with tribal colleges to ease the challenges of student transfer. Tribal natural resource departments can connect Native students to internship opportunities within Tribal, Federal, State, and other agencies. Lastly, mentorship and support groups are critical to Native student retention and success. Student organizations such as AISES, SACNAS and others help students develop relationships and leadership skills while creating a sense of belonging and community among the members.

- 1 IFMAT III Report
- 2 2010 Census
- 3 ITC Truman Picard Scholarship database 2012
- 4 Cox, Mathews, and Associates, Inc. 2010. Accessed on July 26, 2013. <http://diverseeducation.com/top100/Bachelors Degree Producers 2010.php>
- 5 Food and Agricultural Education Information System
- 6 AISES College Guide Issues 2010-2011; 2011-2012 and 2012-2013
- 7 IFMAT Workforce Survey summary
- 8 Rachel Smith and Dr. James Burchfield, pers. communication on July 23, 2013
- 9 See <http://www.humboldt.edu/wms/>
- 10 Dr. Matthew Snipp, pers. communication on July 18, 2013
- 11 Dr. Kate Martin, pers. communication on July 22, 2013
- 12 Sustainable Development Institute, College of Menominee Nation webpage. Accessed on July 28, 2013.
- 13 Dr. Adrian Leighton, pers. communication on Feb 26, 2013.
- 14 See IFMAT recommendations CE1-3 and CE5
- 15 CNN Money article. Accessed on July 31, 2013. Available online: <http://money.cnn.com/2013/05/17/pf/college/student-debt/index.html>
- 16 Waters, M.C. and Karl Eschbach. 1995. Immigration and ethnic and racial inequality in the United States. Annual Review of Sociology 21: 419-446. Available online: http://dash.harvard.edu/bitstream/handle/1/3203265/Waters_ImmigrationEthnic.pdf?sequence=1
- 17 Chun, E. Triple Jeopardy: Rising college Costs, Educational Debt, and a Shrinking Labor Market. Accessed on July 31, 2013. Available online at: <http://www.insightintodiversity.com/educational/triple-jeopardy-rising-college-costs-educational-debt-and-a-shrinking-labor-market-by-dr-edna-chun>
- 18 See IFMAT recommendations CE4