

Committing to Communities for Workforce Diversity: Developing Long-term Partnerships to Increase the Pool of Alaska Native Scientists

By Theresa L. Goedeke

When it comes to recruiting members of under-represented groups into the sciences, there is no quick fix. The National Oceanic and Atmospheric Administration's (NOAA) National Centers for Coastal Ocean Science (NCCOS) is setting a standard in workforce planning by investing in long-term, community-based partnerships geared toward cultivating new generations of Native scientists in rural Alaska.

NCCOS is a federal office. Its mission is to provide scientific services and products to inform management of our nation's coasts. The consumers of NCCOS' science are a diverse group of people, ranging from coastal resource managers to persons who rely on fish and other aquatic resources for their livelihood and cultural practices. In 2003, NCCOS opened the Kasitsna Bay Research Laboratory, which is located in Seldovia, Alaska. NCCOS realized quickly that it would need to have Alaska Native scientists on staff to serve effectively the local community or, alternatively, to be able to hire local, indigenous scientific technicians to consult on research projects.

According to Gary Matlock, Director of NCCOS, workforce diversity in this case would enable NCCOS "to get information that we would not have access to otherwise because it's based on local experiences or has been handed down through generations." Terry McTigue, Manager of the NCCOS' Alaska Native program, explained, "It's much better if people from local communities are in the field with you as collaborators in the research." In NCCOS' view, inclusion of local knowledge and expertise will help NCCOS conduct research that is beneficial to rural, subsistence communities in Alaska.

However, the pool of newly graduated Alaska Native and American Indian scientists is low nationwide. As seen in Table 1, below, the U.S. Census Bureau estimated in 2005 and 2006 that among Native persons over the age of twenty-five, fewer than fifteen percent completed a Bachelors degree or higher. Moreover, according to the National Science Foundation, Native students are less likely to pursue degrees in science and engineering when compared to other racial groups. In 2004, Alaska Natives and American Indian students earned less than one percent of all science degrees awarded in the United States, from the Bachelors to Doctoral level (Table 2). According to Patty Brown-Schwalenberg, Executive Director of the Chugach Regional Resources Commission (CRRC), a nonprofit, intertribal fish and wildlife commission: "Most Native students want to get a degree that will help them give back to their community, so they mostly get degrees in education and social work because they see that these types of jobs are available in their community."

Table 1: Post-Secondary Educational Attainment for American Indians and Alaska Natives Over 25 Years of Age: 2000, 2005, 2006 (Percent)

Educational Attainment	*2000	**2005	^2006
Some college, no degree	23.6	23.1	21.7
Associate degree	6.6	8.5	8.0
Bachelor's degree	7.6	9.1	8.4
Graduate or professional degree	3.9	4.5	4.4

*Source: Adapted from US Census Bureau's American Indian, Alaska Native Tables from the *Statistical Abstract of the United States: 2004-2005*, Table 37, Pg 39, available online at <http://www.census.gov/statab/www/sa04aian.pdf>.
** Source: U.S. Census Bureau, 2005 American Community Survey, adapted from Table B15002C, available online at <http://factfinder.census.gov>.
^ Source: U.S. Census Bureau, 2006 American Community Survey, adapted from Table B15002C, available online at <http://factfinder.census.gov>

Table 2: Persons Graduating with a Degree in Science or Engineering by Degree Category & Race (Percent): 2004

	White	Black	Hispanic	Native	
Associates*	77.75	11.06	10.03	1.16	100
Bachelors**	79.82	10.33	8.98	0.87	100
Masters**	80.58	11.08	7.55	0.79	100
Doctorate^	88.76	5.51	5.28	0.45	100

Sources: Compiled from National Science Foundation Tables C-12, C-13, E-5, E-6, and F-12 available online at <http://www.nsf.gov/statistics/wmpd/race.htm>
* National Science Foundation, Division of Science Resources Statistics, special tabulations of U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Completions Survey, 2004.
**National Science Foundation, Division of Science Resources Statistics, special tabulations of U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Completions Survey, 1995–2004. ^National Science Foundation, Division of Science Resources Statistics, Survey of Earned Doctorates, 2004.
NOTE: NSF included the social sciences (e.g., sociology, anthropology, political science, economics, etc..) as a part of the sciences for purposes of these data.

According to Kevin Illingworth, Director of the Tribal Management Program, an academic program offered by the Interior-Aleutians Campus (IAC), University of Alaska-Fairbanks, there are many factors inhibiting Alaska Natives from pursuing degrees in the sciences. “First,” he explained, “there is a lack of quality K-12 science education offered in the villages.” This is because teachers are usually generalists, not science teachers. Second, to get a college education, students must often relocate to urban areas. Certainly, Illingworth stated, “there is little availability of science courses on the college level being taught in the rural villages.” This is problematic because Native students, particularly older persons, often do not want to leave their homes, families and communities to attend school or to take a job. Finally, in general, there have not been many scientists employed in the villages to serve as role models for young people.

These factors combined, McTigue suggested, means that “there are virtually no students in the pipeline to graduate programs in the natural sciences.”

The task for NCCOS was clear for Matlock: “We realized that if we wanted an increased pool of trained Alaska Native scientists from which we could recruit, we would have to help create it.” However, because of limited funding and competing mandates, NCCOS did not have the ability to address this problem alone. Their strategy, McTigue observed, “We reached out to local partners and existing programs.”

In 2003, community leaders from Native Village of Tatitlek met with NCCOS to discuss ideas for collaboration. Schwalenberg commented, “We heard that NCCOS was coming to Alaska to have a meeting about getting Alaska Natives into graduate programs. We crashed the meeting to tell them about the education program that we were trying to start.” NCCOS was interested, but realized it would mean a long-term commitment. Matlock observed, “At this meeting the communities told us, ‘if you want to help us accomplish something, then we want you to be here helping us to accomplish that.’”

Consequently, Matlock hired Glenn Seaman who serves as the NCCOS Alaska Native Educational Liaison. Matlock commented, “Our partners in Alaska viewed hiring a local liaison as evidence of our commitment. Doing this was important to us because it was important to them.” According to Seaman, his task is to “understand and define the challenge, learn what is being done within Alaska to address those challenges and define how we can complement those efforts within our area of responsibility and expertise.” McTigue explained the importance of Seaman’s efforts, “Glenn is a facilitator and he’s there to support the tribal entities and the universities, helping to match them up with potential partners in other agencies.”

One of the most successful partnerships thus far has been between NCCOS, the Native Village of Tatitlek, CRRC and IAC. These organizations worked together to make the Tatitlek leadership’s vision of a local, science technical training program a reality. Today, the IAC’s Tribal Management Program, a university-approved curriculum delivered to students in their own village, has a number of Tribal natural resource courses. “What’s unique about this program”, Schwalenberg explained, “is that the classes must include traditional knowledge.” CRRC, in collaboration with the IAC, developed locally and culturally relevant course curriculum, with guidance from Tribal elders. Chugach students can now earn a certificate or Associate’s degree in Tribal Management of natural resources, without having to move from their village. More importantly, the options for program graduates are improved. They can go to work for their community, take a federal or state agency job, or continue to earn a Bachelor’s or graduate degree.

Achieving workforce diversity in scientific organizations sometimes takes more than rethinking hiring and recruitment practices, especially in relation to Native Americans. Illingworth observed, “we’re talking about systemic changes at a fundamental level, so a long-term commitment is important.” He continued, “NCCOS was flexible and able to see the longer-term outcomes. It is one of the few agencies that has made that commitment.” According to Schwalenberg, the partnership has been productive because of a unified devotion to complementary goals. “If partners have similar goals, then even if the other partners goals are

not your own, you agree with those goals and it's a matter of wanting them to succeed also.” Finally, Schwalenberg remarked on this virtue of NCCOS’ approach, “NCCOS is thirsty for knowledge” and is willing to be guided by Native communities. Moreover, she added, “NCCOS’ willingness to include tribes and communities in their work has been very important”.

Through its work in Alaska, NCCOS has learned that the cultivation of the next generation of scientists is a long-term proposition, requiring devotion to communities and development of lasting partnerships. Its experience serves as a model to other science agencies and organizations. By partnering with Native communities, respecting their culture and protocols and genuinely helping them to realize their objectives, an agency may ultimately achieve more of their own diversity goals in the long run.

Advice for Developing Local Partnerships with Native Communities

- Do your homework about what is and is not the reality in a community. For example, do not go into a community promoting scholarships for graduate studies when most of the citizens do not have a high school diploma.
- Do not try to reinvent the wheel or assume you can do it better. Spend time learning about existing programs and organizations and explore how your expertise can complement ongoing efforts.
- Take your time: wait, listen and learn. Be aware of the local culture, respect cultural etiquette and social cues.
- Let the community educate you on what is or is not best for them and be responsive to community interests and needs.
- Find willing partners who share your goals, commitment and enthusiasm.
- Make a long-term commitment to the community and your partners, demonstrating this commitment in terms of investment and activity.
- Stay focused on the long-term goal as opposed to fixating on short-term gains.
- Be realistic in setting short-term goals. Accomplishment of many small achievements over time helps build trust, solid partnerships and good working relationships.
- Always be consistent, responsive and reliable when working with partners; fulfill commitments and meet obligations.
- Be persistent and periodically follow up with potential partners.
- Do not make promises that you cannot keep.
- Identify potential challenges and be proactive in addressing them.
- Document activities and outcomes as they occur because this will improve your ability to learn from mistakes and allow better accounting of successes throughout the program.

NOTE: The opinions expressed in “Committing to Communities for Workforce Diversity: Developing Long-term Partnerships to Increase the Pool of Alaska Native Scientists” do not imply endorsement by IM Systems Group or NOAA of any product, service, organization, company, or policy.

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