



United States
Department of
Agriculture

National Institute
of Food
and Agriculture



NIFA 1994s

NATIONAL INSTITUTE OF FOOD AND AGRICULTURE

The First 20 Years of the 1994 Land-Grant Institutions
Standing on Tradition | Embracing the Future



WWW.NIFA.USDA.GOV/NIFA-TRIBAL-PROGRAMS

ALASKA

1. Iñisaġvik College, *Barrow*

ARIZONA

2. Diné College, *Tsaile*
3. Tohono O'odham Community College, *Sells*

KANSAS

4. Haskell Indian Nations University, *Lawrence*

MICHIGAN

5. Bay Mills Community College, *Brimely*
6. Keweenaw Bay Ojibwa Community College, *Baraga*
7. Saginaw Chippewa Tribal College, *Mount Pleasant*

MINNESOTA

8. Fond du Lac Tribal & Community College, *Cloquet*
9. Leech Lake Tribal College, *Cass Lake*
10. White Earth Tribal and Community College, *Mahnomen*

MONTANA

11. Blackfeet Community College, *Browning*
12. Chief Dull Knife College, *Lame Deer*
13. Aaniiih Nakoda College, *Harlem*
14. Fort Peck Community College, *Poplar*
15. Little Big Horn College, *Crow Agency*
16. Salish Kootenai College, *Pablo*
17. Stone Child College, *Box Elder*

NEBRASKA

18. Little Priest Tribal College, *Winnebago*
19. Nebraska Indian Community College, *Winnebago*

NEW MEXICO

20. Navajo Technical College, *Crownpoint*
21. Institute of American Indian Arts, *Sante Fe*
22. Southwestern Indian Polytechnic Institute, *Albuquerque*

NORTH DAKOTA

23. Fort Berthold Community College, *New Town*
24. Cankdeska Cikana Community College, *Fort Totten*
25. Sitting Bull College, *Fort Yates*
26. Turtle Mountain Community College, *Belcourt*
27. United Tribes Technical College, *Bismarck*

OKLAHOMA

28. College of the Muscogee Nation, *Okmulgee*

SOUTH DAKOTA

29. Oglala Lakota College, *Kyle*
30. Sinte Gleska University, *Rosebud*
31. Sisseton Wahpeton Community College, *Sisseton*

WASHINGTON

32. Northwest Indian College, *Bellingham*

WISCONSIN

33. College of Menominee Nation, *Keshena*
34. Lac Courte Oreilles Ojibwa Community College, *Hayward*

1994 LAND-GRANT UNIVERSITIES

Time and Perspective

Twenty years ago, we reached an important milestone in our nation's effort to achieve equity in research, education, and extension. In 1994, 29 tribal colleges received land-grant university (LGU) status, giving them access to federal government resources that would improve the lives of Native students through higher education and help propel American Indians toward self-sufficiency. These resources also support innovative research, education, and extension programs that positively impact agriculture and food production.

When the 1994 land-grants began to form the First American Land-Grant Consortium in 2002, they invited faculty from the 1862 and 1890 LGU institutions. They also brought in an organizational consultant who asked the group to create a timeline of their schools. The 1862 and 1890 LGU faculties started with the Morrill Acts of 1862 and 1890 that created them. The 1994 land-grant faculty, however, surprised everyone by beginning their timelines with their tribal history, starting long before the beginnings of the U.S. federal government. This was a hint that something different and special was underway. This new land-grant system would teach in a cultural context that empowered students by drawing on the strength of their peoples' history, indigenous knowledge, and traditions.

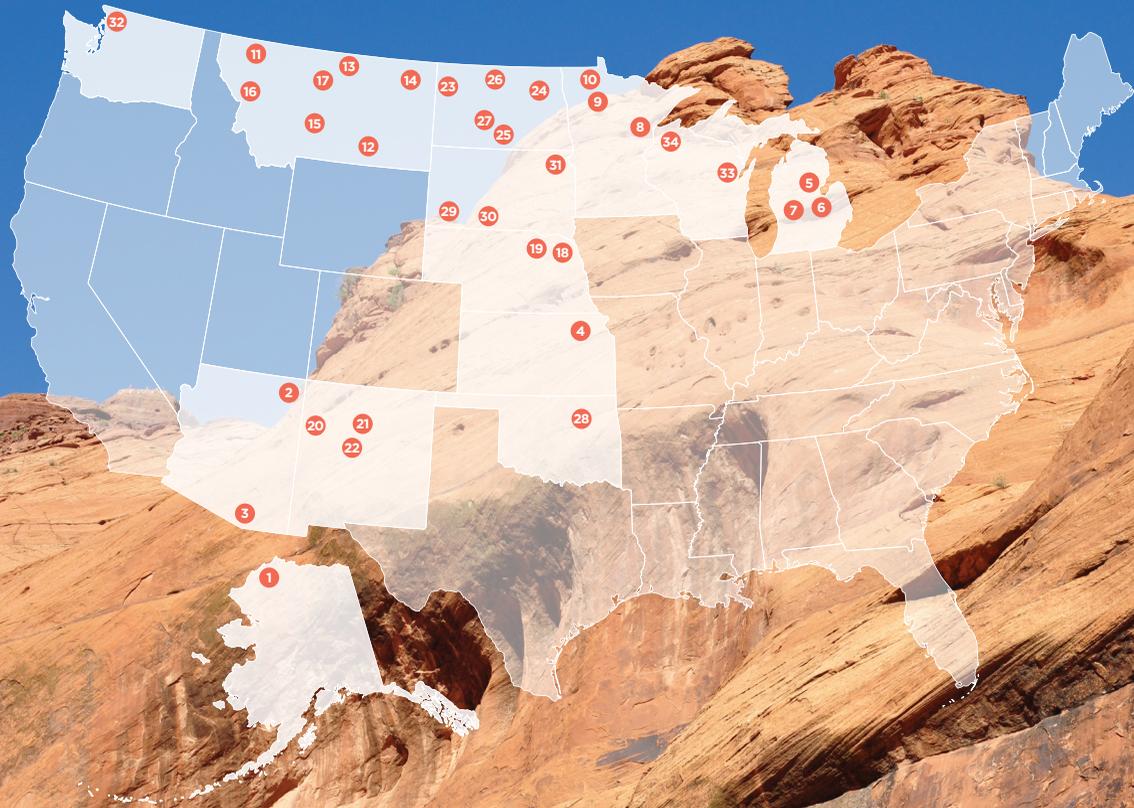
Research suggests that agriculture in the Americas began between 7,000 and 5,000 BCE. Given that perspective, the 20 years since the tribal LGUs were established doesn't seem like such a long time. American Indians have been practicing observational science, its application, and its conservation long before our agency, the U.S. Department of Agriculture's (USDA) National Institute of Food and Agriculture (NIFA), funded research and education projects in Indian Country.

So, what is the harvest for these first 20 years? There are countless students who have achieved academic and professional success, bringing their knowledge and experiences back to their communities. You will find some of their stories in the following pages. There are now 34 tribal land-grant institutions that have made great strides in their ability to serve their communities. It's my hope that in the next 20 years and beyond, tribal communities will be healthy, sustainable, and successful societies that reflect the rich history and culture of their people.



SONNY RAMASWAMY
DIRECTOR

NIFA 1994 LAND-GRANT COLLEGES AND UNIVERSITIES



NIFA's Investment in Tribal Research, Education, and Extension

NIFA FUNDS RESEARCH, EDUCATION, AND EXTENSION PROGRAMS THAT ENABLE tribal colleges to recruit and retain students in the food and agricultural sciences. Graduates of these programs are better qualified to enter the workforce as community problem-solvers. These programs also empower individuals and communities to enhance economic opportunities and quality of life, improve nutrition and health, and protect natural resources and the environment.

TRIBAL COLLEGES EDUCATION EQUITY PROGRAM

The Tribal Colleges Education Equity Program is a non-competitive program to enhance educational opportunities for American Indians in the food and agricultural sciences. Eligibility is legislatively restricted to accredited 1994 land-grant institutions and is designed to strengthen delivery of formal education opportunities at the associate, baccalaureate, or graduate levels.

NIFA supports the tribal college mission with funding that allows faculty to address long-range goals, including:

- Curricula design and materials development
- Faculty development and teacher preparation
- Student experiential learning
- Equipment and instrumentation for teaching
- Student recruitment and retention

TRIBAL COLLEGES EXTENSION SERVICES PROGRAM

The Tribal Colleges Extension Services Program (TCEP) provides funding for informal outreach and education programs at 1994 land-grant institutions. TCEP helps tribal colleges and universities develop and strengthen their extension programs so they may address specific individual, family, or community needs. It also promotes indigenous and science-based knowledge that empowers citizens on reservations and within the greater American Indian community to become active participants in their own development.

Awards are made on a competitive basis to support one or more of the following extension-based program areas:

- Food production, processing, marketing, and farm management
- Community resources and economic development
- Family development and resource management
- 4-H and youth development
- Leadership and volunteer development
- Natural resources and environmental management
- Human nutrition, diet, and health
- Tribal land issues



TRIBAL COLLEGES RESEARCH GRANTS PROGRAM

The Tribal Colleges Research Grants Program (TCRGP) builds institutional research capacity at 1994 land-grant institutions. TCRGP funds applied projects that address student educational needs and community, reservation, or regional challenges. Projects reflect stakeholder input and allow for tribal or reservation engagement.

Projects include the following:

- Human health, nutrition, and indigenous foods
- Natural resource use and sustainability
- Energy conservation, bioenergy, and renewable energy sources

- Food security
- Community and individual finance and economics
- Community revitalization and entrepreneurship
- Agricultural production
- Agricultural science for climate variability
- Inquiry into effective educational methodologies for American Indians

Awards are made on the basis of a competitive review process and require collaboration with other institutions.

1994 LAND-GRANT INSTITUTIONS ENDOWMENT FUND

The 1994 land-grant institutions were established for the advancement of agriculture and the mechanic arts at tribal colleges. Additionally, the authorizing legislation requires that NIFA contribute funding to form an endowment account, of which the interest income is distributed to eligible 1994 land-grant institutions. This endowment fund is dubbed the 1994 Institutions Endowment Fund.

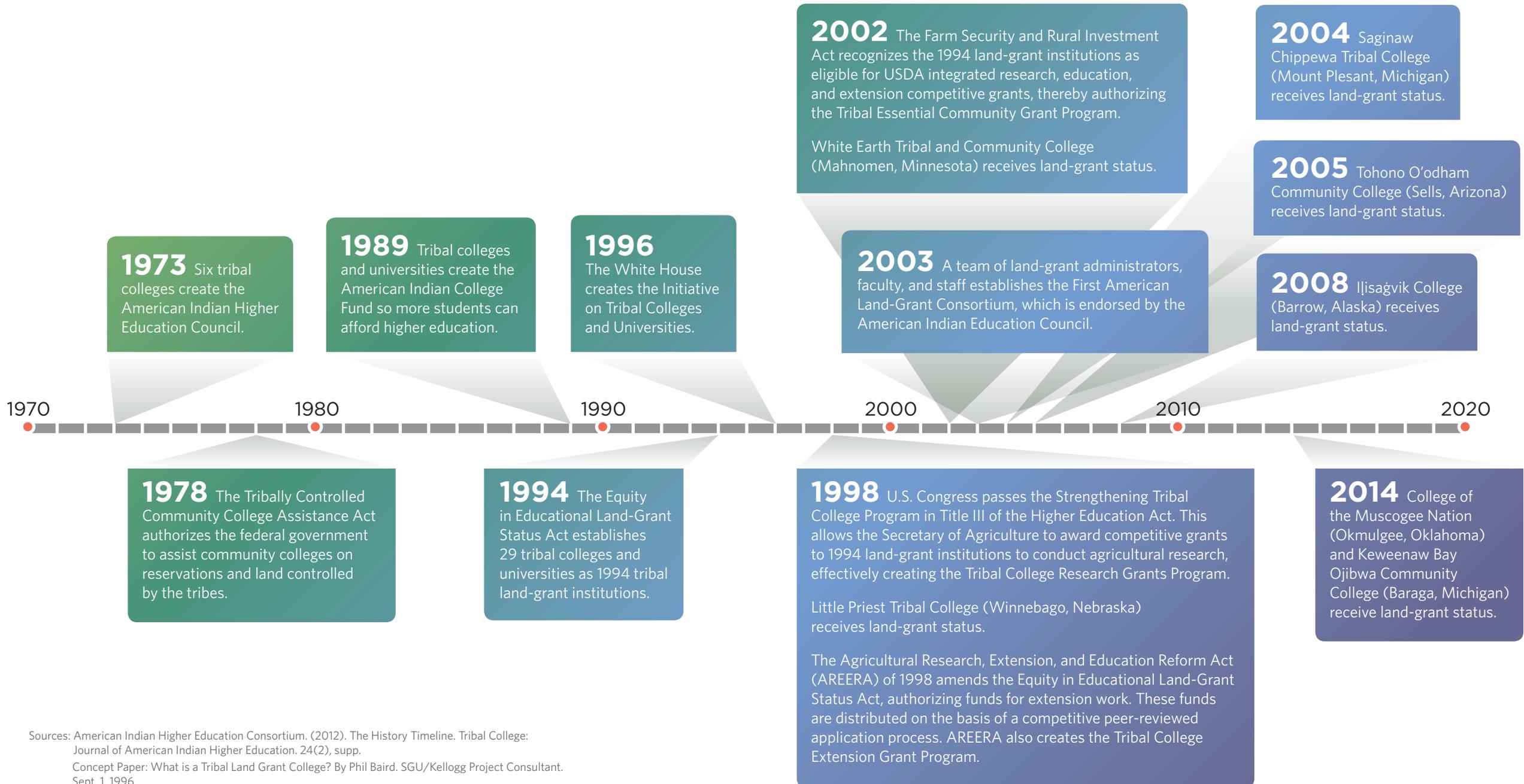
Endowment funds:

- Prepare faculty
- Improve the efficiency of institutional administration
- Develop programs in the food and agriculture sciences
- Renovate and equip classrooms and laboratories
- Construct new education or extension facilities
- Set up computer centers, libraries, laboratories, and other facilities that educate students



1994 LAND-GRANT UNIVERSITIES

Timeline



Sources: American Indian Higher Education Consortium. (2012). The History Timeline. Tribal College: Journal of American Indian Higher Education. 24(2), supp.
Concept Paper: What is a Tribal Land Grant College? By Phil Baird. SGU/Kellogg Project Consultant. Sept. 1, 1996.

1994 LAND-GRANT PROGRAMS

Funding History

YEAR	EXTENSION [^]	EQUITY ^{***}	RESEARCH [^]	ENDOWMENT ^{**}	CORPUS-
1996		1,450,000		111,117	4,600,000
1997	2,000,000	1,450,000		433,341	4,600,000
1998	2,000,000	1,450,000		540,036	4,600,000
1999	2,060,000	1,552,000		646,731	4,600,000
2000	3,060,000	1,552,000	500,000	941,676	4,600,000
2001	3,280,000	1,552,000	1,000,000	1,144,338	7,100,000
2002	3,273,000	1,549,000	998,000	1,427,450	7,100,000
2003	3,365,000	1,689,000	1,093,000	1,700,723	7,100,000
2004	2,946,000	1,679,000	1,087,000	2,852,655	9,000,000
2005	3,273,000	2,250,000	1,087,000	2,093,477	12,000,000
2006	3,273,000	2,250,000	1,039,000	2,474,263	12,000,000
2007	3,321,000	3,342,000	1,544,000	3,119,628	11,880,000
2008	3,297,753	3,319,000	1,533,192	3,080,640	11,880,000
2009	3,321,000	3,342,000	1,610,000	3,669,843	11,880,000
2010	4,321,000	3,342,000	1,805,000	4,096,122	11,880,000
2011	4,312,388	3,335,000	1,801,390	4,134,719	11,880,000
2012	4,312,000	3,335,000	1,801,000	4,553,023	11,880,000
2013	3,978,618	3,084,423	1,665,681	4,747,920	11,880,000
2014	4,446,000	3,439,000	1,801,000	4,882,043	11,880,000
Total	\$59,839,759	\$44,961,423	\$20,365,263	\$46,216,404	\$172,340,000

TOTAL AMOUNT AWARDED TO THE 1994s OVER 17 YEARS: \$171,382,849^{^^}

* Includes only the four NIFA programs dedicated to the 1994 LGUs
 ** Distributed interest earned, less four percent administrative costs
 *** Appropriated and awarded amount — no administrative cost taken
[^] Appropriated amount
⁻ Appropriated amount invested by USDA-Agricultural Research Service
^{^^} Does not include Corpus amount

1994 LAND-GRANT INSTITUTIONS

Impacts of a Four-Year Funding Cycle: 2010-2013

NIFA'S 1994 FUNDING 2010 TO 2013		1994 LAND-GRANT INSTITUTIONS	
Total Awards Made	467	1994 Land-Grant Institutions:	34
Total Dollars Awarded:	\$53.6 M	• Offering a 2-Year Degree	34
• Equity Grants (123)	\$13 M	• Offering a 4-Year Degree	13
• Research Grants (48)	\$8 M	• Offering a Master's Degree	5
• Extension Grants (168)	\$16 M	NIFA \$ per Student in 2014	\$513
• Endowment Distribution (127)	\$17 M	American Indian Students Pursuing Higher Education	190,000
EDUCATION		Total Full-Time Students	18,274
Students Benefiting from NIFA Funding:		American Indian Full-Time Students	15,196
• Total Impacted (annual average)	2,965	Average Students Per Institution	537
• 1994 Student Body Benefitting	15%	EXTENSION	
• Student Internships Supported	405	People Impacted:	
• Student Stipends Provided	209	• Community	66,881
Funds for Lab/Teaching Equipment	\$192,951	• Youth	28,123
Distance Education	24 programs	• Farmers	3,661
GIS/GPS	22 programs	Program Impacts:	
Total Degrees Earned:	803	• Acres Improved	90,364
• Associates	485	• Gardens	414
• Certificates	242	• Health Programs	8,600
• Bachelors	76	– In-School Youth Programs	304
Faculty Benefiting from NIFA Grants:		– Youth Clubs	197
• Total Impacted (annual average)	104	Staff (annual average):	
• Faculty Skill Upgrades Funded	219	• Extension Educators	87
RESEARCH		• Volunteers	405
Schools Conducting Research	19	• Interns	67
Schools Publishing Research	5	• Land-Grant Directors	19
Faculty Conducting Research	42	1994 LAND-GRANT INSTITUTIONS	
Students Conducting Research	124	Land-Grant Offices	19
		Cross-Program Projects	15

COUNTLESS STUDENTS HAVE ACHIEVED ACADEMIC AND PROFESSIONAL SUCCESS, BRINGING THEIR KNOWLEDGE AND EXPERIENCES BACK TO THEIR COMMUNITIES.

1994 LAND-GRANT UNIVERSITIES

Impacts

AANIIH NAKODA COLLEGE

LOCATION: HARLEM, MONTANA
CHARTERED: 1984
DESIGNATED AS A LAND-GRANT: 1994

Aaniih Nakoda College has offered natural resource education since it started receiving Equity funding. In 2012, the college began a new, integrated program to give students the skills they need to continue on to a four-year degree in environmental science. The curriculum includes advanced chemistry, general ecology, physics, and a capstone course. As of 2014, 20 students have participated in the program, with 10 actively enrolled. In 2015, the first four students will graduate from the program and two are already planning their transfer to a four-year school.

Funded by: Tribal Colleges Education Equity Program



LCU-Supplied Photo

Waishkey Bay Farm at Bay Mills Community College provides hands-on learning in sustainable, community-based agriculture.

BAY MILLS COMMUNITY COLLEGE

LOCATION: BRIMLEY, MICHIGAN
CHARTERED: 1984
DESIGNATED AS A LAND-GRANT: 1994

Bay Mills Community College used NIFA extension funds, in combination with other USDA funding programs, to establish an agri-science research, extension, and production facility called Waishkey Bay Farm. This sustainable farm

produces at least 100 pasture-based chickens annually, which are processed and donated to the community. The farm's blueberry bushes and apiary provide training in small berry and honey production for tribal families. A greenhouse, partially powered by solar and wind energy, and a hoop house allow for year-round production and instruction. The 40-acre farm also hosts a pasture-based beef project, community garden, and an agronomics program for tribal youth. The college has partnered with Michigan State University, its neighboring 1862 land-grant university, on the Youth Farm Stand, a project for youth entrepreneurship and vegetable production.

Funded by: Tribal Colleges Extension Services Program

BLACKFEET COMMUNITY COLLEGE

LOCATION: BROWNING, MONTANA
CHARTERED: 1974
DESIGNATED AS A LAND-GRANT: 1994

Blackfeet Community College used a community research grant to teach students how to establish and monitor water quality in key Blackfeet waterways: the St. Mary River, Milk River headwaters, Cut Bank Creek, and Two Medicine River. Students learned to collect samples and analyze for benzene, toluene, ethyl benzene, and xylene. By establishing a baseline for water quality on these rivers, the Blackfeet reservation will now be able to detect changes in water quality. This project taught students field research techniques and how to calibrate and read data from hydrocarbon analyzer sensors. In the future, the college hopes to find the source of contamination of the northernmost watershed of the Blackfeet tribe, which had the highest concentration of hydrocarbons.

Funded by: Tribal Colleges Research Grants Program

CANKDESKA CIKANA COMMUNITY COLLEGE

LOCATION: FORT TOTTEN, NORTH DAKOTA
CHARTERED: 1974
DESIGNATED AS A LAND-GRANT: 1994

Cankdeska Cikana Community College provided the Spirit Lake Tribe citizens a new extension program to reduce diabetes and improve health. Several 1994 land-grant institutions attended conferences the college hosted to promote health on American Indian reservations. A recent partnership with the USDA Agricultural Research Service (ARS) helped identify what prevents and promotes healthy food choices and lifestyles among American Indian communities. This ARS and 1994 land-grant partnership also contributed to insights on the nexus of diet, lifestyle, and the prevalence of chronic diseases, particularly obesity, diabetes, and cardiovascular disease among American Indian people.

Funded by: Tribal Colleges Research Grants Program

CHIEF DULL KNIFE COLLEGE

LOCATION: LAME DEER, MONTANA
CHARTERED: 1975
DESIGNATED AS A LAND-GRANT: 1994

A faculty member at **Chief Dull Knife College** noticed many retirements at the local power plant and coal mines and saw an opportunity for his agriculture students. With NIFA funding, he trained students to fill the upcoming talent gap. The Cheyenne reservation's average annual salary is \$12,000 to \$15,000, but the salary for a welder is \$45,000 to \$65,000. However, students needed initial skills to be hired into an apprenticeship program. The college combined funding from NIFA with a USDA Rural Development grant to finance a vocational training facility. A total of 165 students at Chief Dull Knife took the course, some to improve skills for their current job, others to try for an apprenticeship.

Funded by: Tribal Colleges Education Equity Program



LCU-Supplied Photo

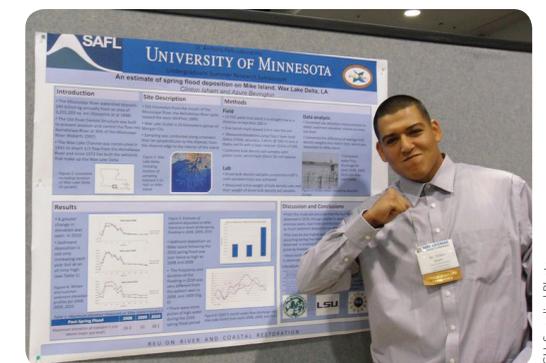
Chief Dull Knife's welding program provides vocational opportunity for students.

COLLEGE OF THE MENOMINEE NATION

LOCATION: KESHENA, WISCONSIN
CHARTERED: 1993
DESIGNATED AS A LAND-GRANT: 1994

The Department of Continuing Education at the **College of the Menominee Nation** surpassed its outreach goals by providing training to 2,000 people who attended 96 workshops over the past four years. The training ranged from vocational education for employment at a local sawmill, to financial literacy, to health and wellness education. The college listened to students, the tribe, and the counties to develop small business classes and create programs for rural entrepreneurship. In addition, the college's extension agent met with current students to develop college preparatory training to help high school students who aspire to higher education.

Funded by: Tribal Colleges Extension Services Program



LCU-Supplied Photo

Clinton Isham, a graduate of College of Menominee Nation, displays his research poster. See his story on page 24.

DINÉ COLLEGE, TSAILE

LOCATION: TSAILE, ARIZONA
CHARTERED: 1968
DESIGNATED AS A LAND-GRANT: 1994

The **Diné College** Extension Office conducted a comprehensive training effort in cooperation with New Mexico State University to better serve reservation farmers and ranchers. The college worked with farm boards and grazing officials to identify producer concerns and needs. Extension officials then organized agricultural workshops specific to those needs. By using train-the-trainer methods, Dine' College aims to increase the number of farmers and ranchers it serves in the Navajo communities of Tsaile, Lukachukai, Round Rock, and Many Farms. The trainings cover a host of farm practices that complement Navajo traditions and culture and can be tailored to any farming community's needs.

Funded by: Tribal Colleges Extension Services Program



Chief Dull Knife student learns welding skills.

IGU-Supplied Photo

FOND DU LAC TRIBAL AND COMMUNITY COLLEGE

LOCATION: CLOQUET, MINNESOTA
CHARTERED: 1987
DESIGNATED AS A LAND-GRANT: 1994

The River Watch Program at **Fond du Lac Tribal and Community College** engaged students and teachers from 17 regional secondary schools in monitoring water quality on rivers within the Ojibwe Ceded Territories. Students collected biological, chemical, and physical data throughout the St. Louis River watershed and Lake Superior Basin. The combined data was shared with the

Minnesota Pollution Control Agency via a state-wide environmental database. Approximately 900 students have participated during the project's three years. Each year, the students were given the opportunity to attend the River Watch Congress where they shared their data and learned from regional professionals about the issues that impact water and wildlife of the region.

Funded by: Tribal Colleges Extension Services Program

FORT BERTHOLD COMMUNITY COLLEGE

LOCATION: NEW TOWN, NORTH DAKOTA
CHARTERED: 1974
DESIGNATED AS A LAND-GRANT: 1994

Fort Berthold Community College used NIFA funding to increase the number of community garden participants from 10 to 30. The college's community garden provided each of the Fort Berthold Indian Reservation's six segment communities with 250 pounds of red potatoes and 250 pounds of sweet corn. In each of the six communities, the food was first given as a token of respect to the Elders. What remained was shared with the greater tribal community. The college also provided food preservation workshops so families could learn to preserve food, reduce winter food expenses, and enhance food security.

Funded by: Tribal Colleges Education Equity Program

FORT PECK COMMUNITY COLLEGE

LOCATION: POPLAR, MONTANA
CHARTERED: 1978
DESIGNATED AS A LAND-GRANT: 1994

Fort Peck Community College launched an extension program in 2010 and provided agricultural or land use information to 464 community members. Extension educators promoted reforestation along the Missouri River's banks and improved the land base of the Fort Peck Indian Reservation by planting 500 trees to reduce erosion. In cooperation with the Fort Peck Assiniboine and Sioux Tribes, extension educators developed an agricultural resource management plan that is designed to promote best practices in farm and ranch management for sustainability. The college's extension department conducted

listening sessions on how new sustainability practices impact reservation farmers and ranchers. The college will continue to evaluate its programs by engaging with the tribes, area health care facilities, students, and farmers to ensure its programs are working in an optimal way for the reservation.

Funded by: Tribal Colleges Extension Services Program



Haskell education majors often work at the daycare center. Learning is an intergenerational activity.

IGU-Supplied Photo

HASKELL INDIAN NATIONS UNIVERSITY

LOCATION: LAWRENCE, KANSAS
CHARTERED: 1884
DESIGNATED AS A LAND-GRANT: 1994

The **Haskell Indian Nations University's Museum and Cultural Center** is a teaching museum dedicated to informing tribal communities, researchers, students, and faculty about the history of the school and Indian Country as a whole. There are approximately 2,000 cultural items, a collection of historic photographs, and archival documents and reports that describe the history of the university from its creation as a boarding school to its transformation to a four-year university. NIFA funding allowed the museum to hire staff and student research interns to maintain archival materials and for special projects, including the creation of a virtual museum that allows guests and researchers to access the collections without having to visit the physical museum.

Funded by: Tribal Colleges Extension Services Program

İLİSAĞVIK COLLEGE

LOCATION: BARROW, ALASKA
CHARTERED: 1996
DESIGNATED AS A LAND-GRANT: 2008

İlisaġvik College developed Healthcare Helpers, a "curriculum in a box," to train community members as healthcare professionals. So far, this program has introduced health and science careers to 157 elementary students. In addition, İlisaġvik's allied health and science, technology, engineering, and mathematics summer camps provided hands-on experience and dual credits for high school students. Top students from the allied health camps were given the opportunity to shadow Anchorage healthcare professionals as part of their camp experience. These outreach programs have led to 28 high school students enrolling in prerequisite courses for an allied health degree at İlisaġvik, which will allow them to start their degree immediately after high school graduation.

Funded by: Tribal Colleges Education Equity Program

INSTITUTE OF AMERICAN INDIAN ARTS

LOCATION: SANTA FE, NEW MEXICO
CHARTERED: 1986
DESIGNATED AS A LAND-GRANT: 1994

The **Institute of American Indian Arts** is integrating agricultural science into every curriculum. English and math courses focus on films and readings about food safety, climate change, and conservation, linking them to American Indian worldviews, stories, and traditions. The school also created a new Student Sustainability Leadership (SSL) internship. The first 11 interns planted a medicinal herb garden with drip irrigation and worm-composting. SSL interns also created a pollination garden by planting trees and hedges to attract native bees and upgraded the campus recycling program. The next year, 12 students worked with the school architect and local water-quality experts to develop a water conservation plan. These new initiatives have increased scientific literacy among the liberal arts students and provided the science students ideas on how to express scientific concepts to a lay audience.

Funded by: Tribal Colleges Education Equity Program

continued page 16 >>

THE STONEFISH FAMILY

DERECK STONEFISH, 37, IS WORKING TOWARD A DOCTORATE IN ZOOLOGY AND doing research at North Dakota State University (NDSU) on the migratory ecology of red-winged and yellow-headed blackbirds. He earned a National Science Foundation Graduate Research Fellowship in 2011 to conduct the research. His ambition is to become a professor and researcher in animal ecology. “I started at Sitting Bull College in Fort Yates, North Dakota, when I was 22. I had attended other schools, but didn’t do well. A lot of it had to do with not being able to identify with other students and a lack of support at the schools.

“When I came to Sitting Bull, the atmosphere was extremely different. American Indians have a shared culture, identity, and humor. At other schools, the challenge of learning can be affected by culture shock,” he said.

Dereck’s sister Audra Stonefish, 34, graduated with a bachelor’s degree in 2012 and has joined her brother at NDSU. She is working toward a master’s degree in entomology. Her first research project—while still at Sitting Bull—was a biomass study of turnips, an important food source on the reservation with cultural significance.

“I remember trying to register at Sitting Bull for the first time in 2008. I was ready to give up,” she recalled, “but Dereck said, ‘Just give it your all for one year and see where it takes you.’



LGU-Supplied Photo

If you don’t like it, I’ll never bother you about college again.’ I had planned on studying nursing, but I took one class in environmental science and I fell in love with it, especially the field work. After that, I never looked back.”

Audra said she is considering returning to Sitting Bull College after graduation to teach entomology. Both siblings started with an interest in medicine, but switched to environmental science. They agreed that Sitting Bull’s main advantage over other schools was its faculty—their open-door policy and mentoring skills in particular.

“My advisor for my associate’s degree in natural resources was Gary Halvorson, and I eventually became his lab assistant,” Derek said. “Gary was upgrading the lab, so I helped him test and calibrate the equipment to get it up to certification standards. I also taught other students to use the research instruments. Gary and I wrote a grant application to the Department of Defense and got \$250,000 to improve the lab. We visited Salish Kootenai, another tribal college with advanced research facilities, and found more sophisticated instruments we needed.”



Audra took analytical chemistry with Halvorson and recalls appreciating the extra time he took in helping her understand the material. Her main mentor, however, was department head Dan Buresh. Twice, she assisted him with his water quality research in Costa Rica, where they tracked microorganisms in an effort to help the local farmers make their lands more productive.

“In Costa Rica, I used the skills I had learned during field work at Sitting Bull. We took water samples, measured the invertebrates in the water, and used the same equation to predict the number of macro invertebrates in the water,” she said.

Her brother added that Sitting Bull pushed him to develop his own research and be prepared for graduate school.

“Native people are hands-on learners,” he said. “We retain better through seeing and going through a process rather than reading it in a book. That’s why most classes are in the field. If it’s ecology you want to learn, you will go to a stream to identify fish; if it’s hydrology, you go out to a wetland and talk about what characteristics the Army Corps of Engineers uses to define wetlands.”

It’s a model that is gaining popularity with other students, too. The American Indian Higher Education Consortium reported a small number of youth outside of reservation communities who find that hands-on learning and small class size works for them, as well. These students also gain awareness and respect for American Indian culture in the process.

Audra said that, even now while studying at NDSU on a National Science Foundation scholarship, she still calls Buresh, her Sitting Bull mentor, to ask questions about science or just to get a confidence boost. She and her brother are the first in their family to graduate from college, and she notices how their life choices and devotion to learning are affecting the next generation.

“My brother and I never saw people studying or talking about science when we were growing up. Now, my son is in junior high and he doesn’t question the fact that he’s going to college; it’s only a matter of what he will study. I see this in my nephew—Dereck’s son—as well,” she said. “My oldest daughter, too, is planning for her education. It makes me proud when my son tells his classmates, ‘My mom’s a scientist.’”

LAC COURTE OREILLES OJIBWA COMMUNITY COLLEGE

LOCATION: HAYWARD, WISCONSIN
CHARTERED: 1982
DESIGNATED AS A LAND-GRANT: 1994

Lac Courte Oreilles Ojibwa Community College provides resources to students who would not otherwise be able to attend college because of their remote location or lack of financial resources. During the past four years, 36 students have received stipends, 10 of whom reported that the support was critical to their attending college. In addition, 78 students received transportation assistance annually, and 32 students received money for school supplies each year. The grant also supported eight students who presented their research projects at conferences and workshops.

Funded by: Tribal Colleges Education Equity Program

LEECH LAKE TRIBAL COLLEGE

LOCATION: CASS LAKE, MINNESOTA
CHARTERED: 1990
DESIGNATED AS A LAND-GRANT: 1994

Leech Lake Tribal College made dramatic strides in its science programs, offering trigonometry and chemistry courses for the first time in the spring of 2011. By spring 2012, four students had signed up for trigonometry and four students were taking Chemistry II. Currently, the college is transferring three to five students to four-year institutions each year. The college offered an associate's degree in natural sciences in 2010. In 2014, in response to a need for forestry technicians on the Leech Lake reservation, the school offered a forestry degree, and five students signed up. The college added an online math education program so students can attend even if their schedules make class attendance a challenge. A full-time math tutor is available to increase student completion of math courses. Laboratory upgrades will allow students to learn more advanced subjects and faculty to pursue research.

Funded by: Tribal Colleges Education Equity Program



LGU-Supplied Photo

Participants in Little Big Horn's Summer Reading Program learn about traditional and contemporary food plants at the College Teaching Garden Project, funded through NIFA's Tribal College Education Equity Program.

LITTLE BIG HORN COLLEGE

LOCATION: CROW AGENCY, MONTANA
CHARTERED: 1980
DESIGNATED AS A LAND-GRANT: 1994

The Little Big Horn River runs through a populated area with two urban settings, an aging domestic sewage lagoon, and a confined animal feeding operation for beef cattle. Little Big Horn College, working with Montana State University, developed a model for tracking whether *Escherichia coli* (*E. coli*) bacteria were moving into community water supplies from the cattle operation during storm run-offs. The project allowed the college to upgrade its research facilities and provided seven students with intensive laboratory training and the opportunity to do water quality sampling and data analysis. Using the data compiled, one student conducted her own research to confirm the project's results. The project also led another student to continue her science education at a four-year university.

Funded by: Tribal Colleges Research Grants Program

LITTLE PRIEST TRIBAL COLLEGE

LOCATION: WINNEBAGO, NEBRASKA
CHARTERED: 1996
DESIGNATED AS A LAND-GRANT: 1998

Little Priest Tribal College used Common Ground Gardens to provide food to the campus cafeteria while giving 23 students training in community-supported agriculture. In addition, the garden staff also restored the tribal apple orchard. The college also helped 52 families start gardens at home by

providing them with tillage and technical support. Extension experts provided plants and seeds for the family gardens and held 10 food preservation workshops and four sustainable home workshops. The school donated garden produce to the Winnebago Senior Citizens Center and the community's USDA Special Supplemental Nutrition Program for Women, Infants, and Children. Working with a local non-profit, the community garden also provided an outdoor classroom for youth and re-established a local farmers market.

Funded by: Tribal Colleges Extension Service Program

NAVAJO TECHNICAL UNIVERSITY

LOCATION: CROWNPOINT, NEW MEXICO
CHARTERED: 1979
DESIGNATED AS A LAND-GRANT: 1994

Navajo Technical University used NIFA funding to operate a teaching veterinary clinic, where students can achieve an associate's of applied science degree in veterinary technology. Cattle owners on the reservation rely on two teaching veterinarians to provide on-farm service calls. There is also a small animal clinic that provides animal care for pet owners on the reservation. Another critical part of the clinic's outreach is control of unwanted animal populations through a spaying and neutering service. Veterinary technician students complete 160-hour internships in a veterinary setting in order to graduate. To date, 22 students have graduated from this vocational program.

Funded by: Tribal Colleges Education Equity Program



LGU-Supplied Photo

Navajo Technical University trains veterinary technicians.

NEBRASKA INDIAN COMMUNITY COLLEGE

LOCATION: MACY, NEBRASKA
CHARTERED: 1979
DESIGNATED AS A LAND-GRANT: 1994

Nebraska Indian Community College (NICC) used NIFA funding to assist with developing a tribal radio station, KZYK 88.9 FM, Sounds of the Dakota, which began broadcasting in July 2012 from the Santee campus. This project was instrumental in promoting NICC extension programs and communicating health messages to the community. The station is responsible for increased participation in the college's health programming, such as diabetes and smoking cessation classes. The project also provided training for local people to operate a reservation-based radio station as well as job skills and a forum to discuss issues of importance to the community.

Funded by: Tribal Colleges Extension Services Program

NORTHWEST INDIAN COLLEGE

LOCATION: BELLINGHAM, WASHINGTON
CHARTERED: 1983
DESIGNATED AS A LAND-GRANT: 1994

Northwest Indian College has been a leader in financial literacy education and the promotion of traditional food and community gardening. In 2012, the college established its Institute of Indigenous Foods and Traditions, funded in part by NIFA. The institute provides training in healthy cooking, financial literacy, and cultural studies. Courses on native food systems were taught at the Northwest Indian Treatment Center and on the college campus. More than 250 students from eight tribes have participated in the college's financial literacy programs. The programs range from the Nooksack Indian Tribe's request for financial literacy training specifically for young fathers, to the Lummi Nation School wanting financial education for its college-bound students. NIFA-funded research projects have complemented the extension program by exploring how diet and traditional foods reduce the incidence of diabetes and studying the ecology of Bellingham Bay.

Funded by: Tribal Colleges Extension Services Program

continued page 20 >>

HYDROLOGY CURRICULUM: PREPARING STUDENTS FOR ADVANCED DEGREES, AND ADDING DIVERSITY TO A GROWING FIELD

IN 2009, SALISH KOOTENAI COLLEGE (SKC) IN PABLO, MONTANA, CREATED a new hydrology program offering both associate's and bachelor's degrees. Since more than a quarter of America's fresh water flows through tribal lands, and more than 500 tribes are still finalizing their state and federal water rights, the program prepares students to advocate for their tribes' needs.

Two native geoscientists at SKC, Antony Berthelote and Shandin Pete, developed the school's hydrology program. The two have been the recipients of many minority participation initiatives, including numerous National Science Foundation fellowships. They based components of the original curriculum around a water quality curriculum co-created by faculty member Virgil Dupuis, who used prior USDA funding to develop the class. The program was accredited in 2010 by the Northwest Accreditation Commission. The first two bachelor's degrees were conveyed to students in spring of 2014 with 10 students earning their associate's degrees. Students in this program complete a rigorous class load that includes physics, chemistry, and calculus to earn their degrees.



IGU-Supplied Photo

"We looked at the U.S. government requirements for hiring hydrologists and found they were looking for six semester credits each of calculus and physics," Berthelote said. "We added chemistry, biology, and some cultural perspectives to the technically robust curriculum. We are confident that our graduates will be better trained for graduate school than many of their peers."

Of the roughly 30 Native American students graduating each year in geosciences, less than 5 percent — one or two students — will be in the hydrologic fields. SKC's program has the potential to significantly increase the representation of American Indians in this field. The first cohort alone had a 100 percent increase in Native American hydrology graduates in the United States, and the next graduating class could quadruple the rate.

Berthelote knows his associate's degree graduates can find a job as a lab or irrigation technician. But the goal is to have students earning their master's and doctorate degrees so they can be a voice for Indian Country in water negotiations and help set policies that see water not only as a commodity, but also as a source of life.



SKC's hydrology program is just the latest example of how the college is helping more American Indian students enter environmental research fields. Adrian Leighton, department head of SKC's forestry program, used funding from three NIFA programs—a Tribal College Education Equity Grant, Multicultural Scholars, and a Higher Education Challenge Grant—to build a four-year degree program in forestry. The college graduated more than 10 students during the program's first year. As a result, the number of Native Americans in forestry has more than doubled.

Leighton began the program when he saw that, although there were 221 Indian reservations with forest resources, there was a chronic shortage of Native Americans trained to manage forest resources at a professional level. Working in partnership with the College of Menominee Nation, the two colleges have more than doubled the number of Native American students who obtain advanced degrees in forestry. As a result, SKC currently accounts for about 40 percent of all Native American forestry students in the nation.

Tony Incashola, Jr., one of the program graduates, graduated from Salish Kootenai College in 2007 with a bachelor's degree in forestry

and environmental science. He now works as a professional forester for the Confederated Salish and Kootenai Tribes. His classmate and fellow Salish Kootenai graduate, Richard Fisher, also a forester, works as a fuel specialist in the tribe's Division of Fire Management.



IGU-Supplied Photo

"I liked having the smaller classes and being able to work one-one-one with the teachers; it's a better learning experience than being part of a classroom of 100-200 students. I also valued the tie-in with the Native American experience," Incashola said.

Since graduation and joining the Confederated Salish and Kootenai forestry department, Incashola has been promoted from a Forester Level I to a Forester Level II, and then to a sales administrator.

OGLALA LAKOTA COLLEGE

LOCATION: KYLE, SOUTH DAKOTA
CHARTERED: 1971
DESIGNATED AS A LAND-GRANT: 1994

By switching to a learning-through-research model, **Oglala Lakota College's** math and science department raised its retention rate from 20 to 60 percent, quadrupled its number of annual graduates, and placed 96 percent of its students in jobs on the reservation or in graduate school. When distance learning didn't achieve the desired outcomes, the college switched to a model of giving students core science training. The college then allowed them to design their own research under the guidance of a faculty mentor. Agronomic science students are also working with college faculty to provide reservation farmers and ranchers with extension services in water and land management. The college also built an Ag Expo Center where it can host agronomic workshops and events for reservation producers.

Funded by: Tribal Colleges Education Equity Program, Extension Services Program, Research Grants Program



Elroy Fox, Institute of American Indian Arts student and Center for Lifelong Education work study student, takes measurements of the chile demonstration project. The demonstration project focused on chile variety, growth, and yield under field conditions specific to IAIA's location at 7,000-ft elevation.

SAGINAW CHIPPEWA TRIBAL COLLEGE

LOCATION: MT. PLEASANT, MICHIGAN
CHARTERED: 1998
DESIGNATED AS A LAND-GRANT: 2004

The new laboratory upgrade at **Saginaw Chippewa Tribal College** enables the school to offer advanced science classes without having to depend upon other institutions for lab facilities. The schools that shared their laboratories could only offer them when their own students didn't need them, which led to inconvenient lab times for Saginaw Chippewa students, many of whom are working parents. The college also funded the first environmental research scholarship to a student who spent the summer working with the tribe's environmental water specialist conducting research on the Chippewa River.

Funded by: Tribal Colleges Education Equity Program

SALISH KOOTENAI COLLEGE

LOCATION: PABLO, MONTANA
CHARTERED: 1977
DESIGNATED AS A LAND-GRANT: 1994

Salish Kootenai College (SKC) initiated research using NIFA funding to develop a spatial model that identified approximately 2,000 acres of existing invasive plant infestations and predicted that at least 10 percent—or approximately 16,000 acres—of Flathead Lake that was susceptible to invasion. Additional research has inventoried approximately 200 miles of the Clark Fork and Flathead Rivers. The researchers tested aquatic herbicides to identify controls and acceptable methods for removing the flowering rush invasive species from high traffic recreational areas. This project spurred an educational effort in the Pacific Northwest that resulted in several states listing flowering rush as a noxious weed. In addition, the college's "Making Fitness Fun" program, which runs 40 days in the summer and involves hiking, swimming, and native games, reached more than 200 youth. Native games such as double ball, shinny, and stickball are a big part of the program. More than 700 students participate in the college's 15-20 annual Native games events.

Funded by: Tribal Colleges Research Grants Program and Tribal Colleges Extension Services Program



Saginaw Chippewa Tribal College students benefit from a new laboratory funded in part by NIFA programs.

SINTE GLESKA UNIVERSITY

LOCATION: MISSION, SOUTH DAKOTA
CHARTERED: 1971
DESIGNATED AS A LAND-GRANT: 1994

Sinte Gleska University depends on its bison herd to provide daily meals to campus students and meat for tribal ceremonial purposes. The college obtained a NIFA grant to evaluate the health of its herd and test whether they could improve their nutritional and health management practices. The project employed 20 students as research assistants to help with animal care. Two of these students presented research papers at the First American Land-Grant Consortium's annual conference. Working in partnership with the University of Nebraska-Lincoln and USDA's Natural Resources Conservation Service, the research team discovered that the herd had intestinal parasites and applied effective treatment to improve the animals' health.

Funded by: Tribal Colleges Research Grants Program

SISSETON WAHPETON COLLEGE

LOCATION: SISSETON, SOUTH DAKOTA
CHARTERED: 1979
DESIGNATED AS A LAND-GRANT: 1994

Sisseton Wahpeton College used NIFA funding to offer an associate's degree in sustainable environmental studies and started a partnership with Augustana College in Sioux Falls, South Dakota. Through this partnership, Sisseton Wahpeton students learned how to collect and image insects by assisting in a research project on a beetle species. To target younger students, the college will sponsor Science Fun Nights and a science fair. To date, two students have graduated from the General Agriculture and Food Science program and one is now the college's extension specialist. There have been four graduates of the Interdisciplinary Environmental Science program, and one of them is now studying at the University of Minnesota, Morris. Another is attending North Dakota State University.

Funded by: Tribal Colleges Education Equity Program

SITTING BULL COLLEGE

LOCATION: FORT YATES, NORTH DAKOTA
CHARTERED: 1973
DESIGNATED AS A LAND-GRANT: 1994

Learning to tan hides is a cultural heritage and money-making skill that can benefit many tribal community members. **Sitting Bull College's** bison hide tanning workshops draw roughly 130 youths and 20 teachers each year. The college provides a history of bison hide tanning along with the hands-on demonstration. In addition, there is a workshop for farmers and ranchers who own bison to learn hide tanning. The hides can be sold for \$1,000 to \$2,000, providing an extra source of income to the farming community.

Funded by: Tribal Colleges Extension Services Program



LGU-Supplied Photo

Mary Ruth St. Pierre leads parenting programs at Stone Child College.

SOUTHWESTERN INDIAN POLYTECHNIC INSTITUTE

LOCATION: ALBUQUERQUE, NEW MEXICO
 CHARTERED: 1971
 DESIGNATED AS A LAND-GRANT: 1994

Southwestern Indian Polytechnic Institute

provided annual internships to seven students, giving them an opportunity to gain hands-on experiential learning. Many students worked in the college greenhouse growing native plants and agronomic crops for transplanting. Other student internships have included jobs with the U.S. Forest Service, U.S. Fish and Wildlife Service, tribal natural resource departments, the Valles Caldera National Preserve, and the Cibola National Forest. A majority of these students have graduated, transferred to four-year institutions, or will complete their degrees soon. The students also participated in the American Indian Science and Engineering Society and the National Native American Fish and Wildlife Society conferences.

Funded by: Tribal Colleges Education Equity Program

STONE CHILD COLLEGE

LOCATION: BOX ELDER, MONTANA
 CHARTERED: 1984
 DESIGNATED AS A LAND-GRANT: 1994

In collaboration with the National Indian Child Welfare Association (NICWA), **Stone Child College's** Extension Service developed the "Positive Indian Parenting" program. Various Chippewa Cree tribal programs amended the NICWA parenting manual to conform to the Chippewa Cree philosophy and culture. During 12 workshops, Chippewa Cree Elders and Stone Child College students provided input to a new parenting guide. The Chippewa Cree Temporary Assistance to Needy Families program uses the manual for trainings with their clients, and the manual was introduced in March 2012 during a community workshop. Stone Child College also supported the Grandparent Raising Grandchildren project. This monthly support group, in partnership with Montana State University, provided a five-part training program entitled "Parenting Second Time Around."

Funded by: Tribal Colleges Extension Services Program

TOHONO O'ODHAM COMMUNITY COLLEGE

LOCATION: SELLS, ARIZONA
 CHARTERED: 1998
 DESIGNATED AS A LAND-GRANT: 2004

NIFA extension funding at **Tohono O'odham Community College** supported junior rodeos and summer camps at the reservation so that all the youth in the community would have an equal chance to participate. The horse camp, held at the Kitt Peak National Observatory, gave students the opportunity to explore telescopes and other instruments guided by observatory astronomers. In addition, faculty working with student interns completed and published a plant atlas of local plants with their scientific names, common names, and the Tohono O'odham names with correct pronunciations. In the future, the extension program will work with the community and schools to establish gardens and preserve Tohono O'odham heirloom seeds.

Funded by: Tribal Colleges Extension Services Program

TURTLE MOUNTAIN COMMUNITY COLLEGE

LOCATION: BELCOURT, NORTH DAKOTA
 CHARTERED: 1972
 DESIGNATED AS A LAND-GRANT: 1994

Turtle Mountain Community College Extension staff helps American Indian families with children who reside within the boundaries of Rolette County. The project worked with 10 families per year on gardening, nutrition education, and food preservation. Additional families benefited through outreach to Head Start children. Turtle Mountain youth are at high risk for childhood obesity and diabetes, which is caused, in part, by poor diet. Lack of financial resources, which limits family access to healthier vegetables and fruit, is the reason for some of their dietary choices. Extension staff is working to reverse the obesity trend by encouraging families to garden and training them to preserve the food they grow.

Funded by: Tribal Colleges Extension Services Program

UNITED TRIBES TECHNICAL COLLEGE

LOCATION: BISMARCK, NORTH DAKOTA
 CHARTERED: 1968
 DESIGNATED AS A LAND-GRANT: 1994

United Tribes Technical College used NIFA funding to create a program that combined vocation education with college preparation in the nutrition and food service fields. Students in the college's Nutrition and Food Service program are required to complete a 150-hour vocational practicum to complete their degrees. Some have worked in resource centers for USDA's Special Supplemental Nutrition Program for Women, Infants, and Children and other extension programs, while others worked at nursing homes or in food service at schools or restaurants. Upon successful completion of this unpaid practicum, each student received a stipend to support his or her associate's degree. In addition, all students are required to pass the national ServSafe exam.

Funded by: Tribal Colleges Education Equity Program

WHITE EARTH TRIBAL AND COMMUNITY COLLEGE

LOCATION: MAHNOMEN, MINNESOTA
 CHARTERED: 1997
 DESIGNATED AS A LAND-GRANT: 2002

White Earth Tribal and Community College successfully integrated all three types of NIFA funding available to 1994 land-grant institutions to create a multi-faceted program that uses the reservation's natural resources to provide family activities, teach science, and engage the community through research projects that seek to preserve tribal natural resources. Every year, the college hosts outdoor camps that feature indigenous food gathering traditions and allow families to prepare meals together and share in their history and culture. The majority of White Earth students told their instructors they want to stay on the reservation after graduation and use their education to help their families and communities. Environmental science students, in particular, indicated a desire to work in natural resource management fields on the reservation.

Funded by: Tribal Colleges Education Equity Program, Extension Services Program, Research Grants Program



LGU-Supplied Photo

White Earth Tribal and Community College provides many outdoor class activities.

FROM HOMELESS SHELTER TO LAW SCHOOL BY WAY OF THE COLLEGE OF MENOMINEE NATION

IN THE SUMMER OF 2014, CLINTON ISHAM, 25, RECEIVED HIS BACHELOR'S DEGREE in environmental policy with a minor in public administration from the University of Wisconsin–Green Bay (UWGB). His goal now is to attend law school and become an environmental lawyer. He credits his academic success to the College of Menominee Nation (CMN), where he first enrolled as a way to pass the time while living in a homeless shelter.

WHAT WAS IT LIKE STARTING COLLEGE?

My first college course was at CMN in the summer of 2009. I had never expected to attend college, or even graduate. My mother called me one afternoon when I was living in a homeless shelter and she suggested that I enroll at CMN to keep busy. I enrolled in one class on the last day of registration — environmental science with Professor Kurt Goodwill. Honestly, I was just trying to stay busy. I had no intention of enrolling as a full-time student the following semester or graduating with an associate's degree. Halfway through the summer semester, Professor Goodwill was returning graded homework assignments and told me, "Clinton, you are a prolific writer, and that is going to get you through graduate school." I couldn't believe what he just said to me and, at the time, I didn't even know what grad school was! No one had ever believed in me as Professor Goodwill did that afternoon. I felt like crying because of Goodwill's comment, and I remembered all the teachers who used to tell me that I wouldn't graduate from high school. I graduated from CMN with a 3.6 grade point average.

"I couldn't believe what he just said to me... **No one had ever believed in me** as Professor Goodwill did that afternoon."

WHAT HAVE YOU BEEN DOING SINCE YOU GRADUATED FROM CMN?

I completed an internship in the summer of 2010 with the University of Minnesota and Louisiana State University, measuring sediment deposition at the Wax Lake Delta on the Gulf of Mexico. I presented that paper at the 2010 Society for Advancement of Chicanos and Native Americans in Science in Anaheim, California. In 2011, I did a summer internship in Costa Rica with the Native American and Pacific Islander Research Experience for Undergraduates (NAPIRE) program. That's a program within the Organization for Tropical Studies. My research was on epiphyte host specificity in a reforested tropic pre-montane forest. I encourage more American Indian students to participate in the NAPIRE program. I had great mentors, and I was able

to develop the project and make it my own. I also went to South Africa to study democracy and justice with UWGB.

WHAT DID YOUR TIME AT CMN GIVE YOU?

It gave me the confidence to speak up. I'm empowered to share my ideas and tell others about the importance of traditional knowledge and indigenous insights on forestry and the environment. Some faculty members at UWGB say they are learning from me. So many times in Western education, there is only one right answer. At CMN, I learned there are many perspectives and a diversity of ways to solve problems. I still think about what Professor Goodwill said. I think his encouragement was what started me on this road. Sometimes I can't believe I'm here and that I've almost graduated. Then, I have to catch my breath. I should also mention the

"I'm empowered to **share my ideas** and tell others about the **importance of traditional knowledge** and **indigenous insights** on forestry and the environment ... there are many perspectives and a **diversity of ways** to solve problems..."

great mentors I have at UWGB, Dr. J.P. Leary in First Nations Studies and Dean of Enrollment Services Mike Stearney. They were there for me when I needed help academically and with issues outside of school. That's another thing CMN taught me—to reach out and ask for help if you need it.

WHAT WOULD YOU TELL YOUR HIGH SCHOOL SELF ABOUT TRIBAL COLLEGES?

One of the great advantages for Native students at tribal colleges is that we can relate with each other so easily and everyone on campus becomes family. All you have to do is show up, ask for help, and participate.



1994 LAND-GRANT UNIVERSITIES

A Rich Heritage | A Stronger Future



LANE AZURE
VICE PRESIDENT FOR ACADEMIC AFFAIRS
AT CANKDESKA CIKANA COMMUNITY COLLEGE
IN FORT TOTTEN, NORTH DAKOTA

I recall during my junior year in college my mathematics advisor told me, “You’re a male, a Native American, and a mathematician... you’re going to write your own ticket.” I don’t think that if I would have worn a headdress and loin cloth during my first year teaching on a reservation in South Dakota I would have written any tickets!

Metaphorically speaking, you don’t have to stand out in a crowd, but you should stand up. As a Native American, an education will help accomplish this endeavor. I have collected and analyzed quantitative data that suggests Native Americans who are more aware of their cultural identity are more likely to achieve higher grades in mathematics. I have interviewed Native American friends and colleagues who validate this analysis. It should be reinforced that there are credible data that demonstrate the significance of family, language, spirituality, and resilience and how these variables have positively impacted Native Americans who have earned advanced degrees in higher education.

“...you don’t have to **stand out** in a crowd, but you should **stand up**. As a Native American, an education will help accomplish this endeavor.”

Native Americans are more involved in obtaining higher education degrees today than they have ever been. What was once forced upon our parents and grandparents is a choice for our people now, but education is becoming more and more a mandate. Our relatives

“The **warriors of today are in the classroom** earning the degree in engineering, law, accounting, medicine, and education.”

served as pioneers, many of whom suffered through severe atrocities through colonization and forced assimilation, so that we could live better lives. The warriors of today are in the classroom earning the degree in engineering, law, accounting, medicine, and education.

The enrollment criteria for higher education in the major universities are becoming more stringent. Statistics are showing that students from the United States, Native Americans included, are graduating from high school and enrolling in college ill-prepared in science, mathematics, and English. Tribal colleges and other community colleges will take the lead in ensuring that Native American students are given the proper tools to better prepare them to make the transition to a major university.

Unfortunately, many of our Native youth do not realize the cultural values as well as Western values the tribal colleges are instilling in them. Tribal colleges were created in 1968 as a response to higher education needs for American Indians. Tribal colleges generally serve geographically isolated populations that have no other means of accessing education beyond the high school level. Today, there are 38 tribal colleges in United States and Canada. The White House Initiative on Tribal Colleges and Universities has reported that about 85 percent of Native Americans who attend a tribal college end up earning a four-year degree or become employed in the local community.

“With more than **27,000 students** across the United States, tribal colleges and universities reinforce tribal identity while instilling **a strong foothold** in Western education...”

Although very young, tribal colleges and universities offer more than 350 degrees and 180 vocational programs. With more than 27,000 students across the United States,

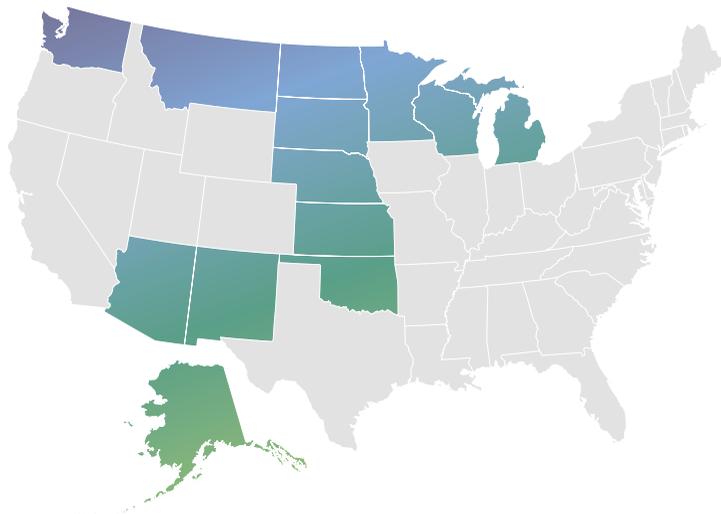
“For the past 20 years, tribal land-grant colleges and universities have enjoyed a **strong partnership** with the U.S. Department of Agriculture and the National Institute of Food and Agriculture.”

tribal colleges and universities reinforce tribal identity while instilling a strong foothold in Western education, which will reduce personal failure and increase educational success.

For the past 20 years, tribal land-grant colleges and universities have enjoyed a strong partnership with the U.S. Department of Agriculture and the National Institute of Food and Agriculture, which has enabled them to open their doors to more students and offer more degree programs that tie in cultural values with cutting-edge agricultural science. American Indians have a rich history and we draw much strength from our past; however, we must also look toward the future so that in 20 years from today we see stronger tribal colleges, producing highly trained graduates who are able to contribute to thriving tribal communities.

THE 1994 LAND-GRANT INSTITUTIONS

Standing on Tradition | Embracing the Future



NIFA invests in and advances agricultural research, education, and extension and seeks to make transformative discoveries that solve societal challenges. Learn more by visiting WWW.NIFA.USDA.GOV or following @USDA_NIFA on Twitter.

USDA is an equal opportunity provider and employer | July 2015