

ENVIRONMENTAL INSTITUTE

2022-2023

Our Tribal College Extension Programs

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Report Card

The Environmental Institute is the
Tribal College 1994 Land Grant
Extension Department

Mission Statement

To promote the education and cultural growth of the community in natural resources and the environment. The Environmental Institute supports and coordinates education, research, and outreach that serve our greater community.

The Environmental Institute Catalyst for Change

The Environmental Institute is determined to be a catalyst for positive change. We are dedicated to providing education, skills, and research that help our communities connect with empowering opportunities and partnerships through culturally relevant research and programming.

Our programming concentrates on:

- Sustainable Food
- Sustainable Natural Resources
- Encouraging students interest in Science, Technology, Engineering, Math and Art (STEAM)
- Connection with Ojibwe Culture
- Community Outreach

Ashi-Niswi Giizisooog

A turtle's shell has a unique pattern of 13 large scales in the center - representing the thirteen moons of the lunar calendar. The circle of 28 scales, circling the edge of the shell, corresponds to the number of days comprising the lunar cycle.

gichi-manidoo giizis
January
Great Spirit Moon

manidoo giizisoons
December
Little Spirit Moon

namebini giizis
February
Sucker Fish Moon

gashkadino giizis
November
Freezing Moon

onaabani giizis
March
Hard Crust on Snow
Moon

binaakwii giizis
October
Falling Leaves
Moon

iskigamizige giizis
April
Maple Sap Boiling
Moon

waatebagaa giizis
September
Leaves Changing Color
Moon

waabigwanii giizis
May
Flowering Moon

manoominike giizis
August
Ricing Moon

ode'imini giizis
June
Strawberry Moon

aabita-niibino giizis
July
Mid Summer
Moons (2)



Thirteen Moons

Thirteen Moons is a Tribal Extension Program with a mission to:

- Share knowledge of Ojibwe culture
- Increase awareness of natural resources, and
- Provide new opportunities for social interaction
- Use the progression of the seasons to highlight the traditional uses, current issues, and economic opportunities of natural resources
- View harvest in both the traditional ways practiced by the Ojibwe people and local more conventional agricultural harvest, and
- Incorporate Mind Body Training, Circle Keeping, and ACES practices within the community

It is through direct outreach that the Thirteen Moons program is able to fulfill their mission and achieve their goals. By coordinating regular workshops on traditional resource ecology and leadership development, Thirteen Moons shares Ojibwe culture with others fosters resiliency within the Fond du Lac community and beyond.



WORKSHOPS AND EVENTS

- Snowshoes & Snow Snakes
- Sugarbush
- Manoomin (wild rice) Camp
- Wild foods sampling and harvesting
- Balsam Bough harvesting
- Gichi Manidoo Giizis pow wow

PARTNERS

- Fond du Lac Ojibwe School
- Fond du Lac Gitigaan Community Garden Program
- Fond du Lac Resource Management
- Bimaaji'idiwin Garden Program
- University of Minnesota
- Great Lakes Indian Fish and Wildlife Commission (GLIFWC)
- USDA
- NRCS
- FDLTCC Youth Camps

PARTICIPANTS AND OUTREACH

- 2021-2022: 3100 community members reached
- Monthly outreach of 2,000 people in the Fond du Lac newspaper



Bimaaji'idiwin Gitigaan

WORKSHOPS, PROJECTS & EVENTS

- Agricultural business development
- Farm business marketing
- Garden Planning & Seed Starting
- Collaboration garden training
- Tiller and walk behind mini tractor training
- Seed saving demonstration
- Garlic planting class
- Gitigaan Wiikondiwig - our annual Farm to Table Feast

PARTNERS

- Fond du Lac Ojibwe School
- Fond du Lac Gitigaan Program
- Fond du Lac Head Start
- Thirteen Moons
- Nahgahchiwanong Dibahjimowinnan
- Natural Resource Conservation Service (NRCS)
- United States Department of Agriculture (USDA)
- MN Dept. Agriculture
- NCR-SARE
- Big River Farms

PARTICIPANTS AND OUTREACH

- The Producer Training Program hosted 40 producers during the 2022 growing season
- Over 300 people visited Gitigaaning and Bimaaji'idiwin

Bimaaji'idiwin Ojibwe Garden Program

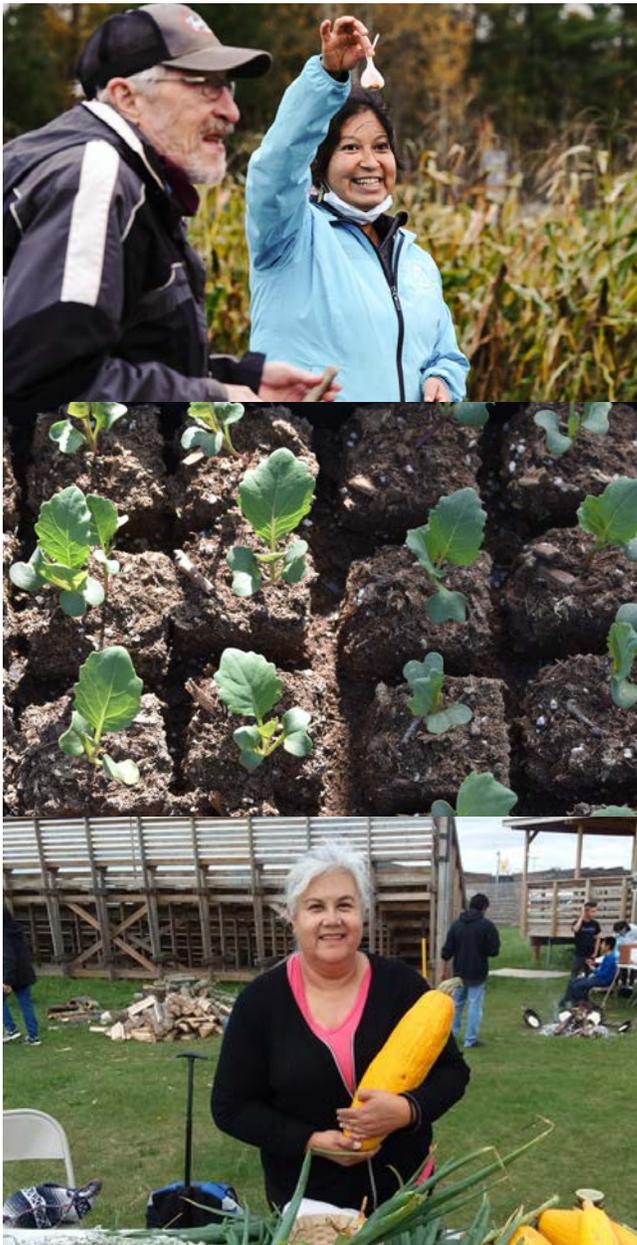
Bimaaji'idiwin can be understood as '*saving each other's lives*' or '*symbiosis*', in Ojibwemowin; reflecting the reciprocal relationship between Anishinaabe and cultivated plants.

This is a thoughtful name to live up to and the Ojibwe Garden Program attempts to do so through hands on education, outreach, and Indigenous preservation practices.

An important aim of the demonstration garden is to develop, expand, and maintain a collection of Anishinaabe and Native American heirloom crop seeds through a miinikaaniwigamig or seed library. This is a point of connection between a growing network of dedicated seed savers and our local gardeners.



Saving Each Other's Lives

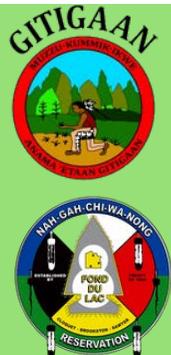


NRCS Racial Equity Grant Producer Training Program

The Producer Training Program (PTP) addresses natural resource issues utilizing Climate Smart agricultural practices by providing conservation training, tools, and land to beginning and emergent farmers. Its aim is to build and strengthen local food projects focused on sustainable and healthy food production as well as expand economic opportunities vis a vis market access for emergent farmers and producers *and* to establish an Inter-Tribal Food Sovereignty network to expand Tribal food distribution in Minnesota. The three-prong approach of supporting beginning producers, creating markets, and connecting tribal food networks supports vibrant food sovereignty programming that supports the Fond du Lac Band's Food Sovereignty vision.

From 2018 to 2021, the PTP has connected over 50 emergent producers with established agricultural networks throughout Minnesota. Our programming increases the number of Native American producers, strengthens Inter-Tribal food sovereignty partnerships, and increases markets for Native American producers with the aim of improving the environmental and economic performance of the agricultural land at Gitigaaning and beyond.

The Fond du Lac Food Sovereignty Initiative: *Vision for a sovereign holistic food system rooted in Anishinaabe values that is environmentally responsible and empowers a thriving, resilient community.* The Initiative aims to balance social and ecological needs and desires of the band while providing food in a sustainable manner, strengthening community resilience to natural resource vulnerabilities and risks. The Food Sovereignty Initiative will reduce the area's dependency on external food systems.



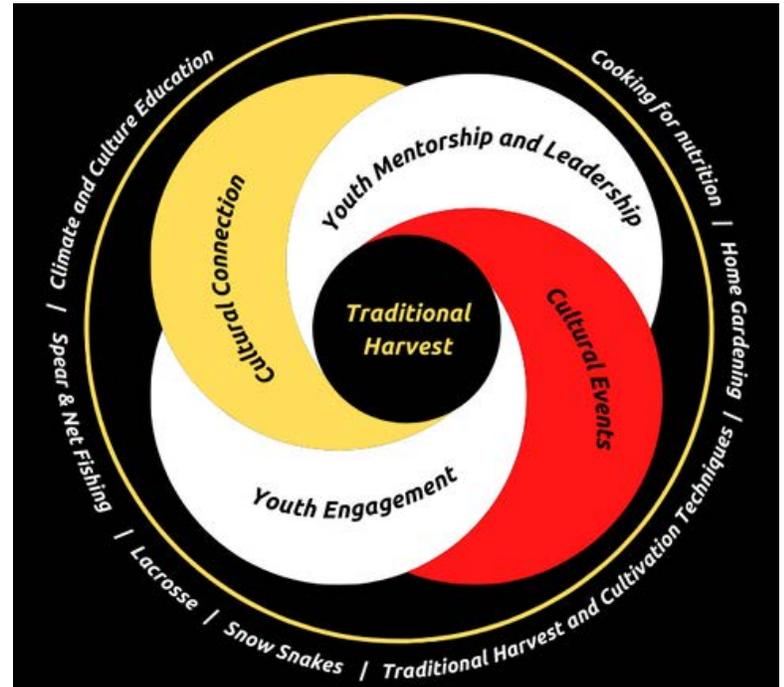
Gidakiimanaaniwigamig

Bimaaji'idiwin Sustainable Community Project - Children, Youth and Families at Risk (CYFAR) USDA Grant

Programming is centered around the concept of harvest, incorporating cultural values and traditions, food sovereignty, and seasonal activities. With an emphasis on empowering youth resiliency and teen leadership through three themes:

- Food Sovereignty
- Passing of Knowledge
- Leadership through connection with culture

Our Program Partners include the American Indian Community Housing Organization (AICHO), Carlton Indian Education, and FDL Gitigaaning Farm.



USDA APHIS: Agricultural and Natural Resources Knowledge Emersion Camp

The APHIS summer camp program builds career pathways in agriculture and natural resources for our youth. The series of two camps focuses on how these subjects connect to Ojibwe culture and heritage.

The fundamentals of the camp incorporate scientific training in understanding the relationship of plants to the soil, air, water, and other organisms, with immersion in the fields of biology and environmental science.



Ronald Willis is the new Youth Education Outreach Coordinator at the Environmental Institute. He is an enrolled member of the Little Traverse Bay Bands of Odawa Indians. For the past 7 years, Ronald has been involved with the Gidakiimanaaniwigamig (Gida) Camp as a college mentor, teacher, and now coordinator. He is a proud graduate of FDLTCC and University of Minnesota – Duluth where he obtained a Bachelor of Science degree in Actuary Science and Statistics, and double majored in Mathematics. Ronald has a strong passion for learning, sports, and the natural world, and he enjoys sharing his passions with Indigenous youth.

Serving Our Youth



Climate Strong! - Building Tribal Youth Leadership for Climate Resiliency

Climate Strong! is an immersion camp for grades 5-12 to gain awareness of how climate change impacts cultural and community systems. The youth will gain leadership skills by engaging with climate change models and gain experience contributing to community resiliency strategies.

Our outcomes are focused on:

- Providing outreach to community members; highlighting community resiliency issues facing our region
- Sharing project results with partners
- Increasing community resiliency through adaptation of culturally relevant stewardship strategies that reduce climate change impacts on natural resources that support cultural practices
- Expanding the number of community-based climate resiliency projects that reduce extreme weather impacts

PARTNERSHIPS

- University of Wisconsin Extension
- Great Lakes Indian Fish and Wildlife Commission (GLIFWC)
- Carlton School District
- National Oceanic and Atmospheric Association (NOAA)
- Lake Superior National Estuarine Research Reserve
- 1854 Treaty Authority
- Fond du Lac Resource Management
- University of Minnesota, Twin Cities & Duluth
- State Health Insurance Program (SHIP)



Research



Increasing Community Research and Building Pathways for FDLTCC Students

The **USDA NIFA Area of Expertise Grant of \$500,000** was awarded to FDLTCC Environmental Institute in 2021. This funding supports the expansion of research partnerships that give our students unique research experiences that create pathways into careers and higher educational opportunities. Through the Environmental Institute work study program, students are engaged in multiple evolving research projects that provide the skills, knowledge, and leadership to pursue higher educational degrees. In its 7th year the **Tracking Mercury in the St. Louis River Watershed** is supported by a USDA NIFA Tribal Research grant. This project is measuring the amount of mercury in water, dragonfly nymph tissue, and other stream macroinvertebrates to determine how the neurotoxin moves within our watershed and ultimately ends up in our food.

FDLTCC RESEARCH OBJECTIVES

- Give students a hands-on opportunity to increase their skills, knowledge, and confidence in environmental science by conducting, analyzing, and reporting back on research that is critically important to Tribes and local agencies.
- Provide networking opportunities where students strengthen their connections with current research partners in the region to create opportunities beyond the scope of academia
- Create sustainable student research pathways by increasing recruitment efforts and encourage a model of student-to-student mentoring and support



Arianna Northbird is our new Science, Technology, Engineering and Math Research (STEM) Research Coordinator at the Environmental Institute. Arianna is Ojibwe from the Fond du Lac Band of Lake Superior Chippewa. Ms. Northbird has a bachelor's degree in Environment, Sustainability & Geography and a master's degree in Tribal Resource & Environmental Stewardship. She has participated in Indigenous oriented fellowships, internships, and research experiences relating to community enhancement. As FDLTCC's STEM Coordinator, Arianna creates research pathways for students in academia and beyond.

Research

PARTNERS

- Superior National Forest (SNF)
- 1854 Treaty Authority
- Fond du Lac Resource Management (FDL RM)
- University of Minnesota Twin Cities (U of MN)
- University of Illinois Urbana - Champaign (UIUC)
- NASA
- Cloquet Forestry Center (CFC)
- University of Minnesota -Duluth (UMD)

COLLABORATIVE RESEARCH PROJECTS

- Tracking Mercury in the St. Louis River Watershed (UMD & FDL RM)
- Environmental DNA monitoring for Invasive Aquatic Species (FDL RM & UIUC)
- Oak Blueberry Monitoring for traditional burning initiatives (SNF)
- Lynx Tracking (SNF)
- B4Warmed climate change research (U of MN, CFC)

eDNA funding used to track aquatic invasive species on Tribal Lands

Fond du Lac students, in partnership with Fond du Lac Resource Management, have been utilizing environmental DNA (eDNA) to detect the potential presence of rusty crayfish in the watersheds and lakes of wild rice (manoomin). These aquatic invasive species are problematic because they effect the health of ecosystems by mowing down manoomin in rice lakes.

Invasive species are most crucial to detect early when populations are low and resource managers can control and eradicate.

SnowEx: Bringing NASA to Our Region

NASA and 1854 Treaty Authority has partnered with FDLTCC to give students the opportunity to establish a project that addresses gaps in snow remote sensing knowledge. NASA is working specifically with tribal colleges and agencies across their targeted climate categories to work with students by giving them experience in earth systems and mapping. The work that is being done at FDLTCC will directly help NASA with their future snow satellite missions as well as 1854 Treaty Authority management decisions.



B4 Warmed Climate Change Research

Scientists at the B4 Warmed project are working with FDLTCC students by providing hands-on training in field and lab settings. Our students are working at the Cloquet Forestry Center location where they take various tree species measurements to understand how predicted higher temperatures will impact our forests. This partnership allows our students to be a part of long-term experiments that measures important data that will help foresters make mitigation plans that anticipate future forest changes.



Sustainability at FDLTCC



USDA NIFA Sustainable Systems at FDLTCC

Our new Sustainable Systems track in Environmental Science is a three-pronged approach that includes implementing a Sustainable Systems Certificate, increasing growing capacity on campus, and supporting farmer training.

The curriculum is place-based, with a foundation in Anishinaabe perspectives and values to teach a holistic approach to cultivating, growing and harvesting food as well as sustainability practices for climate change mitigation.

Our approach is unique because it is focused not just on sustainability as practice but also on the traditional methods and perspectives that are important to our community.



PARTNERS

- USDA NIFA
- American Indian College Fund
- Fond du Lac Resource Management
- Fond du Lac Gitigaan Community Program
- St. Scholastica
- WINHEC

SUSTAINABLE SYSTEMS CERTIFICATE

We aim to launch an associate of science in Sustainable Systems by Fall of 2024!

- Ground students in Sustainability through hands on demonstrations
- Increase student led research in our demonstration garden and agricultural learning spaces at FDLTCC
- Students will learn about starting a farm focused business
- Provide internships to FDLTCC students to pursue sustainability and agriculturally based programs
- Support regional and Fond du Lac community members in their pursuit to become sustainable agricultural producers
- Provide alternative and Indigenous perspectives to the field of sustainability



Sustainability at FDLTCC

ANNUAL EVENTS

Bee Symposium: Our bee symposium brings people from across the region to learn about pollinators, bees and native bees.

Earth Week: Focuses on promoting conservation practices through demonstrations, tabling, and videos

Sustainability Week: Builds on our Earth Week to incorporate and raise awareness in the field of sustainability

Research Symposium: features regional research experts and give students more outlook on research pathways creating larger networks.



CAMPUS SUSTAINABILITY

Gardening: FDLTCC boasts 4 Hugel mounds, several raised beds, a greenhouse, and rain catchment system.

Pollinator Habitat: FDLTCC has installed a bee yard and increased campus pollinator habitat for native bees and butterflies.

Medicine Garden: Students have designed and built a medicine garden on campus that places that four sacred medicines in its center and native pollinator species in the surrounding areas

Recycling: The Environmental Institute work study students maintain and uphold proper recycling procedures around and on campus

Vista Partnerships

Americorps VISTA (Volunteer in Service to America) funded by the American Indian Higher Education Consortium (AIHEC) currently serve at Fond du Lac Tribal and Community College.



UPCOMING EVENTS

- Manoomin Wild Rice Camp
- 13 Moons Pow Wow
- 8th Annual Bee Symposium
- Sugar Bush
- FDLTCC Earth Week
- FDLTCC Sustainability Week
- Gitigaan Wiikondiwag
- 13 Moons Cultural Symposium
- FDLTCC Research Symposium



Fond du Lac Tribal & Community College

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Contact Us!

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