

## FALCON Student Presentations

**Friday, October 23, 2020**

**11:00am – 12:45pm ET**

**10:00am – 11:45am CT**

**9:00am – 10:45am MT**

**8:00am – 9:45am PT**

1	Title	Presenters	Institution/Organization
	<b>2020 Sustainability Leadership Cohort “Preparing Native Youth for the Future”</b>	<b>Marissa Vele &amp; Tonia Haack</b>	<b>College of Menominee Nation</b>

### ABSTRACT

The Sustainability Leadership Cohort (SLC), is a summer program set up by the Sustainable Development Institute with the College of Menominee Nation (CMN) to support our youth in developing college and career readiness and leadership concepts.

The Sustainability Leadership Cohort (SLC), is an informal community for students to learn about current sustainability challenges and the contributions of indigenous and scientific knowledge. This year’s SLC theme was earth, or ahkēw. The SLC mentor team, which consisted of CMN education students, assisted the high school students in connecting their culture and language to STEM projects. The mentor team guided the students through tours and hands-on activities. Learning more about Traditional Ecological Knowledge and how to incorporate culture into curriculum, the mentors helped students with planning and developing their own breakout rooms to implement within the community. The mentors also worked with the SLC students in developing podcasts, blogs and vlogs. These were based on what the students felt passionate about each week. As the SLC students complete the program, they leave with newfound skill sets that will help them in becoming the future leaders and thinkers of their communities.

2	Title	Presenters	Institution/Organization
	<b>Tour d’Rez Visualizing Forest Futures</b>	<b>Nicholas Schwitzer &amp; Jacob Schwitzer</b>	<b>College of Menominee Nation</b>

### ABSTRACT

The Visualizing Forest Futures project is a joint venture between the College of Menominee Nation and Penn State University. The goal for this project is to investigate the impact of climate change in the forests of Northeastern Wisconsin. For 2020, our research is informed by previous feedback received from the last two years of research as well as the Menominee Model of Sustainability’s Human Perception, Action, and Behavior component. The Visualizing Forest Futures Virtual Field Trip (Tour d’Rez) project aims to create a Virtual Reality immersive experience of several cultural important and historical sites on the Menominee

Reservation. By gathering 360 video and audio from these sites, we hope to bring this application to those who can no longer access these areas, specifically Menominee Elders, Urban Menominee, and anyone who is interested in learning about the Menominee Reservation. By sharing this immersive experience, we hope to create a connection between the user and the location by stimulating an emotional response as well as activating profound memories.

Additionally, due to the limitations of Covid-19, we hope to use this as a tool to gather data on how the forest has changed due to climate change by utilizing the Menominee Oral tradition. Through a series of interviews with elders or experts on the sites, we will uncover the Menominee perception of the forest and see how climate change has impacted it over their life. The intent of this component is to capture authentic voices revealing their personal connections to the sites, so that these oral histories are documented. Furthermore, it is important to synthesize our oral storytelling tradition with modern technologies.

3	Title	Presenters	Institution/Organization
	<b>Laying the Foundations: Agricultural Research</b>	<b>Brandon Boyd</b>	<b>College of Menominee Nation</b>

#### ABSTRACT

In traditional times the Omaeqnomenewak (People of the Wild Rice) or the Menominee Tribal Nation had naturalistic methods to farming that we do not see widespread today. Some differences include how the fertilizer is made and distributed into the soil for plant development. The archaeological findings discovered by Dr. David Overstreet discovered bio-char and aquatic substances in ancient raised garden beds used by the Menominee people.

Using these findings our team at the Sustainable Development Institute organized research to grow yellow squash by using three different fertilizing methods. The three fertilizer options include bio-char, fish emulsion, and synthetic fertilizer plus a control, replicated four times. Throughout the summer and into the fall our team will take record data, including soil temperature and moisture content.

4	Title	Presenters	Institution/Organization
	<b>Seeds From The Past, Planted For The Future</b>	<b>Gabriel Mendoza</b>	<b>Tohono O'odham Community College</b>

#### ABSTRACT

Growing food as we know it has evolved from the time our ancestors grew food in the Sonoran Desert. The Wa:k O'odham grew year-round, and the O'odham people to the west waited for the rain to come. The main crops were corn, squash, melons, and various beans, which were planted before the summer rains. In the winter, they planted O'odham peas, wheat, and barley.

In the past, the Wa:k Community used the Santa Cruz River when it was flowing. The families would plant traditional crops and irrigate their fields by diverting the water from the river. They built berms to allow the water to rise; this would then channel the water into canals which led to their fields.

The Sonoran and Pima wheat were hand-planted by the men in the community. During the harvest, the women would help in processing the grains. The cleaning process required a horse to thresh the grains and process the wheat into flour; a grinding stone was used. Times have become more modern in terms of method and production. The use of heavy equipment now accomplishes the preparation and planting of wheat grains. Harvesting now requires one individual who operates a combine which separates the seed from the chaff. Wheat is used to make bread and tortillas, and it is an added ingredient to make pudding with wild berries. The wheat was made into a drink given to runners because of its natural ability to provide protein and boost stamina.

The primary goal of Tohono O’odham Community College Agriculture Extension Program is to educate and encourage community members to grow their food. Furthermore, to realize the connection between land, nutritious food, and the individual and the community’s well-being.

5	Title	Presenters	Institution/Organization
	<b>Ecological restoration of native plant communities in forests and woodlands on the Navajo Nation</b>	<b>Nicole Billy</b>	<b>Dine' College</b>

#### ABSTRACT

Diné College Land Grant, in collaboration with Northern Arizona University, proposes to carry out an experimental study of woodland and forest ecological restoration to serve as learning and demonstration sites for students and community members. The Navajo Nation forestland, primarily ponderosa pine (*Pinus ponderosa*) covers approximately 705,878 acres. Woodlands comprised of pinyon (*Pinus edulis*) and juniper (*Juniperus monosperma* and *J. osteosperma*) cover over 4.8 million acres of the Navajo Nation, making up 89% of the forested area.

The long-term goal of the proposed research project is to determine evidence of ecological restoration of native vegetation after implementing ecological restoration thinning prescriptions in dense pinyon, juniper, and ponderosa pine forest on the Navajo Nation. Our objectives: 1) Increase the capacity of staff, faculty and students to participate in applied research. 2) To strengthen collaborations with research institution to improve technical support systems to implement research. 3) Research results will be shared with Navajo Nation Forestry Department, Navajo communities, Grazing Officials, Bureau of Indian Affairs Natural Resources, and land users (grazing permittees).

The project will provide a “living laboratory” for Diné College students, training and research experience for faculty and staff, and will result in enhanced research capacity at Diné College.

6	Title	Presenters	Institution/Organization
	<b>Enhancing the quality of sheep wool, meat and livestock meat markets for Navajo producers through applied research</b>	<b>Korrie Jonnie</b>	<b>Diné College</b>

ABSTRACT

Diné College, Land Grant Office focuses on “Enhancing the quality of sheep wool, meat and livestock meat markets for Navajo producers through applied research.” Our purpose is re-interpretation of 3 years, qualitative research method by adapting genetic change in a sheep-breeding project. Diné College extension program please to share framework for 10 Dine sheep producers that analyze the change of sheep wool and meat quality over a three-year period of data. This data examines the South African Meat Merino (SAMM) sheep breed the insights to strategic improvement of wool fibers and carcass quality. Diné College, Land Grant Office discuss how research can potentially connect markets in a cooperative approach for sheep producers by development of quality animals.