



# Nixyaawii, Awkú Čáwpam Ákaatta!

## “Nixyaawii, Don’t Throw it Away!” Project

DNR All-Staff

Thursday, November 21, 2024

Presented by Althea Huesties-Wolf and Colleen Sanders, First Foods Policy Program

# Map of Project Overview



## Meet the Project!

- First Foods Policy Mission
- Project Funders, Team, Scope, and Goals
- Methods:  
First Foods and Waste
- Preliminary Results:  
Opportunities & Concerns
- Discussion & Future Steps:  
Carbon, Culture & First Foods
- Closing Thoughts & Thanks

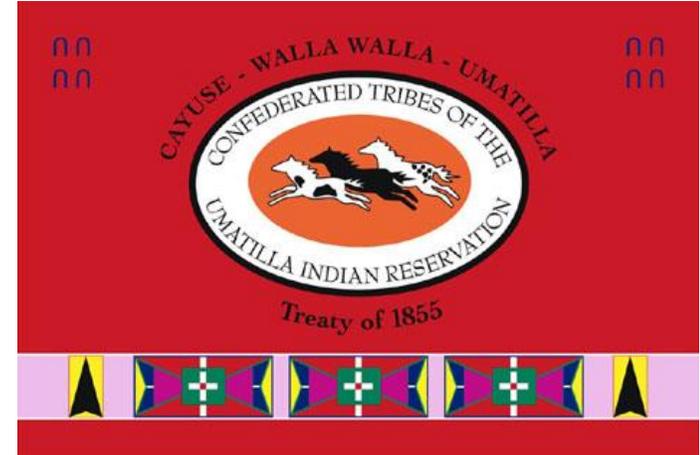
# First Foods Mission & Goals

**To provide proactive planning and policy analysis and development to protect, restore, and enhance the First Foods and the exercise of associated rights reserved in the Treaty of 1855.**

3. Monitor, assist with, and coordinate engagement in Climate Change planning and response actions and opportunities in collaboration with other DNR programs and CTUIR departments.
5. Manage the First Foods Policy Program to provide responsive and responsible service in furtherance of CTUIR, Department and Program missions.

# Thank you to Project Funders!

- USDA Composting and Food Waste Reduction Program
  - National Institute for Food and Agriculture (NIFA)
  - Office of Urban Agriculture and Innovative Production (OUAIP)
  - Natural Resource Conservation Service (NRCS)
  
- Meyer Memorial Trust (MMT)
- Bureau of Indian Affairs (BIA)
- Amazon Change X



# Project Team

## First Foods Policy Program



Althea Huesties-Wolf  
Acting Program  
Manager



Colleen Sanders  
Climate Adaptation  
Planner



Ermia Butler  
Climate Change Intern

## Biowaste Technology

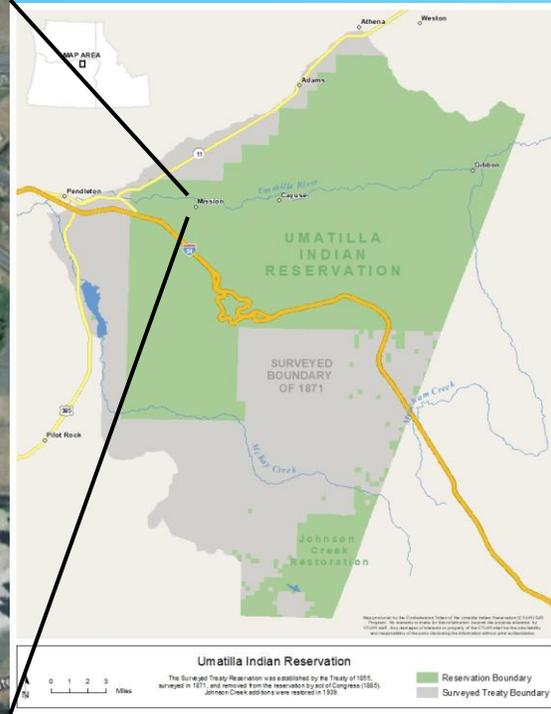


DeArcie Abraham  
Primary Operator



# Project Scope: Nixyaawii “The Good Place”

Mission, or Nixyaawii, is the biggest population center with housing, government services & cultural/religious space (Longhouse)



This is the focus of our project, to engage Tribal community in skills and planning

Learn more about food waste on a small scale to understand how this could be scaled up regionally



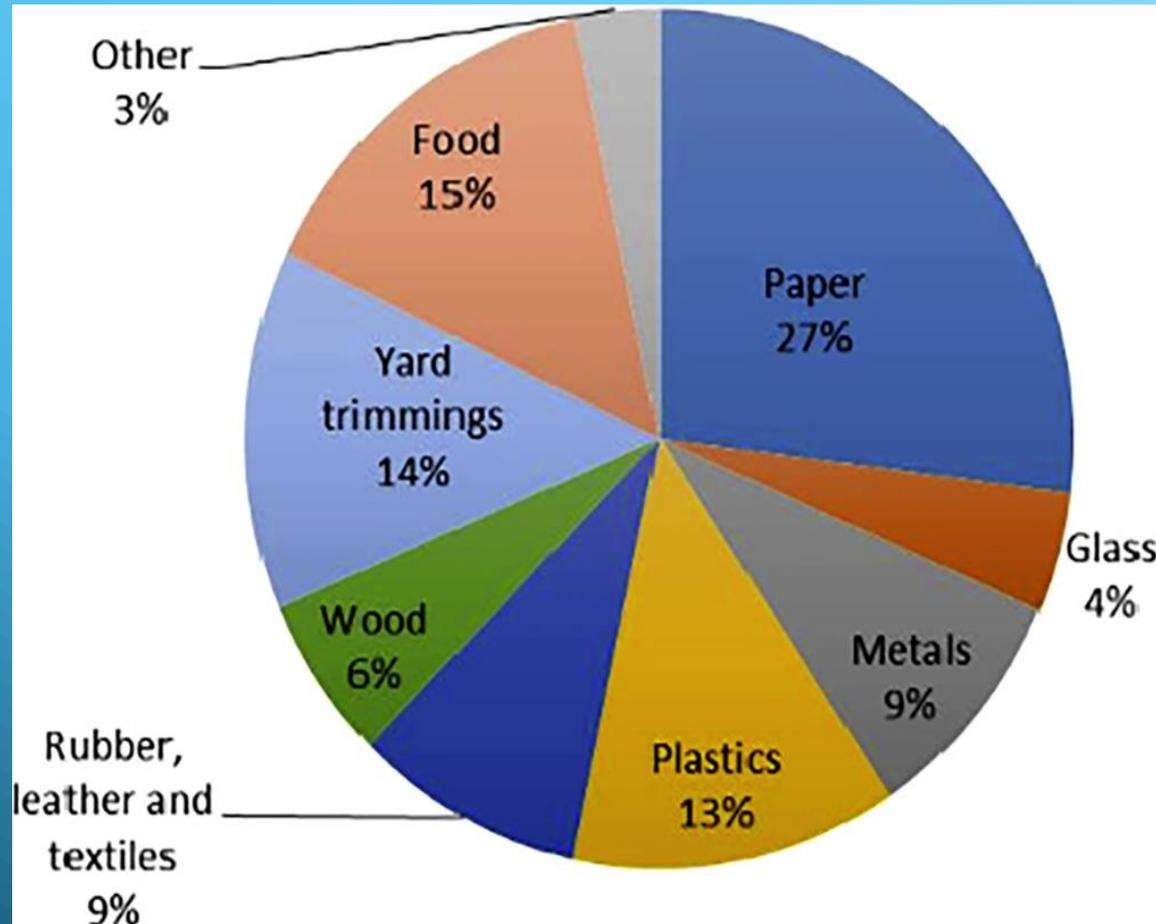
# Project Goals

- 1) **Understand food waste** types and volumes
- 2) **Build community capacity** to improve materials management
- 3) **Implement biogas research/demonstration effort** using food waste



# Food Waste: the Basics

Analysis of Waste Components in US (Abdel-Shafy et al 2018)



# Goal 1: Understand Food Waste

Understand TYPES and QUANTITY of waste generally, and food waste specifically

Our project will generate information through

- 1) community behavior survey (pictured), and
- 2) Host site waste audits



# First Foods and *Waste*: Tribal Teachings

Gathering methods and processing will vary from family to Longhouse gathering

- Longhouse: ceremonial-based, large group for multiple days
- Family: niche-based, gathering thru entire season





# First Foods and *Waste*: Tribal Teachings

## Fisherman & Hunters teach their own methods processing methods

- Some common practices are:
- Internal organs are usually left in the field or designated area
  - Historically many of the organs were ate by men or the hunting party, this is different by tribe
  - Stomach and intestines were reused, less today
  - Hide removal influenced by use
- Horns, hooves, and some bones are kept
- Scraps and bones after processing returned to forest



# NIXYAAWII, AWKÚ ČÁWPAM ÁKÁATTA!

"NIXYAAWII, DON'T THROW IT AWAY!" PROJECT

HARVARD  
KENNEDY  
SCHOOL AWARD-  
NOMINATED

**ABALONE  
SHELL  
Earring  
WORKSHOP**  
Everyone welcome!  
Kids activities available

HOSTED BY  
BIOWASTE  
TECHNOLOGY



**16** ←  
**SATURDAY NOV 16TH**  
**Mission Longhouse 10 AM - 12 PM**  
Come learn about food waste, composting, recycling, and other project outcomes Includes Abalone Earring Workshop!

**23** ←  
**SATURDAY NOV 23RD**  
**Mission Longhouse 10 AM - 2 PM**  
Calling Longhouse Cooks and Chefs! This training is to provide skills to be part of the project food waste collection. Stipend provided with registration

\* In the event of a funeral, events are postponed

THANK YOU TO  
OUR FUNDERS!



SCAN ME



FIND OUT MORE AT  
OUR WEBSITE

# Upcoming Project Events

We have several events coming up where we will provide project information and materials management trainings

- **Sat Nov 23<sup>rd</sup>**: Longhouse Training (cooks and chefs)
- Tentative **Thurs Dec 12<sup>th</sup>** : Monthly Public Project Meeting
- **Dec 31<sup>st</sup>** - Yellowhawk Sobriety Powwow demonstration

TO REGISTER FOR WORKSHOPS OR FOR QUESTIONS & COMMENTS,  
CONTACT FIRST FOODS POLICY PROGRAM  
EMAIL: FIRSTFOODS@CTUIR.ORG  
PHONE: (541) 429 - 7247

# Goal 3: Research/Demo Biogas

Methane is a 'renewable natural gas' like propane, and can be generated from many kinds of feed stock

What is the potential for renewably generated methane to be a tool in the Tribe's energy toolbox?

Research a small-scale operation with an eye towards scaling up



# Cooked Food *Waste*

Food remnants  
from serving  
dishes vs. Food  
from plates





## Preliminary Community Results

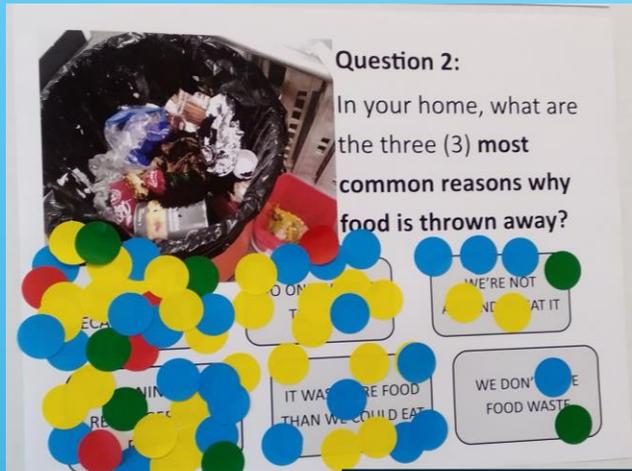
- Methane – odor and flammability/explosivity, AQ & VOC's
- Flooding -- storm water contamination
- Health & safety -- Human interference and attracting wildlife
- Temperature -- generation potential in heat but not in cold
- Participation & buy-in from Public Works & Tribal Planning



## Preliminary Community Discussion

- Close loop for First Foods & cultural connection
- Diverse energy production opportunities that center Tribal community self determination
- Carbon capture potential for carbon market/credits
- Interruption of systems that create climate crisis

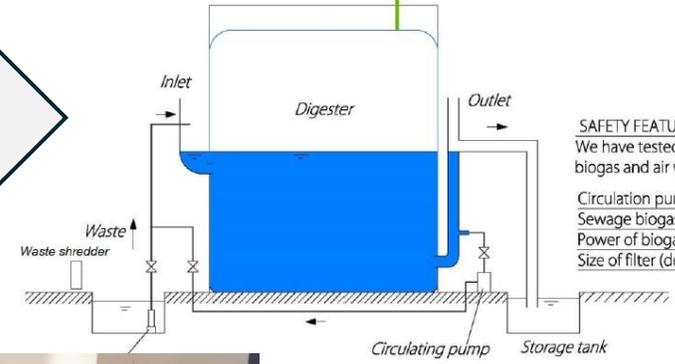
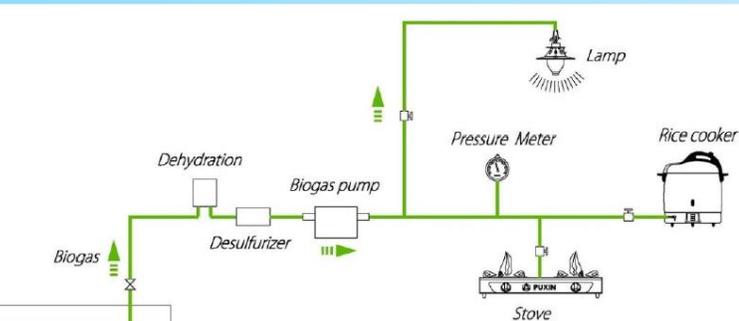
# Methodology: the Good, the Gross, & the Ugly



Community behavior responses

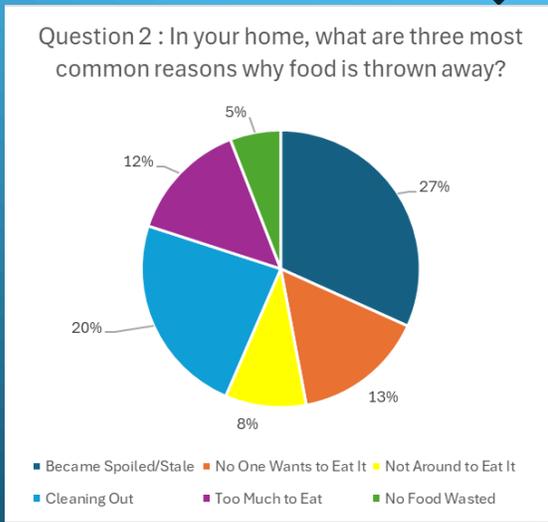


Weight & Volume of Food Waste; # of event attendees

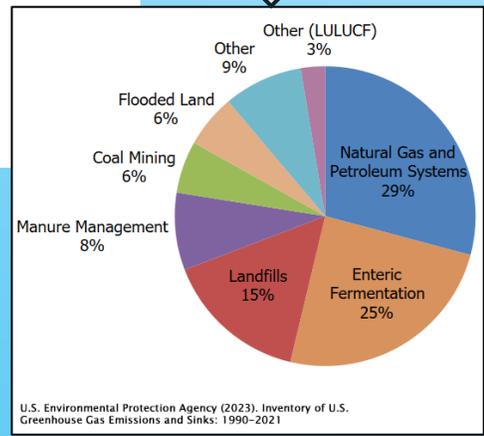
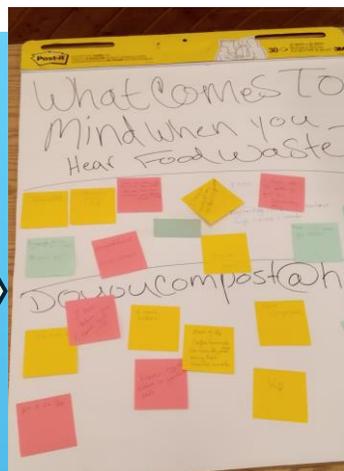


**SAFETY FEATURE:**  
We have tested the biogas digester is safety, because the proportion of biogas and air will not meet the explosive conditions.  
Circulation pump: 125W Single phase, Flow 25L/min  
Sewage biogas pump: 1.1KW Single phase  
Power of biogas booster pump: 15w or 20W  
Size of filter (desulfurizer): 1L

Quantify carbon emissions prevented through food waste & methane capture; hours of direct use fuel + volume

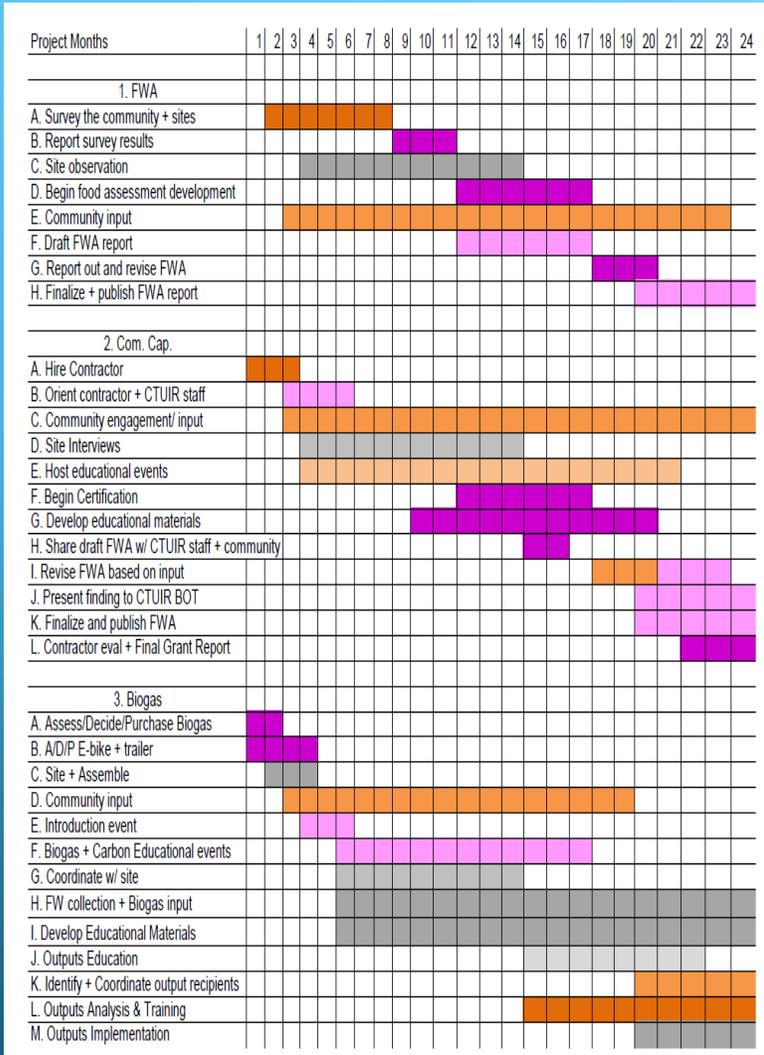


Community Knowledge Gains with pre- and post-tests, anecdotal evidence



pH & contaminants testing of liquid

# Methods & Timeline



## G1: Food Waste Assessment

- Community behavior survey → June 2024 – June 2025
- Longhouse event audits → Nov 2024 – Jan 2026
- Host Site Audits → Dec 2024 – Spring 2025
- Host site project evaluation & interviews → March 2025 – Dec 2025

## G2: Community Capacity

- Longhouse training events → Nov 2024 – Spring 2025
- Community education → Nov 2024 – Feb 2026
- Contractor knowledge & skills → June 2024 – May 2026

## G3: Biogas Feasibility

- Food waste collection & input → Dec 2024 – May 2026
- Methane collection & evaluation → Feb 2025 – May 2026
- Testing liquid output & evaluation → June 2025 – April 2026
- Carbon Ledger quantification → Dec 2024 – April 2026

**Final Grant Report to USDA NIFA: June 2026**

# Next Steps: Carbon, Culture & First Foods

## Energy Impacts on First Foods

- Baseload and dams
- Potential alignment with future energy demands

## Methane Capture

- Columbia Ridge and landfills
- Ozone and VOCs

## Carbon Inventory and Crediting

- Builds on EPA CPRG work in 2023 & 2024
- Foundation for evaluating carbon sinks and sources
- First Foods Working Lands
  - Geologic injection and Carbon Dioxide Removal

Ozone Related Premature Deaths  
(Fant et al 2015)



# Thanks to our Project Team

Biowaste Technology

DeArcie Abraham, Operator

First Foods Policy Program

Althea Huesties-Wolf, Project Co-Director

Colleen Sanders, Project Co-Director

Ermia Butler, Climate Change Intern

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J.D. Tovey, interim CTUIR Executive Director

Eric Quaempts, CTUIR DNR Director

Nixyaawii Longhouse cooks and Gatherers

CTUIR Dept. of Economic & Community Development

CTUIR Science & Technology Committee

CTUIR Fish & Wildlife Commission

CTUIR Cultural Resource Committee

CTUIR Land Protection and Planning Commission

Pilot Rock School District

Mike McHenry, Pendleton Sanitary Service Inc.

Whitney Dorer & Morgan Schafer, Oregon DEQ

Annie Smith, CTUIR Higher Education Liaison/Coach



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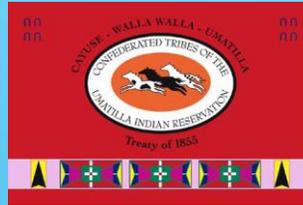


# Contact Info and Thanks!

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<https://ctuir.org/departments/natural-resources/climate-adaptation/nixyaawii-awku-c-a-wpam-a-k-aatta-nixyaawii-don-t-throw-it-away-project/>



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