CTUIR FWA Appendix B:

Single Use Plastic Reduction Campaign

CTUIR Nixyaawii, Don't Throw It Away! Project

Nixyaawii Longhouse youth bring awareness to the SUP alternatives and punch card program as part of 2026 Root Feast. Photo by Jill Marie Gavin, Columbia River Intertribal Fish Commission, (April 2026); CTUIR DNR FFPP (April 2026)

Nixyaawii, Don't Throw It Away! Project and Single Use Plastic

As part of this initiative, First Foods Policy Program also adopted a co-existing mission of addressing the most frequent source of contamination in food and organic waste collection: Single Use Plastic (SUP) items.

While project elements focused on food waste and composting were generously funded by the USDA National Institute for Food and Agriculture (NIFA) Composting and Food Waste Reduction (CFWR) Program grant, complementary SUP awareness and reduction efforts were kindly funded by CTUIR Tribal funds. It was the emphasis of this project component to provide our community with reusable alternatives to common SUP items and encourage and incentivize community members to bring these reusable items with them to Longhouse and community events.

This Appendix B documents the Nixyaawii, Don't Throw It Away! Project Single Use Plastic reduction efforts that were conducted under the project heading additional to our funded food waste diversion and composting initiative.

Single Use Plastic Impacts on Environment and Economy

Plastic is a complex life cycle that unavoidably creates harm, especially when plastic carbon sources, known as "carbon black," are based in fossil fuels. Single use plastic, defined as [plastic item made for a single use before being discarded, with the landfill as its intended destination.

Single-use plastic is made from petroleum-based chemicals and processes that emit carbon at every step. As more people succumb to the harmful convenience of using single-use plastic, carbon emissions associated with lifestyle choices will increase. Longhouse Sustainability must confront this relationship of convenience and carbon from single-use plastic items.

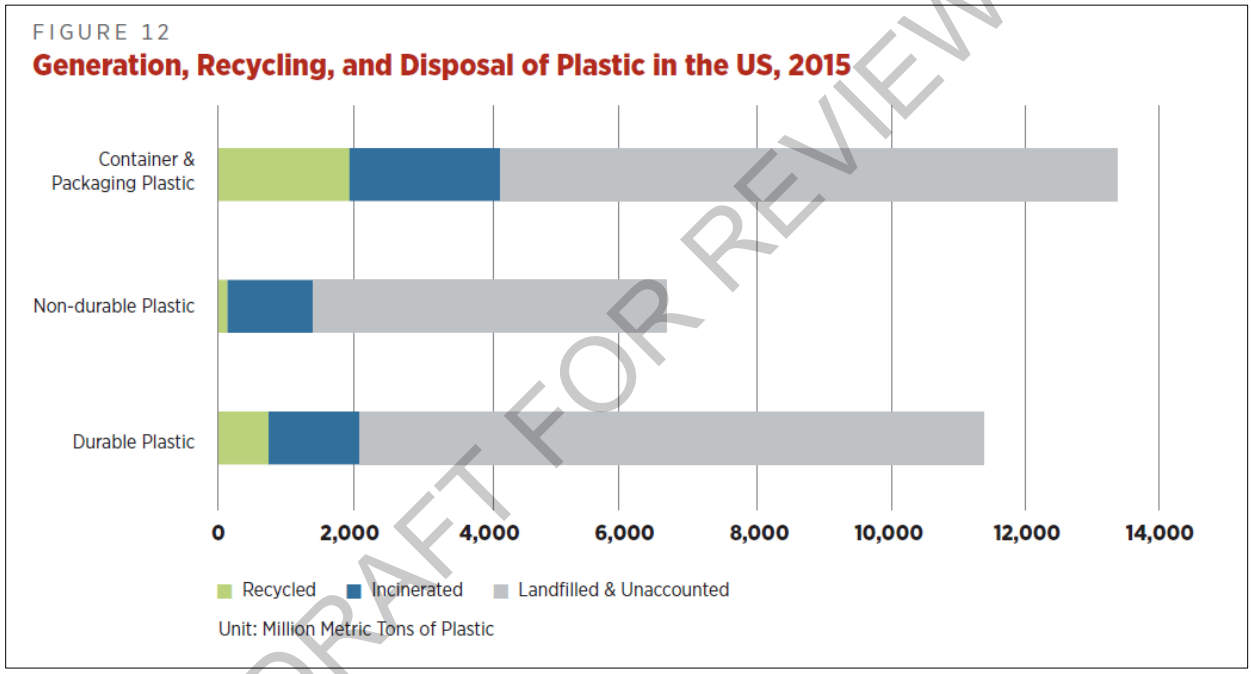

Figure 1: Visualized data on materials management pathways for various plastics in the United States; much of this plastic ends up in landfills or unaccounted for, likely having become plastic pollution in the environment. Little of this plastic is recycled. Graphic by Plastic and Climate (2019) report.

Non-packaging plastic makes up 60% of plastic waste in landfills annually. Unaccounted plastics have a high likelihood of ending up as environmental pollution in waterways and in areas around waste aggregation sites like landfills.

Reducing and preventing the demand for single use plastics has a quantifiable carbon emissions reduction benefit. "Durable Plastic" which includes single use plastic utensils,

created over 11,000 metric tons of plastic waste in 2015. Roughly 82% of those plastics were landfilled or unaccounted for instead of recycled.

Tamástslikt Cultural Institute Kinship Café transition to compostable containers increases costs, and no local commercial composting facility so "bio-degradable" dishware ends up in landfill anyway. Wildhorse Resort and Casino pays additionally for landfilled packaging under new Oregon laws; more efficient to use actual dishware instead. Thus implementing demand-side reductions – reducing the demand food service clients and recipients demand single use plastic items – will have a positive impact for reducing the amount of plastic litter in First Foods environments, it will also have a positive impact on carbon emissions reductions associated with single use plastic manufacturing, use, and disposal.

SUPs and Carbon

Single use plastics generate carbon emissions at every step of their lifecycle, including with their disposal. Thus prevention of their creation is the most efficient carbon emissions reductions approach through Source Reduction and Recycling.

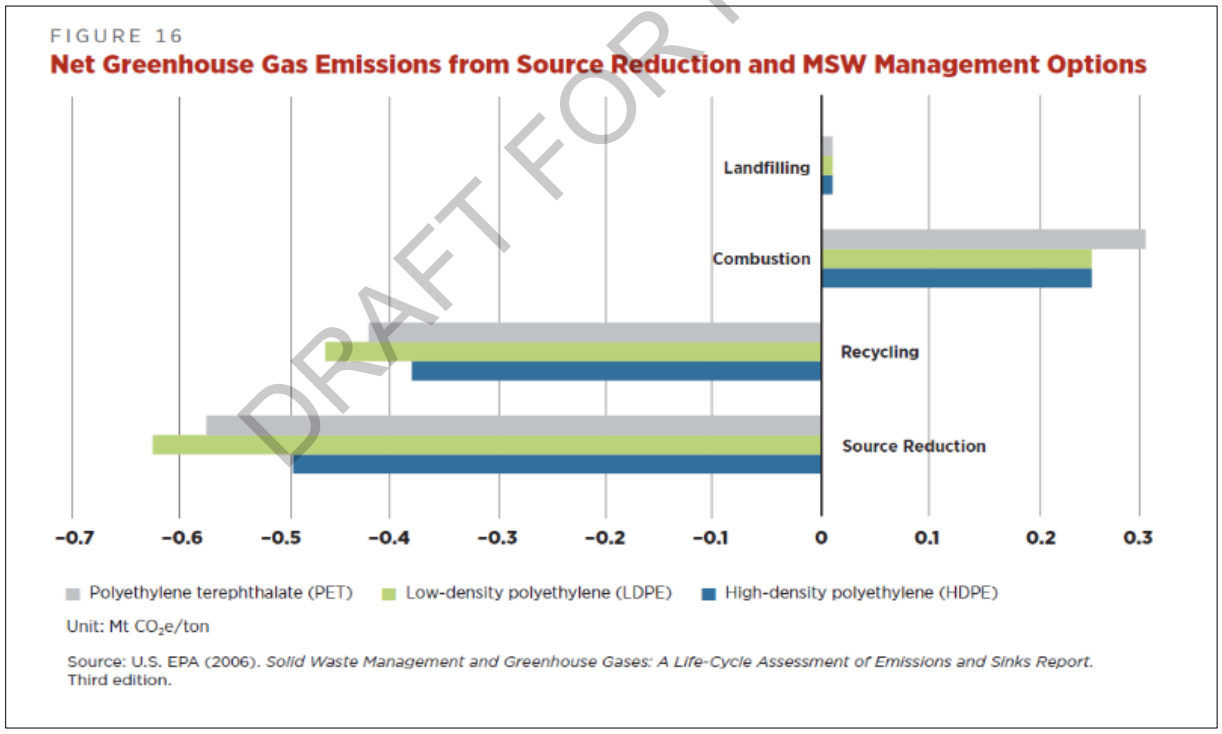

Figure 2: Greenhouse gas emissions reductions estimated for management of single use plastic disposal using different methods. Figure from Plastic and Climate Report (2019).

Through the course of the project, 144 SUPs were prevented as part of Punch Card Program at least, more uses that were not captured as part of the record keeping for this initiative. Dedicated tracking of these kinds of metrics across the community and enterprises, coupled with investment in innovative carbon crediting methodologies could eventually produce a pathway for SUP source reduction efforts as eligible for carbon removal frameworks.

Microplastics and Our Environment

Prepared by Minal Mistry, Oregon Dept of Environmental Quality (ODEQ)

Plastics are everywhere in our daily lives and contain a large variety of chemicals that give them their unique properties. Many of these chemicals can accumulate in living bodies, where they disrupt cellular functioning leading to adverse health outcomes including reproductive and cognitive development.

Plastics, especially fragments and unseen particles called micro and nano plastics (MNP), size below 5mm in length, have been documented in soil, surface and ground water, ice, air, and oceans from pole-to-pole. They represent the single most prolific human made emergent pollution. Scientific analyses are increasingly documenting a variety of ecosystem concerns across different trophic levels and diverse life forms including shellfish, fish, mammals, birds, insects, flowers, even vegetables. The implications for people and Earth are vast. In particular, the implications to foods we consume, both industrially produced and wild caught species.

Plastics degrade over time due to the influence of ultraviolet light, heat, and abrasion, and they transform into ever smaller pieces until they are invisible particles and fibers, and the chemicals that they attract can pose serious threats for whole food systems. The material is persistent in the environment and is showing detrimental effects in varying living beings from unicellular to filter feeders, all the up the food chain. In addition, MNP are moving with Earth systems – via air currents, ocean and surface water flows, and are accumulating in soils where they affect soil bacteria, worms, and plants.

Ingestion, via drinking water and food items, is increasingly showing as a significant route for microplastic fibers in the brains of humans and more-than-human creatures. This is one major reason for studying foods from production, harvest, processing, storage, use and disposal. It is also a good reason to reduce our dependence on single use plastics, that often end up as litter in our environment.

NDTIA!P SUP Reusable Alternatives

Beginning in [late 2023], CTUIR First Foods Policy purchased bio-plastic reusable utensil packs to be handed out to the Tribal community, both to raise awareness of the problem of single use plastic for our environment, as well as to inspire conversation on how plant-based plastics could potentially have a role in CTUIR economics and community management. This effort was also operated under the "Longhouse Sustainability" heading, to be accountable to internal CTUIR work plan items that mandate different departments participate in "Longhouse sustainability" initiatives under CTUIR Board of Trustees direction through BOT-identified initiatives to be undertaken during their two-year term, efforts deemed "BOT Priorities."

Image 1: Tribal Elder Marie "Butch" Dick holds the utensil pack "Version 1.0" along with an educational flyer explaining the purpose of the reusable utensils at the Nicht-Yow-Way Seniors Center. Photo by CTUIR DNR FFPP, 2023.

This plant-based reusable utensils, lovingly dubbed "Version 1.0," were purchased with a generous grant from Meyer Memorial Trust and provided to community members at various tabling events to incentivize participation with engagement booth activities. Roughly 1200

units were distributed to the community between 2023 and 2024, and their usage was tracked by event raffles that offered entry tickets if participants had brought their utensil kits with them to use at events. This was the beginning of the SUP reduction campaign that would continue and be included into the Nixyaawii, Don't Throw It Away! Project activities.

While the community expressed support for the initiative in general, one item of feedback was provided to FFPP consistently: Version 1.0 was not "pointy" enough to be very effective, with Elders who have dexterity and grip issues. These blue bio-plastic utensils were rather child-like and it could become frustrating to use them with certain meals, and especially with robust meat like deer and elk, with many struggling to use the bio-plastic knife and fork to cut these meats. In response, FFPP sought out utensil kits that offered metal items, preferring these to wood options due to food safety and cleanliness issues. Thus, subsequent "Version 2.0" and "Version 3.0" purchases were made for metal utensil kits in direct response to community feedback on the initial bio-plastic versions. 500 units of Version 2.0 (not pictured) were purchased using Meyer Memorial Trust funding, and 1,000 units of Version 3.0 utensil packs using CTUIR Tribal dollars were purchased. All were distributed to community members and Longhouse participants at various activity and engagement booths for the project through to the end of the Project in October 2026.

Images 2 and 3: SUP Alternative Version 3.0 utensil pack included knife, fork, and spoon, as well as two straws, chopsticks, can opener, and children's utility tool (right); Longhouse participants prepare utentil packs to be used instead of SUP utensils at the 2026 Root Feast. Photos by CTUIR DNR FFPP, 2025 and 2026.

NDTIA!P SUP Punch Card Program

To incentivize behavior change promoted by the SUP reusable alternatives initiative, FFPP also developed a "punch card" program that operated similar to a frequent customer incentive card, and made this service available regularly during community events.

Cardstock "punch cards" were developed by the project team and were included in Version 2.0 and Version 3.0 utensil packs that were given out, and could be validated and redeemed out the Nixyaawii, Don't Throw It Away! Project activities booth, hosted during most annual community events and weekly as part of the Family Engagement Program Culture Nights. Below is what the "punch card" looked like.

Image 4: CTUIR Longhouse Sustainability Punch Card initiative was developed by CTUIR's First Foods Policy Program aimed raising awareness about the harms of single use plastic items and incentivizing behavior change to reduce SUP demand at a community level.

Each time a single use plastic item was avoided by bringing a reusable item, credit was given on the punch card. Thus, at a single community event, one participant could receive multiple "punches" on their card, one for each reusable item they had brought with them and used, thereby avoiding the demand and use of a SUP item that would be thrown away.

The punch card program offered a variety of reusable incentive items for participants who "filled up" their punch card; each card that received the necessary 10 "punches" would receive a tiered prize. These filled cards could be cashed out right away for a Tier 1 prize (reusable silicone food storage bag), or saved for a Tier 2 (decorative reusable utensil

packs) or Tier 3 (counter composter bucket) prizes. See Image 5 (page 6) and [#] (page #) for details on prize category structure for more information.

In this way, most Longhouse participants received these utensil packs and participated in the punch card, with those receiving the punch card numbering in the hundreds. Dozens of filled punch cards were returned and survey participants

Image 5: Project team member Ermia Butler sits at one engagement activity booth hosted at the Nixyaawii Governance Center to promote the punch card program and incentives. Photo by CTUIR DNR FFPP, 2025.

This program began in Fall 2025 and would continue through to the end of the pilot project in October 2026. In that time, a documented total of 144 single use plastic items were avoided as a direct result of these activities. Countless other SUPs have been avoided through community and staff use of these reusable items, and community members share their delight about these items with project team members to this day.

Longhouse Sustainability Survey (2025) Results

To understand the community's mid-point perception of project activities, the Longhouse Sustainability Survey was conducted in 2025 to collect information on how the Tribal community was engaging with the project and its initial feelings about the goals and objectives of the effort. Other information specific to food waste and composted collected

from the Longhouse Sustainability Survey was reviewed within the FWA itself (pages #s), though additional survey questions focused on the SUP reduction activities, and are reviewed within this Appendix. Full survey responses are documented in Appendix E.

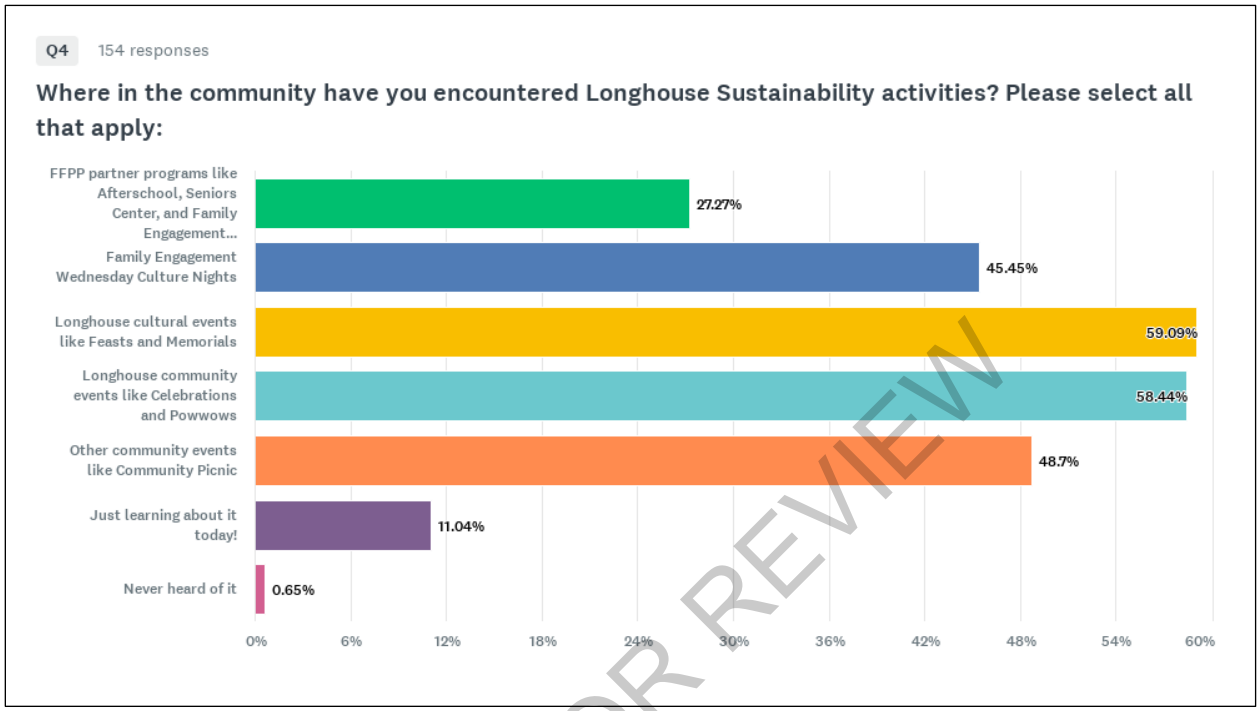

Figure 1: Visual display of responses to Longhouse Sustainability Survey (2025) Question 1: "Where in the community have you encountered Longhouse Sustainability activities? Please select all that apply."

Table 1: Detailed Responses to Longhouse Sustainability Survey Question 1

Response Option	Percent Response	Response Numbers
FFPP partner programs like Afterschool, Seniors Center, and Family Engagement activities	27.3%	42
Family Engagement Wednesday Culture Nights	45.5%	70
Longhouse cultural events like Feasts and Memorials	59.1%	91
Longhouse community events like Celebrations and Powwows	58.4%	90
Other community events like Community Picnic	48.7%	75
Just learning about it today!	11%	17

Never heard of it	0.65%	1
Total		386

Analysis: This was to understand where our project was having the most impact in connecting with our Tribal community. A majority of respondents encountered our project activities most often at the Longhouse with Feasts (59%) and Celebrations/Powwows (58%); while it is intuitive that community members remember our project from Longhouse Feasts where we have an active food waste diversion and educational presence, and our project booth did periodically offer educational activities booths at Celebrations and Powwow events, like the New Years Eve Sobriety Pow Wows, where food waste was not collected but engagement activities were offered. Other most likely places community members encountered our project were at annual Community Events (49%) and Family Engagement Program's Culture Nights (45%).

Images 6 and 7: Education and engagement booth activities offered as part of Longhouse Sobriety Powwows, where participants could sign a Longhouse Sustainability Pledge, pick up their SUP reusable alternatives, and play educational games that emphasis materials management and earth science lessons. Photos by Biowaste Technologies, 2025 and 2024.

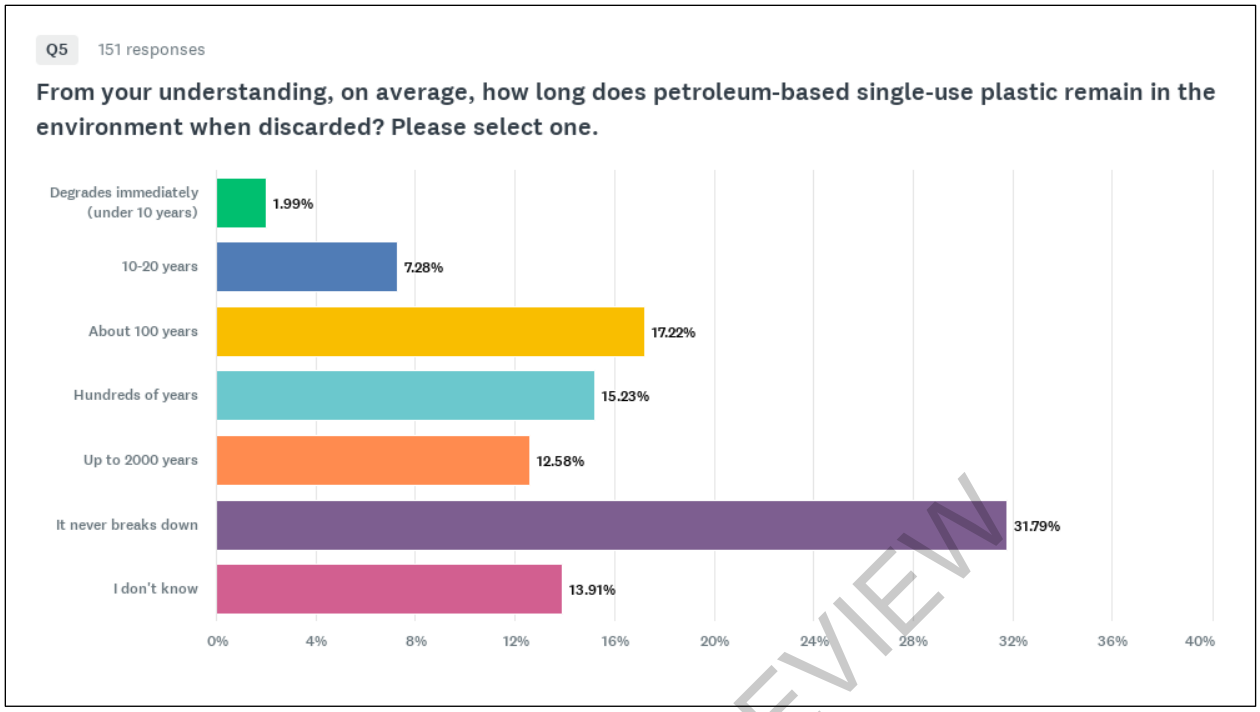

Figure 2: *Visual display of responses to Longhouse Sustainability Survey (2025) Question 2: "From your understanding, on average, how long does petroleum-based single-use plastic remain in the environment when discarded? Please select one."*

Table 2: Detailed Responses to Longhouse Sustainability Survey Question 5

Response Option	Percent Response	Response Numbers
Degrades immediately (under 10 years)	2%	3
10-20 years	7.3%	11
About 100 years	17.2%	26
Hundreds of years	15.2%	23
Up to 2000 years	12.6%	19
It never breaks down	31.8%	48
I don't know	13.9%	21
Total		151

Analysis: This question did not have a "correct" answer because different types of plastics have different rates of decomposition; the goal of this question was to inspire our community to think about the long-term impact of SUPs and to document current understanding of how long community members perceive SUPs remain in the environment causing a negative impact. Most respondents believed plastics Never Break Down (32%), and other shorter timelines like Hundreds of Years (15%) though many Did Not Know (14%).

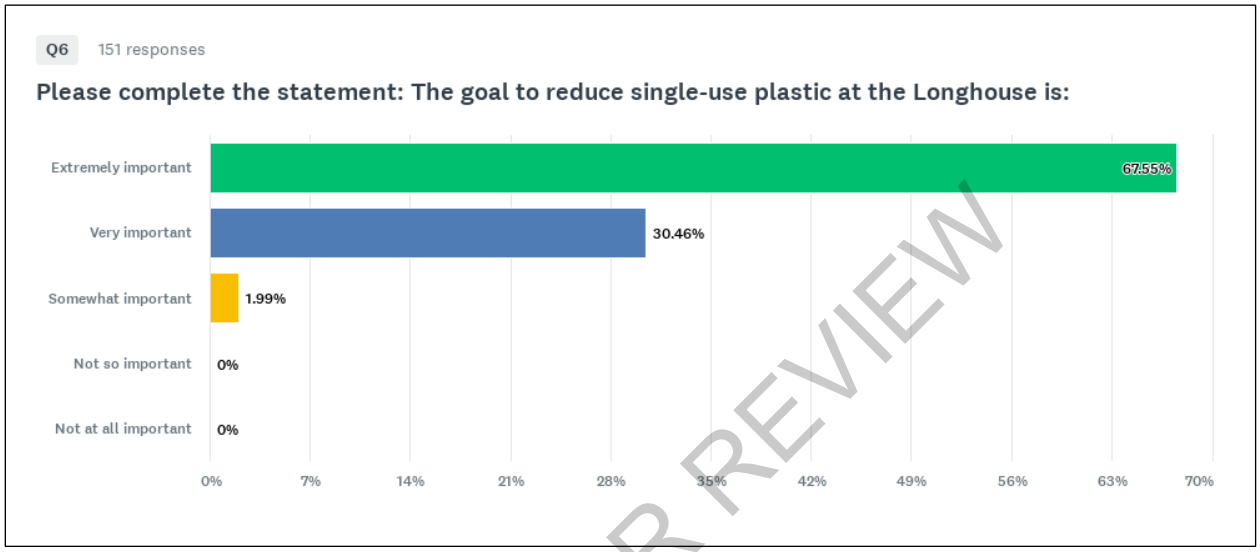

Figure 3: *Visual display of responses to Longhouse Sustainability Survey (2025) Question 6: "Please complete the statement: The goal to reduce single-use plastic at the Longhouse is:"*

Table 3: Detailed Responses to Longhouse Sustainability Survey Question 6

Response Option	Percent Response	Response Numbers
Extremely important	67.6%	102
Very important	30.5%	46
Somewhat important	2%	3
Not so important	0%	0
Not at all important	0%	0
Total		151

Analysis: Our community was overwhelmingly in support of this initiative, showing the vast majority of survey respondents felt it was either “extremely important” or “very important” to reduce single use plastic at Longhouse events.

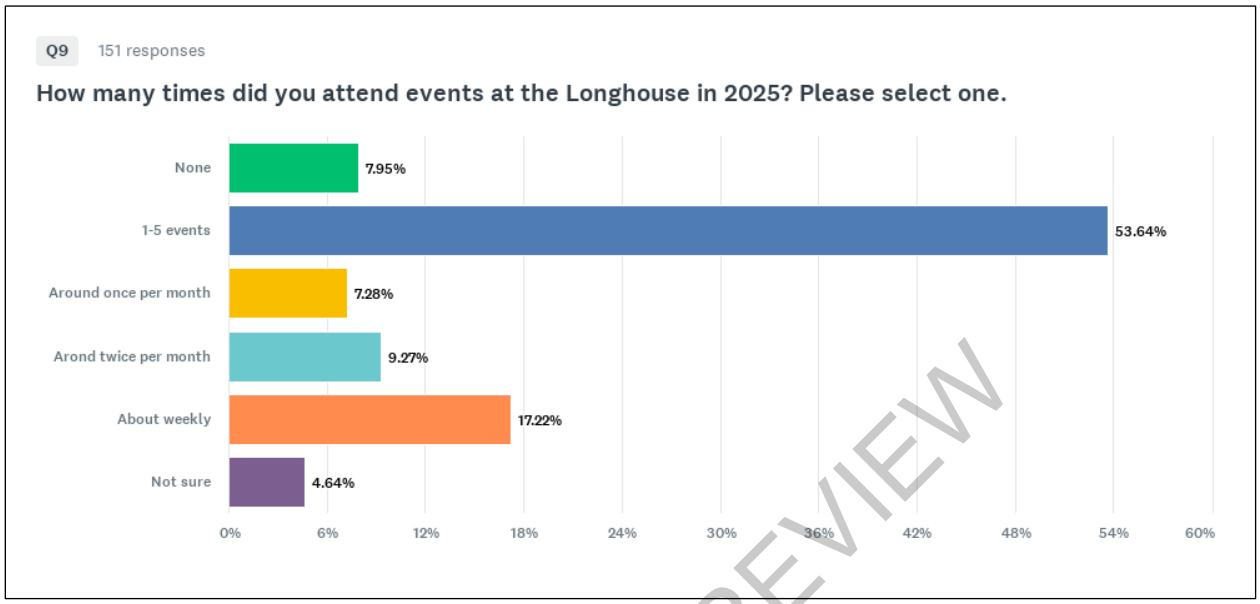

Figure 4: *Visual display of responses to Longhouse Sustainability Survey (2025) Question 9: “How many times did you attend events at the Longhouse in 2025? Please select one.”*

Table 4: Detailed Responses to Longhouse Sustainability Survey Question 9

Response Option	Percent Response	Response Numbers
None	7.95%	12
1-5 Events	53.6%	81
Around Once per Month	7.3%	11
Around Twice per Month	9.3%	14
About weekly	17.2%	26
Not Sure	4.6%	7
Total		151

Analysis: This question provides context to the following question and builds an understanding of how frequently community members participate in meals at the

Longhouse. Most people attended Longhouse events 1-5 times per year (54%) likely coinciding with seasonal Feasts or other ceremonial events, with strong representation from those who attend about weekly (17%) representing those who attend Sunday Services and programs like Culture Night.

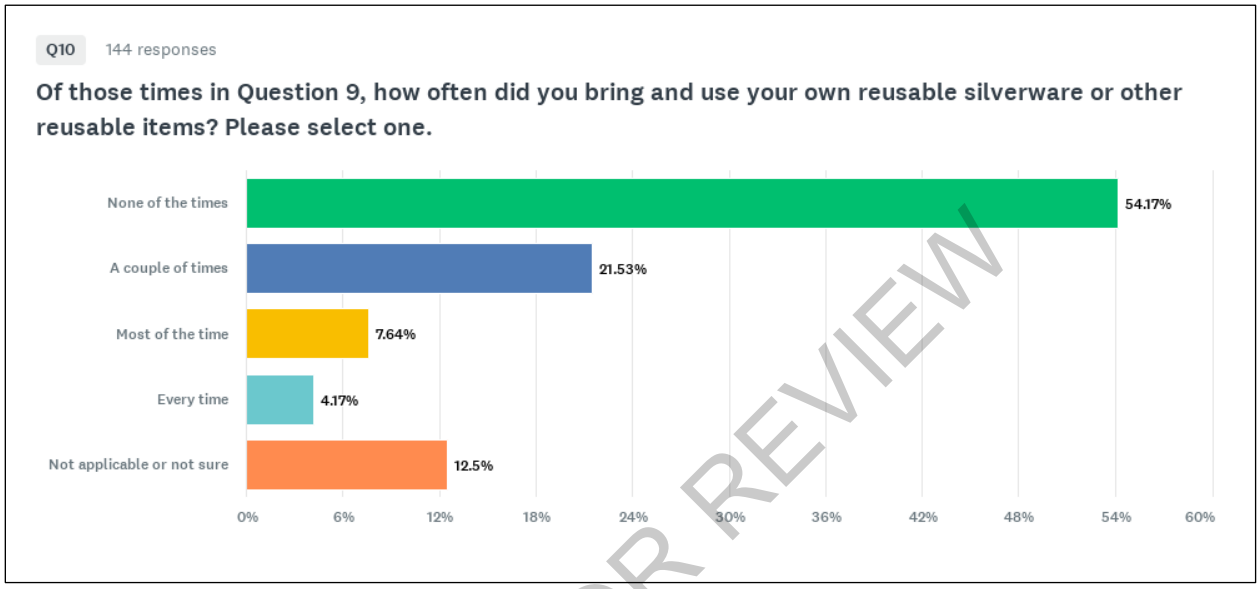

Figure 5: *Visual display of responses to Longhouse Sustainability Survey (2025) Question 10: "Of those times in Question 9, how often did you bring and use your own reusable silverware or other reusable items? Please select one."*

Table 5: Detailed Responses to Longhouse Sustainability Survey Question 10

Response Option	Percent Response	Response Numbers
None of the times	54.2%	78
A couple of times	21.5%	31
Most of the time	7.6%	11
Every time	4.2%	6
Not applicable or not sure	12.5%	18
Total		144

Analysis: This question generates a baseline of how frequently community members remember to participate in the incentives-based punch card program. The data shows us that a longer period and more diverse strategy of outreach to different corners of our community would be necessary to reach all audiences in our Tribal community. A majority of respondents remembered their SUP reusable alternatives None of the Time (54%), demonstrating that behavior change has not yet cemented at a household level.

Table 6: Excerpted Results for Question 11 "Anything you would like to share with us?"

Thank you for helping our Mother Earth + us	I stand behind what you are for. Thank you. Honorable	I lost mine in move but used them before they [were] lost
Good news to stay clean - healthy	I like the (your) program	This is awesome.
Great idea: love decreasing waste! Wish we had better plastic recycling in our community.	I love that we are trying to help the earth the best we can	I believe this is a very good things to bring attention too.
You guys rock!	What a great idea!	Thank you for doing what you do: EDUCATE! yay!
I like the bamboo or metal items that replace plastic - keep up the great work!	Sustainability is very important work, Thank you!	Let's get sustainable
Yay reusable things! They're just better!	I am just learning - keep up the outreach. We don't know unless we are told	I'd love to attend more events and support plastic uses.
The community is lazy they don't want to wash [their] dish tool!	Thank you, for being concern of environment	No use of plastic! Period! We have dishwashers! Get over it! H's expensive wasteful!
I love this idea! I keep losing my own set.	Recyclable knife and spoon would be good. Purchasing real plates could be expensive. May like 100?	I agree with reducing single use plastic and [recycling] food waste! Keep up the good work!
The longhouse could go back to using real plates, cups and utensils	Need to collect clothing in good condition	Patience is important.
Keep door closed, conserve heat	Thank you of teachings and service to us.	What can I help to protect our Mother Earth and reduce waste.

Please see full survey results for the full range of answers to this question in Appendix E.

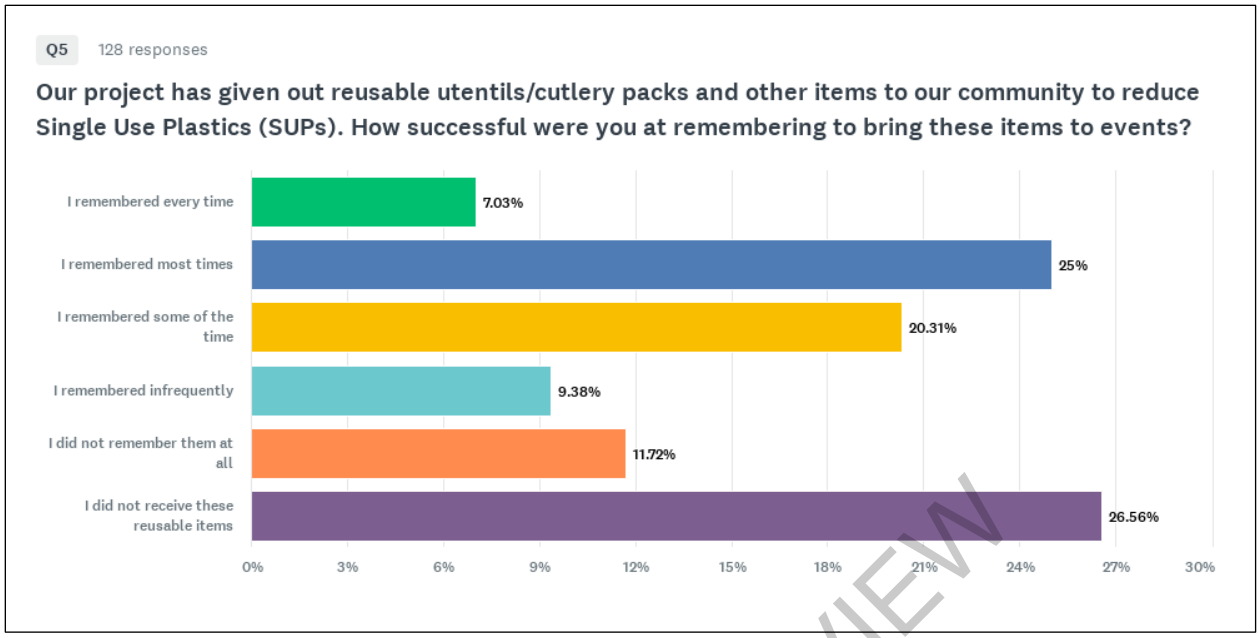

Figure 6: *Visual display of responses to End of Project Survey (2026) Question 5: "Our project has given out reusable utensils/cutlery packs and other items to our community to reduce Single Use Plastics (SUPs). How successful were you at remembering to bring these items to events?"*

Table 7: Detailed Responses to End of Project Survey Question 5

Response Option	Percent Response	Response Numbers
I remembered every time	7%	9
I remembered most times	25%	32
I remembered some of the time	20.3%	26
I remembered infrequently	9.4%	12
I did not remember them at all	11.7%	15
I did not receive these reusable items	26.6%	34
Total		128

Analysis: Evaluating how successful community members were at implementing the behavior change can help us predict how long it will take to effectively change behavior within the community. From these results we can see many people remembered their

reusable items Most (25%) or Some (20%) of the Time, as well as those who Did Not Receive (27%) reusable items. SUP Reusable Alternatives were distributed to the CTUIR community over many years from 2023 to 2026 for a lengthy outreach campaign, though more diverse forms of outreach into the community could overcome this barrier.

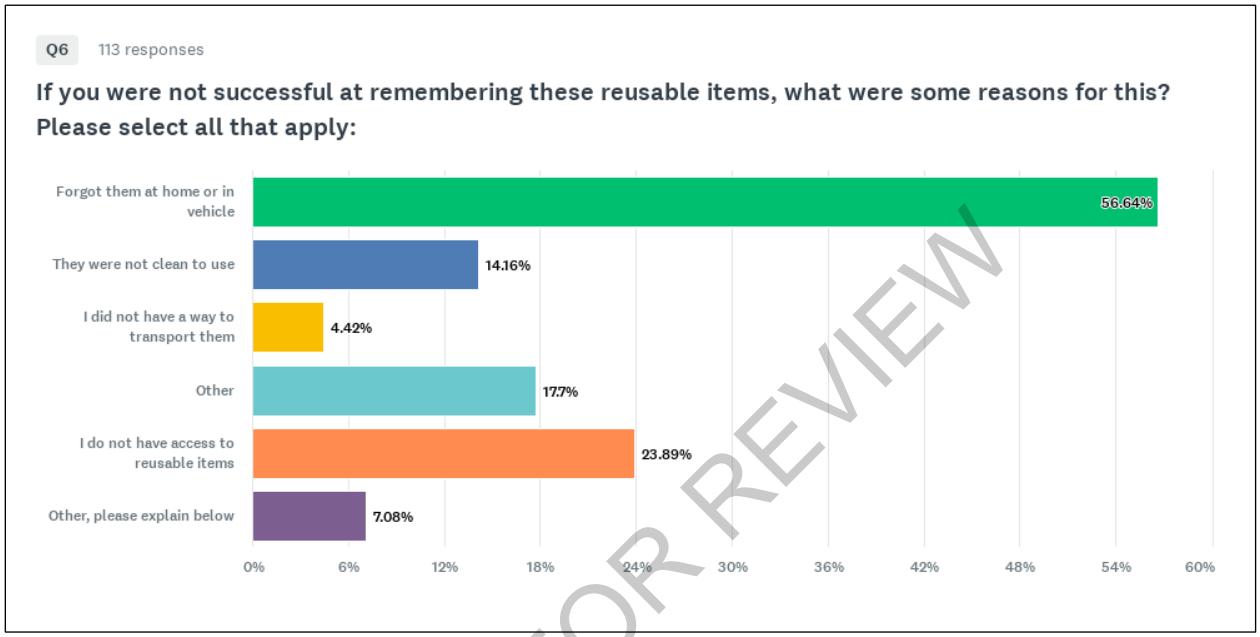

Figure 7: *Visual display of responses to End of Project Survey (2026) Question 6: "If you were not successful at remembering these reusable items, what were some reasons for this? Please select all that apply?"*

Table 8: Detailed Responses to End of Project Survey Question 6

Response Option	Percent Response	Response Numbers
Forgot them at home or in vehicle	56.6%	64
They were not clean to use	14.2%	16
I did not have a way to transport them	4.4%	5
I do not have access to reusable items	23.9%	27
Other, please explain	7.1%	8
Other (separated)	17.7%	20

Other (total, not shown in graph)		28
Total		140

Note: "Other" selection on this survey became complicated [what happened here Ermia?]

Analysis: Identifying barriers to the behavior change we are working to implement is helpful for understanding where investment of energy and funds can have the biggest effect. From these results we can see most community members Forgot Them (57%) or Do Not Have Access (24%) to reusable items, though Other categories were also selected (combined 20%). Behavior change will require a lasting change in habit, and active incentivizing behavior over a long period of time is more likely to be successful, along with messaging.

References

Plastic & Climate: The Hidden Costs of a Plastic Planet. 2019. Lisa Anne Hamilton and Steven Feit at CIEL; Carroll Muffett; Steven Feit at CIEL (Chapter 3); Matt Kelso and Samantha Malone Rubright at FracTracker Alliance (Chapter 4); Courtney Bernhardt and Eric Schaeffer at EIP (Chapter 5); Doun Moon at GAIA and Jeffrey Morris at Sound Resource Management Group (Chapter 6); and Rachel Labbé-Bellas at 5Gyres (Chapter 7). Sourced online at www.ciel.org/plasticandclimate.

Micro- and nano-plastics in edible fruit and vegetables. The first diet risks assessment for the general population.. Contri et al, 2020. Environmental Research 187 (2020) 109677. https://doi.org/10.1016/j.envres.2020.109677

Risk Assessment of Microplastics in Humans: Distribution, Exposure, and Toxicological Effects. Li, Y.; Ling,W.; Yang, J.; Xing, Y. 2025. Polymers 2025, 17, 1699. https://doi.org/10.3390/polym17121699

Roy, E.D., K.K. Porterfield, M.W. Kacica, T.L. Chin, M.T. Niles, D.A. Neher, M.J. Scarborough, and H. Chen. 2025. Microplastics in food waste recycling. UVM-CCCES-FS-01-01, University of Vermont Casella Center for Circular Economy & Sustainability.

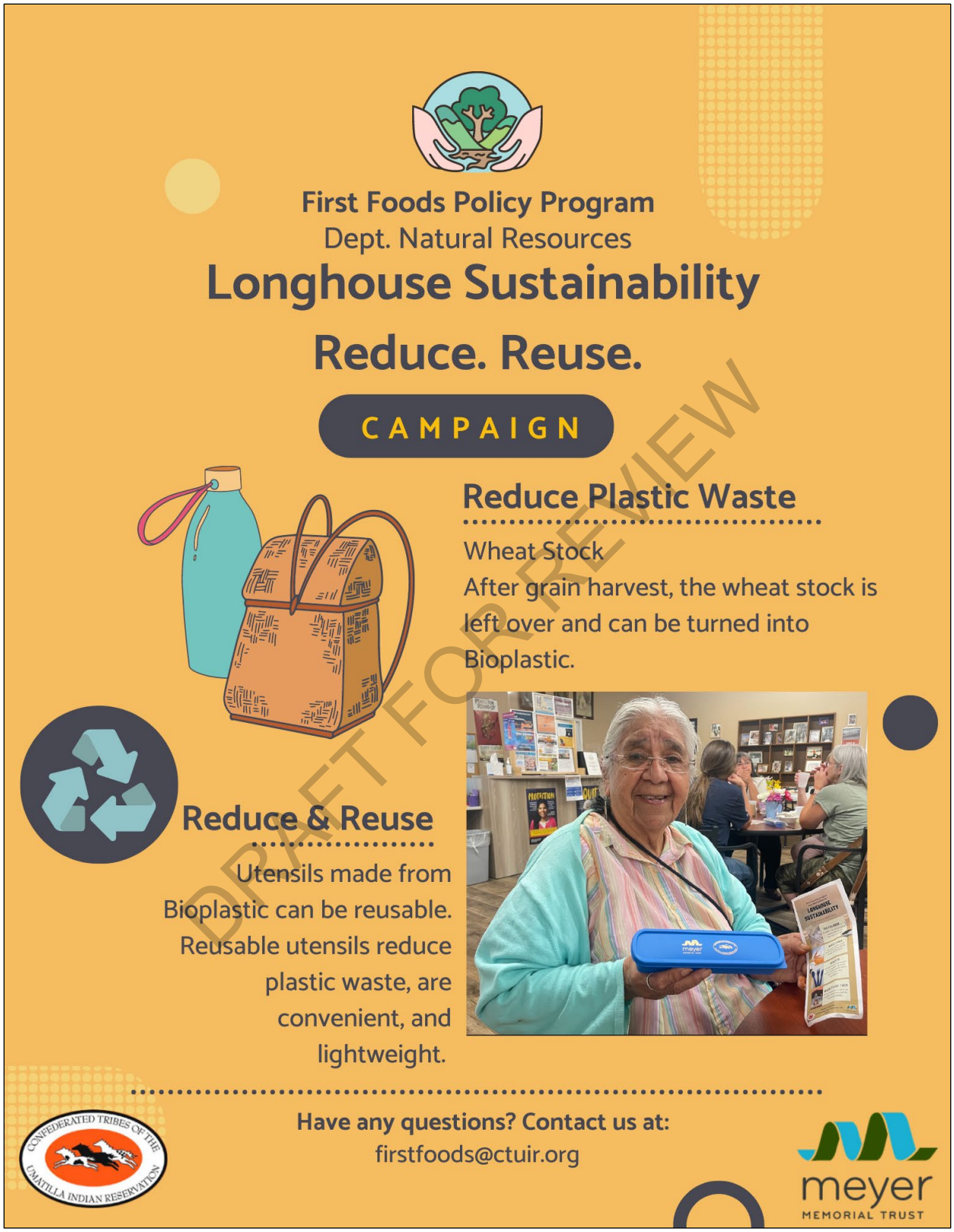

Image 8: Pre-project SUP Reduction Campaign featuring Version 1.0 Utensil Kit

DEPT. NATURAL RESOURCES FIRST FOODS POLICY PROGRAM (FFPP)

LONGHOUSE SUSTAINABILITY

BOT YEAR OF SUSTAINABILITY

LONGHOUSE SUSTAINABILITY

We are pleased to introduce the **Longhouse Sustainability Punch Card.** This allows participants to keep track of their sustainability acts they complete each time they visit the longhouse.

HOW IT WORKS

Dept. of Natural Resources, First Foods Policy Program (FFPP) would like your help in accounting for community participation in the **2026 Longhouse Sustainability Pledge.** Community members can earn a signature for **each** sustainability action they take while participating in Longhouse events by doing the following:

- Bringing their own Cutlery
- Water Bottler/Hot Beverage Cup
- Food Storage Contains for leftovers
- Bringing their own tote bag/grocery bag to take home leftovers

CONTACT US

Email **FirstFoods@ctuir.org** with the "LHSP" in the subject line.
In the message list:

- Date
- Event Name & Title
- Designated cook who is the witness for community members participating in our 2026 Longhouse Sustainability Pledge

LONGHOUSE SUSTAINABILITY PUNCHCARD

GET YOUR FREE REUSABLE BAG ON YOUR 10TH STAMP!

PRIZES: TIER LEVELS

Tier 1: Reusable Bags

Tier 2: Cutlery Set

Tier 3: Compost Bins

Image 9: SUP Punch Card Promotional Flyer, 2026