

Wood for Life

A Tribal Firewood Partnership in Northern Arizona

Introduction

Wood for Life (WFL) is a collaborative program comprised of a network of organizations in northern Arizona working to achieve common goals. The primary goals are to provide resources and a sustainable source of firewood to local tribes through forest restoration efforts; to reduce forest-wide fuels; and to foster and strengthen partner relationships.

Much of northern Arizona's forests are in degraded health. They are overly dense and prone to disturbances like catastrophic fire, drought, and disease and insect outbreaks. Forest restoration activities that involve the removal of hazardous fuels through mechanical thinning operations reduces the risk of severe fire and post-fire flooding. However, the small-diameter trees and biomass thinned from the forests have little to no market value, and there is limited forest products industry capacity in the region. Leaving piled wood on a project site for more than a few months increases the risk of fire and insect infestation. The lack of industry and forest product markets in the region has delayed large-scale forest restoration efforts, but a diverse set of stakeholders have come together to create innovative solutions that spur forest restoration and improve community health and well-being.

Many homes on the Navajo Nation and Hopi Reservation in northern Arizona are not connected to the power grid and rely on coal and wood for home heating. The closure of the Navajo Generating Station (NGS) and the coal mine in Kayenta in 2019 left many tribal members vulnerable to energy uncertainty.

Transitioning homes from coal to firewood for heating and cooking is feasible as a transitional or long-term fuel source, and forest restoration on National Forest System (NFS) lands can generate an abundant fuelwood supply. However, transportation of wood is a long-term challenge, and the COVID-19 pandemic and stay-at-home orders increases challenges for securing and transporting firewood.



Photo courtesy of Ancestral Lands Hopi

To address these challenges, WFL's vision is to facilitate the delivery of a sustainable and substantial amount of firewood to tribal partners from forest restoration projects on NFS lands. The WFL program connects wood from forest restoration projects with local tribal communities in need of firewood for heating, cooking, and traditional uses. The project seeks to address two very different—but both critically important—needs. It facilitates the removal of small trees and biomass from NFS lands while simultaneously providing tribal neighbors with firewood.

This document provides an overview of the WFL partnership, summarizes approaches and lessons learned, and highlights future opportunities.

Project History

In 2018, the Kaibab and Coconino national forests in northern Arizona began working with tribal governments on the Navajo Nation and Hopi Tribe to provide free firewood tags to be used for at-risk tribal members. The forests also began selling and providing free firewood permits at tribal community events. The programs were later expanded to support local village and chapter crews accessing the forest to cut wood for distribution to community members. The program was effective, but small in scale.

The closure of NGS and the Black Mesa coal mine in 2019 greatly affected local tribal communities and resulted in a large reduction of revenue for tribal governments, a devastated economy, and the loss of free or reduced-price coal to tribal members. Nearby national forests subsequently began to see an uptick from tribal communities and support groups asking for considerable amounts of wood through Free Use Permits. While a truckload of coal might last one family a month, a truckload of firewood might only last 1–2 weeks, especially during the COVID-19 pandemic when people were quarantined and needed to warm their homes day and night. In some cases, the increased demand for firewood led to illegal harvesting of limited wood supply on tribal lands. The lack of fuel was very much a life or death issue for some. Additionally, transporting wood from the national forests to tribal communities, some of which are more than a half-day's drive apart, emerged as another key barrier for tribal members in need of fuel and/or a vehicle capable of hauling wood.

In response to the need for firewood on tribal lands, the need for removing forest restoration byproducts on NFS lands, and the challenge of transporting wood to tribal communities, numerous partners came together and formed Wood for Life. The national forests began hosting field trips to support tribal wood collection efforts, and in early 2020, the National Forest Foundation (NFF) began working with partners to raise funds and pilot efforts to transport wood, with an eye toward partnership building, overcoming challenges, and managing costs associated with transportation. Whole logs were delivered to several tribal communities where they were cut by local volunteers and distributed to community members.

Since these initial pilots, interest and momentum in WFL has steadily grown. WFL now consists of a network of more than 20 partners and organizations¹ that collectively have supplied, delivered, and processed more than 1,500 cords of wood in one year. This network is supported by a core team, including the Kaibab and Coconino national forests, National Forest Foundation, Navajo Chapters, Hopi Foundation, Conservation Legacy Ancestral Lands Conservation Corps, City of Flagstaff, and Northern Arizona University's Ecological Restoration Institute, that works to coordinate opportunities between restoration projects and tribal partners.

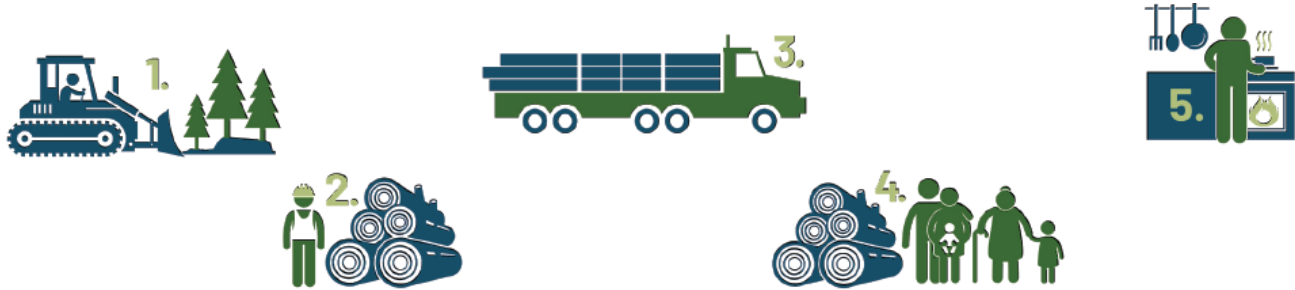
Approach and Lessons Learned

The WFL network has three primary focus areas, each of which have associated challenges, successes, and lessons learned. These include: 1) **wood supply** coming from NFS lands; 2) **transportation** of firewood from NFS lands to processing centers and/or tribal communities; 3) firewood **processing and distribution** on tribal lands.

Wood Supply

Wood supply has been provided by restoration projects administered by the national forests and agreements with implementation partners (e.g., NFF, The Nature Conservancy, and City of Flagstaff). The national forests identified the wood supplies and provided them to tribal partners through a variety of scales, agreement types, and authorities.

¹ *Partners as of Spring 2021: Coconino and Kaibab national forests, National Forest Foundation, Conservation Legacy Ancestral Lands Conservation Corps, Four Forest Restoration Initiative, Navajo Nation Dept. of Forestry, Cameron, Tuba City, Birdsprings, and Leupp Chapters, Ames Family, Honanie Family, Hopi Tribe, Hopi Villages, Hopi Foundation, Conservation Legacy, Red Feather Development Group, Joe Dirt Excavating, University of Arizona Tribal Cooperative Extension, Northern Arizona University's Ecological Restoration Institute, W.L. Gore, church groups, Chizh for Cheii, Alamo Navajo Fuels Crew, The Nature Conservancy, and the City of Flagstaff*



The five key steps of Wood for Life: 1) Wood harvested from forest restoration projects is 2) staged on site, 3) loaded onto log trucks or individual trucks and trailers, and 4) delivered to tribal community members for processing and 5) heating, cooking, or ceremonial purposes.

Free Tag Program: The national forests provided free firewood tags for local tribes through administrative free use (36 CFR 223.2 Disposal of Timber for Administrative Use ([eCFR](#))).

Free Use: Since the COVID-19 pandemic, the national forests have used the following authorities to provide wood to tribal communities: 223.5 (scope of free use granted to individuals) and 2462.2 (applicants granted free use: 3. emergency situations).

Stewardship Agreements: These are agreement mechanisms that provide for the transfer of forest products from national forests to partners that perform services on NFS lands. WFL implementation partners have various stewardship agreements in place with the national forests that have generated firewood supply. The ownership and responsibility for removal of biomass off-site falls to the partner under the Stewardship Agreement. In this capacity, the partner has the authority to work directly with tribal governments or non-profits to arrange for transfer of materials.

Section 323 Public Law 108-7, 2003 — National forests may enter into stewardship projects via agreement or contract with individuals, public, or private entities, to perform services to achieve land management goals to meet community needs.

Key Lessons/Challenges: During the COVID-19 pandemic, the national forests provided free firewood tags through existing authorities. However, the Forest Service could benefit from examining existing authorities to find the most appropriate and efficient approach to supporting the program’s longer-term needs. The Forest Service is developing new authorities specific to tribal free use, and forests will need to determine appropriate limits. Stewardship agreements helped expand the scale of WFL. However, they require a partner with the necessary capacity, funding, and objectives in place to implement restoration work and facilitate distribution to tribal partners.

Transportation

The costs and logistics of transporting small-diameter trees from national forests to the Navajo Nation and Hopi Reservation emerged as key barriers. Numerous transportation methods (e.g., dump trucks, truck trailers, log trucks with loaders) can be used, each with varying costs and efficiencies.

WFL has used two primary transportation approaches. The first involves small truck-trailer combinations. These can only transport limited amounts of wood but work well for projects that use volunteers to transport wood or projects that have relatively small amounts of wood available. For this approach to work, the wood is split on site, not decked, or the removal time frame needs to be flexible. The second is transportation by log truck. Log trucks can transport substantially more wood in a single trip; however, many tribal communities do not have equipment to unload log trucks. A self-loading truck can travel with standard log trucks to aid in unloading the vehicles. Self-loading log trucks offer efficiencies in cost and scale but require partners to secure storage space for logs and can be limited by availability.

Key Lessons/Challenges: Sustained transportation support is a key challenge to facilitating WFL. Transportation needs include equipment, volunteers, government or non-profit support, funding, and business models that support tribal community economy and investment. Firewood transportation and loading equipment are also needed. For example, a self-loader has been essential to scaling up WFL this year; however, the project cannot rely on this piece of equipment, as the owner may sell it due to a lack of local licensed drivers. Unloading equipment could allow standard log trucks to be unloaded on tribal lands. Additionally, drop-off sites that maximize transportation efficiencies, both in terms of distance and number of processing sites, need to be identified. Partner organizations have helped meet funding needs for transportation, and the Forest Service has subsidized treatment costs to help pay for transportation through Stewardship Agreement funding, but longer-term solutions are needed.



*Photo courtesy of
Ancestral Lands Hopi*

Processing and Distribution

Once wood is harvested and transported to tribal lands, it needs to be processed and distributed among tribal communities. Partners determine where the wood is unloaded. Once unloaded, it is cut into smaller lengths and split by volunteers or paid crews, like crews from the Ancestral Lands Conservation Corps. To efficiently process the wood and scale up efforts, equipment, such as log splitters, is needed.

Wood distribution has been guided by tribal government and non-profit partners that develop the most appropriate model for each community. Approaches have ranged from broad to targeted efforts. In some cases, Facebook posts announce pick-up days at a central location, like the Cameron and Tuba City chapters on the Navajo Nation. Other efforts have been more intensive, like on Hopi, where partners identify recipients in Hopi villages and Ancestral Lands crews deliver wood directly to homes. These different approaches required varying levels of coordination and partnerships, but both took a significant amount of time and effort. Even with coordinated efforts, individuals still were unable to acquire their needed wood supply.

Key Lessons/Challenges: Since firewood is an extremely valuable resource on tribal lands, there can be political challenges when processing and distributing it. Partnership and leadership from tribal communities is essential to navigate and develop equitable processes on the ground and to communicate strategies within the WFL partnership. Agreements like Memorandums of Understanding between villages and non-profit partners have helped facilitate the process. Increasing capacity for processing and distribution, including unloading equipment, will help sustain and scale up the WFL effort.

Wood for Life: Looking Forward

Currently, the national forests use existing authorities and stewardship agreements to supply wood. Non-profit organizations and grants support transportation costs. And, tribal governments and community non-profits like Ancestral Lands Hopi Conservation Corps coordinate local processing and distribution with volunteer efforts and grants. WFL participants see relationship building and community-based partnership as key. The partnership is capacity limited and able to operate by individuals contributing their time in addition to their existing duties. To build capacity and scale up efforts, the partnership is exploring longer-term, innovative solutions, including sustained funding support and various business models, and there are several potential opportunities to use existing policy, funding, and incentive mechanisms to sustain and expand WFL.

The Indian Self-Determination and Education Assistance Act (PL 93-638) is a legislative act that transfers authorities to tribes and recognized tribal entities to assume management of specific federal programs using a contracting process, often referred to as a 638 agreement or contract, unique to tribes. The Forest Service works with tribes to initiate and implement a 638 agreement to accomplish shared stewardship goals under the Tribal Forest Protection Act, which allows tribes to protect tribal trust lands from risks such as wildfire or insects and disease. Tribes can conduct restoration work, as well as supply firewood for their communities, provide job opportunities, and promote movement toward bioenergy self-sustainability. Additionally, as part of the Tribal Energy Development and Self-Determination Act Amendments of 2017 (PL 115-325), the Tribal Biomass Demonstration Project could allow WFL to help tribes produce and manage a long-term supply of biomass as a bioenergy resource.



Photo courtesy of Ancestral Lands Hopi

Potential funding opportunities may come from USDA Rural Development programs and services. These programs and services offer various loan and grant opportunities for which federally recognized tribes and non-profits could apply. Potential opportunities for funding include but are not limited to: transportation, machinery, facilities, energy audits, and business and operational costs.

Another possible option is to include participation in WFL through the proposed Civilian Climate Corps program, which could employ young people from tribes in restoration work. Community Project Funding—congressionally directed spending formerly referred to as earmarks—could also be used to support WFL via participating partners (the partnership is not a formal entity and cannot receive congressionally directed funding at this time).

Incentives could also be applied to support WFL. Matching payments provided by a program like the Biomass Crop Assistance Program could assist with transportation and operational overhead. Another incentive could be to offer tax credits for purchasing efficient woodstoves. Inefficient woodstoves can have negative health impacts. Upgrading tribal homes to efficient woodstoves is necessary to mitigate long-term health impacts. Lastly, investments in tribal programs and businesses would benefit economic development and promote financial opportunities. Tribal Economic Development Bonds may be an option to secure money from private investors by issuing tax-favored bonds.

Conclusion

The Wood for Life program has generated substantial interest in northern Arizona and across the western United States. While local context matters and community-based approaches are key to the partnership's success, enabling factors in northern Arizona may be replicated and tailored to other geographies, especially with the appropriate coordination and resources. Many restoration projects on NFS lands are challenged by a lack of markets for small-diameter trees and biomass. Many communities rely on firewood for home heating.

The success of the program is due to a shared, common purpose across partners, similar levels of engagement and commitment, sufficient institutional support from involved organizations, effective communication, community-based relationships and coordination with chapters, villages, and tribal governments, support from a wide variety of funding sources, and opportunities to learn from partnerships in other areas. For example, the NFF also partners with Indigenous communities in Idaho to deliver firewood from NFF restoration projects, and is convening a peer learning session to share information across regions.



Photo courtesy of Ancestral Lands Hopi








WFL has faced challenges along the way, as well. It has been difficult to produce communication products or clear marketing or branding materials due to limited capacity. The process of “learning by doing” has built momentum but has been brought setbacks, too. It is clear there is a need to build and codify a governance system for the network, which includes developing an official process to bring in new partners and enhancing the overall logistical efficiency of the program. Additionally, quantifying the available wood supply for tribal use and the corresponding tribal demand for firewood would help streamline the program.

Despite the challenges that emerged from the first phase of WFL, the program has aided in accomplishing restoration work on NFS lands and has distributed a significant amount of needed firewood to tribal communities. The WFL partners have built relationships through a vast network across northern Arizona and new connections are being forged every week.

Currently, the WFL core team meets once a month and continues to learn by doing. The core team is working to develop a charter, a “Frequently Asked Questions” handout, and other foundational and operating documents. The team continues to track program efforts, match restoration projects and partners with non-profits on tribal lands, facilitate agreement-based work, and stay coordinated.

The team's next steps are to establish commitments for wood supply and wood processing, to expand training and capacity for firewood project development, to conduct strategic planning with the Hopi Tribe through the Hopi Firewood Partnership, and to explore policy connections and funding opportunities. 🌲

Media Coverage

-  *Slate*: [A Home Heating Crisis. A Devastating Forest Fire Waiting to Happen. One Innovative Solution: Wood for Life aims to bring wood harvested from forests at risk of megafires to Indigenous elders who are in danger of freezing to death](#)
 -  *National Forest Foundation*: [COVID-19 Response Effort Provides Crucial Firewood Supply to Hopi and Navajo Homes](#)
 -  *University of Arizona Arid Lands Program/Tribal Extension Program*: [COVID-19 Response Effort Provides Crucial Firewood Supply to Hopi and Navajo Homes](#)
 -  *Navajo-Hopi Observer*: [Cameron gets wood delivery: Cameron Chapter House partners with U.S. Forest Service, through the National Forest Foundation, to bring firewood to Cameron Chapter](#)
 -  *Hopi Tutuveni*: [Wood deliveries to Polacca](#)
 -  *The Journal*: [100 Cords of Firewood Provided to Navajos and Hopi](#)
 -  *Wells Fargo Community Foundation*: [‘Wood for Life’ project provides work, warmth, and well-being](#)
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More Information

Wood for Life Tribal Fuelwood Initiative:

<https://www.nationalforests.org/who-we-are/regional-offices/southernrockies/wood-for-life-tribal-fuelwood-initiative>

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