

## **Forest Biomass Coalition**

### Overview

The Forest Biomass Coalition (FBC) is a work group of the Greater Flagstaff Forests Partnership (GFFP) that seeks to solve the economic, ecological, and health and safety challenges created by excess forest biomass in Northern Arizona's forests. The work group consists of representatives from the City of Flagstaff, Coconino County, Northern Arizona University, nonprofit organizations, businesses, and interested citizens.



### Problem Statement

Ponderosa pine forests stretch almost continuously from the South Rim of the Grand Canyon, across the Mogollon Rim, to the White Mountains in eastern Arizona. However, unsustainable historical land use and fire exclusion have severely degraded forest health. The result is overgrown forests with spindly, unhealthy trees that increase the threat of uncharacteristically severe wildfires that are frequently followed by post-fire flooding.

In response to the problem, a diverse group of stakeholders, in collaboration with the United States Forest Service (USFS), created the Four Forest Restoration Initiative (4FRI). The goal of 4FRI is to restore the forest through selective thinning of primarily small diameter trees across a 2.4 million-acre designated landscape. The goal includes thinning 50,000 acres annually, of which 20,000-30,000 acres are on the Coconino and Kaibab National Forests.

Forest restoration thinning creates large volumes of forest biomass\* that include treetops, branches, needles, and non-merchantable small diameter trees. The quantities are significant. To illustrate this, a recent study,<sup>i</sup> within a 50-mile radius of Bellemont, Arizona, estimated that thinning operations would produce 330,000 bone dry tons of biomass annually for over 20 years - a quantity sufficient to operate a 40-megawatt power plant.\*\* This would provide enough electricity for approximately 30,000 homes each year.



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\* Also referred to as forest residue or excess woody biomass

\*\* Includes sawmill waste/residuals and biomass generated on State lands



Removing the woody biomass is a challenge because it has little or no value due to a lack of direct markets or established industries on the westside of the 4FRI footprint. This lack of processing businesses means the biomass is left in the forest where it is “broadcast” burned, or pile burned, typically after the biomass has remained in the forest for many months or years. This is a poor solution because: (a) the unused biomass is potential fuel that increases fire hazard and will contribute to the severity of uncontrolled wildfires; (b) when burned, it degrades air quality and produces smoke that impacts the health and quality of life in surrounding communities; (c) smoldering embers from pile burning can ignite and become uncontrolled fires later in the season (e.g., 1996 Horseshoe Fire locally and the New Mexico Calf Canyon Fire in 2022); (d) fire scars from pile burning diminish the recreational and aesthetic experience of the forest; and (e) pile burning may damage forest soils and inhibit regeneration of native flora.

At present, loggers are thinning a total of 5,000-10,000 acres annually on the Coconino and Kaibab National Forests, a rate that already stretches the ability of fire managers to burn the excess biomass. Once the targeted thinning rate of 20,000-30,000 acres per year is achieved, meeting the demand for safe pile burning will require additional resources. Therefore, the FBC recognizes the need for better options in utilizing the excess forest biomass. This, in turn, reduces the risk of severe wildfires, flooding, and health impacts, while providing a net carbon benefit.

### The Goal of the Forest Biomass Coalition

The goal of the Forest Biomass Coalition is to find and support opportunities to use forest biomass through applications such as bioenergy, biochar, landscaping and bedding materials, and through other opportunities as they arise. FBC also seeks legislative and regulatory remedies that recognize the public value in solving the excess biomass problem.



### For More Information Contact

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<sup>i</sup> Arizona Department of Military and Emergency Affairs. 2018. *Biomass Feasibility Study for a Wood to Energy Facility at Camp Navajo, Arizona*. Available online at <https://tssconsultants.com/wp-content/uploads/2019/07/AZDEMA-Report-Final-20190218a-.pdf>.