Prescott Basin Cross Boundary Project

PAWUIC

United States Department of Agriculture
NRCS Natural Resources Conservation Service

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What is at risk and why it is at risk

The Prescott Basin Cross Boundary Project (PBCBP) is located in the central highlands of Arizona and is comprised of 141,156 acres. The project area is ecologically, socially, and economically significant. Ecologically, the project area includes critical habitat for Mexican spotted owls as well as high priority watersheds. Socially, the area represents one of the largest wildland urban interfaces (WUI) in the Southwest. Economically, recreation is a major source of revenue for the Prescott region and a viable tourism industry is intricately linked to the condition of the forest. The PBCBP is made up of a wide variety of vegetation types including chaparral, pinyon-juniper, oak-juniper mix, ponderosa pine-oak, ponderosa pine, Gambel oak, and mixed conifer. The landscape of the project area consists of federal, state, tribal, and private ownerships with the Forest Service managing much of the upper watersheds and a mosaic of ownerships in the lower watersheds (see Figure 1).

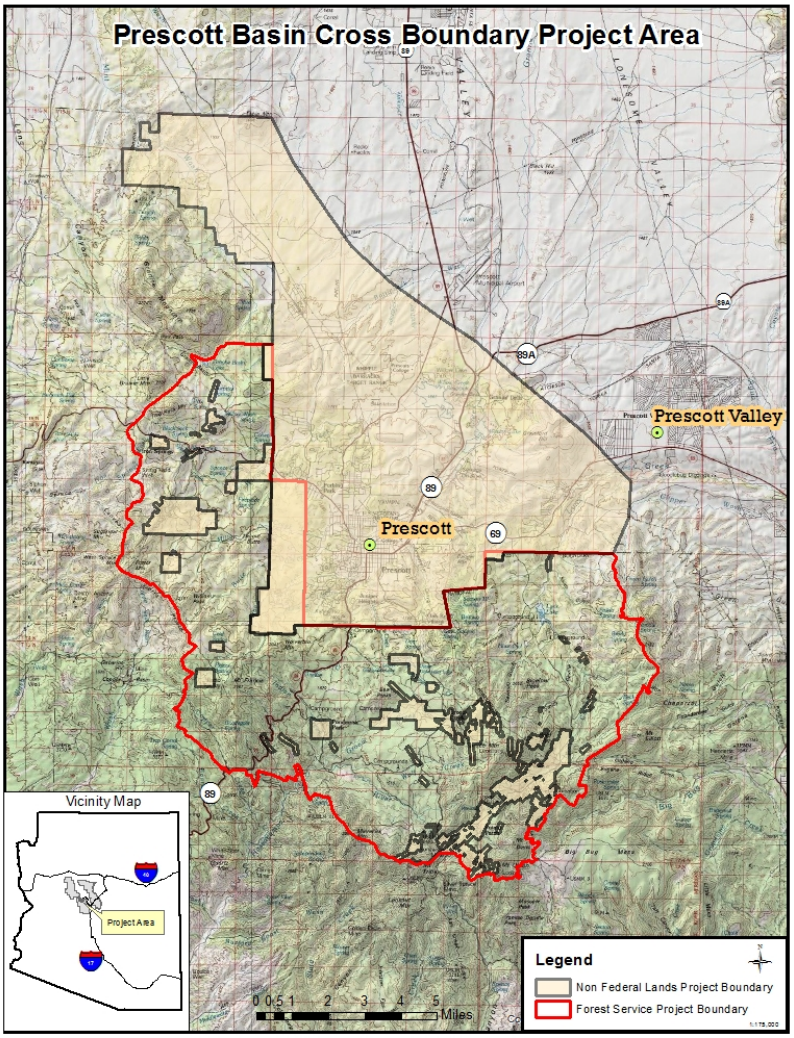

Figure 1. Vicinity map of the Prescott Basin Cross Boundary Project.

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Fire has been recognized as a natural disturbance agent within many ecosystems managed on the Prescott National Forest (PNF). Historically, fire kept fuel loads low and canopy cover more open so fires were lower in intensity and burned on the surface of the forest floor as opposed to in the tree crowns. A report from the Ecological Restoration Institute revealed that the fire return interval for several higher elevation sites in the project area ranged from 3-5 years. A combination of drought and the long-term effects of aggressive fire suppression have created an unnatural buildup of brush and tree densities, creating a volatile accumulation of fuel and unhealthy forest conditions. The likelihood of a catastrophic wildfire occurring near the city of Prescott is highly probable.

Figure 2. New housing developments in the Prescott wildland urban interface.

Figure 3. View of the smoke from the Doce Fire with the City of Prescott in the foreground.

In addition to the unnatural fuel buildup developing in the forests and rangelands, thousands of residences have been built on private land within or adjacent to the PNF (see Figure 2). This trend means that more communities and structures are threatened by the potential of wildfire. In 2002, the Indian Fire threatened the City of Prescott and burned five homes within the city limits. The 2013 Doce Fire required the evacuation of over 500 homes adjacent to Prescott city limits (see Figure 3). While no structures were lost, the 6,767 acre wildfire cost over $1,000/acre to suppress, rising to over $7 million. Mechanical and hand treatments are far less costly than suppression expenses for a large fire event. The nearby Yarnell Hill Fire saw the destruction of over 100 homes and the loss of 19 lives. These wildfires highlight the need for continued forest restoration and hazardous fuel reduction projects. One of the most effective ways to protect communities is to create defensible zones where fuels are reduced next to homes and private property and on adjacent public lands.

Project Goals and Desired Outcomes

The 2013 fire season served as an important reminder that the Prescott Basin area is in need of treatments that increase the resiliency of the landscape, reduce extreme fire risk, and improve forest health and diversity that sustains habitats necessary for a variety of wildlife species including the Mexican spotted owl (MSO). A total of 5,270 acres of MSO habitat are slated for treatment with the majority of the acres identified as protected activity centers (i.e. nesting stands for MSO). Because of the wildland urban interface facet, only one third of those acres were designated as critical habitat (MSO Critical Habitat Final Rule 69 FR 53217).

There is a need to decrease stand density and improve forest structure and composition. In 2002-2003, the Prescott region experienced an Ips bark beetle outbreak that resulted in the loss of thousands of acres of ponderosa pine. There are also several important watersheds located within the project area. The Hassayampa River, Granite Creek, and Lynx Creek all originate from within the project area. Each of these watersheds is identified as impaired or listed as a high priority for treatment. High intensity wildfire in these watersheds will increase sedimentation, reduce water quality, and poses a threat for post-fire flooding events. Hazardous fuel reduction projects are designed to modify fire behavior by lowering the potential for crown fire. These activities are essential to reducing future fire and

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management costs, advancing public safety, protecting communities, improving habitat for sensitive and threatened wildlife species, and restoring high priority watersheds.

Partnerships and Leveraging Partnerships

The Prescott Area Wildland Urban Interface Commission (PAWUIC) is a collaborative group that was formed in 1990. The purpose of this multi-agency and non-governmental organization is to implement an all lands, all hands collaborative approach to address the fuel hazard and fire risk in the area as well as promote forest health in the greater Prescott region. Members from the Prescott National Forest, Bureau of Land Management, Arizona State Forestry Division, Prescott Yavapai Tribe, Yavapai County Emergency Management, Central Yavapai Fire District, Prescott Fire Department, eleven other smaller fire departments, homeowner associations, and private citizens meet monthly to report and coordinate activities. To date, there are 26 Firewise communities in the Prescott area with an additional ten communities actively pursuing the Firewise certification. Non-Federal land treatments are closely coordinated between AZ State Forestry and the PNF to compliment on-going and foreseeable hazardous fuels activities.

Over the last decade, approximately 5,535 acres of State and private lands have been treated with various fuels mitigation programs. The PNF, working with our two local Natural Resource Conservation Service Districts, Chino Winds and Triangle, have made it a local priority for vegetation management for watershed health improvement. The Prescott National Forest, Arizona Game and Fish Department, and the NRCS have a long history of collaboration; as partners in the Central Arizona Grasslands Conservation Strategy (CAGCS), we strive to develop and implement an integrated management strategy for the conservation and restoration of grassland ecosystems and associated pronghorn populations in central Arizona. Collaboration has also led to numerous successes via the Verde Watershed Restoration Coalition (VWRC), which aims to comprise a diverse, self-sustaining, and resilient riparian ecosystem in which invasive plant species are controlled through cooperative stakeholder participation. Finally, the NRCS serves on the Steering Committee for the Strategic Action Plan (SAP), designed to work with partners to identify and prioritize landscapes, and develop the resources, partnerships, and tools needed to support the planning and implementation of landscape conservation and restoration. In addition, collaboration regularly occurs with the Arizona Game and Fish Department, who are key partners in all of the aforementioned efforts.

Table 1. Non-federal contributions to project. Total matches assume full funding across 3 years.

Organization	Annual Match	Total Match
Private land owners (Private lands via NRCS)	$ 33,000	$ 99,000
Highlands Center for Natural History (FS land)	$ 10,000	$ 30,000
City of Prescott (City and private land)	$ 188,000	$ 564,000
AZ State Forestry Division (State and private land)	$ 50,000	$ 150,000
PAWUIC (Private land)	$ 205,000	$ 615,000
Total	**$ 486,000**	**$ 1,458,000**

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Project Deliverables & Financial Assistance Needed

Table 2. Prescott NF treatment capacity and associated costs. Total cost assumes full funding across 3 years.

Treatment Type	Annual Capacity	Cost/Acre	Annual Cost	Total Cost
Prescribed Burning	1,000 Acres/Year	$ 300/Acre	$ 300,000	$ 900,000
Mastication	500 Acres/Year	$ 500/Acre	$ 250,000	$ 750,000
Hand Thinning	250 Acres/Year	$ 400/Acre	$ 100,000	$ 300,000
Total			**$ 650,000**	**$ 1,950,000**

Table 3. NRCS Service Districts treatment capacity (pending eligible NRCS customers) and associated costs. Total cost assumes full funding across 3 years.

Treatment Type	Annual Capacity	Cost/Acre	Annual Cost	Total Cost
Agra-Axe Cutting	600 Acres/Year	$165/Acre	$ 99,000	$ 297,000
Total			**$ 99,000**	**$ 297,000**

Minimum funding levels required to get the project initiated would be $ 250,000 on Federal land, distributed among the treatment types, and $ 50,000 for treatments on non-Federal lands.

Status of NEPA and Forest Capability

The Bradshaw Vegetation Management (BVM) Environmental Assessment was signed on August 27, 2013. The 55,660 acre project was designed to improve the health and resiliency of fire-adapted ecosystems while simultaneously reducing hazardous fuels that pose a threat to life and property. One of the primary goals of the BVM project is to restore fire to its natural role in the ecosystem. The project calls for the implementation of a wide variety of coordinated and integrated treatments including tree thinning, prescribed fire, watershed restoration, and wildlife habitat improvement. Within the BVM project area; there are 44,770 acres available for prescribed burns, 34,429 acres available for mechanical fuel reduction, and 6,352 acres available for non-mechanized fuel reduction treatments. Hand thinning/piling contracts and mastication contracts generally range from $400-$500/acre. Sequencing and timing of prescribed fire treatments is contingent on mechanical treatments and fuelbreaks being in place across portions of the project area. The PNF currently has two Indefinite Delivery, Indefinite Quantity (IDIQ) contracts for hand thinning treatments as well as mastication treatments, so funds can be readily obligated. For private lands, each Firewise community has anywhere from a few acres to hundreds of acres available for treatment. Treatment costs for thinning, chipping, and hauling generally range from $800-$900/acre. There are numerous local contractors that specialize in fuels mitigation work and PAWUIC has access to several chippers, a grinder, and a loader.

Conclusion

The Prescott region is well positioned to implement project work that is desperately needed. The Prescott Basin Cross Boundary Project area is a significant part of the community and economic base for Yavapai County. Strategic and collaborative actions are a vital step to ensuring forest sustainability. The project draws on the best available science to design treatments that achieve true heterogeneity as well as species and structural diversity across the landscape while also protecting life and property in and around the wildland urban interface. The PBCBP is well poised to become a noteworthy success.

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