

Friends of Northern Arizona Forests

P.O. Box 3041
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Project name: Aspen Restoration along Highway 180

Project #: AH-307

9 September 2016

Executive Summary

According to our grant application, FoNAF proposed to restore aspen along Highway 180 by planting 1000 saplings within newly constructed exclosures.

In practice, FoNAF constructed three new exclosures in the period May-July 2016. During the period July 25-28, an 8-person crew from American Conservation Experience, 10 members of FoNAF, and a Forest Service silviculturalist planted 900 aspen saplings in the exclosures and watered them. Monitoring since then shows that the saplings are doing well.

Narrative Summary

The context and goals of the project are described well on the signs that FoNAF attached to the exclosures:



The mid-term report showed the three planting sites on a topographic map and provided a photo of one site. I will not repeat that information here.

On May 6, May 28, and July 9, FoNAF and volunteers from the community built three exclosures. In the sequence from north to south, the enclosed areas were 0.4, 1.3, and 0.9 acres.

The photo shows FoNAF's President (Tom Mackin) and Treasurer (Dave Downes) unrolling woven wire at the north site.



On July 24th, I began transporting aspen saplings from the NAU Research Greenhouse to the planting sites. The next photo (from May 2016) shows that many saplings were more than a meter tall.



The crew from American Conservation Experience (ACE) used two-person power augers to drill the holes (12" deep) for the saplings. Despite the power equipment, the many roots and rocks slowed progress to a despair-inducing crawl. I turned to Mark Nabel, our Forest Service silviculturalist, for help. Mark rounded up a Bobcat and auger attachment, postponed a multi-agency



project scheduled for the next day, and spent that day drilling 360 holes in the middle exclosure. Without Mark's prompt help, some 200 or more saplings would have been stranded in their containers at the end of the contract period.



Planting saplings in the holes drilled by the Bobcat was a pleasure, as these smiles testify. You can see also that we were planting saplings that had several years' worth of growth behind them.

Altogether, the ACE crew planted 900 saplings in the three exclosures and then gave each sapling 2 to 4 gallons of water.

We were down from the projected 1000 saplings because of several reasons: some natural attrition at the

greenhouse, a slightly optimistic estimate of how many saplings were available, and holding back 24 saplings in case FoNAF and the Forest Service choose to generate more saplings in the next few years by the Stacked Propagation method (which had so successfully produced the saplings that we planted).

I've described the goals and objectives. We did meet them: 900 good-sized saplings now grace the barren areas that once held gorgeous stands of mature aspen.

We will share the project results through the Western Aspen Alliance and its publication *Trembling*. The report is currently scheduled for the issue of November 2016.

The biggest challenge was drilling holes in terrain with many roots and rocks. In anticipation of more difficulty than when planting in 2013-2015, I had reserved *two* two-person augers. Conifers, however, had encroached onto the 2016 planting sites. Although the Forest Service cut out the conifers, the fresh roots remained—and proved to be too tough for the hand-held augers. Wherever removal of conifers and aspen snags precedes planting, one needs the heavy machinery provided by a Bobcat plus auger attachment.

Obviously, if FoNAF plants in similar terrain in the future, it will plan on employing a Bobcat to drill the holes.

Both FoNAF and the Forest Service will monitor the three plantings. The enclosure fences *per se* are on FoNAF's list of some 65 enclosures whose integrity it monitors several times annually. The Forest Service has installed six survival plots and will track first, third, and fifth year survival. Two plots have been established in each of the three enclosures, and each plot contains approximately 25 saplings.

About the budget

When FoNAF began planning in earnest in May 2015, I estimated that 1000 saplings would require two weeks with an ACE crew of eight. That led to FoNAF's requesting a \$3,000 matching grant from NFF in June 2015.

Very positive experience with another ACE crew in July 2015 showed me that we could probably get by in 2016 with one week with an ACE crew of eight. So the contract with ACE called for only one week. As things worked out, some illness in the crew cut back the hours actually worked and billed for. Time-out because of thunderstorms was no more than an hour. Moreover—and most important—our silviculturalist drilled 40% of the necessary holes with a Bobcat. The upshot is that FoNAF was able to pay all planting expenses from its RAC grant. We never needed to touch the \$3,000 from NFF and are returning that money with this final report. Thank you, nonetheless: your grant gave me peace of mind.

Sincerely,

Ralph Baierlein

Ralph Baierlein

Coordinator for Aspen Propagation