George Washington and Jefferson National Forests

North Shenandoah Mountain Restoration and Management Project

The North Shenandoah Mountain Restoration Project is a large landscape restoration project that covers 128,000 acres of public and private lands in Rockingham County, Virginia and Pendleton County, West Viriginia. The project's multiple restoration goals were developed in a collaborative fashion with numerous stakeholders ranging from federal agencies, state agencies, non-governmental organizations, and private landowners that represent many different interests.

A Message from District Ranger Mary Yonce

I look forward to sharing progress and accomplishments on the North Shenandoah Restoration and Management Project through this and future newsletters.

The Forest Service has been developing this project in cooperation with state and local partners over many years. It is your commitment to working together that enabled us to develop a quality landscale project.

I appreciate your dedication to this project and together we will be stewards of our nation's natural resources.

Figures 1 & 2: Before (top) and after (bottom) photos of the Camp Run Savannah Project located in Pendleton Co., WVa. This project removed non-native invasive species by mulching and then rehabbed the old field for pollinator habitat. Photo credit: Forest Service

Project Implementation

Camp Run Savannah is a 12-acre, old pasture field in West Virginia. Over the past 25 years the field has become overgrown with Virginia pine trees, hardwood tree encroachment, and mature NNISs including autumn olive and bush honeysuckle. In August 2020 a three year management project was initiated focusing on both increasing native pollinator habitat and the treatment of NNISs. This year invasive shrubs and trees were felled reducing the basal area to around 15 square feet per acre. Native seed mixes for the area will be planted in the spring of 2021.

Figures 3 & 4: Aerial images show Camp Run Savannah growth between 2000 and 2020. This regrowth has been significantly thinned back for native pollinators. Photo credit: Google Earth Imagery

Restoring Aquatic Habitat

Forest Road 227A crosses Dunkle Hollow, a native brook trout stream. This crossing was held in place by a barrier with a two-foot drop height which was too tall for aquatic life to easily cross. To better facilitate trout upstream passage, a series of grade controls were constructed to allow fish to overcome the barrier. Four smaller steps of approximately 6 inches each were installed utilizing over 100 tons of rock.

Figure 5: Overhead view of aquatic passageway on Forest Road 227A. Photo credit: Forest Service

Figure 6: Construction of aquatic passageway on Forest Road 227A.
Photo credit: Forest Service

Project Implementation Continued

Treating Non-Native Invasive Species (NNIS)

Non native invasive plants can negatively impact biodiversity and ecosystem function. Within the project area there are occurrences of the tree of heaven (Ailanthus altissima), autumn olive (Elaeagnus umbellata), princess tree (Paulownia tomentosa), multiflora rose (Rosa multiflora) Japanese barberry (Berberis thunbergii), and mile-a-minute (Persicaria perfoliata) among others. In 2020 several projects to remove these non native invasive plants were initiated in managed openings and general forest area, especially open areas under tree canopy gaps.

Figure 7: NNIS Hack and squirt treatment for Aileanthus. Photo credit: Forest Service

These treatments have included mechanical and chemical methods. Primarily mechanical control uses mulchers and chemical control uses spray wands to apply foliar treatments on targeted species and also hack-and-squirt method where a small cut is made into tree bark and applying chemical to the cut area, as shown in the picture.

Figure 8: Working to reduce erosion and stream sedimentation. Photo credit: Forest Service

Protecting Stream Corridors and Riparian Areas

Stream corridors and riparian habitats provide shade and cover to help moderate water temperatures and keep a healthy microbial structure where native brook trout and other aquatic species live and forage. Large boulders were placed in several dispersed campsites to reduce impacts from vehicle traffic and allow vegetation to reestablish. Implementation of decommissioning of one road that is located in a riparian corridor has began by removing trash, installing permanent waterbars and allowing the area to recover naturally.

Project Implementation Cont.

Monitoring Wood Turtles

The wood turtle is a Region 8 sensitive species. As a part of our continued effort to protect them through collaboration, our Forest Service is working with forest biological staff from both Virginia and West Virginia state herpetologist offices. Together with these state offices, streams on the forest are being monitored for the potential occurrence of wood turtles. This work includes in person surveys. We are also partnering with Smithsonian Conservation Biology Institute for eDNA and in-stream monitoring surveys.

Figure 9: Wood turtle on land
Photo Credit- Jonathan Drescher-Lehman

Figure 10: Wood turtle underwater
Photo Credit- Jonathan Drescher-Lehman

Upcoming Projects

Looking to the future, we have several projects we will continue to develop in 2021 depending on funding levels. These projects include more NNIS treatments, timber stand improvement, pollinator habitat establishment and aquatic passage improvement.

District staff plan to host a public field trip in summer of 2021 to highlight project accomplishments. Check the GWJNF North Shenandoah Mountain Restoration and Management Project for details.

For more information or questions, contact District Ranger, Mary Yonce at 540-984-4101 or Mary.Yonce@usda.gov