CAMCORE AND THE FOREST SERVICE NATIONAL FOREST SYSTEM: A TEN-YEAR PARTNERSHIP IN TREE CONSERVATION

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Climate variabilities, increasing pest and pathogen infestations and continued land-use changes will increase the likelihood that forest trees could experience population-level extirpation or species-level extinction. Based on the 2010 Forest Tree Genetic Risk Assessment System (FORGRAS) framework, genetic risk-related attributes for 131 Southern Appalachian tree species were used to assess and rank the predisposition of forest tree species to genetic degradation. The end product was a list of trees ranked from most to least endangered or threatened to aforementioned threats. The FORGRAS framework is used by the Southern Region (R8) National Forest System (NFS) Genetics program as a tool to plan and guide tree conservation efforts. Using the list produced by FORGRAS, NFS began tree conservation collections in 2010 for some of the most highly endangered tree species in the Southern Appalachian national forests. The goal was and is to preserve forest tree genetic diversity and safeguard existing adaptedness within species. Because of limited resources, NFS enlisted Camcore as a partner to assist with gene conservation efforts. Camcore had already been working with the Forest Service Forest Health Unit in collecting Eastern and Carolina Hemlocks. Camcore's reputation for doing worldwide tree conservation work for over 35 years is renowned, thus affording the NFS an exemplary partner. To date, this partnership has focused on range wide collections of Table Mountain pine, Atlantic white-cedar, red spruce, Balsam and Fraser firs, Ash (Texas, Carolina, Pumpkin, Blue), and continuing with the hemlocks. Funding for these projects is provided by both the Washington Office Forest Health Unit as well as R8 Forest Management and Timber Unit. The seed collected is distributed for multi-purpose goals: 1/ to Camcore for research, 2/ to ARS Genetics Resources Preservation Center for long-term preservation storage and 3/ to NFS for establishing conservation banks at the seed orchards and for operational use in restoration of these species.