CSFS Nursery Accomplishments Fall 2017-Spring 2018

The Colorado State Forest Service Nursery, working with the Colorado Water Conservation Board, Local Watershed Coalitions, restoration contractors and advising ecologists, has been working diligently to provide appropriate plant material for restoration work in response to the Front Range flooding of 2013. What follows is a brief list of the accomplishments of the nursery over the past nine months. Any questions or requests for more information should be directed to Joshua Stolz, Nursery Manager CSFS nursery (Joshua.stolz@colostate.edu.)

- The CSFS Nursery was able to procure approximately 43,000 D60 deep pot tubes (Stuewe and Sons) for the development of plant material that would produce a root system that is 14" deep. The importance of this type of container and the resulting deep root system is that the plants are better suited to take advantage of available groundwater in riparian restoration settings.
- The CSFS Nursery was able to identify ecotypic populations of several willow species, collect the appropriate species, process the willows and store them in cold storage. The availability of the willow cuttings have been critical to the restoration work done throughout the spring of 2017. Additionally, the cold storage of the cuttings ensures that viable species will be available to spring projects that have been delayed into the summer. Overall, the CSFS nursery staff was able to collect, process and store nearly 35,000 ecotypic willow cuttings for use in EWP projects.
- The CSFS nursery beginning in January 2017, was able to prepare seed, plant, raise and grow 45 distinct species of container plant material for various EWP projects. These species included wetland plugs that the nursery had never previously produced. The plant material was grown to specification and delivered on time to spring EWP projects. In total the nursery produced almost 30,000 container plants for the spring projects.
- In addition to the collections and container production the nursery conducted, the nursery was also able to engage CSFS agency offices for production and collection support and was able to engage local non-profit partners and volunteers to support operations. Meeting production and collection goals was critical, but the nursery was able to communicate the importance of the work it has been engaged in and communicate the importance of restoration growing for future events like the 2013 flooding.
- The CSFS Nursery has developed extensive notes on growing restoration plant material, in particular notes regarding seed stratification and germination requirements that impact the timing of finished plant material. This information will be extremely useful in the future if the nursery is engaged to grow similar plant material. Several of the species that the nursery grew for EWP projects have never been grown by the nursery and this data will contribute to successful production planning in the future.
- The nursery was also able to begin to develop a database of locations for future willow and cottonwood collections. With the assistance of ecologists from Great Ecology and foresters from the CSFS collection sites have been cataloged and in some cases geo-located for future collection operations. The development of this database will continue to evolve with collections planned for the fall and will be available for more efficient collections in the future.
- Because of the work that the CSFS nursery has conducted in support of EWP projects it has become evident that there are very few private companies or agencies similar to the CSFS that are involved in restoration specific plant production. Due to the lessons learned throughout this project the CSFS is now better positioned and prepared to respond to extreme events that will

require this type of growing. Moving forward the CSFS will continue to grow deep tube plant material for “normal” restoration work and also be prepared to respond quickly if the need arises.

- In addition to the aforementioned accomplishments, the CSFS Nursery continued propagation, and collection of emergency plant material and species to continue supporting work that occurred in the fall of 2017 and concluded in the spring of 2018.
- CSFS nursery and staff with the support of ecologists from Great Ecology, were able to create and fulfill a production plan that generated another 37,000 container plants and 19,000 vegetative cuttings.
- Plant material was delivered on time and were used to fulfill planting obligations by the end of the project deadlines.
- In addition to growing a similar suite of plant material in anticipation of similar disturbances, the CSFS nursery and local partners are exploring grant opportunities to fund the creation of an emergency seed cooler. This cooler will be used primarily as a way to warehouse site appropriate seed from across Colorado and the seed will represent an inventory that can be used at a moment’s notice to begin to respond to future plant needs necessary for future disaster response.
- Finally, by participating in this project and creating new networks and partners, the CSFS nursery has already been able to support similar non-disaster projects that benefit Colorado watersheds. By delivering quality plant material on-time and to specification the CSFS nursery has positioned itself to be a leader in growing plant material that will continue to benefit Colorado’s unique environments and it’s citizens.