

Agricultural Experiment Station John T. Harrington Forestry Research Center morasc.nmsu.edu • 575-387-2319



MISSION

To advance the understanding of restoration activities on forested areas in New Mexico through multidisciplinary research, education, and stakeholder collaborations.

The Hermits Peak – Calf Canyon Fire started on April 6, 2022 and grew to over 341,700 acres by July, making it the largest fire in the history of New Mexico. The JTH FRC was in the path of the fire and evacuated all personnel on May 1 as the fire approached. The center seed bank was moved prior to the evacuation in preparation for potential evacuation and power outages. Approximately 75,000 seedlings were rescued from the JTH FRC during the time of evacuation and moved to a temporary greenhouse in Santa Fe on May 3 and 5. Return to the center occurred on May 31 after fire lines were considered stable in the area.

Continuing to pursue purchasing the current center property which is leased.



Value Added to New Mexico

• Seedlings



The JTH Forestry Research Center also provides science-based solutions for private, tribal, state, and federal forest managers, who face the threat of catastrophic fires due to overgrown forests and the inability of post-fire forest communities and ecosystems to naturally regenerate after such fires. The center is the only program in the four corner states (NM, UT, AZ, and CO) focusing research efforts along the entire reforestation pipeline. It is located in Mora, New Mexico.

Ongoing Research

- Evaluating vegetation control and animal protection measures in a post-fire restoration environment. Preliminary results show that the use of managed nurse vegetation improves survival.
- Optimizing outplanting strategies in a post-fire environment through seedling size, planting windows, and drought conditioning. Preliminary results show that monsoonal plantings improve the survival of planted trees.
- Using nucleation planting strategies in post-fire environments to improve longterm values such as water resources and forest health. Preliminary results show that high-density nucleation plantings maintain proper stocking levels.
- Exploring natural structures such as logs and snags to improve seedling survival and growth. Implementing Fall 2022
- Determining drought tolerance of *Pinus ponderosa* and *Populus tremuloides* using osmolality. Implementing Fall 2022



The College of Agricultural, Consumer, and Environmental Sciences is an engine for economic and community development in New Mexico, improving the lives of New Mexicans through academic, research and Extension programs.

Recent Impacts

- Accomplished formation of the New Mexico Reforestation Center which is a partnership of New Mexico State University, University of New Mexico, New Mexico Highlands University, and Forestry Division with EMNRD.
- Accomplished a string of news articles about NMSU's role in post-fire reforestation (Albuquerque Journal, Santa Fe Reporter, Las Cruces Sun News, Colorado Sun, New York Times, and Washington Post are a few examples).
- Potential proposal submitted to USDA's "Partnerships in Climate-Smart Commodities" grant in May 2022. This proposal requested approximately \$80 million to develop a climate-smart seedling reforestation pipeline for the southwestern US. This project would have funded the construction and initial operation of the New Mexico Reforestation Center. This data-driven reforestation center is designed to increase southwestern US reforestation success by producing climate-smart seedlings, decreasing reforestation costs, continuing applied research activities to keep the reforestation program successful, and ensuring the development of a trained reforestation workforce for the four corners region (Arizona, Colorado, New Mexico, Utah).

Community Outreach

The John T. Harrington Forestry Research Center at Mora offers a unique educational opportunity to learn about forestry research and how important forests are to not only agricultural production in the state of New Mexico but also that forests provide water, wildlife habitats, and so many other benefits to the state. The annual field day is an event open to the public to visit the center and get an up-close look at the seedling nursery and reforestation efforts from the Center.

Traditionally, the Forestry Research Center hosts visits from legislators, community members, and stakeholders. However, with the fires this year, additional visits occurred in 2022. Those visitors included congressional delegates (state and federal), undersecretaries, division chiefs and directors, agency representatives, and other stakeholders. Visits occurred both pre- and post-fire. However, interest and understanding of the importance of reforestation after fires, using the Hermits Peak - Calf Canyon Fire in the backyard as an example has provided an opportunity to discuss in greater detail the needs and importance of the New Mexico Reforestation Center (NMRC). The NMRC would serve to fill the gaps in the reforestation pipeline, emphasizing both scale and urgency, in the southwestern US while serving as a model for other regions. The NMRC is a formal partnership between New Mexico State University (NMSU), New Mexico Highlands University (NMHU), University of New Mexico (UNM), and the Forestry Division of New Mexico's Energy, Minerals, and Natural Resource Department (EMNRD FD).







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