

Forest Restoration Post-Doctoral Position – New Mexico State University – 2020



John T. Harrington Forestry Research Center

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The John T. Harrington Forestry Research Center (JTH FRC) at New Mexico State University invites applications for a post-doctoral position. The research center is located in beautiful northern New Mexico in the community of Mora and is close to Las Vegas and Taos, NM. We seek recent doctoral recipients from any academic discipline who have experience with applied forest nursery systems, forest regeneration, ecological restoration, and/or ecophysiology. Applicants must have exhibited a strong record of independent research leading to peer-reviewed articles in professional journals.

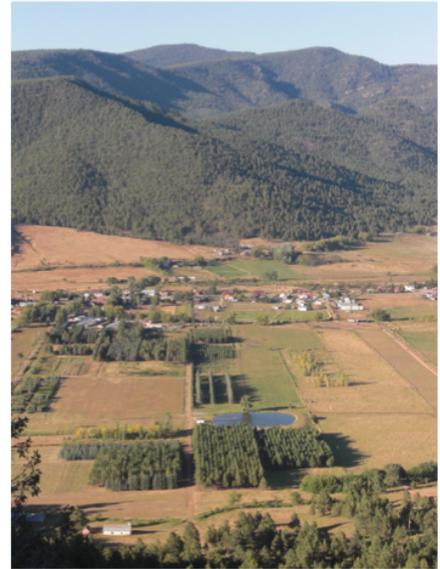
Background

As our country continues to experience the most destructive wildfires in history, it is more important than ever to research and implement effective and efficient forest management and restoration strategies. The successful candidate will work with to assist in forest restoration research associated with the Forest Restoration Triangle (FORT). FORT is a partnership among New Mexico State University, New Mexico Highlands University, and the NM Forest and Watershed Restoration Institute working to restore proper ecological function and ecosystem services to the forest landscape in New Mexico and the greater southwestern US. The FORT collaboration was recently awarded \$5 million over 5 years by the Center for Research Excellence in Science and Technology (CREST) sponsored by the National Science Foundation (NSF). This grant will help to provide 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 plant communities and ecosystems to naturally regenerate.

Research Focus

The successful candidate will have an opportunity to help create new research directions for the JTH FRC that meet the mutual interests of the candidate and the JTH FRC. However, the primary focus of the post-doctoral position will be to help in the design, implementation, and monitor efforts that are specifically associated with the CREST Subproject awarded to NMSU. The objective of this Subproject is to assess the use of a nucleation planting strategy matched with an improved seedling stocktype as a viable and cost-effective method to successfully establish vegetation on damaged forest sites. This objective will be accomplished through three experiments:

- *Experiment 1 – Nucleus size and planting density.* The need exists to better understand how to implement nucleation planting on the landscape. The short-term objective of this experiment (0-5 years) is to understand what combination of nucleation size and planting density promotes greater survival and growth for individual seedlings. The long-term objective (10-30 years) is to determine which treatment combination will result in a rapid expansion from each nuclei.



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- *Experiment 2 – Vegetation control and animal protection.* Animal damage and competing vegetation are often the main limiting factors in forest restoration planting efforts. An extensive amount of research has shown that controlling for both herbivory and competing vegetation significantly improves survival and growth of target plants. However, there has been little research on these two factors in the Southwestern US.
- *Experiment 3 - Stocktype and planting window.* This experiment will examine the impacts of planting windows, container size, and drought conditioned seedlings on seedling performance in the field. The monsoon rains in the summer provide a significant amount of soil moisture and may be a better planting window for restoration efforts. Nursery cultural practices, such as container size and irrigation regimes, can improve outplanting performance of a seedling.

Qualifications

- Requirements for the position include a Ph.D. in natural resources or related discipline, evidence of independent research, record of publishing in professional journals, and a commitment to conservation of natural resources. The position is open to U.S. and non-U.S. citizens. (Degree in hand by hire date)
- Strong writing and analytical skills.
- Ability to work in harsh field conditions that include post-fire burn sites.

Salary

Commensurate with experience (range \$50K to \$65K per year)

Position Available

The position (full-time, 12 months) is a 1-year appointment (commensurate with experience) that includes benefits. Extension of the appointment up to four years will be based on funding and mutual agreement between Dr. Owen Burney and the candidate.

How to Apply

To apply to the post-doctoral position, candidates must submit a) curriculum vitae, b) contact information for three references, and c) letter of research experience and interest (2-page limit). Materials should be submitted as pdf files via email to oburney@nmsu.edu with the subject line "Forest Restoration Postdoc NMSU". The deadline for receiving applications is **18 September 2020**. Questions concerning this position should also be addressed to Dr. Owen Burney at oburney@nmsu.edu.

NMSU is an equal employment opportunity/affirmative action employer.