New Mexico Reforestation Center Update

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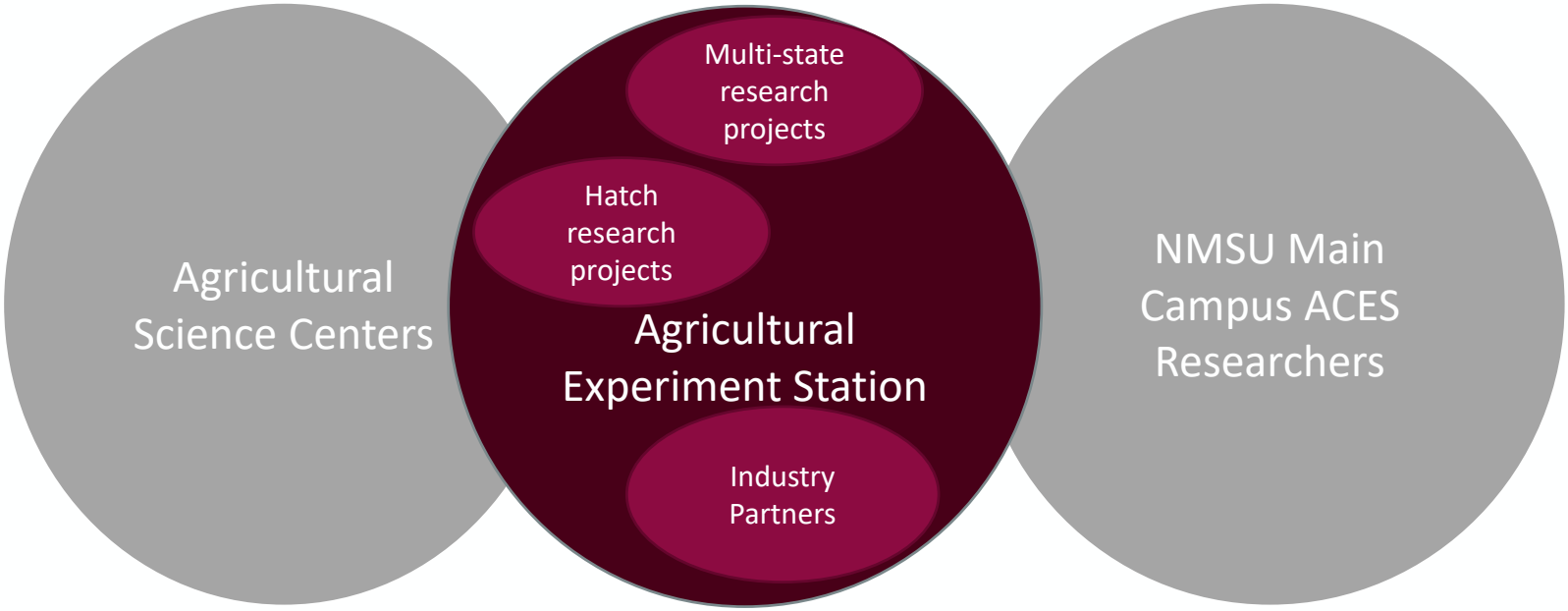
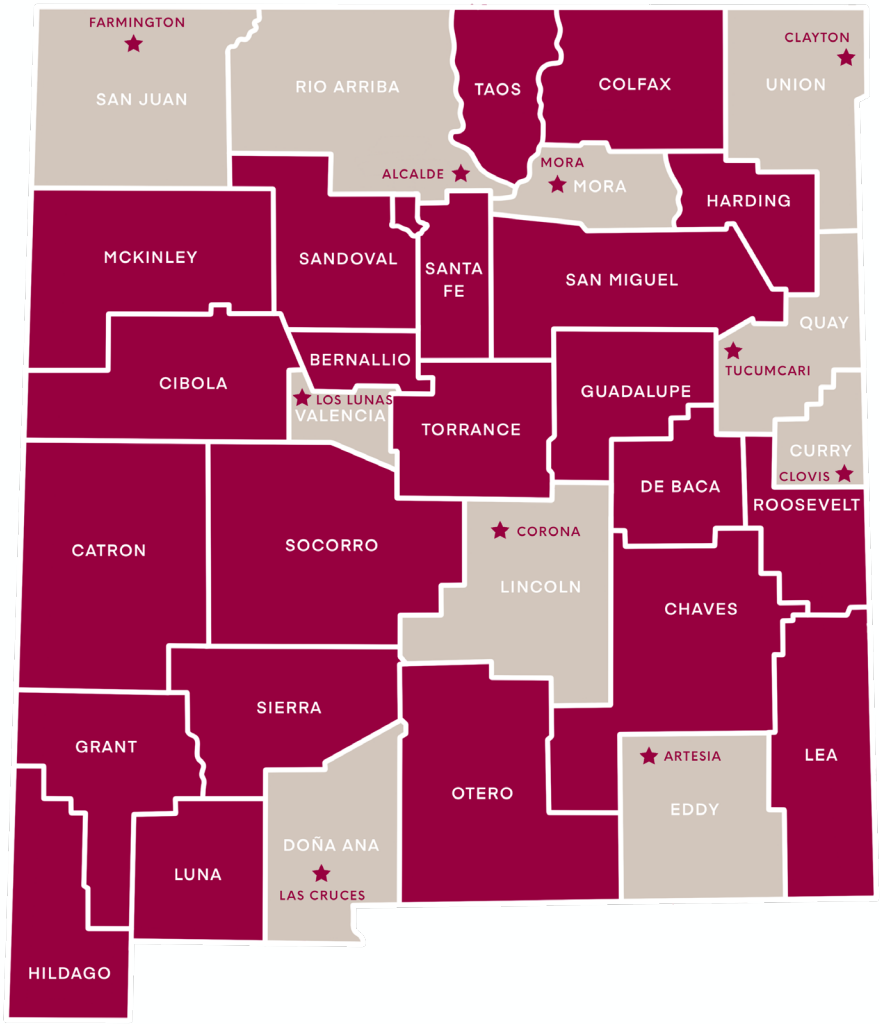
Agricultural Experiment Station

- AES is the principal research unit for the NMSU College of ACES. All research faculty in ACES have appointments in AES, across the main campus in Las Cruces and at the 12 agricultural science centers around the state. AES has a total of 365 FTE of faculty, staff, and students.
- AES was defined and created by the Federal Hatch Act of 1887 to research problems and find solutions to improve the lives and livelihoods of citizens. In 1915, New Mexico constitutionally mandated AES under Article X, section 11 of the state constitution
- Each of the 12 agricultural science centers plays an integral role in supporting fundamental and applied science and technology research to benefit New Mexicans.



AES Overview

- All research in ACES is administered by the Agricultural Experiment Station.
- AES is not a physical site, but rather a system of scientists who work on the Main Campus in Las Cruces and 12 agricultural research and science centers (ASCs).
- Having strategically placed agricultural science centers allows research to inform agricultural producers from around the state about best practices and advancements specific to their climate zone.



JTH Forestry Research Center at Mora Fire Response

- Upon evacuation, the JTH Forestry Research personnel evacuated the entire seed bank, which was temporarily stored at the Los Lunas Agricultural Science Center.
- Over 80,000 seedlings were temporarily evacuated and relocated to the EMNRD greenhouse in Santa Fe.
- After the severe fire damage around the Mora Forestry Research Center, the area experienced intense rain and flooding. The faculty and staff at the Center have continued to pivot and respond to the extreme weather situations occurring in 2022.
- Senators Heinrich and Lujan and Reps. Leger Fernandez and Stansbury recently secured $2.5 billion in aid for New Mexicans impacted by wildfires.

New Mexico Forests

- New Mexico forests supply 50-75% of all water used by municipalities and agriculture in the state.
- They provide recreational opportunities, wildlife habitats, timber, and other valuable resources.
- Forests are at risk of catastrophic wildfire, and the area burned by wildfires is increasing.
- Natural tree regeneration is rare after catastrophic wildfires and tree planting is necessary.
- The NM Forestry Division, NMHU, NMSU, and UNM are collaborating to reforest these burned landscapes through the creation of the ***New Mexico Reforestation Center***.

New Mexico continues to experience hot, dry summers making our state's forests more susceptible to wildfires year- round.

Current seedling production capacity in New Mexico is approximately 300,000 seedlings per year, well below the needs for the state.

Over the past 20 years, wildland fires in New Mexico have burned over 5.45 million acres.

New Mexico currently needs to plant between 1 to 2.6 million acres, which would require 150 to 390 million seedlings.

The two largest fires in our state's history (Calf Canyon – Hermit's Peak and Black Fires) occurred in 2022.

New Mexico Reforestation Center

- Established by MOU in 2022
- Part of New Mexico's commitment to carry of Forest Action Plan
- Increases Coordination between NMSU, EMNRD, UNM, NMHU, and NMFWRI

NEW MEXICO emnrd
Energy, Minerals and Natural Resources Department

HIGHLANDS UNIVERSITY

NEW MEXICO FORESTRY DIVISION

NMFWRI
New Mexico Forest and Watershed Restoration Institute
New Mexico Highlands University

NM STATE

Impact of Severe Wildfires

Fire footprint of Hermits Peak-Calf Canyon Fire:
~341,700 acres

High severity acres:
~ 83,500 acres

Planting requirements for HPCC Fire ONLY:
~ 12.5 million to 20.9 million seedlings *(150 to 250 TPA)*

USDA FS planting requirements for NM and AZ:
~ 100 million to 375 million seedlings *(150 to 250 TPA)*

At current nursery capacity:
150 to 600 years to reforest current needs in NM and AZ

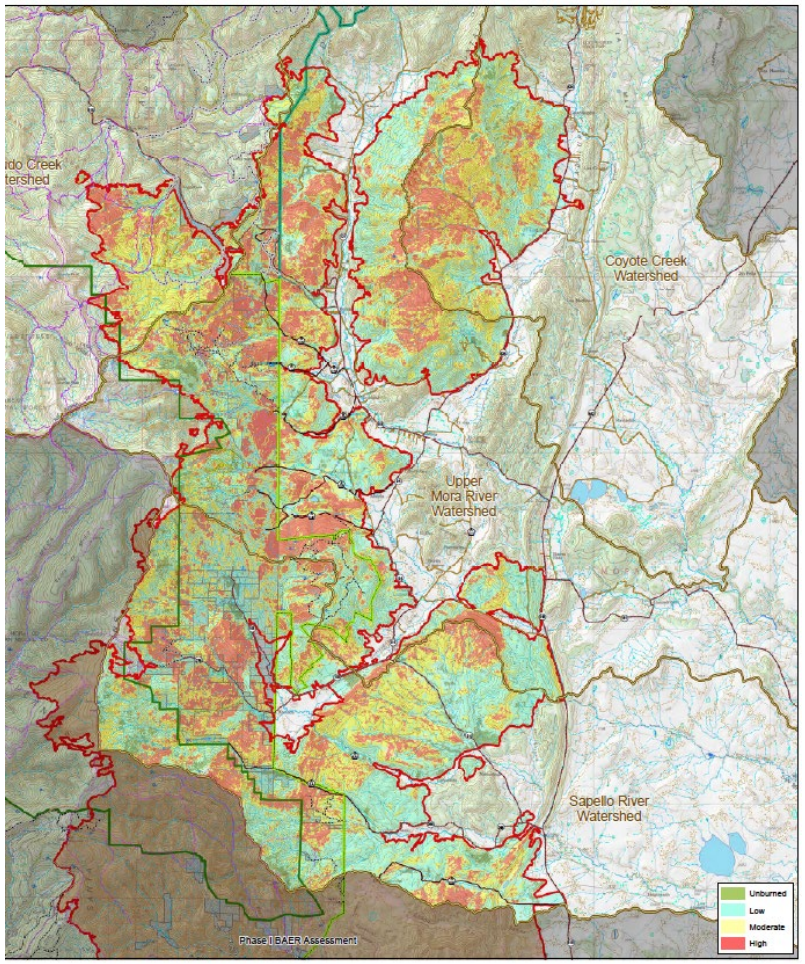
Impacts from High Severity Forest Fires:

Soil
- ↓Nutrients / Organic Material
- ↑Erosion

Wildlife
- ↓Habitat and Food Sources

Plants
- ↓Established Plants (seed source)
- ↓Seed Bank

Hermits Peak / Calf Canyon Burn Severity Map - North



Reforestation Needs for New Mexico

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Economic Benefits of Reforestation

- Wildlife habitat, including fish
- Soils (physical and chemical)
- Commercial products such as timber
- Seed banks/sources (soil and plants)
- Recreation (fishing, skiing, hiking, etc.)

WATER

Forests supply 50% to 75% of all water used by municipalities and agriculture in the state.

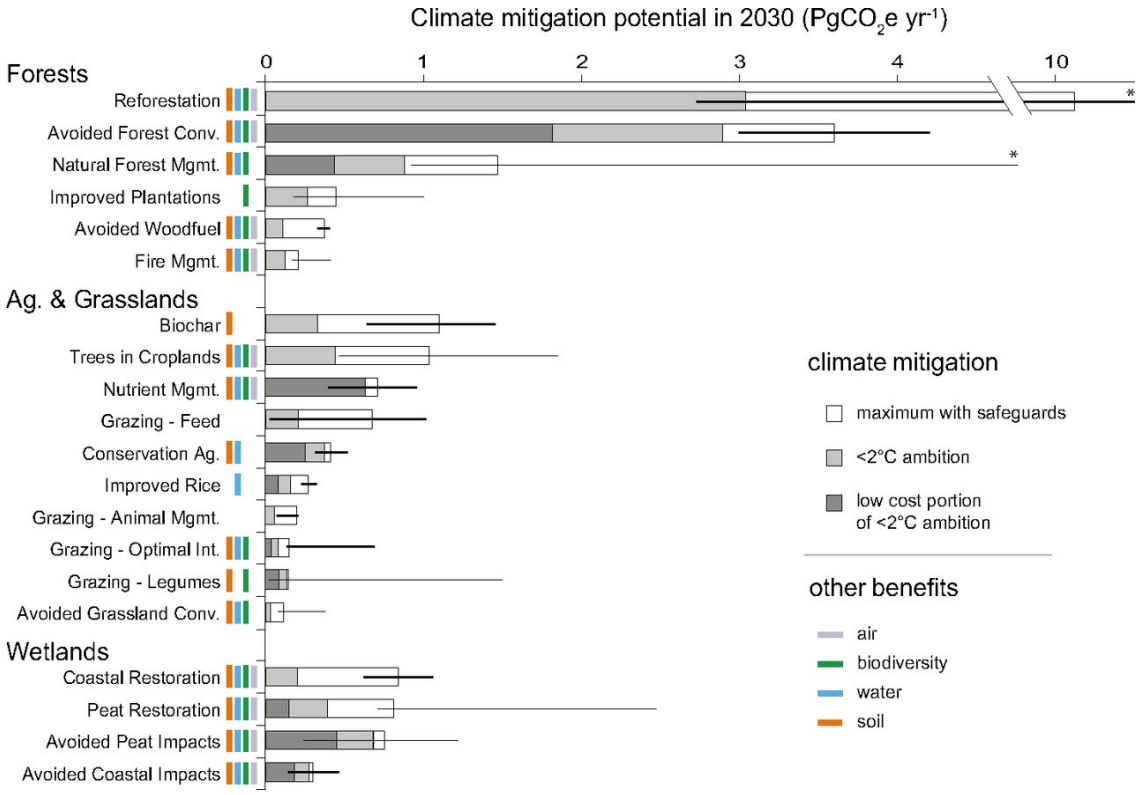
In post-fire landscapes, planting trees will:

- increase rainfall interception
  - reduce runoff and erosion
- increase snow retention via gradual snow melt
  - improved water quantity downstream

Carbon Benefits of Reforestation

Reforestation is the largest natural pathway to capture carbon and mitigate climate change[1].

Reforestation,
at least 3x greater than
other land activities at mitigating carbon.



[1] *Griscom, B. W., Adams, J., Ellis, P. W., Houghton, R. A., Lomax, G., Miteva, D. A., et al. (2017). Natural climate solutions. Proc. Natl. Acad. Sci. U.S.A. 114, 11645–11650. doi: 10.1073/pnas.1710465114*

The New Mexico Reforestation Center will:

- Help to meet reforestation needs by producing 5 million seedlings per year.
- Establish programs to support the reforestation pipeline, from seed collection to planting.
- Support climate-smart tree planting projects in urban environments to assist with carbon sequestration, air quality, and provide shade to cool urban surfaces.
- Support education, research, and outreach activities in relation to reforestation.
- Create hundreds of new jobs and add millions of dollars of new economic output to the state.

NM Reforestation Center

The mission of the NM Reforestation Center will be to meet current and future reforestation needs in New Mexico through its comprehensive seed bank, nursery, and planting operations combined with research, education, and outreach activities.

The *Center* would support forest-based economic growth throughout New Mexico.	The *Center* would produce up to 5 million seedlings per year and make progress in addressing the massive planting needs.	The *Center* would use science-based approaches to meet New Mexico's reforestation goals.

NMRC Economic Benefits to New Mexico

Preliminary Economic Analysis

Over a 30-year period:

- 474 jobs created per year
- $1.25 billion Economic Benefits for Reforestation
  - $884 million Market (jobs, services, materials)
  - $366 million Non-market (Ecosystem Services)
- $482 million Economic Costs for Reforestation

**Source - Berry M (2022) New Mexico reforestation: Program investment and economic analysis. NMHU Report*

Contact Information

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