

State Fire Response, Recovery Plans and Burn Scar Flood Prevention

Rural Economic Opportunities Task Force

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State Forester, Laura McCarthy - laura.mccarthy@state.nm.us



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We start with a legacy of fire exclusion and current land conditions



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We mitigate with forest management treatments



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Not fast enough nor at big enough scale to avoid catastrophic fire



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2022 Fire Season By the Numbers

43,000,000 acres = EMNRD, Forestry Division fire response area

341,735 acres = Hermits Peak and Calf Canyon fire, the largest in New Mexico

325,136 acres = Black fire, second largest in New Mexico

96,008 acres = Burned in Forestry Division response area since Jan 1, 2022

428 wildfires = In Forestry Division response area since Jan 1, 2022

142 = Firefighters on rotation for wildfire response with Forestry Division crews

39 = FTE in the Forestry Division firefighting responsibilities

28 = Local fire departments with wildland fire mobilization plans

21 = Forestry Division Type 6 fire engines to respond to wildfires

12 = Local fire department Type 3 fire engines to respond to wildfires

2020 Forest Action Plan

- Science-based spatially-explicit assessment of threats and opportunities
- 10 Strategies
- 192 Actions
- Interactive Priority Maps



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2020 NM Forest Action Plan



Strategy 1: Restore Forests and Watersheds

Addresses the legacy of fire exclusion and current land conditions to mitigate catastrophic wildfires burning much hotter than previously experienced with forest management treatments



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2020 NM Forest Action Plan



Strategy 1: Restore Forests and Watersheds



- 1.1 - Conduct appropriate treatments in large-scale priority areas.
- 1.2 - Conduct collaborative planning and build collective capacity to increase the pace and scale of forest and watershed restoration.
- 1.3 - Track activity to report progress and evaluate outcomes to inform continuous planning.
- 1.4 - Periodically review and confirm or update FAP priority areas.
- 1.5 - Develop collaborative strategies to promote a dynamic patchwork mosaic of riparian and wetland vegetation and habitat as water availability and community priorities allow.
- 1.6 - Conduct restoration activities in a manner that minimizes impacts to native and sensitive plants, animals, and their habitats.
- 1.7 - Support and expand public outreach and education to foster a society that supports watershed restoration activities and values resilient and healthy forest ecosystems.

Strategy 2: Fire Management

Restores the ecological role of fire to foster resilient landscapes and watershed health; sustains wildfire response on state and private lands; supports regional, state, and national wildfire response on all jurisdictions; and fosters collaboration of post-fire response after high severity wildfire.



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Strategy 2: Fire Management

- 2.1 – Restore ecological role of fire to foster resilient landscapes and watershed health
- 2.2 – Provide appropriate wildfire response on state and private lands
- 2.3 – Support regional, state and national wildfire response on all jurisdictions
- 2.4 – Collaborate across programs and jurisdictions on post-wildfire response



Strategy 6: Reforestation

Addresses the need to reforest burned areas and bridge the state's reforestation backlog, and to do so with seedlings that will mature into trees capable of withstanding the anticipated growing conditions of the future



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Strategy 6: Reforestation



- 6.1 - Improve and increase seed collection and storage
- 6.2 - Expand and improve nursery capacity and seedling production
- 6.3 - Improve landscape assessment and site selection to increase seedling survival and tree reproduction
- 6.4 - Use demonstration planting projects to advance reforestation strategies
- 6.5 - Increase monitoring and utilize adaptive management

Strategies 8 & 10: Restoration Economy and Outdoor Recreation

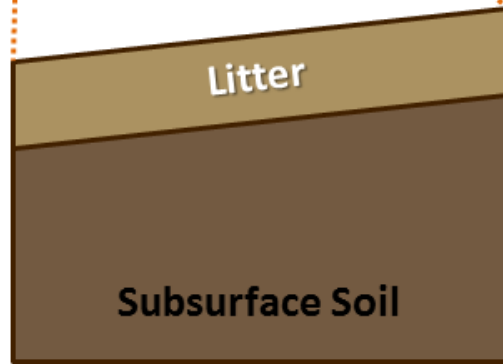
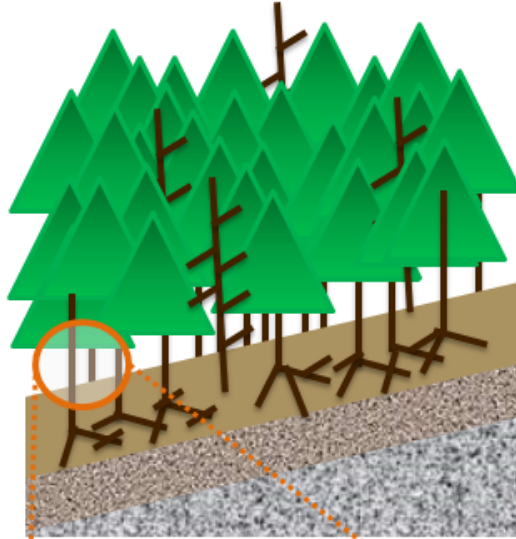
- **8.0** - Build and enhance current sustainable communities, businesses, and jobs to carry out the work of this FAP.
- **8.2** – Practice shared stewardship across landscapes to make strategic investments aimed at mitigating risk, improving forest health, and increasing resilience in New Mexico’s ecosystems.
- **10.2** - Develop a system and procedures for shifting outdoor recreation and tourism during wildfire and when post-fire risks are severe.



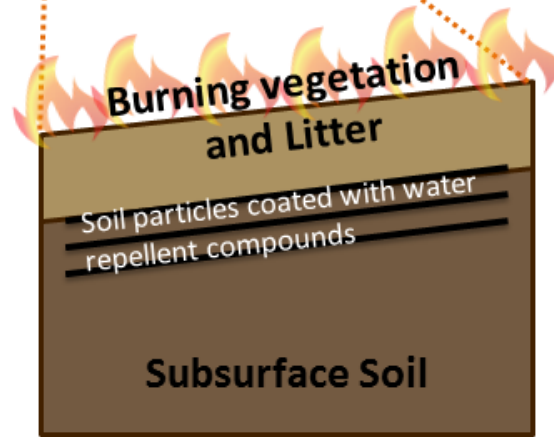


Wildfire Burn Scars are a Flood Risk

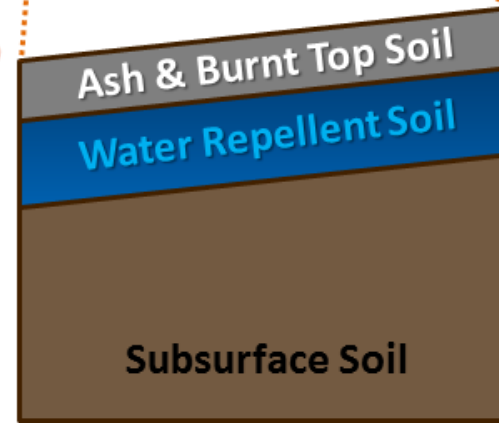
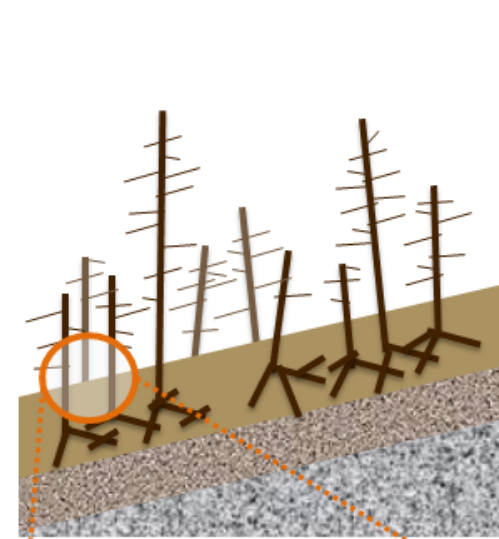
Before Fire



During Fire



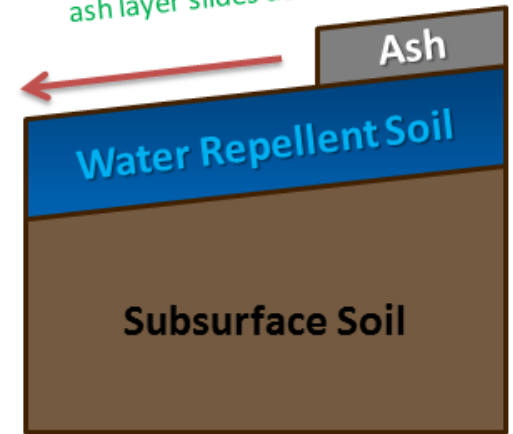
After Fire



During Heavy Rain



Top layer becomes saturated, ash layer slides downhill



Water cannot penetrate water repellent soil layer, so it runs off like pavement which causes dangerous:

Flash Flooding
Mud & Debris Flows
Mudslides



Litter: organic material such as needles, leaves, grass, brush, bark.

Water Repellent Soils: formed when organic material such as trees, scrubs, plants and litter burn at high intensity, water repellent compounds are vaporized, and condense on cooler soil layers below, which prevents soil from absorbing water.

“BURNED AREA COORDINATION RESPONSE”

RESPONSE

0 – 45 days

Preparing for flood/debris & response

Lines of Effort:

- Planning
- Emergency & Temporary Protective Measures
- Evacuation Sheltering/Mass Care
- Public Information & Warning
- Volunteer Organizations After Disaster (VOAD)



RECOVERY

90 days – 1 year

Intermediate & Long Term Projects

Lines of Effort:

- Land restoration
- Permanent watershed protections
- Infrastructure repairs & reconstruction
- Communications infrastructure restoration
- Permanent mitigation activities
- Programmatic EA
- (Others)

One thunderstorm may be all it takes



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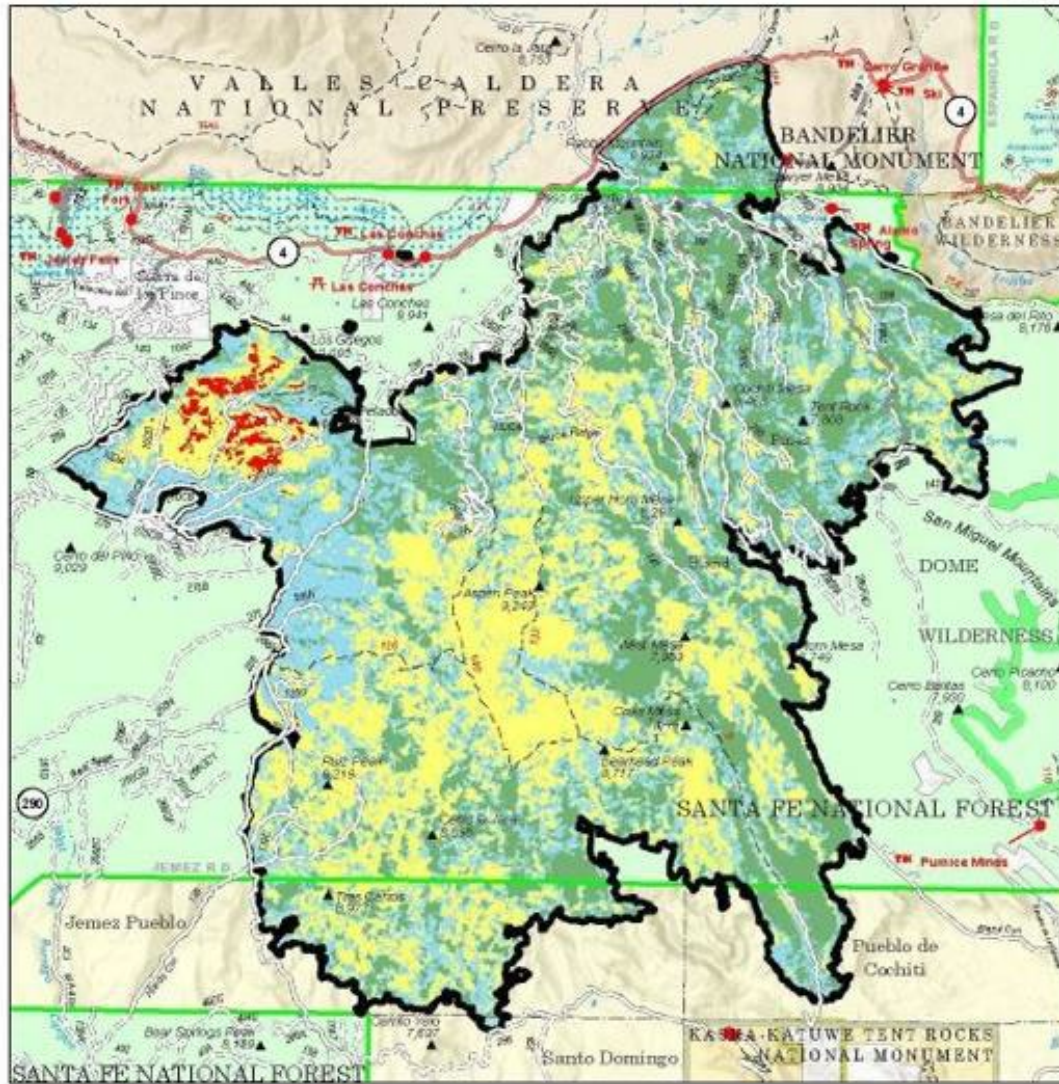






McBride and Nogal Fires

- USGS installed early warning gauges
- Crews cleaned out drainages and culverts
- Seeding and mulching led by USFS
- NMFD supported sediment detention structures



Cerro Pelado

- Reburn of Las Conchas Fire
- Treatments and Rx fires likely saved homes
- Flooding and sediment movement largely controlled thanks to work completed post-Las Conchas

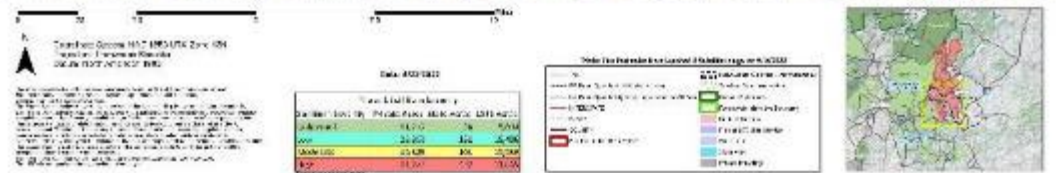
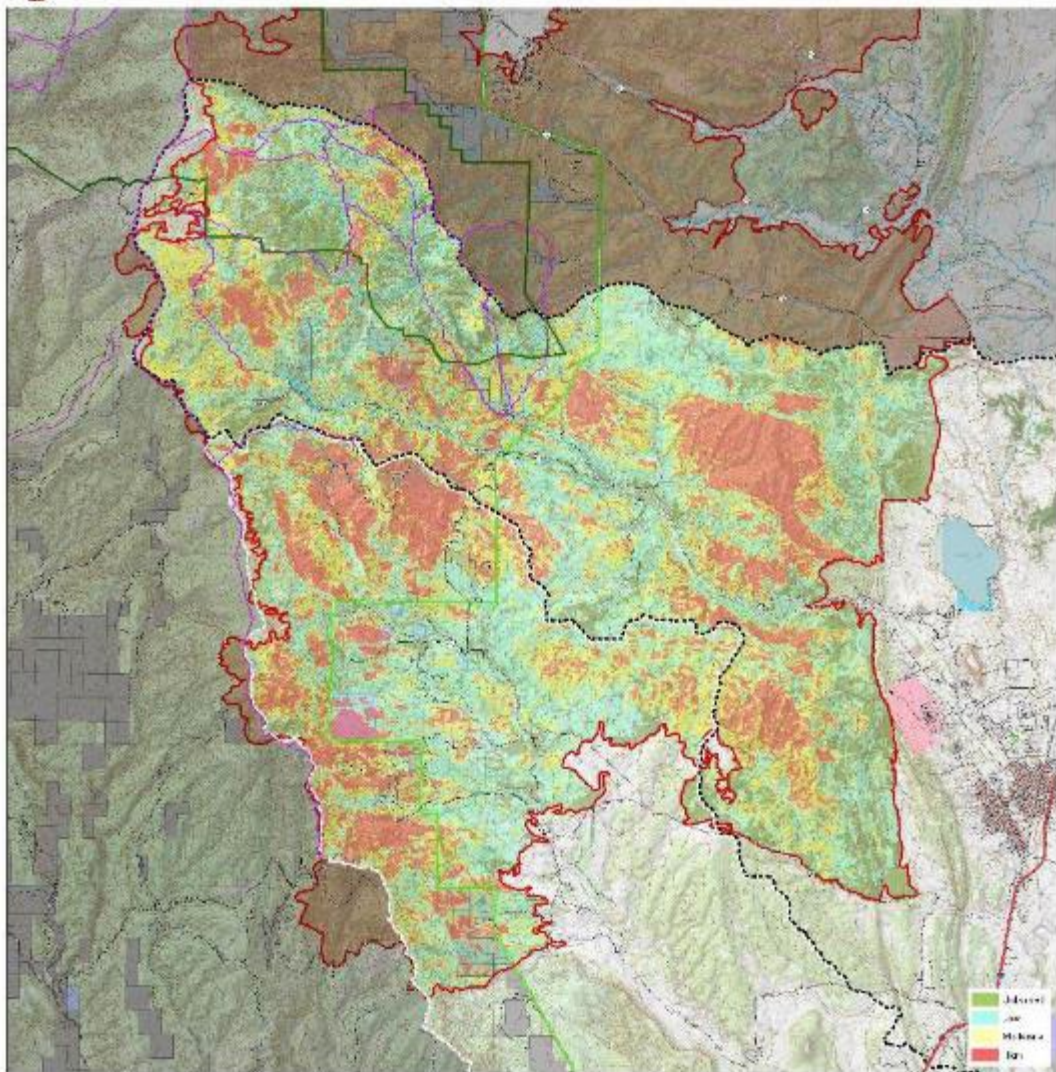


Hermits Peak and Calf Canyon

- Scale is overwhelming resources and programs
- USACE is installing advance measures to protect critical infrastructure from flooding
- Working with local and county emergency managers to supplement and build capacity



Hermits Peak / Calf Canyon BAER
Phase 1 Soil Burn Severity - Headwaters Gallinas River and Tecolote Creek Watersheds



Phase 1 BAER - <https://inciweb.nwcg.gov/incident/8104/>

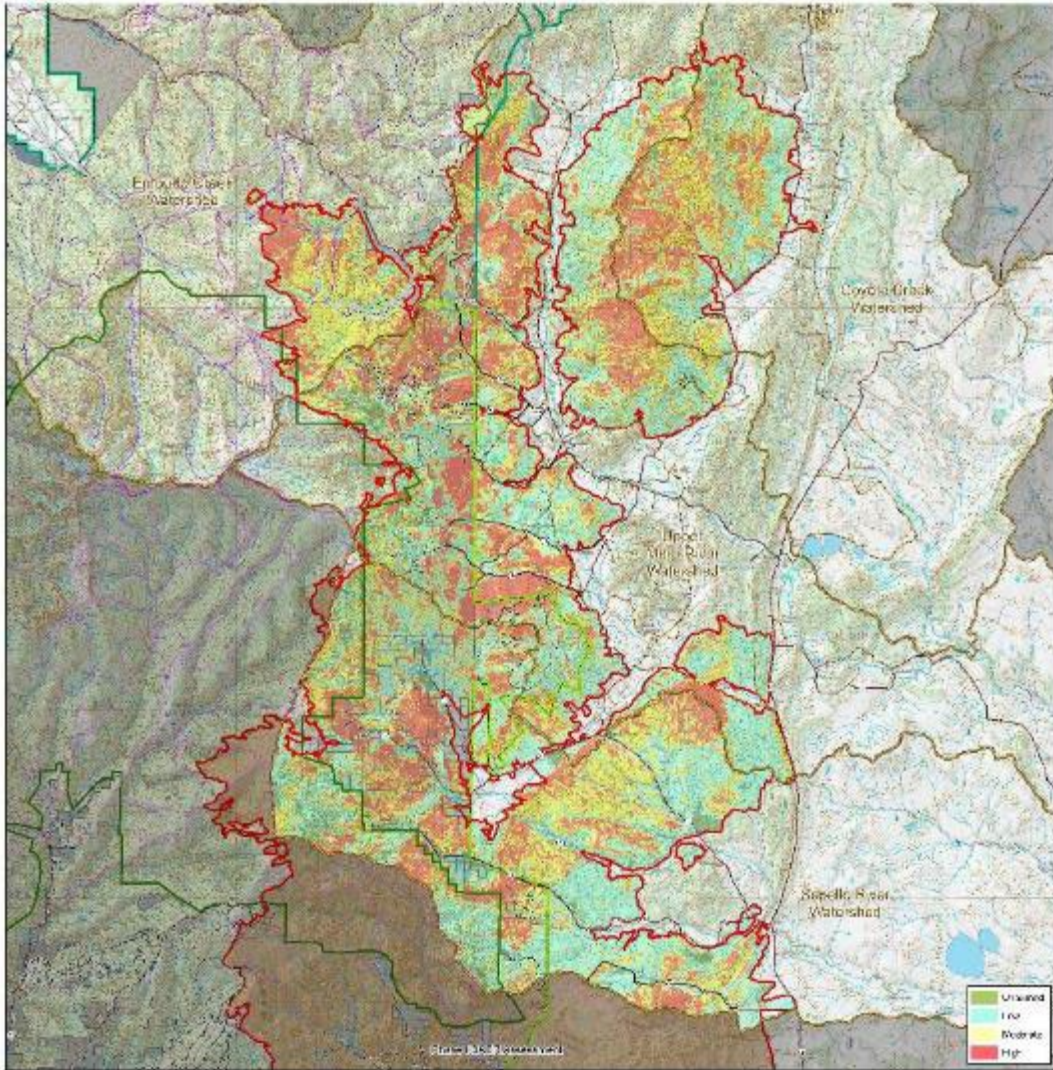




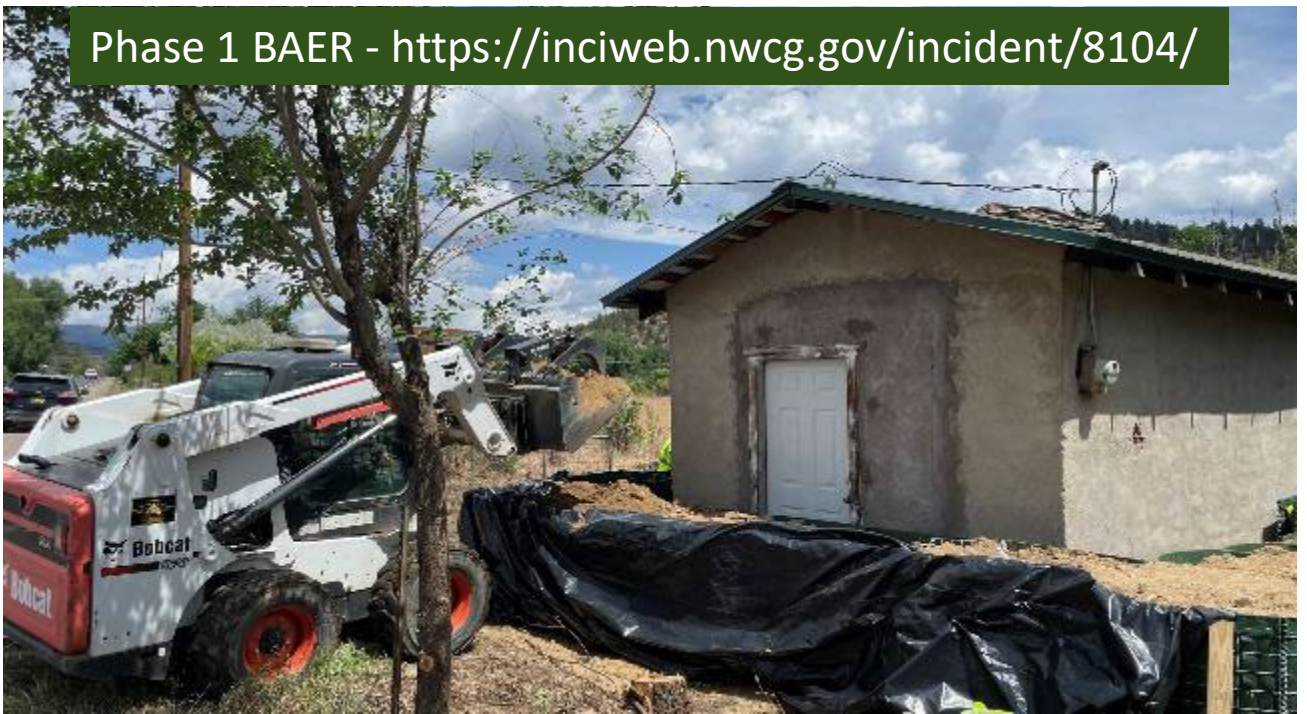
City of Las Vegas Diversion and Delivery Pipe

Structures constructed by USACE to protect Las Vegas water

Hermits Peak / Calf Canyon BAER - Phase II
Soil Burn Severity - 8/14/2022



Phase 1 BAER - <https://inciweb.nwcg.gov/incident/8104/>





The scale of response need is overwhelming

- Capacity is not enough
- Jurisdictions are narrow and won't cover all lands
- Programs are constrained
- "Critical infrastructure" definition is limited
- States and local government left to fill the gaps



Reforestation Approach

Bridge the state's reforestation backlog with seedlings that will mature into trees capable of withstanding the anticipated growing conditions of the future.

- Improve and increase seed collection and storage
- Expand and improve nursery capacity and seedling production
- Improve landscape assessment and site selection to increase seedling survival and tree reproduction
- Use demonstration planting projects to advance reforestation strategies
- Increase monitoring and utilize adaptive management
- \$80 million proposal pending at USDA under the Climate-Smart Commodity program to design and build the New Mexico Reforestation Center (NMSU, UNM, NMHU, EMNRD) and operate it for 5-years
- EMNRD reforestation center planning and reforestation projects



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Gaps and Needs

- Authorities to work across all jurisdictions – ridgeline to valley bottom
- Post-fire risk modeling and accessible data
- Dedicated post-fire funding
- Incident Command System (ICS) for post-fire response and recovery

