Forest Management: Making decisions about the future of your forest

Querencia in Action: Landowner Guide



Start With What Matters to You

The forests and communities of New Mexico have been shaped by fire, weather, animals, and generations of care. Many forests are working landscapes where foundational management practices include harvesting firewood, wood products, medicine, and game, as well as other family and cultural traditions. Because different people may hold different relationships with the same landscape, how we care for it is important.

Most of our forests today are thicker and denser. Combined with drought, these conditions make our forests more vulnerable to catastrophic wildfires and diseases. The question "What should I cut?" can feel complicated, especially after a wildfire, when many trees have already been lost and the instinct to keep what survived feels urgent. Managing forested lands can be a heavy responsibility and an opportunity to steward this valuable ecosystem for future resilience. The first step is to understand what you have, what matters most to you, your family, and/or community so that you can make choices to support the people, plants, and animals who depend on this landscape. There is no single way to "correctly" manage a forest.

You may have several goals for your forested lands, and the goals may be different in separate parts of the landscape. Consider the following goals and priorities listed in the chart below while making your forest management decisions.

Looking at the Whole Forest (Not Just the Trees)

Foresters often divide a forest into smaller areas called stands, or places where the trees and growing conditions are relatively similar. You do not need to identify formal boundaries to use this idea; instead, look for patterns across the entire forest. These patterns tell you something about the landscape and will inform your decisions.

GOALS	PRIORITIES
Protect homes & infrastructure	Reduce vegetation and other hazards around homes, outbuildings, roads, utilities, fences, and other important infrastructure.
Reduce wildfire risk	Manage vegetation and forest conditions to reduce the likelihood of fire reaching or moving through areas you want to protect.
Protect water, soil & acequias	Maintain water resources, protect soils from erosion and disturbance, and consider the health and function of acequias and other waterways.
Improve wildlife habitat	Provide a mix of food, shelter, and safety for wildlife and pollinators—including deer, elk, turkey, birds, rabbits, and squirrels. Recognize the habitat value of meadows and other open areas, too.
Maintain scenic beauty	Protect views and maintain the character and appearance of the landscape you value.
Maintain privacy	Retain vegetation and tree groups that provide screening, shade, and privacy.
Produce firewood or other forest products	Manage trees and woody material for firewood, building materials, fencing, or other forest products.
Encourage forest recovery	Support the recovery of trees, vegetation, soils, and habitat after wildfire or other disturbance.
Improve forest health & resilience	Create conditions that support healthy forests today and help prepare the forest for the next wildfire.
Support family, cultural & community uses	Maintain places and landscape features that have meaning to your family or community and support future generations, recreation, gathering, hunting, or livestock use.
Work with neighbors	Coordinate across property boundaries to reduce wildfire risk and improve forest health while sharing equipment, knowledge, labor, and other resources.
Improve access & firefighter safety	Create and maintain safer access and working conditions for firefighters and other emergency responders during a wildfire or other emergency.

Noticing Forest Patterns

As you walk through your forest, notice when things change:

- The types, sizes, and how many trees you see (e.g. areas with lots of seedlings vs areas with fewer, larger trees)
- The slope and contours of the land
- How different areas respond to wind, rain, fire
- Signs of erosion and bare ground
- Understory plants (i.e., grasses, flowers, shrubs) and wildlife sign (e.g. trails, dens/nests)

Ask yourself:

- Where are the healthiest trees?
- Where is the forest crowded?
- Where are young trees growing?
- Where does water or snow accumulate?
- Which areas do you most often see wildlife?
- Which areas matter to your family?
- Where can you increase safety during an emergency or an evacuation?
- What has changed since you first knew this forest?
- What might this area look like in 20 years? In 50?

Forests are mosaics

Forests can be mosaics, with openings and tree groups of different ages and some grasses, shrubs, and standing dead trees throughout. Many ponderosa pine and dry mixed-conifer forests in the Southwest historically experienced frequent low-intensity fire that created groups of trees of different ages surrounded by grassy meadows. Without regular fire, these forests grow so dense that many individual trees do not get the resources they need. Reducing excessive crowding can reduce competition for water, nutrients, and light. This improves tree vigor, increases the likelihood that trees can survive a future wildfire, and reduces the risks that fire will move into the tree crowns, resulting in high tree mortalities.

Choosing Trees to Keep and Deciding What to Take

Consider keeping...

Healthy, vigorous trees

Look for trees with:

- Healthy, full crowns (live, green needles/leaves and foliage throughout the crown)
- Good growth (healthy new leaves/shoots)
- Strong form (stable trunk and branches with no major structural defects, such as a leaning trunk, large dead limbs, or significant damage to the tree)

These trees can provide shade, habitat, seed, wood, and more.

Seed trees

Keep productive trees that are well adapted to local conditions.

These trees can provide seed for future generations and may carry adaptations shaped by local drought, weather, and fire conditions.

Wildlife trees

Some trees that look "imperfect" are valuable to wildlife. *(See more in Knowing Your Forest.)*

Where safe, consider keeping:

- Nesting trees/roosting trees
- Trees with cavities
- Trees with broken tops
- Trees with witches' brooms
- Some large snags*
- Some downed logs

**A snag is a standing dead tree. Snags can provide nesting sites, shelter, food, and perches for wildlife.*

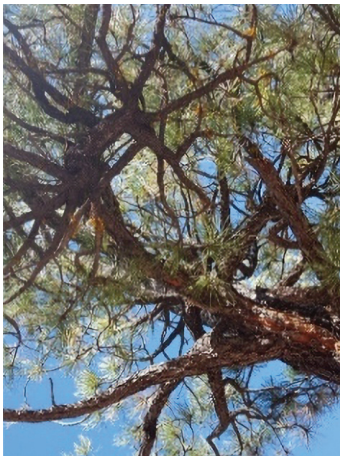
Trees that matter to you

A tree does not have to be ecologically "perfect" to be worth keeping. If a tree matters to you, keeping it can be a legitimate management goal. You may be able to protect an important tree by reducing competing vegetation around it rather than removing it.

Other considerations:

Privacy barriers:

- Retain groups of trees rather than isolated individuals
- Stagger groups of trees with gaps in between
- Maintain vegetation along property boundaries where appropriate
- Balance privacy goals with wildfire risk, especially near structures



Example of witches' broom.
Photo by Carmen Melendez



Wildlife using snags.
Photo by Kathryn Mahan



Hollowed out tree.
Photo by Carolina May

Consider Removing...

Crowded or suppressed trees

Removing some trees can give remaining trees more access to sunlight, water, nutrients, and space.

Diseased, declining, or heavily infested trees

- Trees with severe dwarf mistletoe or other diseases (disease affects tree's growth and health)
- Damaged trees (e.g. blown apart by lightning strikes, significantly damaged by fire, major wounds)
- Trees in decline (sparse crowns, limited new growth, many dead branches)
- Poorly formed trees (severely leaning trunks, heavily crooked stems, unstable trees)

Remember that imperfect trees do not all need to be cut. Consider the tree's location, wildlife value, safety, and your goals before making a decision.

Trees that create safety concerns

- Near homes and other buildings, especially when in dense clusters
- Along roads and driveways
- Near power lines or fence lines
- Near frequently used areas
- With unstable roots or otherwise severely damaged
- Surrounded by ladder fuels

If you are unsure whether a tree is hazardous, get help from a qualified professional.

Protecting Infrastructure

The closer vegetation is to infrastructure (i.e. homes, barns, sheds, fences, roads, driveways, utilities, and other structures), the more important it becomes to reduce conditions that could help fire reach or threaten the structure (see graphic below).

Privacy and shade are important, but vegetation closest to homes should still follow defensible space recommendations.

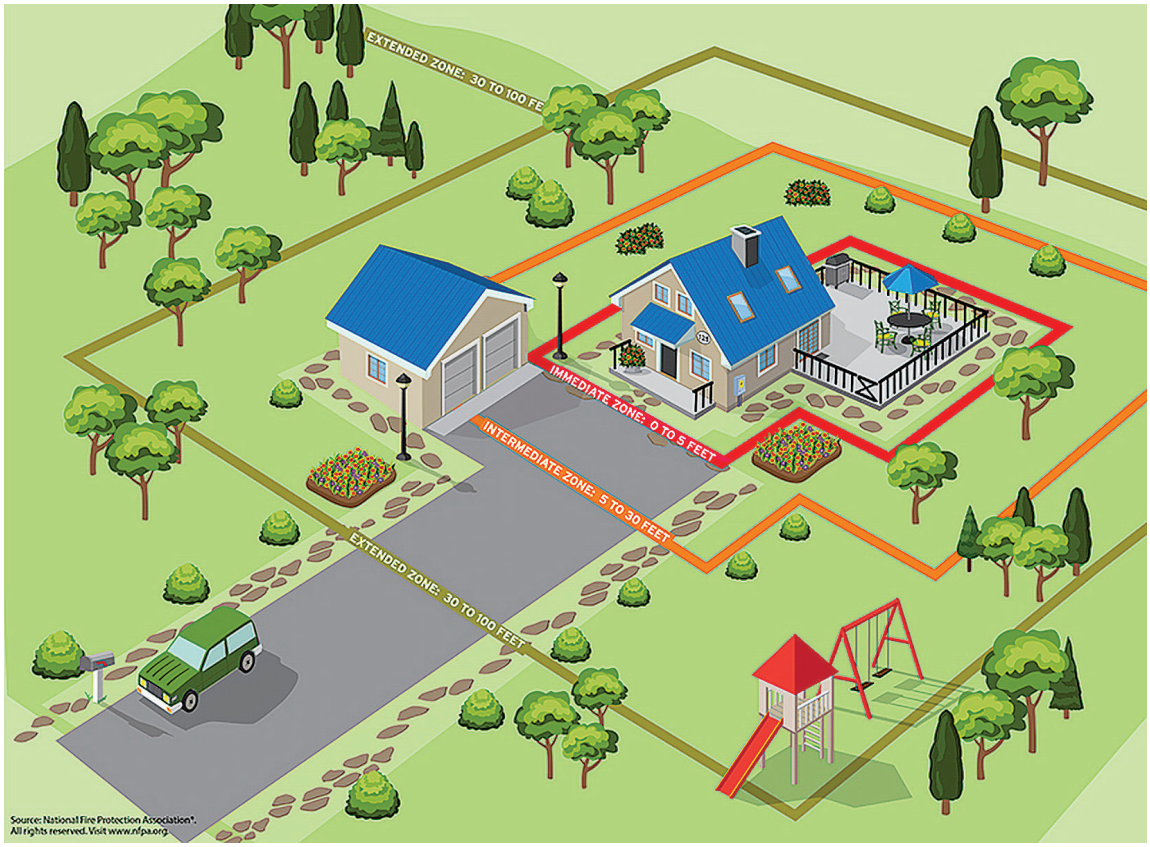
Creating Forest Patterns

Variability creates resilience. *The information we present below comes from research into historical structure and restoration efforts in ponderosa pine and dry mixed-conifer forests of the Southwest. Other thinning recommendations are available for different management goals and forest types.*

Groups: Create groups of trees with similar heights and diameters, which can reduce the chance of fire climbing into the canopy. Groups consist of two or more trees of similar size with interlocking or adjacent crowns and can range from two trees to multiple acres in size. Although trees within a group should be the same size, across the forest, leave groups of varying ages and sizes to protect the next generation.

Tree groups can provide wildlife habitat, protect mature seed-producing trees, provide shade and shelter, support the next generation of trees, and create a more natural-looking forest pattern.

Openings: Create openings in the canopy where sunlight can reach the ground. Openings can be 100 feet to multiple acres



Home Ignition Zones are one way to plan management activities that protect infrastructure. There are different recommendations for the Immediate Zone (0-5 feet), Intermediate Zone (5-30 feet), and Extended Zone (30-100+ feet). Reproduced from NFPA's website, © NFPA 2026. Learn more at: https://www.nfpa.org/education-and-research/wildfire/preparing-homes-for-wildfire



Groups and openings: A resilient forest can include groups of trees of different ages and sizes (from mature trees with full crowns that provide shade and seed sources to saplings and seedlings) alongside open areas with fewer or no trees. *Illustrations by Sarah Friedland*

in size. They can be meadows or grassy areas and may arise from groups of trees killed by wildfire, wind, insects, disease, or drought. Openings reduce competition for water, light, and nutrients, provide grass and wildflower habitat, create space for future tree regeneration, increase structural diversity, and help keep some fire behavior closer to the ground.

Other Considerations: Forests naturally have standing dead trees, or snags, and downed logs. These features can add variability to your forests. Consider keeping 1-2 large snags per acre to serve as wildlife habitat, as long as they do not pose a hazard to infrastructure. Downed logs and branches can provide nutrients for soils and have some wildlife habitat value. Limiting downed wood near structures is recommended.

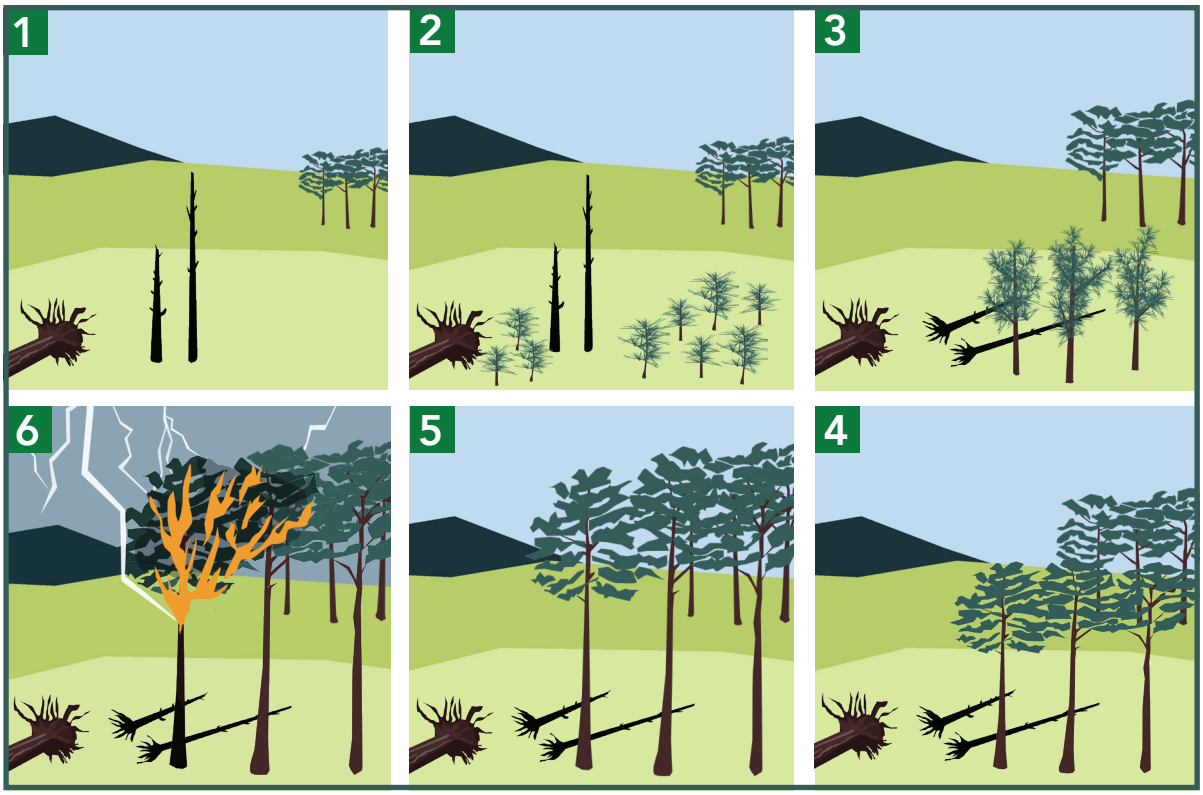
At times, your priorities may take you in different directions. Good forest management is about balancing these to make the best decision available. We present a few examples with tradeoffs below.

Remember, it is okay to take your time. You do not have to make every decision at once. Walk the land and envision what you want



In dense forests, trees are closely spaced, with overlapping crowns and limited space between individual trees. This can increase competition for resources and allow fire to move more easily through the canopy.

If your priority is...	You may consider...	Tradeoff
Wildlife habitat	Keep more snags and structural diversity	Potential hazard trees; higher fuel loads in some areas
Wildfire protection	Remove ladder fuels and thin near structures	Less structural complexity within the forest
Privacy	Retain tree groups or vegetative screening along roads and property lines	May require additional maintenance and careful placement to avoid increasing wildfire risk near structures
Forest restoration	Emphasize groups and openings	Requires maintenance
Scenic beauty	Retain mature trees	Future snag recruitment; fewer opportunities for fire-adapted regeneration
Firewood production	Remove more dead trees	Reduced wildlife habitat



Forests are constantly changing. This example shows one possible cycle: 1. a disturbance creates an opening, leaving snags and downed wood; 2. seedlings establish in that opening in a group; 3. the trees grow; 4. & 5. the trees grow larger and the forest develops; 6. a disturbance, such as a lightning strike and fire, creates a new opening. Because disturbances affect different parts of a forest at different times, a healthy forest can contain openings, groups of many ages and sizes, snags, downed wood, and openings all at once. *Illustration by Sarah Friedland.*

it to look like based on your priorities. Look. Listen. Ask questions. Talk with people you trust. Start with the places that matter most. Work at a pace that is manageable for you considering time, resources, and ability. Ask for help when you need it.

Before You Start Cutting

A few practical planning tips:

1. **Start small.** You can learn a lot by treating a manageable area first, and you do not have to make decisions about your entire property at once. Start with an area that fits your available time, resources, equipment, and experience.
2. **Mark the trees before cutting.** Walk the area several times. Use paint or flagging to identify:
   - Trees you definitely want to keep
   - Trees you are considering removing
   - Trees you are uncertain about - you can always come back to these and make a final decision after careful consideration.
3. **Plan for what happens after the tree comes down**. Cutting a tree creates abundant slash (leftover branches and debris). Have a plan for managing excess material to reduce fuel loading and wildfire risk. Logs and thicker branches can be harvested for firewood. Smaller woody material can be chipped, masticated, or gathered for future pile burns. Cutting trees and leaving slash scattered across the ground can increase wildfire spread.



Thinning marks on ponderosa pine. *Photo by Kathryn Mahan*

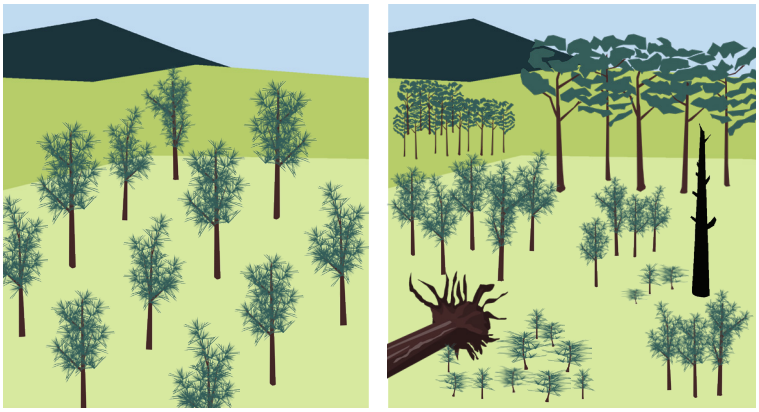
4. **Plan equipment access.** Consider where equipment can enter with minimal soil disturbance. Avoid wet or steep areas. Make use of existing roads and trails if available. A staging area where logs can be blocked and loaded might be worthwhile. If chipping, stack branches for easy loading into chipper; consider where chipped materials can be staged or spread out. Try to chip or masticate days/weeks after cutting rather than months/years later to minimize wildfire risks. Build burn piles in areas that do not interfere with access or threaten trees you want to keep.
5. **Work safely.** Trees can be unpredictable. Do not assume a tree is safe because it is standing. Hazardous tree work should only be performed by people who are trained and have appropriate equipment and experience. If you are not qualified to safely perform hazard tree work, hire someone who is. Be particularly mindful when cutting burned trees which continue to deteriorate and rot over time and can be especially hazardous.
6. **Consider time of year.** When working with areas with bark beetle infestation, cut green trees in the winter months *(See: Bark Beetle guide).*

What about Prescribed Fire?

Prescribed fire can be a difficult subject, especially for people who have lived through a destructive wildfire. It is okay to feel uncomfortable. People can have very different responses to the idea of intentionally putting fire back on the landscape after experiencing

the impacts of a destructive fire. Learning about prescribed fire does not mean you have to use fire on your property. For some, it is not the right tool, while for others, it is part of their recovery. Both perspectives are understandable. In many southwestern ponderosa pine and dry mixed-conifer forests, frequent low-intensity fire was part of the ecological processes that shaped forest structure. Fire can reduce accumulated fuels, recycle nutrients, and create conditions for regeneration. But fire is one tool among many. Forest management tools include:

- Mechanical thinning
- Hand thinning
- Wood products harvesting for firewood, fence posts, latillas, etc.
- Chipping or mulching
- Pile burning
- Prescribed fire



Left: trees thinned to even spacing. Right: groups and openings. Variability creates resilience. *Illustration by Sarah Friedland*

Prescribed fire is not appropriate for every property or every situation. Consider:

- Your goals
- Distance to homes and infrastructure
- Available resources
- Weather and fuel conditions
- Local regulations
- Whether you have trained support

New Mexico has a Certified Burn Manager program that can support learning about prescribed fire. Learn more here: https://www.emnrd.nm.gov/sfd/prescribed-burning/. If you are interested in learning about prescribed fire, start by learning, asking questions, and building relationships with trained practitioners. Workshops and demonstrations can provide opportunities to learn before deciding whether fire is appropriate for your property. Learning about prescribed fire does not mean you have to begin by lighting a fire.



Ponderosa forest after fire. *Photo by Alex Makowicki, NMFWRI*

Where to Get Help/Resources

- New Mexico Forestry Division – technical assistance, https://www.emnrd.nm.gov/sfd/technical-assistance-to-landowners-and-communities/
- Local NRCS Office, https://www.nrcs.usda.gov/state-offices/new-mexico
- Local Soil and Water Conservation District
- NMSU Cooperative Extension, https://extension.nmsu.edu/
- Local forestry professional or consulting forester
- Local fire department or county fire marshal
- Other QIA guides: https://nmfwri.org/stewardship/wildfire-resiliency/
- Fire Adapted New Mexico: https://facnm.org/
- Forest Visualization Virtual Tours: https://nmfwri.org/resources/forest-visualization/
- Forest Pest and Disease Guide from USFS: https://www.fs.usda.gov/sites/nfs/files/r03/publication/ID%20of%20AZ%20and%20NM%202025%20compressed.pdf
- All Hands All Lands Burn Network, https://facnm.org/our-projects/all-hands-all-lands-burn-team
- New Mexico Forestry Division — prescribed burning https://www.emnrd.nm.gov/sfd/prescribed-burning/

Note: Private-land forest management in New Mexico may be subject to state regulations. Check current requirements before beginning a large-scale harvest.

Long-Term Care

Caring for a forest is a long-term process, not a one-time project. Over time, you may need to:

- Revisit your goals
- Plan for additional thinning as trees grow
- Remove new small trees before they become overcrowded
- Manage shrubs and other vegetation
- Maintain defensible space around structures
- Use prescribed fire, where appropriate
- Adapt to drought, insects, disease, and future wildfire
- Conduct other management activities that support your goals.



Long-Term forest management at Bluewater *Photo: Alex Makowicki, NMFWRI*

You do not have to get everything right the first time. Good stewardship includes observing, learning, adjusting, and asking for help.

Next Steps

Once you have thought critically about your goals for your forest and the management tools available to you, it is time to make a decision about your next steps. Forest management is about caring for the land, making thoughtful choices about what comes next, and giving the forest room and time to change. There is more than one way to care for a forest. Your knowledge of this place matters. The knowledge of people who have cared for these landscapes for generations matters. Your experience with fire matters. Scientific information matters. Good decisions can draw from all these ways of knowing while supporting both people and the land.

This guide was produced by New Mexico Forest & Watershed Restoration Institute (NMFWRI) in partnership with the Wildfire Resiliency Training Center, with funding from the USDA Natural Resource Conservation Service (NRCS), USDA NextGen, the Economic Development Administration (EDA) Disaster Recovery Grant Program and the Cooperative and International Programs of the U.S. Forest Service, Department of Agriculture, under the Southwest Forest Health and Wildfire Prevention Act. In accordance with Federal law and U.S. Department of Agriculture policy, NMFWRI, NMHU, WRTC and Luna Community College are prohibited from discriminating on the basis of race, color, national origin, sex (including gender identity and sexual orientation), religious creed, disability, age, political beliefs, and prohibits reprisal or retaliation for prior civil rights activity. NMHU and LCC are equal opportunity employers.

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Contributors: Content Development: Shantini Ramakrishnan, Kathryn Mahan Editors: Crystal Medina, Edward Martinez, Vincent Vispo, Taryn Schlosser, Jax Gaglianese-Woody Design: Sarah Friedland Cover Photo: Carolina May

New Mexico Forest and Watershed Restoration Institute
New Mexico Highlands University

Wildfire Resiliency Training Center
Luna Community College

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