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# New Mexico Sustainable Forestry Business Plan

## This initiative, an OnTrackNorthAmerica project in conjunction with the U.S. Forest Service, powerfully aligns the work of agencies and businesses with local communities' needs, opportunities, and knowledge in addressing the impacts and causes of the massive 2022 Hermits Peak and Calf Canyon wildfires.

## The following is the framework for an action plan—a living document of the community’s collective thinking for advancing the critical conversations and action required to succeed.

# What is the initial objective of the business plan?

## To integrate the ideas and needs of landowners, loggers, mill owners, transportation providers, and the public sector into a commercially viable plan for rapidly scaling up forest restoration, treatment, and processing.

# What is the opportunity?

## The income from multiple value streams can pay for clearing dead timber and thinning green wood, which, in turn, helps pay for forest and watershed restoration.

# What is the next step?

## Completing a “Community Forest-to-Market Action Plan” by April 30, 2023.

# What will this Plan clarify?

## What elements of a complete forest-to-market strategy add up to a viable short-term surge and a long-lasting approach to forest, watershed, and community recovery and renewal?

## What governance and public engagement strategies are most effective for sustaining forest thinning and landscape and watershed recovery?

## How can these strategies be integrated into a durable, holistic solution that positively influences the vitality of rural communities?

# What are the components of the Action Plan?

## Forest recovery and treatment plan

## Optimal harvesting-to-processing plan for multiple value streams

## Stakeholder roles and participation plan (who is doing what)

## Transportation and logistics plan

## Equipment plan

## Month-by-month expense and revenue plan

## Sustaining organization and governance design

# What are the value streams to evaluate?

## Cants

## Lumber

## Wood Pellets

## Wood Chips

## Mulch

## Animal bedding/shavings

## Compost

## Firewood

## Vigas

## Specialty Wood Products

### Flooring

### Furniture

### Fence posts

## Treated Posts

## Latillas (Wood stays)

## OSB and other stranded material

### Oriented strand board

### Wood wool cement

### Carbon fiber-reinforced plastics

## Wood mass to biochar

## Wood mass to energy

## Secondary processing

## Recreation

## Ecosystem services

## Agriculture

### Grazing

### Water supply

## Fire mitigation

## Carbon credits

## Federal and state funding

# Who currently provides forest products and services in the region, and what are their needs and capacities?

## Landowners

## Watershed associations

## Forestry Industry

### Loggers

### Mills/processors

## Trucking and transportation companies

## Land Grants

## Local and Indigenous Peoples

## Local, state, and federal agencies

## Landscape conservation collaboratives

## Environmental entities

## Consultants/experts

## Foundations

## Investors/lenders

## Scientific and research organizations

# Who wants to participate in these efforts to revive our forested landscapes?

# What are the silvicultural prescriptions and feedstock volumes?

## What is the current status of the state’s stand-based inventory?

## What entity owns and manages each forest stand, i.e., federal, state, county, tribal, or private?

## What types of trees and sizes, including species, age, health, stand structure, and photosynthetic activity?

## What are the slopes and aspects (direction)?

## What percentage of the forest is burned or likely to burn soon?

## What is the current condition of the stand and its anticipated condition/deterioration over the coming months while harvesting activity can be scaled up?

## What cultural, ecological, and hydrological values need to be addressed?

## What is the current forest management plan for the entire forest, and is it up to date?

## What is the current forest management plan for the stand, and is it up to date?

## What activity is going on in each forest? What species are harvested? Who is currently harvesting each forest? How does each entity type approach its forestry management activities? Community or Indigenous values or resources?

## Which stands are not being managed to meet the forest restoration goals, particularly overstocking?

## Where is the forest composition relative to historic baseline conditions?

## What was the historic range of variation, and how do we move closer to those conditions?

## What is the silvicultural prescription?

## What are the species, tree sizes, log volumes, and logging residues to be removed based on the silvicultural prescription?

## What quantity and type of byproducts (e.g., forest slash) are generated at each forest? Are they shipped, and if so, where and how?

## What quantity and type of waste products are generated at each forest, and how and where are they disposed of?

## What are the most significant unmet opportunities?

## What material and volumes from each stand need new market solutions?

## Which entities are in the best position for conducting the harvesting activities in each forest, based on multiple factors, including:

### Accessibility, as outlined below

# How do the feedstock volumes add up at the regional level?

## How does each stand relate to other stands in the region such that the aggregate regional volume of common material is identified?

# What do recent forest fires mean to the temporal concerns of forestry?

## How long do we have before burned wood has to be removed and used as timber?

## How long do we have before burned wood has to be removed and used as biomass?

## How does the urgency of ecological restoration demand our focused attention on optimizing existing service providers versus pulling in resources from across the nation?

## What does the surge in harvesting mean for future supply and, therefore, commercial concerns now?

## How can work on the urgent priority areas be done to serve the next set of priorities?

## Is there a basis for installing “mobile” facilities, including new technology-focused ones, that can be moved to other forest regions?

## What are the “Consequences of Delay”?

### See Journal of Forestry, April/May 2004, by Dr. John Sessions et al.

## What is the best treatment of ground cover in the aftermath of fires for the long-term vitality of forests, and how is this integrated into forestry operations?

## How do we address high oak densities post-fire to accelerate recovery to later serial stages?

## What changes in genetic or ecological composition are needed to anticipate climate change?

## What are the best approaches to stump treatment?

## Given shifting climates, what are the desired future conditions for our landscapes, watersheds, and communities?

# How do in-forest logistics assets determine accessibility for harvesting?

## What are the roads in each forest stand, and what entity owns and maintains those roads?

## What are the legal guidelines for road use, construction, and maintenance?

## What are these roads’ conditions, how has fire damaged them, and how are they vulnerable?

## What work is needed on which roads for accessibility to treat forests?

## What are the seasonal characteristics of these roads?

## What are the characteristics of the critical infrastructure elements in the forest? What do we have? What’s missing?

## Where are new roads and cleared land needed to render forest material removal viable?

## Given the characteristics and regulations of the in-forest logistics, what percentage of the forest stands are physically accessible?

## Which entities are in the best position to conduct the transportation activities from each forest?

# What is the composition of the regional infrastructure for forest materials’ logistics?

## What is the region’s publicly accessible road network?

## What is the general condition of forest road access?

## What are these area roads' weight, clearance, and safety restrictions?

## Where are the existing railroad main lines, branch lines, spur lines, sidings, and loading infrastructure?

## Where are the existing rail- and truck-served infrastructure assets for transload, distribution, and storage?

## Who owns each facility and network section, and what services and capacities do they have?

## What is the status of the rail line from Albuquerque to Raton?

### Owned by BNSF

### What level of sub-contract operator might BNSF agree to?

#### Anacostia & Pacific, Watco, Genesee &Wyoming, for example

### Where does freight service currently begin down the line and up the line?

## Where can new rail loading facilities enhance forestry operations and minimize transportation costs and impacts?

## Are these new developments commercially viable, or do they need public subsidization?

# What are the performance characteristics and costs of available equipment types for harvesting, in-forest logistics, and regional transportation?

## What are the harvesting equipment choices?

### See Miller Timber memo.

## What are the transportation equipment choices?

### What are the specifications of the trucks that can be utilized in each stand in support of each material-removal activity?

### What transportation range can each vehicle type be viable?

### What are the equipment costs for each vehicle type?

### What is the status of diesel-alternative energy technology for each vehicle type?

# What existing and new capacity is needed for short- and long-term harvesting?

## Which entities are in the best position to conduct harvesting activities in each forest?

# What is the optimal conception of existing and potential new processing facilities, including mills?

## Where are the in-state and out-of-state timber (lumber, pellets, paper, paperboard, energy, biomass) processing facilities?

## What are the significant barriers to and opportunities for developing supply chains related to conventional forestry products (e.g., firewood, posts, flooring, timber, vigas, etc.)?

## What does each existing facility need to reach its capacity expansion goals?

## How do existing mills fit into a regional strategy?

## How do we coordinate processing capacity for optimal benefit?

## What is the optimal size and location of new processing capacity for conventional products?

## What other value streams can be nurtured to encompass a complete forest treatment-to-market approach, including new uses of biomass for energy and construction materials?

### What are the significant barriers and opportunities associated with developing supply chains related to biomass energy, biochar, building materials, carbon markets, electricity, and other non-traditional uses of forest products?

### How can biomass and other income streams improve the viability of mill operations?

## What inbound freight, such as papermaking chemicals and animal feeds, exists for forestry and connected and parallel industries?

## What new associated product manufacturing facilities are made viable by this coordinated forestry planning?

## What new investments in existing or new technologies can be deployed in the region in the short- and long term?

## Where should new processing facilities with new technologies and products be optimally located?

# What forest materials need additional capacity to be met outside the region?

## Where are the out-of-area wood processing facilities in the west?

## What are their capacities?

## What new logistics solutions and capital are needed for this long-distance transportation?

# What are the non-timber industry benefits of improved thinning and holistic forest management?

## Reduces future fire risk and improves ecological function

## Accommodates human access and enables ecological and watershed restoration

## Improves balance between juniper and pinon pine for healthier ecosystems

## Stabilizes the soil and restores the landscape

## Increased downstream stream flow from forest thinning and fire recovery treatment mitigates drought and climate change and improves water access for agricultural producers

## Improves wildlife habitat and diversity

## Facilitates grazing and other traditional lifeways

## Advances livelihoods consistent with local and Indigenous values

# What community factors should be identified and weighed in decision-making?

## What demographic and economic dynamics of nearby communities should inform the project, e.g., population demographics, primary industries, unemployment, and economic conditions?

## What other related industries in the region should be considered in tandem with the forest products logistics strategy, e.g., mines, mills, oil, gas, renewables, agriculture, and manufacturing?

## What are the economic development goals of the local communities?

## Which communities and residents should be included in evaluating and siting new facilities and infrastructure?

# What governance and commercial innovations are needed to sustain this collaboration?

## How do we best integrate local and Indigenous values into our process?

## How can relations with and between local, state, and federal governments be improved?

## What new governance arrangements need to be undertaken to create these improvements?

## What corporate or coop structures are needed to reflect holistic, collaborative frameworks?

## Who should be seated at the table, and how is it organized?

## How do we fund whole communities and not just individuals, businesses, homes, and landowners?

## What financial and logistical support is sensible to be funded by the state of New Mexico and the federal government?

## Through what public-private partnership can the completion and implementation of the Action Plan be supported?

## What do agencies need to enable them to share or devolve power or authority to non-governmental or collaborative entities?

## What are state or federal entities' major fiduciary and statutory requirements?

## What governance arrangements are needed to meet these state and federal requirements?

## How do we address inurement prohibitions in organizational structures?

# How do the financial elements of this forest-to-market solution add up to an economically viable, culturally informed, and environmentally-sound approach for everyone involved?

# What are the needs and opportunities for investors in this Forest-to-Market Community Action Plan?

# Who are the investors that want to make these investments?

# What questions are we asking specific stakeholder groups, and what have they contributed so far to the collective thinking?

## Local and Indigenous peoples

### How does forest and watershed renewal align with your values and lifeways?

### What opportunities or threats do you see to your values and lifeways from our approach or the status quo?

### How can newer, more efficient, diversified approaches to forestry further your values or interests?

### How do threats from previous or potential wildfires impact your culture and lifeways?

### What opportunities, threats, or disadvantages do you see from a regional forestry strategy

## Landowners

### Forest management

#### What are the primary land stewardship issues landowners face?

#### What quality of life goals do we want front and center in a regional forest-to-market approach?

#### What environmental concerns do we want to address in a regional forest-to-market approach?

#### What assistance is needed for relating to the state and federal government more effectively?

##### What are the issues in accessing state and federal funds?

##### What are the management plan challenges?

##### What are the issues in assessing loss?

##### What are the issues in implementing fire recovery approaches?

##### How can we relate most productively with The Enchanted Circle and other landscape cooperatives?

#### What is the status of each landowner’s forest management plan?

#### What is the total forestry harvesting volume needed to be done annually?

#### How much new labor is needed?

#### What are the opportunities to manage shared equipment?

##### Burn wagons

##### Firewood processing gear, Los Alamos

##### Trucks

#### What are the opportunities to establish collective forest treatment contracts?

#### Which log roads need maintenance?

#### How do we better integrate stewardship of public and private lands?

##### Let’s connect with the New Mexico State Lands Office

#### How can smaller landowners participate in this Action Plan?

#### How do we integrate federal recovery funding granted to individual landowners into a coherent strategy?

### Market development

#### What challenges identifying contractors need to be addressed?

##### Bonding and legitimacy of payroll protocols render many small contractors ineligible for government funding

#### What challenges identifying markets for what materials need to be addressed?

#### Which forest material has proven to be easier to find contractors?

#### What issues with contractors need to be addressed?

#### What issues with processors need to be addressed?

#### What types and volumes of material need new local processing capacity?

#### Which forest material needs a costs-for-services agreement?

#### What innovations in wood-to-energy, wood-to-biochar, and wood-to-new products should be further evaluated?

#### Where should new milling capacity be established?

##### What are the implications/limitations of weather on the location choice?

###### Jonathan Grassmick suggested the benefit of a new mill in Eagles Nest but agreed that the Cimarron location is excellent, or Wagon Mound.

##### What are the implications of elevation and grade direction to the location choice?

##### What are the implications of the road network on the location choice?

#### What entity and organizational structure best supports this overall forest-to-market system?

##### What involvement of the large landowners should be considered?

###### Volume guarantees

###### Investment in facilities and infrastructure

###### Short-term advances against costs reimbursed by product supply

#### What concerns for privacy, confidentiality, and appropriate treatment of information need to be addressed within a collaborative planning process?

#### What education for landowners is needed?

#### How can we establish a fair and impartial process for timber valuation?

#### What elements would comprise a productive and fair regional forest material “exchange”?

### Fire prevention and mitigation

#### How can prescribed fire be used productively and safely as a management strategy?

##### How is fear of fire handicapping our effectiveness?

##### How can we improve the process for obtaining burn and smoke permits?

##### How can we coordinate a regional fire management strategy?

###### How do each landowner’s priorities fit into the larger landscape approach?

#### How do we use geospatial information to guide fuel break locations and related strategies?

##### What are the optimal uses of fuel breaks within the overall forest management strategy?

##### What factors need to be incorporated into a fuel breaks strategy?

###### Where are the prevailing winds?

###### What is the optimal scale of prescribed burns?

What are the associated costs at various scales?

#### Where are the optimal locations to focus forest thinning activities?

### Burnt forest issues

#### What has to happen for soil and erosion control?

#### What can be done with the forest slash safely and viably?

#### What are the uses of burnt forest material?

#### What is needed to restore the roads?

#### What is needed to restore the acequias?

#### What is needed to restore the fences?

#### What is needed to restore the water system?

### What are the trespass issues that need to be addressed?

#### ATV

#### Poaching for game

#### Taking firewood

#### Partying

#### Vandalism

### What are the infrastructure elements of a forest-to-market system?

#### Harvesting services

#### Harvesting equipment

#### Trucking

#### Wood sorting yards

#### Mill and processing capacity

#### Capitalization

### Questions for individual landowners

#### Is the high density of burned or unburned trees a severe challenge on your lands?

#### What concerns about how adjacent forests to your lands are being managed?

#### What harvesting activity are you doing now, and how?

#### What are your on-staff and available contracting capacity for forest harvesting?

#### How many acres would you treat if a viable approach were developed within this comprehensive forest-to-market strategy?

#### In what timeframe do you want to have this acreage treated?

#### How do you want to participate in the Action Plan development?

#### How do you want to participate in the Action Plan implementation?

#### What is your political influence, and what can we activate as a group?

#### Will you engage with OTNA to make a case for this Action Plan with decision-makers?

#### Will you contribute financially to this effort?

#### Will you agree to this participation agreement?

##### I promise to respond to the OTNA emails or phone messages within 48 hours or sooner when time is of the essence.

##### I promise to invest up to 1-2 hours a week when asked to read and write so that my input effectively contributes to this effort.

### What else needs to be investigated?

#### Wood-fired boiler systems unused in:

##### Ft. Baird, outside of Silver City

##### Santa Fe Community College

##### The Jamez Schools

## State and federal forestry staff

### Administrative

#### What role do we want the OTNA to have in the “Timber Industry Task Force" or “Line of Effort”?

#### How does the wood products industry line tie into the Forest Service Planning Rule 2012? We just completed Forest Plans under this rule for Carson, Santa Fe, and Cibola NF. Please review those since that’s the basis for all site-specific project planning under NEPA and decisions. Or other collaborative or ecosystem planning efforts?

#### How do we most productively synch with other lines of effort?

#### Are the new Forest Plans completed in 2022 the best framing, or are there other legal guidelines we should be following? In essence - how do we best tie into your existing frameworks?

#### How do you suggest OTNA collaborate with other large landscape and community forest conservation efforts?

#### How does OTNA tie in with the 2020 New Mexico Forest Action Plan?

#### What funding or other support opportunities can we tie into, and how can state and federal agencies assist?

#### How do we assist state and federal agencies to attain funding and logistical support?

#### What misinformation is a challenge, what information do you need to spread, and how can we use our networks to inform and educate the public and decision-makers?

###  Current Efforts Assessment

#### How do we build upon and augment the legacy and ongoing collaborative landscape-scale forestry efforts already underway?

##### There needs to be a mapping of this, which already exists with the New Mexico Highland Institute.

#### Specifically, which programs do you suggest building on, and what models do you suggest we emulate among local initiatives and national programs?

##### This is addressed by the [NM State Forest Action Plan](http://www.emnrd.nm.gov/sfd/wp-content/uploads/sites/4/NMFAP_2020_v1-1_2021_03_12b_web.pdf), which was based on Shared Stewardship agreements with New Mexico. Much effort was expended in defining risks and priority areas/lands. The question is, how does this proposal build off the priorities and landscapes already defined?

#### What pitfalls should be avoided - what has worked and what has not?

#### What can we learn from the experience of the recent fire mitigation and recovery efforts going forward?

##### How can the NM Forestry Division and the U.S. Forest Service improve their collaboration toward shared goals?

#### What is the most appropriate balance between post-fire recovery and future fire mitigation?

#### What assessments of existing industry barriers and needs have already been completed, and when?

##### What was identified as needs at the recent NMFIA industry roundtable?

### Private Land Coordination

#### How are private lands best integrated into these state and federal planning efforts?

#### How can progress on private lands assist the overall forest management and stewardship goals?

#### How can the USFS and NMFD assist in the stewardship of private lands?

#### How can we better synthesize public and private land stewardship?

## Forestry industry leaders

### How can we improve how federal agencies handle forest material?

#### Bid before harvesting so it can be cut to the right lengths

#### FEMA has no connection to forest companies and landowners, chopping material into 4-6’ pieces

### How do we level the playing field between large national and local contractors?

### How can we improve communications between the local forest industry and state and federal agencies?

#### New Mexico Forestry doesn’t go out and close the sales promptly on state and private lands

#### How do we establish communications between the USFS and the timber industry?

### What federal policies concerning forest management need to be re-evaluated?

#### NEPA exception in devasted landscapes and Federal Disaster Zones

#### Archaeological sites are already known, and have typically already been damaged, Ralph

#### NEPA needs to be streamlined

#### 1990 Roadless Act, Bill Clinton admin, requires using main roads only

##### Carson National Forest and the Bridge Road area had 100,000+ Latillas that could have been harvested, but for the closure of the roads

#### They need to take a whole forest management approach

#### The prohibition against salvage alongside forest treatment has to be removed

#### The federal agencies are involved in recreation, FEMA, fire recovery, environmental, and wildlife and aren’t coordinating

#### Take firefighting out of a measure for forest treatment,

#### Need equipment loans to cover operating capital, FSA loans are capped, stringent requirements, 150% collateral

### How can we improve communications and understanding with the environmental community?

#### Recognize loggers as environmentalists.

### How can we improve how landowners relate to forest treatment and your businesses?

#### Need to address small landowners’ burned trees near their homes

#### Communication and Education

#### Forest treatment for material contracts

#### Utilize the logging and mill owners to educate the landowners and others

#### Establish a pricing and material volume shared marketplace hub

### What other challenges in doing your work do we want to address?

### What capacity increases would you like to be capitalized for?

### What shortcomings do you find in how banks relate to you?

#### There are no local banks that offer standard equipment financing

#### Need new low-interest/reasonable-interest equipment loan fund

#### Banks don’t understand the non-equipment capital needs

#### Need a new source of collateral and guarantee

#### Need a method for valuing wood inventory

#### Need to be considered an ag industry

### In addition to capital, what else do you need to grow?

### What are the opportunities to share and coordinate equipment across your businesses?

### What are the opportunities to share and coordinate wood supply contacts and relationships across your businesses?

### What are the opportunities to coordinate forest activity across your businesses?

### What concerns about this cooperation do you want to make sure are addressed?

### What are your other concerns about the current system, and how can it be improved to better assist you in expanding your work?

### How can we address the need for more skilled labor, operators, and managers?

#### Environmentalists have to stop stigmatizing logging

#### Ponsse has a simulator in Northern Colorado

### How can we address the need for additional employee housing?

### How can state and federal financial and logistical support better serve your needs?

### Based on what you understand about t, do you want to participate actively? That means 1-2 hours a week of reading Action Plan sections and writing your responses.

### Based on what you understand about this initiative, do you want the state and federal governments to embrace and support the project?

## For local public sector and community leaders

### How have the recent fires impacted your community and your work?

### What goals would your community want to see advanced from this forestry action plan?

### What concerns do you want to ensure are addressed in this Action Plan?

### What resource limits need to be addressed for this initiative to be successful? Potential issues include, but are not limited to:

#### Housing

#### Labor force

#### Road capacity

#### Transportation networks

#### More effective and relevant state and federal support

### What adjustments to your current role or mission would enable you to focus more on long-term collective benefit?

## For environmental groups

### How do you define and conceive forest and watershed health?

### How does forest and watershed health impact your work and programmatic mission?

### How have the recent fires impacted your mission and operations?

### What are the significant barriers to improving forest and watershed health?

### What are the significant opportunities for improving forest and watershed health?

### What concerns for the vitality of the environment, watersheds, and wildlife do you want to have a role in addressing within this forest-to-market strategy?

### How can your organization support a positive view of forest workers as environmental stewards?

## For foundations and philanthropists

### What forest and watershed issues are the region’s most significant challenges?

### How have the recent fires impacted your actions and role?

### What needs are not being addressed under the current system?

### What would help you make your work more effective?

### What resources can you provide to this Initiative, and what questions and guidance do you have toward applying those resources?

## For new technology developers

### What is the technology that could be productively included in this Initiative?

### What are the current status of your technology and its deployment?

### What capital or support is needed to advance your technology?

## These are general questions all stakeholders should answer.

### What resources do you have in your control that may be helpful to this Initiative?

### What resources do you know outside your control that you want to ensure we are aware of?

### What resources do you want assistance accessing?

### What is your vision for how the federal government, the state, and the region should relate to this Initiative?

### How do you want to participate in this Initiative?