**Susana Martinez**
Governor

**David Martin**
Cabinet Secretary

**Tony Delfin, Division Director**
State Forestry Division

**Brett F. Woods, Ph.D.**
Deputy Cabinet Secretary

## MEMORANDUM

TO: Cal Joyner, Southwest Regional Forester

FROM: Tony Delfin, New Mexico State Forester

DATE: November 19, 2015

RE: New Mexico Forest Action Plan Five-Year Review and Future Updates

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The New Mexico Energy, Minerals and Natural Resources Department – Forestry Division is submitting the following items to U.S. Forest Service Region 3 for your review, pursuant to the memo from James Karels and James Hubbard dated February 6, 2015.

- Statewide Forest Resource Assessments and Strategies (State Forest Action Plans) Requirements Checklist for New Mexico
- A Forest Action Plan Review Report which contains:
- A brief summary of implementation highlights from 2010 to present, tied to the three national priorities.
- A brief summary of implementation challenges encountered 2010 - present.
- A description of the Division's implementation focus for the next five years.
- A list of data needs and of new issues revealed since 2010.
- A description of the Division's informal check-in with stakeholders regarding plan implementation.
- A new National Priorities section describing actions contributing to the three national priorities. See Addendum 1.
- A Summary Sheet listing addenda developed in advance of the 2020 FAP Update
- Draft Addenda

**New Mexico Forest Action Plan: Report on 2015 Internal Review and Plans for 2020 Update**

The New Mexico Energy, Minerals and Natural Resources Department Forestry Division conducted a review of the 2010 New Mexico Statewide Natural Resources Assessment and Strategy and Response Plan (a.k.a. Forest Action Plan, or FAP) between February and November of 2015. This report describes the outcomes of that review and contains the following items:

- A synopsis of the review process and descriptions of actions taken and planned by the Division
- A brief summary of implementation highlights from 2010 to present, tied to the three national priorities
- A brief summary of implementation challenges encountered 2010 - present
- A description of the Division's implementation focus for the next five years
- A list of data needs and of new issues revealed since 2010
- A description of the Division's informal check-in with stakeholders regarding plan implementation.

**The 2015 Review Process**

The Division formed a team of unit leaders and program managers to review the 2010 Forest Action Plan and recommend changes and updates needed. The Division plans to publish a fully updated Forest Action Plan in 2020. In the interim, the Division will post changes made to clarify or revise outdated information on the State's Forest Action Plan web page at http://www.emnrd.state.nm.us/SFD/statewideassessment.html. The required new National Priorities section will also be posted online.

The review team identified some sections of the 2010 FAP with out-of-date or incomplete information. The Division is drafting addenda that address the issues and will post those on the Forest Action Plan web page as they are developed. These sections of the FAP will be rewritten to incorporate the updated information in the 2020 Update.

The Division produced addenda clarifying FAP sections as part of this review process. The addenda contain new information that has become available since 2010, and identify expanded opportunities for action in these program areas.

The Division revised Table 3, which aligns the Strategy and Response Plan with the national themes as adapted by the State, to update content and make it more user-friendly. The timeline was changed to cover the years 2016-2020. The original table included two columns with extensive lists of the programs and partners associated with each strategy. Those columns were deleted from the revised Strategies Table. Instead, two new, separate tables were created that cross-walk the strategies to updated lists of Partners and Programs. This revision allows the Division to keep the lists current without having to update the Strategies Table each time a program changes or a new partnership is formed.

The most-used resources in the FAP are the theme-oriented priority maps and the core data models used to develop them. Subject area experts on the team and the Division's GIS Specialist reviewed each of the eight core data models. The GIS Specialist evaluated all of the spatial data layers that were used in the core data models for availability, updates, problems and provenance, and made recommendations for actions the Division could take based on his findings. Recognizing the cost and time required to revise all the models, the team decided to prioritize updates by information needs and availability of

new spatial data. The Division will contract out for assistance with complete updates of all applicable models and priority maps as part of the 2020 update.

The review team began looking at other states' Forest Action Plans to see if different formats would improve clarity and ease of use by readers outside of the Forestry Division. The Division will be evaluating new format and layout options as part of the 2020 Update process.

Planned actions and timeline for the 2020 Update are attached.


## Implementation Highlights

At the convening of the 2014 legislature, Governor Susana Martinez declared 2014 the Year of Water and signed legislation that provided $6.2 million for a new Watershed Restoration Initiative. In the 16 months since those funds became available, the State and its partners have undertaken fifteen separate projects covering 7,700 acres in 14 watersheds identified as high priority in the NM Forest Action Plan. Four of them have already been completed.  Several of these projects were conducted on federal lands.

The effort was expanded in 2016 with approval of another $3.5 million to fund watershed restoration treatments as well as communities at risk projects. The commitment of state dollars leveraged $5 million more in federal funds through the NM Department of Game and Fish. An additional 11,000 acres will be restored with the new funding.

Over the past five years, the Division's wildland fire program continued to provide assistance to federal, state, and local fire agencies. This assistance was in the form of monetary grants for rural and volunteer fire departments for equipment, apparatus, and training. In the last five years 230 separate wildland fire training sessions were held, with 4,118 firefighters attending. The wildland fire program continued its suppression efforts and support both here in New Mexico and to wildland fire incidents across the country.

Following a successful pilot program in 2013, Governor Susana Martinez signed into legislation a new wildland firefighting program in 2014 with the goal of providing U.S. Armed Forces veterans with the training and opportunity to fight wildland fires. The program, named the Returning Heroes (RHP), has been utilized for both in-state fires and incident support across the West for the last three years. In early 2015, the RHP gained 12 full-time employees to act as crew supervisors and administrative staff to seasonal firefighters on both fire assignments and forest management projects. Since the program's inception, the Division has employed 130 veterans, conducted nine wildland fire suppression trainings for 91 firefighters, and treated 64 acres of forested land on two projects.

EMNRD Forestry Division developed and launched "After Wildfire: A Guide for New Mexico Communities" in June 2014 in response to a request from residents struggling to deal with the aftermath of wildland fires and post-fire flooding. The online guide was produced through a collaboration between New Mexico State Forestry, USACE, USFS, NRCS, New Mexico Association of Counties and private sector volunteers. It includes information to help individuals and families as well as leaders in communities impacted by wildfire start on the path to recovery. It has sections on immediate safety, how to mobilize your community, who can help, fundraising and financial tips, where to find additional resources, and peer-reviewed information about post-fire treatments for the land.

**Implementation Challenges**
- o Land status issues (challenges with the landowner/manager)
  - ▪ The Division does not own or manage land within New Mexico, and has had sustainable success working with partners. However, the very process of having to work with outside agencies can be a challenge. Each partner has their own process for implementing projects, and delays a partner incurs inhibit timely implementation.
- o Delays/costs of Environmental and cultural clearances
  - ▪ As the Division partners with federal agencies, environmental analysis and cultural & historical clearances are often prerequisites for being able to implement projects due to federal regulation. If these clearances have not occurred, it could at best delay a project; at worst, it prevents the project from being implemented.
- o Increased forest management activities and demands on staff
  - ▪ With increased public awareness of the threats to New Mexico forests comes an increased demand for active forest management. However, the Division's staffing levels remain reasonably constant. Managing multiple program areas and projects with limited staff requires efficient prioritizations and partnerships.

**Focus for 2016 – 2020**

Over the next five years, New Mexico State Forestry Division will focus on maintaining and increasing the momentum gained recently through development of the state's Watershed Restoration Initiative. Working with our private and public land management partners, we will improve the health of priority landscapes and restore New Mexico's forests to a more resilient condition. The Division's relationships with its partners are crucial to meeting our objectives because of the collaboration required to implement projects across jurisdictional boundaries. Fortunately, we already have work agreements in place with the major public land agencies. These agreements, originally developed for the Watershed Restoration Initiative, allow the Division to conduct projects on public lands in accordance with a variety of regulations, thus creating the opportunity to support contiguous, high-acre treatments. Additionally, strengthening our relationships with private and public partners means that all parties can assist each other to achieve both short-term (completion of a specific project) and long-term (completing multiple projects in a high-priority landscape) management goals.

The Division will continue to improve, restore, and protect the state's natural resources by employing Forest Action Plan strategies aimed at strengthening other crucial program areas as well. One of those is the Endangered Plant Program, which is just beginning the process of developing a Rare Plant Conservation Strategy. Similar to the State Comprehensive Wildlife Conservation Strategy/Wildlife Action Plan, the development of a Rare Plant Conservation Strategy will provide consistent guidelines for the management of New Mexico's rare plants and their habitats for all stakeholders. A collaboratively developed Strategy will provide a framework for prioritizing conservation actions and soliciting funding from outside sources to support implementation of these actions, as well as reduce potential conflict by providing proactive conservation measures and guidelines. The Rare Plant Conservation Strategy will promote stewardship of New Mexico's rare and endangered plants and provide proactive conservation actions to document current population status, address population declines and habitat loss, and provide management tools and actions required to preclude the need for federal listing and to achieve recovery of some of the most imperiled species in the state. A priority task for the development of the Rare Plant Conservation Strategy is the development of a list of plants of

highest conservation need and developing a statewide map of Important Plant Areas. This will provide the framework for prioritizing sensitive areas for conservation management and to protect sensitive species during project planning, including prescribed burning and forest thinning.

Urban and Community Forestry is another program area in the process of ramping up its scope and effectiveness. The New Mexico UCF Program continues to work to empower communities to develop and sustain healthy community forests for the benefit of our citizens and the environment. Working with the New Mexico Urban Forest Council, the UCF Program is currently updating the 5-year UCF Strategic Plan to reflect accomplishments and challenges ahead. One of the primary focus areas was the "Growing Healthier Communities" project, a multi-region collaboration of New Mexico, Texas and Arizona that provides valuable information on the ecosystem services and associated economic benefits provided by our desert Southwest community forests. The data collected in Albuquerque, Las Cruces, El Paso, and Phoenix and analyzed using the i-Tree Eco software will continue to be used to promote policy change and strategic use of urban forestry statewide.

The Division will update the New Mexico Forest Action Plan using new data to refine the core models and priority maps. The update will incorporate partner and stakeholder input regarding statewide priority landscapes. Objectives and strategies will be designed around the National Priority themes as adapted by the state and aligned with the three Cohesive Strategy goals.


**Data Needs and New Issues**
Upon completion of the *2010 New Mexico Statewide Natural Resources Assessment*, our planning team had handled nearly 80 individual layers of data, and developed 8 core data models, 12 statewide priority landscape maps, and 25 regional priority watershed maps. Yet, we all agreed that one of our strongest accomplishments was a comprehensive analysis of the data gaps that New Mexico needed to fill to have quality information. Better data will tighten our ability to objectively identify priority landscapes and guide our multi-jurisdictional collaboration towards achieving resilient ecosystems resistant to changing climates and major disturbances. With that in mind, each technical team identified and prioritized data gaps that are detailed in the *Data Atlases* for the *Assessment.*

In the past five years, much progress has been made toward filling these data gaps. One critical database was the 3-year collection of 8 panels of Forest Inventory & Analysis data; a national database that underlies many tools including Forest Vegetation Simulator and LANDFIRE which both underlies various modeling tools.

For a three year period, from 2010-2012, the New Mexico Forestry Division utilized contractors to collect Forest Inventory and Analysis (FIA) data in New Mexico. Funded through the American Recovery and Reinvestment Act, the State partnered with the Interior West FIA Program. Together, both agencies collected data on approximately 6,450 plots. This effort represents the largest statewide inventory of forest and woodlands to date for New Mexico. The data collection schedule deviated from standard FIA protocols of collecting annual panels of data each year; in contrast, this project collected data on an accelerated, compressed schedule that rapidly produced a current and comprehensive forest inventory dataset.

The 2010 FAP identified two significant data gaps for the urban forest: statewide urban forest health data to inform strategic urban forestry management decisions, and high-resolution tree canopy data to allow urban forest ecosystem impact analysis. While a 'Green Infrastructure' model was developed for

the 2010 FAP, it was excluded from defining statewide priority landscapes due to lack of confidence in the model. Since 2010, notable progress has been and continues to be made collecting urban forest health data, developing higher resolution urban data layers, and analyzing urban forest ecosystem service impacts (such as public health, air quality, urban heat island effects, and storm water runoff). A goal is to identify a replacement 'Green Infrastructure' model for the 2020 FAP update that can be used to prioritize urban forest expansion to meet communities' ecosystem service needs. It is anticipated that sufficient data may exist only for the Middle Rio Grande region, with significant data gaps remaining for much of the state.

Much of the existing data on rare plant distribution is historical and therefore outdated. Current data collection and mapping is key to a meaningful model. Add a model for important plant areas, including occurrence data and potential habitat. Rare and unique native plant communities and their habitat are swamped out in importance in the biodiversity model by animal focused layers. A separate model would highlight areas important for native & rare plant conservation.


**Check-in with Stakeholders**
The 2016 FAP review and the planned 2020 update was presented to the Forest and Watershed Health Coordinating Group/Drought Task Force Watershed Management Subcommittee and the Forest Stewardship Coordinating Committee.


**List of addendum items:**

- National priorities section
- Strategy and response plan
- Priority landscapes map
- FAP spatial layer future update discussion

# 2020 FAP Update Timeline

| EMNRD Forestry Division 2020 Forest Action Plan Update | Project Start Date 4/1/2016 | Project Completion Date 6/30/2020 |
| --- | --- | --- |

| TASKS/MILESTONES | 2016 | | | 2017 | | | | 2018 | | | | 2019 | | | | 2020 | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 2nd Quarter | 3rd Quarter | 4th Quarter | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter | 1st Quarter | 2nd Quarter |
| | A M J | J A S | O N D | J F M | A M J | J A S | O N D | J F M | A M J | J A S | O N D | J F M | A M J | J A S | O N D | J F M | A M J |
| 1. Finalize priority landscape data sets and complete FAP addenda items. | | | | | | | | | | | | | | | | | |
| 2. Analyze availability and feasibility of core data model updates. | | | | | | | | | | | | | | | | | |
| 3. Contract FAP update elements | | | | | | | | | | | | | | | | | |
| 4. Conduct stakeholder meetings | | | | | | | | | | | | | | | | | |
| 5. Finalize components and layout | | | | | | | | | | | | | | | | | |

## Statewide Forest Resource Assessments and Strategies (State Forest Action Plans)
## Requirements Checklist for *<insert State/equivalent>*

State Forest Assessments and Strategies must be submitted to the USDA Forest Service Region/Area/IITF, with this check list signed by the State Forester. Federal review will focus on the requirements as outlined in the Cooperative Forestry Assistance Act SEC. 2A. [16 U.S.C 2101a], as amended by the 2008 and 2014 Farm Bills.

**Submitted by the State Forester:** Name: _____7DM_____ Date: 11-12-15

*State Forester certifies the required elements below are included. USFS Region/Area/IITF will fill out the checklist.*

**Statewide Forest Resource Assessment Includes:**
The conditions and trends of forest resources in the state .................................................................... Yes ☐ No ☐
The threats to forest lands and resources in the state consistent with national priorities ................... Yes ☐ No ☐
Areas or regions of the state that are a priority .................................................................................... Yes ☐ No ☐
Any multi-state areas that are a regional priority ................................................................................ Yes ☐ No ☐

**Statewide Forest Resource Strategy Includes:**
Long-term strategies to address threats to forest resources in the state* ........................................... Yes ☐ No ☐
Description of resources necessary for state forester to address state-wide strategy* ...................... Yes ☐ No ☐

*Can be presented in a strategies matrix with columns for (a) programs that contribute, (b) resources required, (c) national objective it supports, and (d) performance measure(s) that will be used for each strategy.*

**Stakeholder Groups Coordinated with for the Statewide Assessment and Strategy:**
*Note: this can be identified in the body of the documents or in an appendix.*
State Forest Stewardship Coordinating Committee (required) ............................................................ Yes ☐ No ☐
State Wildlife Agency (required) ......................................................................................................... Yes ☐ No ☐
State Technical Committee (required) .................................................................................................. Yes ☐ No ☐
Lead agency for the Forest Legacy Program (if not the state forestry agency) (required) ..... N/A ☐ Yes ☐ No ☐
Applicable Federal land management agencies (required) ................................................................... Yes ☐ No ☐
Military installations (as appropriate and feasible) ............................................................................ Yes ☐ No ☐

**Other Plans Incorporated in Statewide Assessment and Strategy:**
Community wildfire protection plans (required) .................................................................................. Yes ☐ No ☐
State wildlife action plans (required) ................................................................................................... Yes ☐ No ☐
Other ..................................................................................................................................................... Yes ☐ No ☐

**National Priorities:**
Narrative description of actions and success stories contributing to 3 national priorities ................ Yes ☐ No ☐

**Forest Legacy Requirements Included** (for States with a Forest Legacy Program) ......... N/A ☐ Yes ☐ No ☐
All required Forest Legacy components are in the Assessment and/or Strategy or attached as an appendix, including Eligibility Criteria to identify Forest Legacy Areas, delineation of Forest Legacy Areas, and outline of the State's project evaluation and prioritization procedures. These elements are reviewed by the USFS Region/Area/IITF Forest Legacy Program staff as part of the assessment and strategy certification process.

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*Review by USFS Regional Forester, NA S&PF Director, or IITF Director (as relevant):*

☐ **Deemed Sufficient (all requirements met)**
    Comments:

☐ **Deemed Not Sufficient (missing one or more requirements)**
    Corrective Action(s) Necessary to Meet Sufficiency Requirement:

**Certified by Regional Forester/NA/IITF Director:** Name: _____ Date: _____

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**DECISION BY USFS DEPUTY CHIEF FOR STATE & PRIVATE FORESTRY:**
*Approval authority delegated from the USDA Secretary.*       **Approve:** ☐   **Disapprove:** ☐

USDA Forest Service, Deputy Chief for State & Private Forestry, Name: _____ Date: _____

# New Mexico Forest Action Plan
## National Priorities Section - Update Report
## State of New Mexico
## 2015

The 2008 Farm Bill, under Title VIII – Forestry, amended the Cooperative Forestry Assistance Act of 1978 to include the requirement that each state develop a long-term, statewide assessment and strategies for forest resources. These assessments and strategies focused on three national priorities:

- Conserve and Manage Working Forest Landscapes for Multiple Values and Uses
- Protect Forests from Threats
- Enhance Public Benefits from Trees and Forests.

New Mexico's Forest Action Plan (formerly the "Statewide Natural Resources Assessment & Strategy and Response Plan") identifies natural resource conditions, needs and opportunities across all land ownerships in the state. It provides a set of collaboratively developed resource models and map products used to identify priority landscapes for restoration and resource management. The Natural Resource Assessment portion of the Forest Action Plan was developed with a comprehensive team of stakeholders to address cross-boundary, landscape scale actions to more effectively and efficiently address issues of mutual concern.

The Forest Action Plan is organized around New Mexico's adaptation of the three national themes. The state themes reflect the conviction that since all watersheds and landscapes are interconnected, removing lines between ecosystems removes barriers to collaboration. The state themes are:

- Conserve Working Landscapes
- Protect Watersheds from Harm
- Enhance Public Benefits from Natural Resources
- Promote Urban and Community Forests.

In New Mexico, the Forest Action Plan was developed through a partnership between the Forestry Division, the Nature Conservancy, the Forest Guild, and nearly one hundred stakeholders and partners who provided the resource information, advice and insight that guided the project. Major partners and stakeholder groups continue to be actively involved in guiding Forest Action Plan implementation through the State's Drought Task Force Watershed Management Subcommittee/Forest and Watershed Health Coordinating Group, and many have participated directly in collaborative projects, including some of those described in this report.

This document serves as a record of actions taken by New Mexico stakeholders to implement New Mexico's Forest Action Plan. As one of the states that participated in development of the National Cohesive Wildland Fire Management Strategy and the Western Regional Action Plan, New Mexico also describes its implementation actions within the framework of the Cohesive Strategy.

This report covers the last five years. Going forward it will be updated annually.

## Theme 1: Conserve and Manage Working Landscapes for Multiple Values and Uses
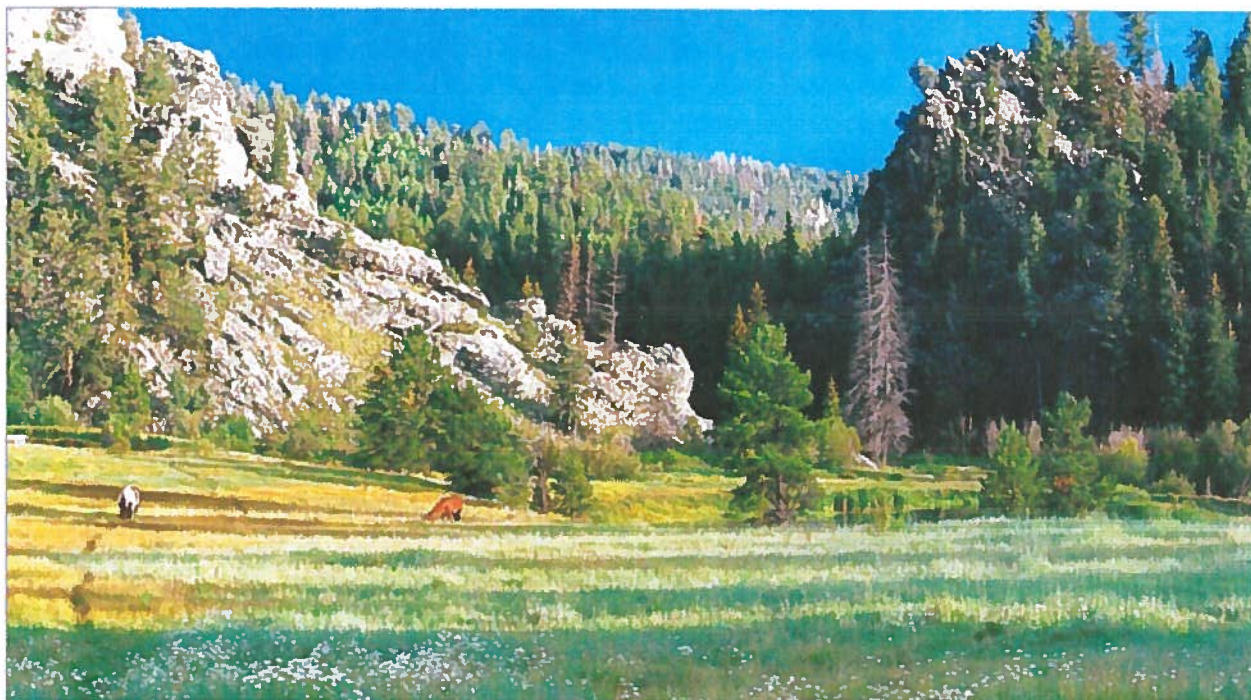


**New Mexico's land conservation programs identify and conserve high-priority forest ecosystems and landscapes**

**State Objective I-1:** Identify and conserve high-priority landscapes
**Strategy I-1.1:** Protect and acquire ecologically unique habitats

The Forestry Division administers two programs that protect and conserve ecologically unique habitats through conservation easements. The federal Forest Legacy Program (FLP) offers financial benefits to landowners with 40 acres or more of forested land. It was created to preserve working forests - those that protect water quality, provide important habitat, forest products, opportunities for recreation, and other public benefits. To date, 17,000 acres in New Mexico have been conserved through FLP. The state Land Conservation Incentives Act (LCIA) Program provides tax credits for land owners who place a conservation easement or donate land to a land trust or government agency to permanently limit land use by rescinding development rights. Values such as scenic open space, wildlife habitat, public use, or property that contributes to the historic or cultural integrity of the state are protected in perpetuity. One hundred five thousand acres have been conserved through LCIA since the program's inception. Together these programs help contribute to meeting the Cohesive Strategy's resilient landscapes goal.

The Vallecitos Ranch in Rio Arriba County is a prime example of Forest Legacy success in New Mexico. The owners have been stewards of their land for over 44 years. In 2009, they placed an easement on one parcel of the property. Over the next five years, two more easements were completed conserving the entire 11,655 acre ranch. Funding from the US Forest Service's Forest Legacy Program and the State of New Mexico was used to purchase the conservation easements to ensure this ranch will be protected from development in perpetuity.

In 2010, three separate landowners took advantage of the LCIA program and placed conservation easements on their adjoining properties before donating the entire ten-acre parcel to the Town of Taos. This property showcases the beauty of Taos Mountain, an active acequia, and prime wildlife habitat. As a result of their generosity, Sunset Park was created, forever protecting this serene public space from development.

## Theme 2: Protect Watersheds from Harm



**New Mexico's Watershed Restoration Initiative restores fire-adapted lands and protects water quality and quantity by reducing risk of wildfire impacts to important watersheds**

**State Objective II-1:** Restore and reduce risk to fire-adapted lands
**Strategy II-1.1:** Manage and implement fuels projects that protect fire-adapted ecosystems and watersheds

In January 2014, New Mexico Governor Susana Martinez declared 2014 the Year of Water and three months later signed legislation that provided $6.2 million for a new Watershed Restoration Initiative. In the year and a half since those funds became available, the State and its partners have undertaken fifteen separate projects covering 7,700 acres in fourteen watersheds identified as high priority in the state Forest Action Plan. Four of the projects have already been completed. Several of these projects were conducted on federal lands.

The effort was expanded in 2016 with approval of another $3.5 million to fund watershed restoration treatments as well as communities at risk projects. The commitment of state dollars leveraged $5 million more in federal funds through the NM Department of Game and Fish. An additional 11,000 acres will be restored with the new funding. These projects implement the Cohesive Strategy goals for resilient landscapes and fire-adapted communities.

Benefits extend beyond acres treated. Applying state funding on federal lands allows federal agencies to use their own funds for out-year planning and clearances, shortening the time it takes to get from project identification through the NEPA process to on-the-ground implementation. Likewise, leveraged federal dollars are helping the partners meet multiple resource objectives on state and private lands in New Mexico.

The Watershed Restoration Initiative also meets Objective III-1: Promote and enhance water supply and quality under the Enhance Public Benefits from Natural Resources theme, using Strategy III-1.3: Plan and implement watershed restoration projects.
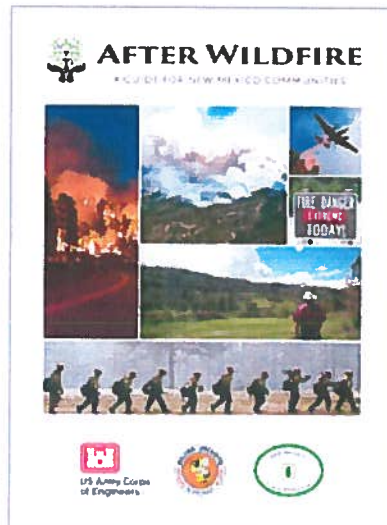
**New Mexico's After Wildfire Guide assists communities in planning for and reducing forest and watershed health risks**

**State Objective II-2:** Help communities build capacity to prepare and respond to natural resource related disturbances
**Strategy II-2.1:** Support and encourage community planning and response

The devastation experienced following a destructive wildfire can be felt long after the flames have died down and the fire crews have left the scene. New Mexico experienced this first hand in recent years following several large-scale damaging wildfires in 2011 and 2012. The Forestry Division's online resource, *'After Wildfire: A Guide for New Mexico Communities'* (www.afterwildfirenm.org) offers landowners and local leaders help navigating the often difficult process of rebuilding after a major wildfire.

The 'After Wildfire' guide provides a well-organized, central repository of easily accessible, up-to-date information for individuals and communities impacted by wildfire. The idea for this project grew out of a direct request from communities that experienced destructive wildfires, including the Las Conchas and Little Bear Fires. In the aftermath of those events, people from the affected areas had to figure out how to find their way through a confusing array of programs that might or might not apply to their situation. 'After Wildfire' was created to guide residents and local leaders through the complex steps to take as they help their communities and landscapes along the road to recovery.

Inspiration for the project came from individuals in fire-impacted communities. State Forestry and partners developed the 'After Wildfire' guide to help New Mexicans navigate their way through the difficult post-fire recovery process. The website includes advice on how to mobilize your community, a list of resources for assistance available to communities and to individuals, and a technical guide with information about post-fire treatments to mitigate the effects of wildfire on the land and to prepare for potential flooding.

Sections in the 'After Wildfire' guide help users take specific actions that implement Cohesive Strategy goals for resilient landscapes, fire-adapted communities, and wildfire response. The guide has been reproduced by other agencies, and visitors to the website have come from all regions of the United States and even overseas.

The online guide was developed in 2013 by a team of experts from the USDA Forest Service, United States Army Corps of Engineers, New Mexico State University, New Mexico Association of Counties, USDA Natural Resources Conservation Service, and private sector volunteers. The NM Forest and Watershed Restoration Institute hosts the website.

In 2014 the team received a $40,000 grant from the US Army Corps of Engineers' Institute for Water Resources through the NM Silver Jackets, an interagency group focused on flood issues, to enhance and build on the guide. The revision expanded the content, provided printing options and made it possible for readers to add their comments to certain sections. It also funded a "reader's digest" condensed print version of the guide specifically geared for use in communities that may have lost power or internet service during and after a disaster.

**The Forestry Division helped rural and volunteer fire departments increase capacity to plan for and respond to wildland fires**

**State Objective II-2:** Help communities build capacity to prepare and respond to natural resource related disturbances
**Strategy II-2.2:** Develop planning and response capacity for emergency responders

Over the past five years, the Division's wildland fire program continued to provide assistance to federal, state, and local fire agencies. This assistance was in the form of monetary grants for rural and volunteer fire departments for equipment, apparatus, and training. In the last five years 230 separate wildland fire training sessions were held, with 4,118 firefighters attending. The wildland fire program continued its suppression efforts and support both here in New Mexico and to wildland fire incidents across the country. The wildland fire program's activities contribute to the Cohesive Strategy's goal of safe, effective and efficient wildland fire response.



**New Mexico's Returning Heroes apply their skills to fighting wildfires and restoring forests**

**State Objective II-3:** Maintain and increase agency and interagency capacity and response to wildland fire and associated disturbances
**Strategy II-3.4:** Safely suppress wildland fires on non-municipal, non-federal, non-tribal lands

Following a successful pilot program in 2013, Governor Susana Martinez signed into legislation a new wildland firefighting program in 2014 the goal of providing U.S. Armed Forces veterans with the training

and opportunity to fight wildland fires. The Returning Heroes Program (RHP) increased the state's firefighting capacity and contributes to the Cohesive Strategy goal of safe, effective, efficient wildland fire response.

RHP crews have been utilized for both in-state fires and incident support across the West for the last three years. In late 2014 and early 2015, the Returning Heroes Program gained twelve full-time employees to act as crew supervisors and administrative staff to seasonal firefighters on both fire assignments and forest management projects. Since the program's inception, the Division has employed 130 veterans, conducted nine wildland fire suppression trainings for 91 firefighters, and treated 64 acres of forested land on two projects.

When they are not fighting fire, the Returning Heroes staff gives vets the opportunity to apply the skills they learned in the military to implementing projects that create more resilient landscapes in New Mexico.  At Hyde Memorial State Park near Santa Fe, crews conducted defensible space fuels reduction and hazardous fuels mitigation.  By removing decadent, diseased and insect-infested trees, they improved forest health while reducing the wildland fire threat within the park and enhancing the scenic beauty of the forested landscape.  This work helps protect the adjacent Santa Fe River, a primary water source for New Mexico's capital city.



**New Mexico's highly successful Western Bark Beetle Initiative helps landowners identify, manage and reduce threats to forest and ecosystem health**

**State Objective II-4:** Identify, manage and reduce threats for forest and ecosystem health
**Strategy II-4.2:** Promote healthy, resilient forests that are less susceptible to insect and disease outbreaks

Since 2010, State Forestry and the Forest Guild have teamed up with motivated landowners to apply Western Bark Beetle Initiative funding on 44,200 acres of private forestland owners in New Mexico (42,000 acres in management plans; 2,200 acres of direct treatment). With financial support from UISFS Region 3, State Forestry timber management staff have worked with landowners to develop thinning and restoration projects, while the Forest Guild has developed reimbursement agreements and provided accountability and oversight.

Funded by the USDA Forest Service's Western Bark Beetle Initiative, landowners are reimbursed for forest thinning treatments that have wide-ranging benefits for all New Mexicans. Immediate benefits include increased resilience to insects, diseases and high-intensity wildfires. Long-term benefits include improved water quality and wildlife habitat, increased vegetation diversity, increased resilience to climate change and potentially millions of dollars saved through the prevention of losses to lives, homes and natural resources to catastrophic wildfire and post-fire floods.

Many New Mexicans make their homes in forested areas where catastrophic fire and epidemic insect and pathogen outbreaks are a real threat. By taking advantage of this cost share program, New Mexico's landowners become responsible forest stewards. The Division's partners have utilized all available federal bark beetle funding on the ground and have overmatched the required 70/30 cost share with

private investments. Over the last five years, New Mexico landowners have spent $2,300,000 to implement approved practices and received $1,184,000 in reimbursement through the program.

The Forestry Division's District Offices have done a good job cultivating relationships with landowners over the years. They've been successful in recruiting landowners in proximity to other projects in order to treat increasingly larger continuous tracts of land, multiplying the overall effectiveness of this program, and contributing to the Cohesive Strategy goals of resilient landscapes and fire-adapted communities.


**New Mexico partnered with the USFS Forest Inventory and Analysis Program to provide data needed to better manage forested ecosystems**

**State Objective II-4:** Identify manage and reduce threats to forest and ecosystem health
**Strategy II-4.3:** Support forest Inventory and Analysis data collection for New Mexico

A key product in the *2010 New Mexico Statewide Natural Resources Assessment* was a comprehensive analysis of data gaps that New Mexico needed to fill to have quality information for strategic decision-making.

The national FIA database underlies many tools including Forest Vegetation Simulator and LANDFIRE, both of which inform many modeling tools. In 2010, Forest Inventory and Analysis data for New Mexico was a decade out of date and did not reflect changed conditions on the ground due to large fires and insect infestations. New Mexico was able to fill that particularly critical need in record time thanks to funding through the American Recovery and Reinvestment Act.

The accelerated data collection schedule deviated from standard FIA protocols of collecting annual panels of data each year. In just three years, the state, working with the FIA Interior West team, collected and analyzed the same amount of data normally gathered over an 8-year period, producing the most current and comprehensive forest inventory dataset to date for New Mexico. The resulting products are helping users from agencies to industry to conservation organizations hone their programs and better manage the forests under their care.


## Theme 3: Enhance Public Benefits from Natural Resources
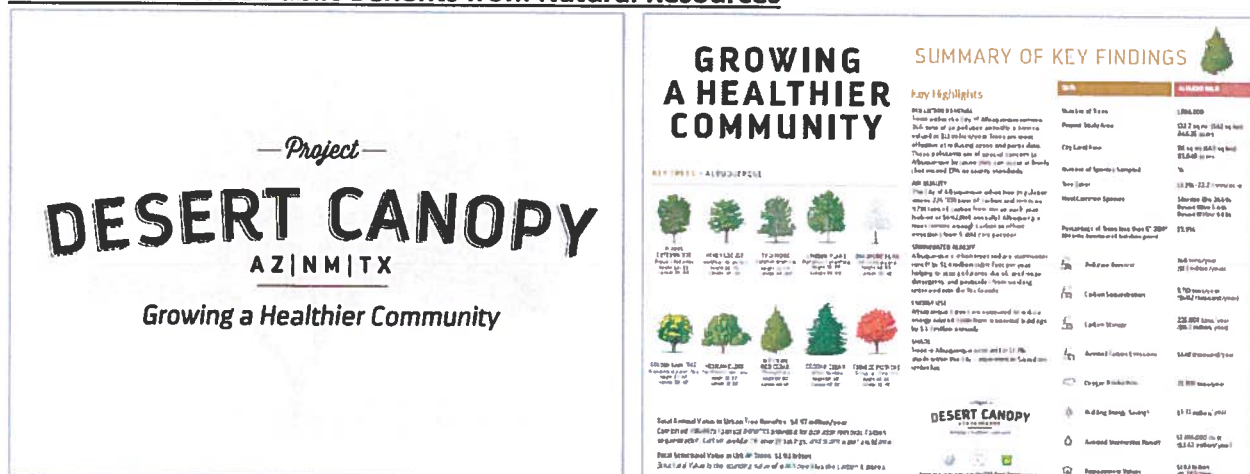
**New Mexico's 'Project Desert Canopy' improves air quality, conserves energy, and helps communities mitigate and adapt to global climate change**

**State Objective III-2:** Improve air quality and conserve energy
**Strategy III-2.1:** Identify and support the use of community forests to address air quality and energy conservation
**State Objective III-8:** Manage and restore trees, forests and ecosystems to mitigate and adapt to global climate change
**Strategy III-8.2:** Plan and implement forest planting, conservation and rehabilitation projects to mitigate climate change

In 2013, New Mexico teamed with Arizona and West Texas to conduct urban forest ecosystem service assessments in four cities and advance our understanding of urban forests in desert communities. Funded by a USFS Western Landscape Scale Restoration Grant, assessments were done in Albuquerque, Las Cruces, El Paso, and Phoenix to collect urban forest data, including tree species, condition, and size. Sampling was done across all land ownerships, offering a more thorough view of the urban forest across residential, commercial/industrial, and public lands.  Using the USFS iTree Eco software, benefits from the urban forest were calculated, including tons of air pollution removed, cubic meters of stormwater runoff avoided, carbon sequestered and stored, energy saved through building shade, and carbon emissions avoided through energy savings.

The assessments revealed that the urban forests in desert communities contribute significant ecosystem benefits, especially in energy savings and carbon emission avoidance. The assessment also yielded important considerations for future management and expansion of our urban forests in desert communities, including key tree species, and forest health and composition considerations.  The quantitative data produced by the assessments has allowed more substantial technical communication with environmental regulatory partners to promote and utilize the urban forest as green infrastructure to address our communities' public and environmental health needs.

The outreach and education campaign done as part of the project, including visually striking graphics, have allowed communication of the value of the urban forest to many members of the community, from City Council members to the general public, and have allowed us to cultivate new partnerships.



**New Mexico's innovative partnership agreements enhance public benefits from managing forests to protect natural resources and enhance ecosystem services**

**State Objective III-3:** Promote multi-jurisdictional, cross-boundary initiatives to plan for and promote ecosystem resilience
**Strategy III-3.1:** Participate in landscape-scale planning for overall watershed health
**Strategy III-3.2:** Support efforts that enhance ecosystem services

In New Mexico, the Forestry Division does not own or manage land and so has to work hand-in-hand with partners to get forest management done on the ground. Each agency has its own process for planning, funding and implementing projects, making it challenging to do treatments on a landscape scale. To meet this challenge, the Division has worked with many partners to find ways to streamline these processes and to leverage each other's ability to fund and conduct the various tasks necessary to get the projects done.

To that end, the Division drafted innovative legal instruments and established funding mechanisms that allow the State and its partners to do what's needed on the landscape, regardless of jurisdiction. These instruments enable the signatories to implement the Cohesive Strategy's resilient landscapes goal seamlessly across political boundaries.

Agreements have been signed with the following federal agencies:
- USDA Forest Service – Memorandum of Agreement (2014)
- USDOI Bureau of Land Management – Financial Assistance Agreement (2012) and Memorandum of Agreement (2014)
- USDOI National Park Service – Memorandum of Agreement (2015)
- NM Department of Game and Fish – Memorandum of Agreement (2015)

The Division also works collaboratively under a Cooperative Agreement with the USDA Natural Resources Conservation Service to increase the amount of technical and financial assistance available to non-industrial private forest landowners in New Mexico. This arrangement matches agency funding and provides State Forestry staff to serve as NRCS' NM state forester and as Technical Service Providers in the field.



**New Mexico's Endangered Plants Program protects, conserves and enhances habitat for rare and endangered plants**

**State Objective III-6:** Protect, conserve and enhance endangered species
**Strategy III-6.2:** Plan and implement rare and endangered plant research and recovery

The Forestry Division is a leader in rare and endangered plant conservation, recovery and research through its Endangered Plant Program. A recent example of success came about when the Division partnered with the Guadalupe Soil and Water Conservation District, the City of Santa Rosa, and the US Fish and Wildlife Service to restore wetland habitats - uncommon in the arid high plains - to enhance recovery of the endangered Pecos sunflower. The partners are expanding coordination to include private landowners, the U.S. Army Corps of Engineers and the New Mexico State Environment Department.

The Endangered Plant Program is actively conducting research on the status and distribution of rare plants. Over the past three years the Endangered Plant Program has focused on researching the response of rare and endangered plants to unprecedented large wildfires throughout New Mexico. Expected benefits from this project include:

- Provide management recommendations for endangered plant species before, after, and during wildfires.
- Provide updates on the current, post-fire status of Species of Concern plants to the U.S. Fish and Wildlife Service (USFWS) and land management agencies.
- Provide a framework for addressing Species of Concern plant species management in response to increased wildfire severity and frequency.

Looking toward the future, the Division is working with stakeholders in endangered plant conservation, including the Bureau of Land Management, the US Forest Service, US Fish and Wildlife Service, Natural Heritage New Mexico, tribes, and the Native Plant Society to develop a Rare Plant Conservation Strategy.

## Alignment with State and Private Forestry Program Objectives

This 2015 Strategy and Response Plan (SRP) amends the SRP originally published in the 2010 New Mexico Statewide Natural Resources Assessment starting on page 75. The plan aligns with the national SP&F Redesign themes and objectives. Due to a more comprehensive look at the partners and programs utilized for each strategy, the new format includes five tables: Table 1 presents the themes, objectives and strategies for our plan in a single one-page format. Table 2 identifies the priority landscapes, measures and timelines for each strategy. Table 3 presents the partners for each strategy and Table 4 presents the programs for each strategy. The fifth table is a key to acronyms used in the other tables. The combination of these tables illustrates alignment between S&PF Redesign objectives and the Forestry Division's Statewide Assessment by connecting State and Federal programs, partners, and geospatial resources with programmatic themes and objectives.

## Table 1. Themes, objectives and strategies.

**Theme: Identify and conserve high priority landscapes.**

| Type | Text |
| --- | --- |
| Objective | Protect and acquire ecologically unique habitats. |
| Strategy | Help landowners and land managers recognize and manage ecologically important areas. |
| Objective | Actively & sustainably manage forests and watersheds with economic potential. |
| Objective | Encourage forest industry needed to manage healthy landscapes. |
| Strategy | Encourage healthy rangeland conditions through sound land management practices. |
| Strategy | Increase workforce capacity to conduct forestry activities. |
| Strategy | Support alternative forest product markets that help utilize woody material from non-traditional sources. |

**Theme: Restore & reduce risk to fire-adapted lands.**

| Type | Text |
| --- | --- |
| Strategy | Manage & implement fuels projects that protect fire-adapted ecosystems & watersheds. |
| Strategy | Manage & implement fuels projects that protect the infrastructure & communities in fire adapted ecosystems. |
| Strategy | Encourage and support the development and implementation of Community Wildfire Protection Plans. [1] |
| Objective | Help communities build capacity to prepare & respond to natural resource related disturbances. |
| Strategy | Support & encourage community planning and response. |
| Strategy | Develop planning & response capacity for fire departments and emergency responders. |
| Objective | Maintain & increase agency and interagency capacity & response to wildland fire and associated disturbances. |
| Strategy | Plan & prepare seasonally for expected fire activity. |
| Strategy | Host & support firefighter training agency-wide throughout NM for NMSF & rural fire departments staff. |
| Strategy | Continue and expand public outreach to support fire management activities. |
| Strategy | Safely suppress wildland fires on non-municipal, non-federal, non-tribal lands. |
| Strategy | Conduct pre-planning for post-fire response. |
| Objective | Identify, manage, & reduce threats to forest & ecosystem health. |
| Strategy | Identify, map & monitor insect & disease outbreaks. |
| Strategy | Promote healthy, resilient forests that are less susceptible to insect & disease outbreaks. |
| Strategy | Continue to support Forest Inventory Analysis data collection for New Mexico. |

**Theme: Promote & enhance water supply & quality.**

| Type | Text |
| --- | --- |
| Strategy | Promote & implement forest and watershed conservation practices. |
| Strategy | Identify & support expanded use of community forests as green infrastructure. |
| Strategy | Plan & implement watershed restoration projects. |
| Objective | Improve air quality and conserve energy. |
| Strategy | Identify & support the use of community forests to address air quality & energy conservation. |
| Strategy | Support the use of trees in landscape practices such as windbreaks, snow control, local climate moderation & carbon storage. |
| Theme | Promote multi-jurisdictional, cross boundary initiatives to plan for and promote ecosystem resilience. |
| Strategy | Participate in landscape scale planning for overall watershed health. |
| Strategy | Support efforts that enhance ecosystem services. |
| Strategy | Support landowners and land managers' ability to maintain & enhance economic benefits & values of natural resources. |
| Objective | Educate landowners, land managers & contractors, and enforce Commercial Timber Harvest Regulations. |
| Strategy | Conduct fire planning and response to protect values at risk while considering ecological objectives. |
| Strategy | Distribute seedlings for reforestation purposes, shelterbelts, & other conservation purposes. |
| Strategy | Provide technical assistance with post-disturbance rehabilitation. |
| Strategy | Provide technical assistance to Tribal and public land managers. |
| Strategy | Conduct and facilitate collaborative natural resource planning. |

**Theme: Protect, conserve & enhance native plant and wildlife habitat.**

| Type | Text |
| --- | --- |
| Objective | Protect, conserve & enhance endangered species. |
| Strategy | Support rare and endangered species research and recovery. |
| Strategy | Plan and implement rare and endangered plant research and recovery. |
| Strategy | Develop and implement a Rare Plant Conservation Strategy. |
| Theme | Connect people to landscape & engage them in natural resource stewardship activities. |
| Strategy | Help private and tribal landowners manage their natural resources through technical assistance, training, funding and other support. |
| Strategy | Promote the value of public lands stewardship. |
| Strategy | Promote the value of urban and community forests. |
| Objective | Manage & restore trees, forests, & ecosystems to mitigate & adapt to global climate change. |
| Strategy | Monitor and adapt forest and watershed management practices to increase resilience to the impacts of climate change. |
| Strategy | Plan and implement forest planting, conservation and rehabilitation projects to mitigate climate change. |

**Theme: Empower communities to develop and sustain healthy community and urban forest.**

| Type | Text |
| --- | --- |
| Objective | Protect, conserve & enhance native plant and wildlife habitat. |
| Strategy | Plan, facilitate, & coordinate multijurisdictional stewardship projects. |
| Strategy | Conduct & facilitate collaborative natural resource planning. |
| Objective (UL C* Strategic Plan) | Implement the collaboration, education and outreach, management, and research assessment strategies in the UL C* Strategic Plan. |

[1]One strategy on CWPPs is repeated under two themes: Protect Watersheds from Harm and Enhance Public Benefits.

[2]One strategy under Enhance Public Benefits applies to two separate objectives.

**Table 2. Priority landscapes, measures and timelines organized by themes, objectives and strategies.**

| Theme - Objective - Strategy | Priority Landscape Areas | Measures | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|
| **Theme I: Conserve and Manage Working Landscapes for Multiple Values and Uses** | | | | | | | |
| Objective I-1: Identify and conserve high priority landscapes. | Map 12: Areas with high development potential, fragmentation risk, and SAP priority | | | | | | |
| Strategy I-1.1: Protect and acquire ecologically unique habitats. | | Rare Plant Program - Endangered species monitored. Recovery actions taken. Conservation easements acquired. | x | x | x | x | x |
| Strategy I-1.2: Help landowners and land managers recognize and manage ecologically important areas. | | Management plans developed and maintained. Projects completed. | As funding and landowner opportunity become available | | | | |
| Objective I-2: Actively and sustainably manage forests and watersheds with economic potential. | Map 13: Areas with high development potential, fragmentation risk, and economic potential | | x | x | x | x | x |
| Strategy I-2.1: Encourage forest industry needed to manage healthy landscapes. | | Forest products produced. Trends in forest product manufacturing facilities. Number of qualified and equipped forest industries. Economic impact of forest industry on state economy. | As funding and opportunity permit | | | | |
| Strategy I-2.2: Encourage healthy rangeland conditions through sound land management practices. | | Acres of working rangeland landscapes. Acres of treatments improving rangelands. Economic impacts of livestock industry and wildlife management on state economy. | As funding and opportunity permit | | | | |
| Strategy I-2.3: Increase workforce capacity to conduct forestry activities. | | Number of forest workers trained. Number of IWC, RHP, YCC forestry crews. NMFIA members/businesses. | As funding permits | | | | |

Table 2 continued. Priority landscapes, measures and timelines organized by themes, objectives and strategies.

| Theme - Objective - Strategy | Priority Landscape Areas | Measures | Timeline | | | | |
|---|---|---|---|---|---|---|---|
| | | | 2016 | 2017 | 2018 | 2019 | 2020 |
| **Theme I: Conserve and Manage Working Landscapes for Multiple Values and Uses** | | | | | | | |
| **Objective I-2 continued.** | | | | | | | |
| Strategy I-2.4: Support alternative forest product markets that help utilize woody material from non-traditional sources. | | Types/amounts of products. Inventory/directory of available wood products. | Continual | | | | |
| **Theme II: Protect Watersheds From Harm** | | | | | | | |
| Objective II-1: Restore and reduce risk to fire-adapted lands. | Map 14 & 16: Areas with high risk of uncharacteristic wildfire | | x | x | x | x | x |
| Strategy II-1.1: Manage and implement fuels projects that protect fire-adapted ecosystems and watersheds. | | Number of acres treated and maintained. Number of Communities listed in CARS. | Continue to work with federal agencies and other partners to develop strategic projects. Monitor and evaluate projects when funding is available. | | | | |
| Strategy II-1.2: Manage and implement fuels projects that protect the infrastructure and communities in fire-adapted ecosystems. | | Number of acres treated and maintained. Number of Communities listed in CAR Plan. | Continue to work with Western State Fire Managers, Forest Service and other partners to develop strategic projects. Develop maintenance plans. | | | | |
| Strategy II-1.3: Encourage and support the development and implementation of Community Wildfire Protection Plans. [1] | | Number plans developed and updated. | As needed to keep current. | | | | |

[1]This strategy is repeated under the Enhance Public Benefits of Natural Resources Theme as well.

Table 2 continued. Priority landscapes, measures and timelines organized by themes, objectives and strategies.

| Theme - Objective - Strategy | Priority Landscape Areas | Measures | Timeline | | | | |
|---|---|---|---|---|---|---|---|
| | | | 2016 | 2017 | 2018 | 2019 | 2020 |
| Theme II: Protect Watersheds From Harm | | | | | | | |
| OBJECTIVE II-2: Help communities build capacity to prepare and respond to natural resource related disturbances. | Statewide | | | | | | |
| Strategy II-2.1: Support and encourage community planning and response. | | Number of Firewise communities. Number of CWPPs, hazard mitigation plans or other fire and disaster plans generated. Trends in community disaster response capacity. Number of communities listed in CAR Plan. After Wildfire Guide utilization. Number of communities with Urban Forest Risk Management Plans. | Continual | | | | |
| Strategy II-2.2: Develop planning and response capacity for fire departments and emergency responders. | | Equipment placed. Training provided. Grants awarded. Number of new fire departments. Increased capacity for fire departments. Number of equiptments inspections made. Number of vehicles on inventory and operational. | Continual. Annually evaluate program effectiveness. When possible, continue to combine DOI's RFA with VFA. Update local operating and CAR plans annually. RMP biannually. | | | | |
| Objective II-3: Maintain and increase agency and interagency capacity and response to wildland fire and associated disturbances. | Statewide | | x | x | x | x | x |
| Strategy III-3.1: Plan and prepare seasonally for expected fire season activity. | | Number of local operating plans developed and implemented. | Annually review emergency funds expenditures. Every two years, review and adjust the RMP. Annually review preparedness. | | | | |

Table 2 continued.  Priority landscapes, measures and timelines organized by themes, objectives and strategies.

| Theme - Objective - Strategy | Priority Landscape Areas | Measures | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|
| **Theme II: Protect Watersheds From Harm** | | | | | | | |
| **Objective II-3 continued.** | | | | | | | |
| Strategy II-3.2: Host and support fire fighter training agency-wide and throughout New Mexico for NMSF and rural fire department staff. | | Number of non-federal firefighters trained. | Continual | | | | |
| Strategy II-3.3: Continue and expand public outreach to support fire management activities. | | Number of individuals, communities, homeowner associations and fire-based collaboratives trained. Number of workshops, public meetings, and presentations, publications, press releases. | Monitor, evaluate and update program as needed. | | | | |
| Strategy II-3.4: Safely suppress wildland fires on non-municipal, non-federal, non-tribal lands. | | Number of acres protected | Continual. Evaluate suppression strategy for ecological and economic efficiency. | | | | |
| Strategy II-3.5: Conduct pre-planning for post-wildfire response. | | Plans completed. Workshops held. Publications distributed. Website usage. | Continual | | | | |
| **Objective II-4:  Identify, manage and reduce threats to forest and ecosystem health.** | Map 15: Areas most susceptible to insect and disease outbreaks. | | x | x | x | x | x |
| Strategy II-4.1: Identify, map and monitor insect and disease outbreaks. | | Number of acres surveyed. Number of site visits and consultations conducted. | Annual flight survey. Ground surveys. | | | | |
| Strategy II-4.2: Promote healthy, resilient forests that are less susceptible to insect and disease outbreaks. | | Number of acres treated. Number of urban inventories conducted. | Continual | | | | |

Table 2 continued.  Priority landscapes, measures and timelines organized by themes, objectives and strategies.

| Theme - Objective - Strategy | Priority Landscape Areas | Measures | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|
| **Theme II: Protect Watersheds From Harm** | | | | | | | |
| **Objective II-4 continued.** | | | | | | | |
| Strategy II-4.3: Continue to support Forest Inventory and Analysis data collection for New Mexico. | | Data updated | Continual | | | | |
| **Theme III: Enhance Public Benefit from Natural Resources** | | | | | | | |
| **Objective III-1: Protect and enhance water supply and water quality.** | Maps 18 & 19: Areas with high risk to water supply and water quality | | x | x | x | x | x |
| Strategy III-1.1: Promote and implement forest and watershed conservation practices. | | Permits issued. Permits closed out. Projects implemented. Number of acres treated. Trees distributed. Cases resolved. | Continual | | | | |
| Strategy III-1.2: Identify and support the expanded use of community forests as green infrastructure. | | Number of communities assisted. Number of urbanized areas mapped. | As funding is available | | | | |
| Strategy III-1.3: Plan and implement watershed restoration projects. | | Projects planned. Acres treated. | Continual | | | | |
| **Objective III-2: Improve air quality and conserve energy.** | Statewide | | x | x | x | x | x |
| Strategy III-2.1: Identify and support the use of community forests to address air quality and energy conservation. | | Number of communities assisted. Number of urbanized areas mapped. | Continual | | | | |
| Strategy III-2.2: Support the use of trees in landscape practices such as windbreaks, snow control, local climate moderation and carbon storage. | | Number of trees. Number of technical assists. | Continual | | | | |

Table 2 continued.  Priority landscapes, measures and timelines organized by themes, objectives and strategies.

| Theme - Objective - Strategy | Priority Landscape Areas | Measures | Timeline 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|
| **Theme III: Enhance Public Benefit from Natural Resources** | | | | | | | |
| Objective III-3: Promote multi-jurisdictional, cross-boundary initiatives to plan for and promote ecosystem resilience. | Map 17: Watersheds that contribute to ecosystems services. Map 23: Areas at high risk for forest health and climate change exposure | | x | x | x | x | x |
| Strategy III-3.1: Participate in landscape scale planning for overall watershed health. | | Number of technical assists | Continual | | | | |
| Strategy III-3.2: Support efforts that enhance ecosystem services. | | Number of technical assists | As opportunity and funding permit | | | | |
| Strategy III-3.3: Encourage and support the development of Community Wildfire Protection Plans.[2] | | Number plans developed and updated | As needed to keep current. | | | | |
| Objective III-4: Support landowners' and land managers' ability to maintain and enhance the economic benefits and values of natural resources | Map 22: Areas where wildfire risk could negatively impact the economic potential of forests, woodlands, and rangelands | | x | x | x | x | x |
| Strategy III-4.1: Educate landowners, land managers and contractors and enforce Commercial Timber Harvest Regulations. | | Number of permits issued. Numbr of permits closed out with a 208. | Continual | | | | |
| Strategy III-4.2: Conduct fire planning and response to protect values at risk while considering ecological objectives. | | Number of plans developed. AAR objectives met. | Continual | | | | |
| Strategy III-4.3: Distribute seedlings for reforestations, windbreaks, shelterbelts, and other conservation purposes. | | Number of seedlings distributed. | Continual | | | | |

[2]This strategy is repeated under the Protect Watersheds from Harm Theme as well.

Table 2 continued. Priority landscapes, measures and timelines organized by themes, objectives and strategies.

| Theme - Objective - Strategy | Priority Landscape Areas | Measures | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|
| | | | | | | | Timeline |
| Objective III-4 continued. | | | | | | | |
| Theme III: Enhance Public Benefit from Natural Resources | | | | | | | |
| Strategy III-4.4: Provide technical assistance with post-disturbance rehabilitation. | | Number of rehabilitation projects assisted. | As applicable | | | | |
| Strategy III-4.5: Provide technical assistance to Tribal and public land managers. | | Number of land managers assisted. | Continual | | | | |
| Strategy III-4.6: Conduct and facilitate collaborative natural resource planning. | | Number of plans developed. Number of collaborative projects completed. | Continual | | | | |
| Objective III-5: Protect, conserve and enhance plant and wildlife habitat. | Map 20: Areas of high biodiversity that are also providing recreational opportunities | | x | x | x | x | x |
| Strategy III-5.1: Plan, facilitate and coordinate multijurisdictional stewardship projects. | | Number of projects conducted. Number of acres treated. | As funding and opportunity permit. | | | | |
| Strategy III-5.2: Conduct & facilitate collaborative natural resource planning. | | Technical assistance on planning projects. | Continual | | | | |
| Objective III-6: Protect, conserve and enhance endangered species. | Map 20: Areas of high biodiversity that are also providing recreational opportunities | Participate in collaborative task forces to develop appropriate mitigation responses. Support public awareness of endangered species. | x | x | x | x | x |
| Strategy III-6.1: Support rare and endangered species research and recovery. | | | Continual | | | | |

Table 2 continued. Priority landscapes, measures and timelines organized by themes, objectives and strategies.

| Theme - Objective - Strategy | Priority Landscape Areas | Measures | Timeline | | | | |
|---|---|---|---|---|---|---|---|
| | | | 2016 | 2017 | 2018 | 2019 | 2020 |
| Theme III: Enhance Public Benefit from Natural Resources | | | | | | | |
| Objective III-6 continued. | | | | | | | |
| Strategy III-6.2: Plan and implement rare and endangered plant research and recovery. | | Rare and endangered plant species monitored and/or mapped. NM Endangered Species List for plants maintained. Endangerd plant law cases enforced. Plans generated. Recovery actions taken. | Continual | | | | |
| Strategy III-6.3: Develop and implement a Rare Plant Conservation Strategy. | | Strategy completed, and implemented... | Continual | | | | |
| Objective III-7: Connect people to landscape and engage them in natural resource stewardship activities. | Map 21: Areas where stewardship opportunities exist alongside biodiversity landscapes | | x | x | x | x | x |
| Strategy III-7.1 Help private and tribal landowners manage their natural resources through technical assistance, training, funding and other support. | | Number of technical assists. Number of trainings. Number/amount of financial assistance rendered. | Continual. For finaincial assistance, as funding permits. | | | | |
| Strategy III-7.2: Promote the value of public lands stewardship. | | Number of projects conducted. Number acres treated. | As funding and opportunity permit. | | | | |
| Strategy III-7.3: Promote the value of urban and community forests. | | Number of projects | Continual | | | | |
| Objective III-8: Manage and restore trees, forests and ecosystems to mitigate and adapt to global climate change | Map 22: Areas of high biodiversity at high risk of forest health issues and a high degree of climate change exposure | Number of technical assists. Number of plans developed. Number of acres treated. Number of trees distributed. Number of harvest permits issued. | x | x | x | x | x |
| Strategy III-8.1: Monitor and adapt forest and watershed management practices to increase resilience to the impacts of climate change. | | | Continual | | | | |

# Table 2 continued. Priority landscapes, measures and timelines organized by themes, objectives and strategies.

| Theme - Objective - Strategy | Priority Landscape Areas | Measures | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|
| **Theme III: Enhance Public Benefit from Natural Resources** | | | | | | | |
| **Objective III-8 continued.** | | | | | | | |
| Strategy III-8.2: Plan and implement forest planting, conservation and rehabilitation projects to mitigate climate change. | | Number of communities, landowners and businesses assisted. | Continual | | | | |
| **Theme IV: Promote Urban and Community Forests** | | | | | | | |
| Objective IV-1: Empower communities to develop and sustain healthy community and urban forests. | Map 20: Enhance Public Benefit from Natural Resources: Biodiversity with Economic Potential | | x | x | x | x | x |
| Strategy IV-1.1: Implement the collaboration, education and outreach, management and research and assessment strategies in the U&CF Strategic Plan. | | Number of urban forests inventoried and assessed. | As funding and opportunity permit. | | | | |

# Table 3. Partners organized by themes, objectives and strategies.

**T+C3 ALL Theme: Conserve Working Landscapes**

| Partners | Protect & acquire unique habitats | Help LO/LM recognize & manage ecologically important areas | Encourage forest industry needed to manage healthy landscapes | Encourage healthy rangeland conditions though sound land management practices | Increase workforce capacity to conduct forestry activities | Support alternative forest product markets that help utilize woody material from non-traditional sources. |
|---|---|---|---|---|---|---|
| Silver Jackets Flood Mngt Team | | | | | | |
| USDA FS FHP | | | | | | |
| USDA FS FIA | | | X | | | |
| USDA FS FPL | | | X | | | X |
| USDA FS RMRS | | | | | | |
| USDA NRCS Plant Material Center | | | | | | |
| USDA FS | X | X | X | X | | |
| USDA NRCS | X | X | X | X | | |
| USDI BIA | | X | X | | | |
| USDI BLM | | | | X | | |
| USDI BOR | | | | | | |
| USDI NPS | | | | | | |
| USDI USFWS | | | | X | | |
| USGS | | | | | | |
| US Military Installations | | | | | | |
| USACE | | | | | | |
| Dept of Energy | | | | | | |
| NWCG | | | | | | |
| SWCG | | | | | | |
| NWS | | | | | | |
| Farm Services Administration | | | X | | X | X |
| Small Business Administration | | | X | | X | X |
| FEMA | | | X | | X | X |
| Tribes & Pueblos | X | X | X | X | X | X |
| NMDIA | X | X | X | X | | |
| NMDGF | X | X | | X | | |
| NMSLO | X | X | | X | | |
| NMSPD | | | | | | |
| DHSEM | | | | | | |
| EMNRD-ECMD | | | | | | |
| EMNRD-YCC | | | | | X | |
| GSD | | | | | | |

**T+C3 ALL Theme: Conserve Working Landscapes**

| Partners | Protect & acquire unique habitats | Help LO/LM recognize & manage ecologically important areas | Encourage forest industry needed to manage healthy landscapes | Encourage healthy rangeland conditions though sound land management practices | Increase workforce capacity to conduct forestry activities | Support alternative forest product markets that help utilize woody material from non-traditional sources. |
|---|---|---|---|---|---|---|
| NM Corrections Department | X | | | | X | |
| NM Dept of Taxation & Revenue | | | | | | |
| NM Fire Marshall (PRC) | | | | | | |
| NMDA | | | | | | |
| NMDOT | | | | | | |
| NMED | X | X | | | | |
| NMSEO | | | X | | X | |
| Workforce Solutions | | | | | | |
| Water Trust Board | | | | | | |
| SWCDs | | X | X | X | | |
| land grants | | X | X | X | | |
| acequia associations | X | X | | X | | |
| conservancy & irrigation ditches | X | X | X | X | | |
| Flood control authorities | | | | | | |
| NMFPTF | X | | | | | |
| Rare Plant Technical Council | X | | | | | |
| Forest Stewardship Council | X | X | X | X | | X |
| FWCG/DTF-WMS | | | X | X | | X |
| Tree Planting Advisory Committee | | | | | | |
| Urban Forest Council | | | | | | |
| Rangeland Improvement Task Force | | | | X | | |
| state law enforcement agencies | | | | | | |
| communities | X | | X | | X | X |
| counties | X | X | X | | X | X |
| county planning departments | | | | | | |
| county SO | | | | | | |
| RFDs | | | | | | |
| local open space programs | | | | | | X |
| MFDs | | | | | | |
| municipal LEOs | | | | | | |
| municipal water utility authorities | | | | | | |
| municipalities | X | | X | | X | X |

## Table 3 continued. Partners organized by themes, objectives and strategies.

**T+C3.AL40heme:** Conserve Working Landscapes

| Partners | Protect & acquire unique habitats | Help LO/LM recognize & manage ecologically important areas | Encourage forest industry needed to manage healthy landscapes | Encourage healthy rangeland conditions though sound land management practices | Increase workforce capacity to conduct forestry activities | Support alternative forest product markets that help utilize woody material from non-traditional sources. |
|---|---|---|---|---|---|---|
| | ID & conserve high priority landscapes | | Actively & sustainably manage forests and watershed with economic potential | | | |
| community based fire collaboratives | | | | | | |
| CWPP core teams | | | | | | |
| local law enforcement agencies | | | | | | |
| learning networks & cooperatives | | | | | | |
| ngo's w/ land management focus | x | x | x | | | x |
| ngo's w/tree & urban focus | | | | | | |
| RC&Ds | | | | | | |
| LO associations/organizations | x | x | x | x | x | x |
| conservation organizations | x | x | x | x | | |
| land trusts/conservancies | x | x | x | | | |
| watershed associations | | x | x | x | | |
| natural resources user groups | | | x | x | x | x |
| woodworking organizations | | | | x | | x |
| professional societies: land managers | | x | x | | | x |
| professional societies: urban focus | | | | | | x |
| CWSF – WSFM | | | | | | x |
| NASF | | | | | | |
| NMAC | | | | | | |
| NMACD | | | | | | |
| NMML | | | | | | |
| homeowner associations | | x | | | | |
| private nurseries | | | | | | |
| utilities | | | | | | |
| producers (wood, biomass, etc.) | | | x | x | x | x |
| universities | x | x | x | x | x | |
| NMHU – FWRI | | | | | x | |
| NMSU Coop Ext | | x | | x | x | |
| NMSU Harrington Research Center | | | | | | |
| UNM-NHNM | x | | | | x | |
| Schools K-12 | | | | | x | |
| LO/LM (land owners/managers) | x | x | x | x | x | x |
| LANL | | | | | | x |
| Sandia NL | | | | | | x |

12

# Table 3 continued. Partners organized by themes, objectives and strategies.

| Partners | Restore & reduce risk to fire-adapted lands | | | Help communities build capacity to prepare & respond to natural resource related disturbances | | Maintain & increase agency and interagency capacity & response to wildland fire and associated disturbances | | | | | Identify, manage, & reduce threats to forest & ecosystem health | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Strategy:** | Manage & implement fuels projects that protect fire-adapted ecosystems & watersheds | Manage & implement fuels projects that protect the infrastructure & communities in fire adapted ecosystems | Encourage and support the development and implementation of Community Wildfire Protection Plans | Support & encourage community planning and response | Develop planning & response capacity for fire departments and emergency responders | Plan & prepare seasonally for expected fire activity | Host & support firefighter training agency-wide throughout NM for NMSF & rural fire department staff | Continue and expand public outreach to support fire management activities | Safely suppress wildland fires on non-municipal, non federal, non-tribal lands | Conduct pre-planning for post-fire response | Identify, map & monitor insect & disease outbreaks | Promote healthy, resilient forests that are less susceptible to insect & disease outbreaks | Continue to support Forest Inventory Analysis data collection for New Mexico |
| Silver Jackets Flood Mngt Team | | | | X | | | | | | X | | | |
| USDA FS FHP | | | | | | | | | | X | X | X | X |
| USDA FS FIA | | | | | | | | | | | | | X |
| USDA FS FPL | | | | | | | | | | | | | |
| USDA FS RMRS | | | | | | | | | | X | | X | X |
| USDA NRCS Plant Material Center | X | | | | | | | | | | | | |
| USDA FS | X | X | X | X | X | X | X | X | X | X | X | X | X |
| USDA NRCS | X | X | X | | | | | | | | | X | |
| USDA FS | X | X | X | | | | | | | | | | |
| USDI USFWS | X | | X | | X | X | X | X | X | X | | X | X |
| USDI NPS | X | | X | | X | X | X | X | X | X | | X | X |
| USDI BOR | | | | | | | | | | X | | X | X |
| USDI BLM | X | X | X | X | | X | X | X | X | X | | X | X |
| USDI BIA | X | X | X | | | X | X | X | X | X | | X | X |
| USGS | X | | | | | X | | | | X | | | |
| US Military Installations | X | | | | | | | | | | | | |
| USACE | | | X | | | | | | X | X | | | |
| Dept of Energy | | | | | | | X | | X | | | | |
| NWCG | | | | | | | | | | | | | |
| SWCG | | | X | | | X | | | X | X | | | |
| NWS | | | | | | X | | | | X | | | |
| Farm Services Administration | | | | | | | | | | | | | |
| Small Business Administration | | | | | | | | | | | | | |
| FEMA | | | | X | X | X | X | | | X | | | |
| Tribes & Pueblos | X | X | X | X | X | X | X | X | X | X | | X | X |
| NMDIA | X | | | | | X | X | X | X | X | | X | X |
| NMDGF | X | | | | | | | X | X | X | | | X |
| NMSLO | X | | X | | | | | X | X | X | | X | X |
| NMSPD | X | | | | | | | | | | | X | X |
| DHSEM | X | | X | X | X | X | X | X | X | X | | | |
| EMNRD-ECMD | | | | | | | | | | | | | |
| EMNRD-YCC | | | | | | | | | | | | | |
| GSD | | | | | | X | | | | X | | | |

| Theme → | Protect Watersheds From Harm | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Objective →** | Restore & reduce risk to fire-adapted lands | | | Help communities build capacity to prepare & respond to natural resource related disturbances | | Maintain & increase agency and interagency capacity & response to wildland fire and associated disturbances | | | | | Identify, manage, & reduce threats to forest & ecosystem health | | |
| **Strategy → / Partners ↓** | Manage & implement fuels projects that protect fire-adapted ecosystems & watersheds | Manage & implement fuels projects that protect the infrastructure & communites in fire adapted ecosystems | Encourage and support the development and implementation of Community Wildfire Protection Plans | Support & encourage community planning and response | Develop planning & response capacity for fire departments and emergency responders | Plan & prepare seasonally for expected fire activity | Host & support firefighter training agency-wide throughout NM for NMSF & rural fire department staff | Continue and expand public outreach to support fire management activities | Safely suppress wildland fires on non-municipal, non federal, non-tribal lands | Conduct pre-planning for post-fire response | Identify, map & monitor insect & disease outbreaks | Promote healthy, resilient forests that are less susceptible to insect & disease outbreaks | Continue to support Forest Inventory Analysis data collection for New Mexico |
| NM Corrections Department | | | | | | X | X | | X | | | | |
| NM Dept of Taxation & Revenue | | | | | | | | | | | | | |
| NM Fire Marshall (PRC) | | | | | X | | X | | | X | | | |
| NMDA | | | | | | | | | | | | | |
| NMDOT | | | | | | | | | | | | | |
| NMED | | | | | | | | | | | | | |
| NMSEO | | | | | | | | | | | | | |
| Workforce Solutions | | | | | | | | | | | | | |
| Water Trust Board | | | | | | | | | | | | | |
| SWCDs | X | X | X | | | | | | | | | X | X |
| land grants | X | X | X | X | | | | | | X | | X | X |
| acequia associations | | | | | | | | | | | | | |
| conservancy & irrigation ditches | | | | | | | | | | | | | |
| Flood control authorities | | | | | | | | | | X | | | |
| NMFPTF | | | X | X | | | | X | | | | | |
| Rare Plant Technical Council | | | | | | | | | | | | | |
| Forest Stewardship Council | | | X | X | | | | | | | | | |
| FWCG/DTF-WMS | | | X | X | | | | X | | X | | X | X |
| Tree Planting Advisory Committee | | | | | | | | | | | | | |
| Urban Forest Council | | | X | | | | | | | | | X | X |
| Rangeland Improvement Task Force | | | | | | | | | | | | | |
| state law enforcement agencies | | | | | | | | | X | | | | |
| communities | X | X | X | X | | X | X | | X | X | | | |
| counties | X | X | X | X | | X | X | X | X | X | | | |
| county planning departments | X | | X | X | | X | X | X | X | X | | X | X |
| county SO | | | | X | X | | | | X | X | | | |
| RFDs | | | X | X | | X | X | X | X | X | | X | X |
| local open space programs | | | | X | | X | X | X | X | | | | |
| MFDs | | | | X | X | X | X | X | X | X | | | |
| municipal LEOs | | | | | | | | | X | | | | |
| municipal water utility authorities | | | | | | | | | | | | | |
| municipalities | | | X | X | X | | | | | X | | X | X |

Table 3 continued. Partners organized by themes, objectives and strategies.

| Objective: | | Restore & reduce risk to fire-adapted lands | | | Help communities build capacity to prepare & respond to natural resource related disturbances | | Maintain & increase agency and interagency capacity & response to wildland fire and associated disturbances | | | | | Identify, manage, & reduce threats to forest & ecosystem health | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Strategy:** | **Partners** | Manage & implement fuels projects that protect fire-adapted ecosystems & watersheds | Manage & implement fuels projects that protect the infrastructure & communities in fire adapted ecosystems | Encourage and support the development and implementation of Community Wildfire Protection Plans | Support & encourage community planning and response | Develop planning & response capacity for fire departments and emergency responders | Plan & prepare seasonally for expected fire activity | Host & support firefighter training agency-wide throughout NM for NMSF & rural fire department staff | Continue and expand public outreach to support fire management activities | Safely suppress wildland fires on non-municipal, non federal, non-tribal lands | Conduct pre-planning for post-fire response | Identify, map & monitor insect & disease outbreaks | Promote healthy, resilient forests that are less susceptible to insect & disease outbreaks | Continue to support Forest Inventory Analysis data collection for New Mexico |
| | community based fire collaboratives | x | x | x | x | x | | | x | | x | | | |
| | CWPP core teams | x | x | x | x | | | | x | | x | | | |
| | local law enforcement agencies | | | | x | x | | | | | | | | |
| | learning networks & cooperatives | | x | x | x | | | | x | | x | | | |
| | ngo's w/ land management focus | | x | x | x | x | | | x | | x | | x | x |
| | ngo's w/tree & urban focus | | | x | x | | | | | | x | | x | |
| | RC&Ds | x | x | x | x | x | | | x | | x | | x | x |
| | LO associations/organizations | | | | | | | | | | | | | |
| | conservation organizations | | | | | | | | | | | | | |
| | land trusts/conservancies | | | | | | | | | | | | | |
| | watershed associations | x | x | x | x | | | | | | x | | x | x |
| | natural resources user groups | | | | | | | | | | | | | |
| | woodworking organizations | | | | | | | | | | | | x | x |
| | professional societies: land managers | | | x | x | x | | | | | | | x | x |
| | professional societies: urban focus | | | | | | | | | | | | x | x |
| | CWSF - WSFM | | x | x | | | | | | | | | | |
| | NASF | | | | | | | | | | | | | |
| | NMAC | x | x | x | x | | | | | | x | | | |
| | NMACD | | | | x | | | | | | | | | |
| | NMML | | | | x | | | | | | | | | |
| | homeowner associations | | x | x | x | | | | | x | | | x | |
| | private nurseries | | | | | x | | | | | | | x | |
| | utilities | | | | x | x | | | | x | | | | |
| | producers (wood, biomass, etc.) | | | | x | | | | | | | | | |
| | universities | | | | x | | | | x | | x | x | x | x |
| | NMHU - FWRI | | | x | x | | | | | | x | x | x | x |
| | NMSU Coop Ext | | x | | x | | | | | | | | x | x |
| | NMSU Harrington Research Center | | | | | | | | | | | | | |
| | UNM-NHNM | | | | | | | | | | | | | |
| | Schools K-12 | | | | | | | | | | | | | |
| | LO/LM (land owners/managers) | x | x | | x | x | | | | | | x | | x |
| | LANL | | | | | | | | | | | | | |
| | Sandia NL | | | | | | | | | | | | | |

Table 3 continued. Partners organized by themes, objectives and strategies.

**Theme:** T+C3: AL40heme — Enhance Public Benefit from Natural Resources

**Objectives:**
- Promote & enhance water supply and water quality
- Improve air quality and conserve energy
- Promote multi-jurisdictional, cross boundary initiatives to plan for and promote ecosystem resilience.
- Support landowners and land managers' ability to maintain and/or enhance economic benefits, or the value of natural resources

**Strategies:**
- S1. Promote & implement forest and watershed conservation practices
- S2. Identify & support expanded use of community forests as green infrastructure
- S3. Plan & implement watershed restoration projects
- S4. Identify & support the use of community forests to address air quality & energy conservation
- S5. Support the use of trees in landscape practices such as windbreaks, snow control, local climate moderation & carbon storage
- S6. Participate in landscape scale planning for overall watershed health.
- S7. Support efforts that enhance ecosystem services
- S8. Encourage and support the development of Community Wildfire Protection Plans.
- S9. Conduct fire planning and response to protect values at risk while considering ecological objectives.
- S10. Educate landowners, land managers & contractors, and enforce Commercial Timber Harvest Regulations.
- S11. Distribute seedlings for reforestation, windbreaks, shelterbelts, & other conservation purposes
- S12. Provide technical assistance with post-disturbance rehabilitation
- S13. Provide technical assistance to Tribal and public land managers
- S14. Conduct and facilitate collaborative natural resource planning

| Partners | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | S11 | S12 | S13 | S14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Silver Jackets Flood Mngnt Team | | | | | | | | × | | | | | × | |
| USDA FS FHP | | | | | | | | | | | | | | |
| USDA FS FIA | | | | | | | | | | | | | | |
| USDA FS FPL | | | | | | | | | | | | | | |
| USDA FS RMRS | | × | | | | | | | | | | | | |
| USDA NRCS Plant Material Center | | × | | × | × | | × | | | | × | × | × | |
| USDA FS | × | | × | | | × | × | × | × | | | × | × | × |
| USDA NRCS | × | | × | | × | × | × | | | | × | × | × | × |
| USDI BIA | × | | | | | × | × | × | × | | | × | × | × |
| USDI BLM | × | | × | | | × | × | × | × | | | × | × | × |
| USDI BOR | | | | | | | | | | | | × | | |
| USDI NPS | | | | | | | | × | | | | | | |
| USDI USFWS | × | | × | | | | | × | × | | | × | × | × |
| USGS | | | | | | | | | | | | | | × |
| US Military Installations | | | | | | × | | | | | | × | | |
| USACE | | | | | | × | × | | | | | × | | |
| Dept of Energy | | | | | | | | × | | | | | | |
| NWCG | | | | | | | | × | | | | | | |
| SWCG | | | | | | | | × | | | | | | |
| NWS | | | | | | | | | | | | | | |
| Farm Services Administration | | | | | | | | | | | | | | |
| Small Business Administration | | | | | | | | | | | | | | |
| FEMA | | | | | | | | | | | | | | |
| Tribes & Pueblos | × | × | × | × | × | × | × | × | × | | | × | × | × |
| NMDIA | | | | | | | | | | | | | | |
| NMDGF | × | | × | | | | | | × | × | | × | × | × |
| NMSLO | | | × | × | × | | | | × | × | | × | × | × |
| NMSPD | | | × | | | | | | | | | | | × |
| DHSEM | | | | × | × | | | | | | | | | |
| EMNRD-ECMD | | × | | × | × | | | | | | | | | |
| EMNRD-YCC | | | | | | | | | | | | | | |
| GSD | | | | | | | | | | | | | | |

16

# Table 3 continued. Partners organized by themes, objectives and strategies.

T+C3:AL40heme:

**Theme:** Enhance Public Benefit from Natural Resources

| Partners | Promote & enhance water supply and water quality | | | Improve air quality and conserve energy | | Promote multi-jurisdictional, cross boundary initiatives to plan for and promote ecosystem resilience. | | | Support landowners and land managers' ability to maintain and/or enhance economic benefits, or the value of natural resources | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Strategy →** | Promote & implement forest and watershed conservation practices | Identify & support expanded use of community forests as green infrastructure | Plan & implement watershed restoration projects | Identify & support the use of community forests to address air quality & energy conservation | Support the use of trees in landscape practices such as windbreaks, snow control, local climate moderation & carbon storage | Participate in landscape scale planning for overall watershed health. | Support efforts that enhance ecosystem services | Encourage and support the development of Community Wildfire Protection Plans. | Educate landowners, land managers & contractors, and enforce Commercial Timber Harvest Regulations | Conduct fire planning and response to protect values at risk while considering ecological objectives | Distribute seedlings for reforestation, windbreaks, shelterbelts, & other conservation purposes | Provide technical assistance with post-disturbance rehabilitation | Provide technical assistance to Tribal and public land managers | Conduct and facilitate collaborative natural resource planning |
| NM Corrections Department | | | | | | | | | | | | | | |
| NM Dept of Taxation & Revenue | | | | | | | | | | | | | | |
| NM Fire Marshall (PRC) | | | | | | | | X | | | | | | |
| NMDA | | | | X | | X | | | | X | | | | X |
| NMDOT | X | X | | X | | | | | | | | | | |
| NMED | X | | | X | | | | | | | | | | X |
| NMSEO | X | | | X | | X | | | | | | | | |
| Workforce Solutions | | | | | | | | | | | | | | |
| Water Trust Board | X | | X | | | X | | | | | | | X | |
| SWCDs | X | | X | | | X | X | | | | X | X | X | X |
| land grants | X | | X | | X | X | X | | | | X | X | X | X |
| acequia associations | | | | | | X | X | | | | | | | |
| conservancy & irrigation ditches | | | | | | X | | | | | | | | |
| Flood control authorities | | X | | | | X | | | | | | | | |
| NMFPTF | | | | | | | | X | | X | X | | | |
| Rare Plant Technical Council | | | | | | | | | | | | | | |
| Forest Stewardship Council | X | X | | X | X | X | X | | | | | | | |
| FWCG/DTF-WMS | X | X | X | | | X | X | | | | | | | |
| Tree Planting Advisory Committee | X | X | | X | X | | | | | | | | | |
| Urban Forest Council | X | X | | X | X | X | X | | | | | | X | X |
| Rangeland Improvement Task Force | | | | | | | | | | | | | | |
| state law enforcement agencies | | | | | | | | | | | | | | |
| communities | X | X | X | X | X | X | X | X | X | | | | X | X |
| counties | X | X | X | X | X | X | X | X | X | | | X | X | X |
| county planning departments | | | | | | X | X | X | | | | | X | X |
| county SO | | | | | | | | | | | | | | |
| RFDs | | | | | | | | | | X | | X | | |
| local open space programs | | | | | | | | | | | | | | |
| MFDs | | | | | | | | | | X | | | | |
| municipal LEOs | | X | X | | | | | | | | | | | |
| municipal water utility authorities | X | X | X | | | | | | | | | | | |
| municipalities | | X | X | X | | X | | X | | X | | | | X |

# Table 3 continued. Partners organized by themes, objectives and strategies.

| Theme: | | | Enhance Public Benefit from Natural Resources | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Objective** | Promote & enhance water supply and water quality | | | Improve air quality and conserve energy | | Promote multi-jurisdictional, cross boundary initiatives to plan for and promote ecosystem resilience. | | | Support landowners and land managers' ability to maintain and/or enhance economic benefits, or the value of natural resources | | | | |
| **Strategy / Partners:** | Promote & implement forest and watershed conservation practices | Identify & support expanded use of community forests as green infrastructure | Plan & implement watershed restoration projects | Identify & support the use of community forests to address air quality & energy conservation | Support the use of trees in landscape practices such as windbreaks, snow control, local climate moderation & carbon storage | Participate in landscape scale planning for overall watershed health. | Support efforts that enhance ecosystem services | Encourage and support the development of Community Wildfire Protection Plans. | Conduct fire planning and response to protect values at risk while considering ecological objectives / Educate landowners, land managers & contractors, and enforce Commercial Timber Harvest Regulations | Distribute seedlings for reforestation, windbreaks, shelterbelts, & other conservation purposes | Provide technical assistance with post-disturbance rehabilitation | Provide technical assistance to Tribal and public land managers | Conduct and facilitate collaborative natural resource planning |
| community based fire collaboratives | | | | | | X | X | X | X | | | | |
| CWPP core teams | | | | | | | | | | | | | |
| local law enforcement agencies | | | | | | | | | | | | | |
| learning networks & cooperatives | | | | | | | | | | | | | |
| ngo's w/ land management focus | X | X | X | | X | X | X | X | X | X | X | X | X |
| ngo's w/tree & urban focus | X | X | | X | X | | X | | | X | X | X | X |
| RC&Ds | X | | | | | | | | | | | | |
| LO associations/organizations | X | X | X | X | X | X | X | X | X | | | X | X |
| conservation organizations | X | X | | | | X | X | | | | | | |
| land trusts/conservancies | X | | X | | | X | X | | | | X | | X |
| watershed associations | X | | | | | X | X | | | | | | X |
| natural resources user groups | X | | | | | X | X | | | | | | X |
| woodworking organizations | | | | | | | | | | | | | |
| professional societies: land manager | X | X | | X | X | X | X | | | | | | |
| professional societies: urban focus | | X | | X | | | X | | X | | | X | X |
| CWSF - WSFM | | | | | | | | | | | | | |
| NASF | | | | | | | | X | X | | | | |
| NMAC | | | | | | | | | | | | | |
| NMACD | | | | | | | | | | | | | |
| NMML | | X | | | X | | X | | | | X | | |
| homeowner associations | | | | X | X | | | | | | | | |
| private nurseries | | X | | X | X | | | | | X | X | | |
| utilities | | | | X | | | | | | | | | |
| producers (wood, biomass, etc.) | X | X | | | | | X | | | | X | X | X |
| universities | X | X | | X | | X | X | X | X | | X | X | X |
| NMHU - FWRI | X | | | | | X | X | X | | | X | X | X |
| NMSU Coop Ext | X | X | X | X | X | X | X | | X | | X | X | X |
| NMSU Harrington Research Center | | | | | | | | | | X | X | X | |
| UNM-NHNM | | | | | | | | | | | | | |
| Schools K-12 | | | | | | | | | | | | | |
| LO/LM (land owners/managers) | X | | X | X | X | X | X | | X | X | X | X | X |
| LANL | | | | | | | X | | | | | | |
| Sandia NL | | | | | X | | X | | | | | | |

| Partners / Theme | Enhance Public Benefit from Natural Resources | | | | | | | | Promote Urban & Community Forests | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Objective →** | Protect, conserve & enhance plant and wildlife habitat | | Protect, conserve & enhance endangered species. | | | Connect people to landscape & engage them in natural resource stewardship activities. | | | Manage & restore trees, forests, & ecosystems to mitigate & adapt to global climate change | | Empower communities to develop and sustain healthy community and urban forest |
| **Strategy →** | Plan, facilitate, & coordinate multijurisdictional stewardship projects | Conduct & facilitate collaborative natural resource planning | Support rare and endangered species research and recovery. | Plan and implement rare and endangered plant research and recovery. | Develop and implement a Rare Plant Conservation Strategy | Help private and tribal landowners manage their natural resources through technical assistance, training, funding and other support | Promote the value of public lands stewardship | Promote to the public the value of urban and community forests | Monitor and adapt forest and watershed management practices to increase resilience to the impacts of climate change | Plan and implement forest planting, conservation and rehabilitation projects to mitigate climate change | Implement the collaboration, education and outreach, management, and research assessment strategies in the U&CF Strategic Plan |
| Silver Jackets Flood Mngmt Team | | | | | | | | | | | |
| USDA FS FHP | | | | | | | | | | | |
| USDA FS FIA | | | | | | | | | | | |
| USDA FS FPL | | | | | | | | | | | |
| USDA FS RMRS | | | | | | | | | X | X | |
| USDA NRCS Plant Material Center | X | | | X | X | | | | | | |
| USDA FS | X | X | | X | X | X | X | | X | X | |
| USDA NRCS | X | X | | X | X | X | X | | X | X | |
| USDI BIA | | | | | | X | | | | | |
| USDI BLM | X | X | | X | X | X | X | | X | X | |
| USDI BOR | | X | | X | X | | | | | | |
| USDI NPS | X | X | | X | X | | X | | X | X | |
| USDI USFWS | X | X | | X | X | X | X | | X | X | |
| USGS | | | | X | X | | | | | | |
| US Military Installations | X | X | | X | X | X | X | | | | |
| USACE | X | | | X | X | | | | | | |
| Dept of Energy | | | | | | | | | | | |
| NWCG | | | | | | | | | | | |
| SWCG | | | | | | | | | | | |
| NWS | | | | | | | | | | | |
| Farm Services Administration | | | | | | | | | | | |
| Small Business Administration | | | | | | | | | | | |
| FEMA | | | | | | | | | | | |
| Tribes & Pueblos | X | X | | X | X | X | X | | X | X | |
| NMDIA | X | X | | X | X | | X | | X | X | |
| NMDGF | X | X | | X | X | | X | | X | X | |
| NMSLO | X | X | | X | X | | X | | X | X | |
| NMSPD | X | X | | X | X | | X | | X | X | |
| DHSEM | | | | | | | | | | | |
| EMNRD-ECMD | | | | X | X | | | | | | |
| EMNRD-YCC | | | | | | | | | | | |
| GSD | | | | | | | X | | | | |

# Table 3 continued. Partners organized by themes, objectives and strategies.

**T-C3: AL40heme:**

| Theme | Objective | Strategy |
|---|---|---|
| Enhance Public Benefit from Natural Resources | Protect, conserve & enhance plant and wildlife habitat | S1. Plan, facilitate, & coordinate multijurisdictional stewardship projects |
| | | S2. Conduct & facilitate collaborative natural resource planning |
| | Protect, conserve & enhance endangered species. | S3. Support rare and endangered species research and recovery. |
| | | S4. Plan and implement rare and endangered plant research and recovery. |
| | | S5. Develop and implement a Rare Plant Conservation Strategy |
| | Connect people to landscape & engage them in natural resource stewardship activities. | S6. Help private and tribal landowners manage their natural resources through technical assistance, training, funding and other support |
| | | S7. Promote the value of public lands stewardship |
| | | S8. Promote to the public the value of urban and community forests |
| | Manage & restore trees, forests, & ecosystems to mitigate & adapt to global climate change | S9. Monitor and adapt forest and watershed management practices to increase resilience to the impacts of climate change |
| | | S10. Plan and implement forest planting, conservation and rehabilitation projects to mitigate climate change |
| Promote Urban & Community Forests | Empower communities to develop and sustain healthy community and urban forest | S11. Implement the collaboration, education and outreach, management, and research assessment strategies in the U&CF Strategic Plan |

| Partners | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | S11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| NM Corrections Department | | | | | | X | X | X | | | |
| NM Dept of Taxation & Revenue | | | | | | | | | | | |
| NM Fire Marshall (PRC) | | | | | | | | | | | |
| NMDA | | X | | | | | | | | | |
| NMDOT | | X | X | X | X | | X | X | X | | |
| NMED | | | | | | | | | | | |
| NMSEO | | | | | | | | | | | |
| Workforce Solutions | X | X | X | X | X | X | X | X | X | | |
| Water Trust Board | X | X | X | X | X | X | | | X | | |
| SWCDs | X | X | X | X | X | X | X | | X | X | X |
| land grants | X | X | X | X | X | X | X | | X | X | X |
| acequia associations | | | | | | | | | | | |
| conservancy & irrigation ditches | | | | | | | | | | | |
| Flood control authorities | | | | | | | | | | | |
| NMFPTF | | | | | | | | | | | |
| Rare Plant Technical Council | X | X | X | X | X | | | | | | |
| Forest Stewardship Council | X | X | X | X | X | X | X | | X | X | X |
| FWCG/DTF-WMS | X | X | X | X | X | X | X | | X | X | X |
| Tree Planting Advisory Committee | | | | | | | | X | X | X | X |
| Urban Forest Council | X | X | | | | X | X | X | X | X | X |
| Rangeland Improvement Task Force | | | | | | | | | | | |
| state law enforcement agencies | | | | | | | | | | | |
| communities | X | X | X | X | X | | X | X | X | X | X |
| counties | X | X | X | X | X | | X | X | X | X | X |
| county planning departments | | | | | | | | | | | |
| county SO | | X | | | | | | | | | |
| RFDs | | | | | | | X | X | X | X | X |
| local open space programs | | | | | | | X | X | X | X | X |
| MFDs | | | | | | | | | | | |
| municipalities | | | | | | | X | X | | | |
| municipal water utility authorities | | | | | | | X | X | | | |
| municipal LEOs | | | | | | | | | | | |

## Table 3 continued. Partners organized by themes, objectives and strategies.

| Theme | Enhance Public Benefit from Natural Resources | | | | | | | | | | Promote Urban & Community Forests |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Objective** | Protect, conserve & enhance plant and wildlife habitat | | Protect, conserve & enhance endangered species. | | | Connect people to landscape & engage them in natural resource stewardship activities. | | | Manage & restore trees, forests, & ecosystems to mitigate & adapt to global climate change | | Empower communities to develop and sustain healthy community and urban forest |
| **Strategy / Partners:** | Plan, facilitate, & coordinate multijurisdictional stewardship projects | Conduct & facilitate collaborative natural resource planning | Support rare and endangered species research and recovery. | Plan and implement rare and endangered plant research and recovery. | Develop and implement a Rare Plant Conservation Strategy | Help private and tribal landowners manage their natural resources through technical assistance, training, funding and other support | Promote the value of public lands stewardship | Promote to the public the value of urban and community forests | Monitor and adapt forest and watershed management practices to increase resilience to the impacts of climate change | Plan and implement forest planting, conservation and rehabilitation projects to mitigate climate change | Implement the collaboration, education and outreach, management, and research assessment strategies in the U&CF Strategic Plan |
| NM Corrections Department | | | | | | | | | | | |
| community based fire collaboratives | | | | | | | | | | | |
| CWPP core teams | | | | | | | | | | | |
| local law enforcement agencies | | | | | | | | | | | |
| learning networks & cooperatives | | | | | | | | | | | |
| ngo's w / land management focus | X | X | X | X | X | X | X | X | | | X |
| ngo's w/tree & urban focus | X | X | | | | | X | X | X | X | |
| RC&Ds | X | X | X | | | X | X | X | X | X | |
| LO associations/organizations | X | X | X | X | X | X | X | X | X | X | |
| conservation organizations | X | X | X | X | X | | | | | | |
| land trusts/conservancies | | X | | X | X | | | | | | |
| watershed associations | X | X | | X | X | | | | X | X | |
| natural resources user groups | X | | | | | | | | X | | |
| woodworking organizations | | | | | | | | | | | |
| professional societies: land manager | X | X | | X | X | | | X | X | X | X |
| professional societies: urban focus | | X | | | | | | X | X | | X |
| CWSF - WSFM | | | | | | | | | | | |
| NASF | | | | | | | | | | | |
| NMAC | X | X | | | | | | X | X | X | X |
| NMACD | X | X | | | | | | | | | |
| NMML | | | | | | | | X | X | | X |
| homeowner associations | | | | | | | | | | | |
| private nurseries | | | | | | | | | | | |
| utilities | | | | | | | | | | | |
| producers (wood, biomass, etc.) | X | X | | | | | | | X | X | |
| universities | X | X | X | X | | X | | X | X | X | |
| NMHU - FWRI | X | X | | X | | X | | | X | X | X |
| NMSU Coop Ext | | | | | | X | | X | X | X | X |
| NMSU Harrington Research Center | | | | | | | | | | | X |
| UNM-NHNM | | X | X | X | X | | | | X | X | |
| Schools K-12 | | | | | | | | X | | | |
| LO/LM (land owners/managers) | X | X | X | X | X | X | X | X | X | X | |
| LANL | | | | | | | | | X | | |
| Sandia NL | | | | | | | | | | | |

Table 4. Programs organized by themes, objectives and strategies.
Note: Only relevant programs are listed under each Theme. For a complete list of programs considered see the end of Table 4.

| Theme: | Conserve Working Landscapes | | | | | |
|---|---|---|---|---|---|---|
| **Objective** | ID & conserve high priority landscapes | | Actively & sustainably manage forests and watershed with economic potential | | | |
| **Strategy:** / **Programs** | Protect & acquire unique habitats | Help LO/LM recognize & manage ecologically important areas | Encourage forest industry needed to manage healthy landscapes | Encourage healthy rangeland conditions though sound land management practices | Increase workforce capacity to conduct forestry activities | Support alternative forest product markets that help utilize woody material from non-traditional sources. |
| Big Tree Program | x | x | x | | | x |
| Biomass Crop Assistance Program | | | x | | | x |
| CFLRP | | | x | x | x | x |
| CFRP | | | x | x | | x |
| Community Forestry Assistance | | x | | x | x | |
| CWPP | | | x | | x | |
| Economic development | | | x | | | x |
| ecosystem services research | | | | | | x |
| education & outreach programs | x | x | x | x | x | x |
| emergency funds | | | | | | |
| Endangered Plants Program | x | x | x | | | |
| EQIP | x | x | x | x | | |
| farmland/ranchland conservation programs | x | x | x | | | x |
| fire management | | | x | | | |
| Fire Prevention | | | | | | |
| fire risk homeowner assessments | | | | | | |
| Firewise | | | x | | | |
| Forest & Watershed Health Plan | x | x | x | x | x | x |
| forest conservation | | | x | | | x |
| Forest Health Initiative | | | x | | | x |
| forest industry | | | x | | | x |
| Forest Legacy | x | x | x | x | | x |
| forest management | x | x | x | x | x | x |
| Forest Stewardship | x | x | x | x | x | |
| FWSC | | x | x | | | |
| GIS program | x | x | x | x | x | |
| GIS: spatial data collection | | | | | | |

22

# Table 4 continued. Programs organized by themes, objectives and strategies.

| Theme: | Conserve Working Landscapes | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Objective** | ID & conserve high priority landscapes | | Actively & sustainably manage forests and watershed with economic potential | | | |
| **Strategy:** Programs | Protect & acquire unique habitats | Help LO/LM recognize & manage ecologically important areas | Encourage forest industry needed to manage healthy landscapes | Encourage healthy rangeland conditions though sound land management practices | Increase workforce capacity to conduct forestry activities | Support alternative forest product markets that help utilize woody material from non-traditional sources. |
| Governor's Watershed Restoration Program | | x | x | | | x |
| Growing a Healthier Community | | x | | | | |
| Inmate Work Camp (IWC) | | | | | | |
| Invasive Plants program | | | x | x | x | |
| LCIA | x | | x | | | |
| NFL HFR | x | | x | | x | x |
| NHCA | x | | | | | |
| NLPA | x | | | | | |
| NM Forest Practices Guidelines (incl BMPs) | | x | x | | | x |
| NMDGF program for landowners | x | x | | | | |
| NMSF firefighting resources | | | | | | |
| NRCS | | x | x | x | | x |
| Partners for Wildlife | | x | | x | x | |
| Plan Smart, Rethink Green | | x | | | x | |
| Regional Water Plans | | | x | x | | |
| Restore NM | | | | x | x | |
| Returning Heroes Program (RHP) | | x | | | | |
| RGWF | | | | | | |
| Rx Fire Management Plans | | | x | | | |
| State Fire Assistance | | | x | | | |
| technical assistance for collaboration | | | x | | | |
| technical assistance to landowners | x | x | x | x | | |
| thinning & fuels management | | | x | x | | |
| Third Party Certification | | | x | x | | x |
| Tree Farm | | | x | x | | |
| Value-added forest products | | | x | x | x | x |
| Woody biomass utilization | | | x | x | x | x |
| WSFA WUI HFR | | | x | | | |
| YCC | | | x | x | x | x |

Table 4 continued.  Programs organized by themes, objectives and strategies.

| Theme | | Protect Watersheds From Harm | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Objective | | Restore & reduce risk to fire-adapted lands | | | Help communities build capacity to prepare & respond to natural resource related disturbances | | Maintain & increase agency and interagency capacity & response to wildland fire and associated disturbances | | | | | Identify, manage & reduce threats to forest & ecosystem health | | |
| Strategy: | | Manage & implement fuels projects that protect fire-adapted ecosystems & watersheds | Manage & implement fuels projects that protect the infrastructure & communities in fire adapted ecosystems | Encourage and support the development and implementation of Community Wildfire Protection Plans | Support & encourage community planning and response | Develop planning & response capacity for emergency responders | Plan & prepare seasonally for expected fire activity | Host & support firefighter training agency-wide throughout NM for NMSF & rural fire department staff | Continue and expand public outreach to support fire management activities | Safely suppress wildland fires on non-municipal, non-federal, non-tribal lands | Conduct pre-planning for post-fire response | Identify, map & monitor insect & disease outbreaks | Promote healthy, resilient forests that are less susceptible to insect & disease outbreaks | Continue to support Forest Inventory Analysis data collection for New Mexico |
| Programs | | | | | | | | | | | | | | |
| Aerial Survey (Coop Forest Health) | | | | | | | | | | | | X | | |
| After Wildfire NM | | | | | X | X | | X | | | | X | | |
| Area Operations plans | | | | | | | | | | | | | | |
| Burn Area Learning Network (BALN) | | | | | X | X | | X | | | X | | | |
| CFLRP | | X | X | | | | | | | | | | | |
| CFRP | | X | X | | | X | | X | | | | | X | X |
| Community Forestry Assistance | | X | X | X | X | | | | | | | | X | |
| Community Risk Assessments (CAR) | | | | | X | | | | X | | | | X | |
| Cooperative Forest Health | | X | | X | X | | | | X | | X | | X | |
| CWPP | | | | X | X | | | | | | | | | |
| education & outreach programs | | | X | | X | X | | X | X | | X | X | X | |
| emergency funds | | | | | | | X | | | | | | | |
| EQIP | | X | | | | | | | | | | | | |
| EWP (Emergency Watershed Protection) | | | | | | | | | | | | | | |
| FAC | | | | | | X | X | | X | | X | | | |
| FEPP | | | | | | | | | | | | | | |
| fire management | | X | X | X | X | X | X | X | X | X | | | | |
| fire preparedness | | | | X | X | X | X | | X | X | | | X | X |
| Fire Prevention | | | | X | | | X | | X | | | | X | |
| fire risk homeowner assessments | | | | | X | X | X | | X | | | | | |
| fire suppression | | | | | | | | | X | X | | | | |
| Firewise | | | | | X | | | | X | X | | | | |
| Forest & Watershed Health Plan | | X | | X | X | | X | X | X | | X | X | X | X |
| Forest Health Initiative | | | | | X | | | | | | | | X | |
| Forest Health Specialist | | | | | | | | | | | | X | X | |
| forest industry | | X | X | | | | | | | | | | X | X |
| forest management | | X | X | | | | | | | | | | | |
| Forest Stewardship | | X | X | X | X | | | | X | | X | | X | X |
| GIS program | | X | X | X | X | | X | | | | | X | | X |
| Governor's Watershed Restoration Program | | X | X | | | | | | | | | | | |
| homeowner assessments | | | | | | | | X | X | | | | | |
| Incident Qualifications System (IQS) | | | | | | | | | | | | | | |

| Theme | | Protect Watersheds From Harm | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Objective** | | Restore & reduce risk to fire-adapted lands | | | Help communities build capacity to prepare & respond to natural resource related disturbances | | Maintain & increase agency and interagency capacity & response to wildland fire and associated disturbances | | | | | Identify, manage, & reduce threats to forest & ecosystem health | | |
| **Strategy** | | Manage & implement fuels projects that protect fire-adapted ecosystems & watersheds | Manage & implement fuels projects that protect the infrastructure & communities in fire adapted ecosystems | Encourage and support the development and implementation of Community Wildfire Protection Plans | Support & encourage community planning and response | Develop planning & response capacity for emergency responders | Plan & prepare seasonally for expected fire activity | Host & support firefighter training agency-wide throughout NM for NMSF & rural fire department staff | Continue and expand public outreach to support fire management activities | Safely suppress wildland fires on non-municipal, non-federal, non-tribal lands | Conduct pre-planning for post-fire response | Identify, map & monitor insect & disease outbreaks | Promote healthy, resilient forests that are less susceptible to insect & disease outbreaks | Continue to support Forest Inventory Analysis data collection for New Mexico |
| **Programs** | | | | | | | | | | | | | | |
| Inmate Work Camp (IWC) | | | | | X | | X | X | | | | | | |
| Inoperability grant, | | | | | X | | | | | | | | | |
| Invasive Plants program | | | | | | | | | | | | | | |
| ISO fire grant | | | | | X | X | | | | | | | | |
| LCIA | | | | | | | | | | | | | | |
| LEO - fire restriction enforcement | | | | | X | | | X | | | | | | |
| Living With Fire | | X | X | X | X | | | X | X | | | | | |
| LSRP | | | | | | | | | | | | | | |
| NFL HFR | | X | | X | X | | | X | X | | | | | |
| NM Fire Information | | | | | | | | | | | | | | |
| NMSF firefighting resources | | | | | | | X | | | | | | | |
| Plan Smart, Rethink Green | | | | X | X | | | | | | | | | |
| Ready Reserve | | | | | | | | X | | | | | | |
| Ready, Set, Go | | | | | X | X | X | X | X | | | | | |
| Returning Heroes Program (RHP) | | | | | | | X | X | | X | | | | |
| RFA | | | | | | X | X | X | X | | | | | |
| RGWF | | X | X | | | X | X | X | | | | | | |
| RMP | | | | | | X | X | X | | | | | | |
| Rx Fire Management Plans | | | | | X | X | X | X | | X | | | | |
| smoke management | | | | | | X | | X | X | | | | | |
| Smokey Bear | | | | | | | | | X | | | | | |
| Smokey Bear State Park | | | | | | | | | X | | | | | |
| SPOT program | | | | | | | | | | | | | | |
| State Fire Assistance | | | | | | | | X | | X | | | | |
| technical assistance to landowners | | | | | | | | | | | | | | |
| U&CF | | X | X | | X | | | | | | | X | | |
| Value-added forest products | | | | | | | | | | | | | X | |
| VFA | | | | | | | | X | | | | | | |
| Volunteer/Partnership Coordinator | | | X | | | | | | | | | | | |
| WSFA WUI HFR | | | | | | | | | | | | | | |
| YCC | | | | | | | X | X | X | | | | | |

**Theme:** Enhance Public Benefit from Natural Resources

| Programs | Promote & enhance water supply & quality — Promote & implement forest and watershed conservation practices | Promote & enhance water supply & quality — Identify & support expanded use of community forests as green infrastructure | Promote & enhance water supply & quality — Plan & implement watershed restoration & projects | Improve air quality and conserve energy — Identify & support the use of community forests to address air quality & energy conservation | Improve air quality and conserve energy — Support the use of trees in landscape practices such as windbreaks, snow control, local climate moderation & carbon storage | Promote multi-jurisdictional, cross boundary initiatives to plan for and promote ecosystem resilience. — Participate in landscape scale planning for overall watershed health. | Promote multi-jurisdictional... — Support efforts that enhance ecosystem services | Support landowners and land managers' ability to maintain & enhance economic benefits & values of natural resources — Educate landowners, land managers & contractors, and enforce Commercial Timber Harvest Regulations. | Support landowners... — Conduct fire planning and response to protect values at risk while considering ecological objectives | Support landowners... — Distribute seedlings for reforestation, windbreaks, shelterbelts, & other conservation purposes | Support landowners... — Provide technical assistance with post-disturbance rehabilitation |
|---|---|---|---|---|---|---|---|---|---|---|---|
| After Wildfire NM | | | X | | | | | | | | X |
| BAER/BAR | | | | | | X | X | | | | X |
| Burn Area Learning Network (BALN) | | | | | | X | | | | | X |
| CFLRP | | | | | | X | X | | | | |
| CFRP | | | | | | X | X | | | | X |
| Community Forestry Assistance | X | X | | X | X | | X | | | | |
| Conservation Seedling Program | X | | X | X | X | | X | | | X | X |
| Cooperative Forest Health | | | | | | | X | | X | X | |
| CWPP | | | | | | X | X | | X | | |
| ecosystem services research | | | | X | X | | X | | | | |
| education & outreach programs | X | | X | X | X | | X | | | | |
| Endangered Plants Program | | | | | | | | | | | |
| EQIP | | | | | | | | | | | |
| EWP (Emergency Watershed Protection) | | | | | | X | X | | X | X | X |
| Expo NM | | | | | | | | | | | |
| FAC | | | | | | X | X | | X | | |
| farmland/ranchland conservation programs | | | | | | | | | | | |
| fire management | | | | | | | X | | X | | |
| fire preparedness | | | | | | | | | X | | |
| Fire Prevention | | | | | | | X | | X | | |
| fire suppression | | | | | | | | | X | | |
| Firewise | | | | | | | | X | X | | |
| Forest & Watershed Health Plan | X | | X | | | X | X | | X | | |
| forest conservation | | | | | | | | X | | | |
| Forest Health Initiative | | | | | | | | | | | |
| forest industry | X | | | | | X | X | | | X | X |

Table 4 continued. Programs organized by themes, objectives and strategies.

**Theme: Enhance Public Benefit from Natural Resources**

| Programs | Enhance water supply & quality — Promote & implement forest and watershed conservation practices | Enhance water supply & quality — Identify & support expanded use of community forests as green infrastructure | Enhance water supply & quality — Plan & implement watershed restoration projects | Improve air quality and conserve energy — Identify & support the use of community forests to address air quality & energy conservation | Improve air quality and conserve energy — Support the use of trees in landscape practices such as windbreaks, snow control, local climate moderation & carbon storage | Promote multi-jurisdictional, cross boundary initiatives to plan for and promote ecosystem resilience. — Participate in landscape scale planning for overall watershed health. | Promote multi-jurisdictional, cross boundary initiatives... — Support efforts that enhance ecosystem services | Support landowners and land managers' ability to maintain & enhance economic benefits & values of natural resources — Educate landowners, land managers & contractors, and enforce Commercial Timber Harvest Regulations. | Support landowners... — Conduct fire planning and response to protect values at risk while considering ecological objectives | Support landowners... — Distribute seedlings for reforestation, windbreaks, shelterbelts, & other conservation purposes | Support landowners... — Provide technical assistance with post-disturbance rehabilitation |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Forest Legacy** | | | | | | | | | | | |
| forest management | X | | X | X | | X | | X | | | |
| forest regulation enforcement | | | | | | | | | | | |
| Forest Stewardship | X | X | X | X | X | X | X | | | | |
| GIS program | | X | | | | | | | | | |
| GIS: spatial data collection | X | X | X | X | X | X | X | | | | |
| Governor's Watershed Restoration Program | | | X | | | | | | | | |
| Growing a Healthier Community | | X | | X | X | X | X | | | | |
| homeowner assessments | | | | | | | | | | | |
| Inmate Work Camp (IWC) | | | | | | | | | X | | X |
| Inoperability grant, | | | | | | | | | | | X |
| Invasive Plants program | | | | | | | X | | | | X |
| LEO - forest regulation enforcement | | | | | | | | X | | | |
| NFL HFR | | | | | | | | | | | |
| NHCA | | | | | | | | | | | |
| NM Fire Information | | | | | | | | | | | |
| NM Forest Practices Guidelines (incl BMPs) | | | | | | | | | | | |
| NM Forest Releaf | X | X | X | X | X | | X | X | X | | |
| NM Natural Heritage Program | | | | | | | | | X | | |
| NM Smoke Management Program | | | | | | X | X | | | | |
| NMDGF program for landowners | | | | | | | | | | | |
| NRCS | | | | | | | | | | | |
| NRCS Cooperative Agreement | | | | | | | X | X | | X | |
| Partners for Wildlife | | | | | | | X | | | | |
| Plan Smart, Rethink Green | X | X | | X | X | X | X | | | | |

## Table 4 continued. Programs organized by themes, objectives and strategies.

| Theme | Enhance Public Benefit from Natural Resources | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Objective** | Promote & enhance water supply & quality | | | Improve air quality and conserve energy | | Promote multi-jurisdictional, cross boundary initiatives to plan for and promote ecosystem resilience. | | Support landowners and land managers' ability to maintain & enhance economic benefits & values of natural resources | | | |
| **Strategy / Programs** | Promote & implement forest and watershed conservation practices | Identify & support expanded use of community forests as green infrastructure | Plan & implement watershed restoration projects | Identify & support the use of community forests to address air quality & energy conservation | Support the use of trees in landscape practices such as windbreaks, snow control, local climate moderation & carbon storage | Participate in landscape scale planning for overall watershed health. | Support efforts that enhance ecosystem services | Educate landowners, land managers & contractors, and enforce Commercial Timber Harvest Regulations. | Conduct fire planning and response to protect values at risk while considering ecological objectives | Distribute seedlings for reforestation, windbreaks, shelterbelts, & other conservation purposes | Provide technical assistance with post-disturbance rehabilitation |
| post fire mitigation measures | | | X | | | X | X | | | | X |
| PSRVF Program | X | | X | | | | | | | | |
| RCPP | | | X | | | X | | | | | |
| Ready, Set, Go | | | X | | | X | | | X | | |
| Regional Water Plans | | | | | | | | | | | |
| resource planning consultations | | | | | | X | X | | | | |
| Restore NM | | | | | | X | X | X | | | |
| RGWF | | | X | | | X | X | | | | |
| Rx Fire Management Plans | | | | | | X | | | | | |
| State Fire Assistance | | | | | | | | | | | |
| T&E: FS Master Agreement - Endangered Plants | | | | | | | | | | | |
| T&E: USFWS Section 6 grants | | | | | | | | | | | |
| T&E: Agreement: BLM Rangewide Survey | | | | | | | | | | | |
| technical assistance for collaboration | | | | | | | | | | | |
| technical assistance to landowners | | | | | | X | | | | | X |
| thinning & fuels management | | | | | | X | X | | | X | |
| Third Party Certification | X | | X | | | X | X | | | | |
| Tree City USA | | X | | X | X | | | | | | |
| Tree Farm | X | | X | | | | | | | | |
| U&CF | X | X | X | X | X | | | | | | |
| USDA Two Chiefs Program | X | X | X | | | X | X | | | | |
| Volunteer/Partnership Coordinator | | X | | | | | X | | | | |
| Water Trust Fund | | | X | | | | X | | | | |
| WFDSS | | | | | | | | | X | | |
| Woody biomass utilization | | | | | | X | X | | | X | X |

## Table 4 continued. Programs organized by themes, objectives and strategies.

**Theme:** Enhance Public Benefit from Natural Resources

| Programs \ Strategy | Provide technical assistance to Tribal and public land managers (Objective III-4 continued) | Conduct and facilitate collaborative natural resource planning (Objective III-4 continued) | Plan, facilitate, & coordinate multijurisdictional stewardship projects | Plan & implement rare and endangered plant research & recovery | Conduct & facilitate collaborative natural resource planning | Help private and tribal landowners manage their natural resources through technical assistance, training, funding and other support | Promote the value of public lands stewardship | Promote to the public the value of urban and community forests | Monitor and adapt forest and watershed management practices to increase resilience to the impacts of climate change | Plan and implement forest planting, conservation and rehabilitation projects to mitigate climate change |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | *Protect, conserve and enhance endangered species and wildlife habitat* | | | *Connect people to landscape & engage them in natural resource stewardship activities.* | | | *Manage & restore trees, forests, & ecosystems to mitigate & adapt to global climate change* | |
| After Wildfire NM | | | | | | | | | x | x |
| BAER/BAR | | | | | | | | | x | x |
| Burn Area Learning Network (BALN) | | x | | | x | x | | | x | x |
| CFLRP | | x | | | x | | | | x | x |
| CFRP | | x | | | | | | | | |
| Community Forestry Assistance | x | x | | | x | x | x | x | x | x |
| Conservation Seedling Program | x | x | | | x | x | | x | x | x |
| Cooperative Forest Health | x | x | | | x | x | x | x | x | x |
| CWPP | x | x | | | x | x | | x | x | x |
| ecosystem services research | | | | x | x | | | | | |
| education & outreach programs | | | | x | x | x | | | | |
| Endangered Plants Program | | | x | x | x | x | x | | | |
| EQIP | | | | | x | x | | | x | x |
| EWP (Emergency Watershed Protection) | | | | | x | x | | | x | x |
| Expo NM | | x | | | x | x | | | | |
| FAC | | x | | | x | x | | | x | x |
| farmland/ranchland conservation programs | | x | | | x | x | | | x | x |
| fire management | | | | | | | | | x | x |
| fire preparedness | | | | | | | | | | |
| Fire Prevention | | | | | | | | | | |
| fire suppression | | | | | | | | | | |
| Firewise | | | | | | | | | | |
| Forest & Watershed Health Plan | | x | | | | x | | | x | x |
| forest conservation | x | x | | x | x | x | | | x | x |
| Forest Health Initiative | | | | | | | | | | |
| forest industry | x | x | | | | | | | x | x |

# Table 4 continued. Programs organized by themes, objectives and strategies.

**Theme:** Enhance Public Benefit from Natural Resources

**Objectives and Strategies:**

- **Objective III-4 continued**
  - S1: Provide technical assistance to Tribal and public land managers
  - S2: Conduct and facilitate collaborative natural resource planning
- **Protect, conserve & enhance endangered species and wildlife habitat**
  - S3: Plan, facilitate, & coordinate multijurisdictional stewardship projects
  - S4: Plan & implement rare and endangered plant research & recovery
  - S5: Conduct & facilitate collaborative natural resource planning
- **Connect people to landscape & engage them in natural resource stewardship activities.**
  - S6: Help private and tribal landowners manage their natural resources through technical assistance, training, funding and other support
  - S7: Promote the value of public lands stewardship
  - S8: Promote to the public the value of urban and community forests
- **Manage & restore trees, forests, & ecosystems to mitigate & adapt to global climate change**
  - S9: Monitor and adapt forest and watershed management practices to increase resilience to the impacts of climate change
  - S10: Plan and implement forest planting, conservation and rehabilitation projects to mitigate climate change

| Programs | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Forest Legacy | | X | | | X | X | | | | X |
| forest management | | X | | X | X | X | | | X | |
| Forest Stewardship | | X | | | | | | | | |
| GIS program | | X | | | X | | | | | |
| GIS: spatial data collection | | X | | | X | | | | | |
| Governor's Watershed Restoration Program | | X | | | X | | | | | |
| Growing a Healthier Community | | | | | X | | | X | | |
| Inmate Work Camp (IWC) | X | | | | | | | | | |
| Inoperability grant, | | | | X | | | | | | |
| Invasive Plants program | X | X | | X | X | X | | | | |
| NFL HFR | | | | | X | X | | | | |
| NHCA | | | | | | | | | | |
| NLPA | | | | | | | | | | |
| NM Fire Information | | | | | | | | | | |
| NM Forest Practices Guidelines (incl BMPs) | | | | | | | | | | |
| NM Forest Releaf | X | X | | X | X | X | X | X | X | X |
| NM Natural Heritage Program | | | | X | | | | | | |
| NM Smoke Management Program | | | | | | | | | | |
| NMDGF program for landowners | | | | | | | | | | |
| NMSF firefighting resources | | | | | | | | | | |
| NRCS | | | | | X | X | | | X | X |
| NRCS Cooperative Agreement | | X | | | X | X | | | X | X |
| Partners for Wildlife | | | | | X | | | | | |
| Plan Smart, Rethink Green | | | X | | X | | | X | | X |

# Table 4 continued. Programs organized by themes, objectives and strategies.

**Theme:** Enhance Public Benefit from Natural Resources

| Programs | Provide technical assistance to Tribal and public land managers | Conduct and facilitate collaborative natural resource planning | Plan, facilitate, & coordinate multijurisdictional stewardship projects | Plan & implement rare and endangered plant research & recovery | Conduct & facilitate collaborative natural resource planning | Help private and tribal landowners manage their natural resources through technical assistance, training, funding and other support | Promote the value of public lands stewardship | Promote to the public the value of urban and community forests | Monitor and adapt forest and watershed management practices to increase resilience to the impacts of climate change | Plan and implement forest planting, conservation and rehabilitation projects to mitigate climate change |
|---|---|---|---|---|---|---|---|---|---|---|
| **Objective →** | Objective III-4 continued | | Protect, conserve & enhance endangered species and wildlife habitat | | | Connect people to landscape & engage them in natural resource stewardship activities. | | | Manage & restore trees, forests, & ecosystems to mitigate & adapt to global climate change | |
| post fire mitigation measures | | | | | | | x | | | |
| PSRVF Program | | | | | | | x | | | |
| RCPP | x | x | | | x | x | x | | x | x |
| Ready, Set, Go | | | | | | | | | | |
| Regional Water Plans | | | | | | | | | | |
| resource planning consultations | | x | | | | | | | | |
| Restore NM | | x | | x | x | x | | | | |
| RGWF | | | | | | | | | | |
| Rx Fire Management Plans | | x | | | x | | | | | |
| State Fire Assistance | | x | | | x | x | x | | | |
| T&E: FS Master Agreement - Endangered Plants | | | | x | x | x | | | | |
| T&E: USFWS Section 6 grants | | | | x | x | x | | | | |
| T&E: Agreement: BLM Rangewide Survey | | | | x | | | | | | |
| technical assistance for collaboration | x | x | | | x | x | | | x | x |
| technical assistance to landowners | x | x | | | x | x | | | | x |
| thinning & fuels management | | | | | | | | | | |
| Third Party Certification | x | x | | | | | | | | |
| Tree City USA | | | | | | | | x | | |
| Tree Farm | x | x | | | | | x | x | | |
| U&CF | x | x | | | x | x | x | x | x | x |
| USDA Two Chiefs Program | | | | | | | | | | |
| Volunteer/Partnership Coordinator | x | x | | | | x | | x | | x |
| Water Trust Fund | | | | | x | | | | | |
| WFDSS | | | | | | | | | | |
| Woody biomass utilization | x | | | | | | | | x | x |

Table 4 continued. Programs organized by themes, objectives and strategies.

| Theme: | Promote Urban & Community Forests |
|---|---|
| Objective: | Empower communities to develop and sustain healthy community and urban forest |
| Strategy: | Implement the collaboration, education and outreach, management, and research assessment strategies in the U&CF Strategic Plan |
| **Programs** | |
| Community Forestry Assistance | X |
| education & outreach programs | X |
| Growing a Healthier Community | X |
| NM Forest ReLeaf | X |
| Plan Smart, Rethink Green | X |
| Tree City USA | X |
| U&CF | X |
| Volunteer/Partnership Coordinator | X |

**Table 4 continued. Programs organized by themes, objectives and strategies.**

| Programs considered | | |
|---|---|---|
| Aerial Survey (Coop Forest Health) | forest industry | Plan Smart, Rethink Green |
| After Wildfire NM | Forest Legacy | post fire mitigation measures |
| Area Operations plans | forest management | PSRVF Program |
| BAER/BAR | forest regulation enforcement | RCPP |
| Big Tree Program | Forest Stewardship | Ready Reserve |
| Biomass Crop Assistance Program | FWSC | Ready, Set, Go |
| Burn Area Learning Network (BALN) | GIS program | Regional Water Plans |
| CFLRP | GIS: spatial data collection | resource planning consultations |
| CFRP | Governor's Watershed Restoration Program | Restore NM |
| Community Forestry Assistance | Growing a Healthier Community | Returning Heroes Program (RHP) |
| Community Risk Assessments (CAR) | homeowner assessments | RFA |
| Conservation Seedling Program | Incident Qualifications System (IQS) | RGWF |
| Cooperative Forest Health | Inmate Work Camp (IWC) | RMP |
| CWPP | Inoperability grant, | Rx Fire Management Plans |
| Economic development | Invasive Plants program | smoke management |
| ecosystem services research | ISO fire grant | Smokey Bear |
| education & outreach programs | LCIA | Smokey Bear State Park |
| emergency funds | LEO - fire restriction enforcement | SPOT program |
| Endangered Plants Program | LEO - forest regulation enforcement | State Fire Assistance |
| EQIP | LEO - timber thief enforcement | T&E: FS Master Agreement - Endangered Plants |
| EWP (Emergency Watershed Protection) | Living With Fire | T&E: USFWS Section 6 grants |
| Expo NM | LSRP | T&E: Agreement: BLM Rangewide Survey |
| FAC | NFL HFR | technical assistance for collaboration |
| farmland/ranchland conservation programs | NHCA | technical assistance to landowners |
| FEPP | NLPA | thinning & fuels management |
| fire management | NM Fire Information | Third Party Certification |
| fire preparedness | NM Forest Practices Guidelines (incl BMPs) | Tree City USA |
| Fire Prevention | NM Forest ReLeaf | Tree Farm |
| fire risk homeowner assessments | NM Natural Heritage Program | U&CF |
| fire suppression | NM Smoke Management Program | USDA Two Chiefs Program |
| Firewise | NMDGF program for landowners | Value-added forest products |
| Forest & Watershed Health Plan | NMSF firefighting resources | VFA |
| forest conservation | NRCS | Volunteer/Partnership Coordinator |
| Forest Health Initiative | NRCS Cooperative Agreement | YCC |
| | Partners for Wildlife | |

## Table 5. Acronyms used in these tables.

| Acronym | Spelled out | category |
|---|---|---|
| ABQ | Albuquerque | city/municipal government |
| aka | also known as | abbreviation |
| AMO | Administrative Management Officer | staff position at NM State Forestry |
| ASLA | American Society of Landscape Architects | Partner - non-profit |
| BAER/BAR | Burn Area Emergency Rehabilitation/Burn Area Response | |
| BIA | Bureau of Indian Affairs | federal natural resource management agency |
| BLM | Bureau of Land Management | federal natural resource management agency |
| CAR | Communities at Risk | program |
| CFRP | Collaborative Forest Restoration Program | NM statewide USFS program for public lands |
| CFLRP | Collaborative Forest Landscape Restoration Program | National USFS program for public lands |
| CWSF | Council of Western State Foresters | ngo/professional organization |
| DF | District Forester | line officer at NM State Forestry |
| DHSEM | Department of Homeland Security & Emergency Management | state agency |
| DoD | Department of Defense | federal agency |
| DoE | Department of Energy | federal agency |
| ECMD | EMNRD Energy Conservation & Management Division | EMNRD division NM state govt |
| EMNRD | New Mexico Energy, Minerals, & Natural Resources Department | state agency/cabinet secretary |
| EQIP | Environmental Quality Incentives Program | NRCS category for program funding |
| EWP | Emergency Watershed Protection | NRCS category for program funding |
| FAC | Fire Adapted Communities | consortium of ngo's, fed, tribal, state, local |
| FEMA | Federal Emergency Management Administration | federal agency |
| FEPP | Federal Excess Personal Property | federal program to move resources for state & local use |
| FHI | Forest Health Improvement Program | grant program |
| FHP | USDA FS Forest Health Program | federal agency with service/support |
| FIA | USDA FS Forest Inventory & Analysis | federal agency with service/support |
| FMO | Fire Management Officer | staff position at NM State Forestry |
| FPL | USDA FS Forest Products Laboratory | federal agency with service/support |
| FSA | Farm Service Administration | |
| FWCG/DTF-WMS | Forest & Watershed Coordinating Group/Drought Task Force Watershed Management Subcommittee | appointed advisory for NMSF FWHO |
| FWRI | Forest & Watershed Restoration Institute | academia - program for outreach/technology transfer |
| FWSC | Forest Worker Safety Certification | |
| GIS | Geographic Information System | |
| GSD | General Services Department | state agency |
| HFR | hazardous fuels reduction | activity |
| ISO | Insurance Services Office | sets risks and liabilities for fire districts |
| ISA | International Society of Arboriculture | Partner - arborist training/resources |
| IWC | Inmate Workcamp Program | NMSF program |
| LANL | Los Alamos National Laboratories | |
| LCIA | Land Conservation Incentives Act | |
| LEO | Law Enforcement Officer | |
| LO/LM | land owners/land managers | |
| NASF | National Association of State Foresters | ngo in support of State Forestry agencies |
| NHCA | Natural Heritage Conservation Act | |
| NLPA | Natural Lands Protection Act | |
| NM | New Mexico | |
| NMAC | New Mexico Association of Counties | ngo in support of NM counties |
| NMACD | New Mexico Association of Conservation Districts | ngo in support of SWCDs |
| NMD&GF | New Mexico Department of Game & Fish | state agency |
| NMCBA | New Mexico Clean & Beautiful Affiliates | ngo |
| NMCD | New Mexico Corrections Department | state agency |

# Table 5. Acronyms used in these tables.

| Acronym | Spelled out | category |
|---|---|---|
| NMDIA | New Mexico Department of Indian Affairs | state agency/cabinet secretary |
| NMDOT | New Mexico Department of Transportation | state agency/cabinet secretary |
| NMED | New Mexico Environment Department | state agency/cabinet secretary |
| NMFIA | New Mexico Forest Industry Association | ngo/industry |
| NFL | non-federal lands | USFS to NMSF grant category |
| NMDA | New Mexico Department of Agriculture | state agency |
| NMHU | New Mexico Highlands University | university |
| NMML | New Mexico Municipal League | ngo/support of NM municipalities |
| NMFPTF | New Mexico Fire Planning Task Force | |
| NMSEO | New Mexico State Engineer's Office | state agency |
| NMSF | New Mexico State Forestry | state agency |
| NMSLO | New Mexico State Land Office | state agency |
| NMSPD | New Mexico State Parks (Division) | state agency |
| NMSP | New Mexico State Police | state agency - law enforcement |
| NMSU Coop Ext | New Mexico State University Cooperative Extension | academia - program for outreach/technology transfer |
| NRCS | Natural Resource Conservation Service | federal natural resource management agency |
| NWCG | National Wildfire Coordinating Group | consortium of fed agencies, NASF, IAFC, ITC, |
| NWS | Department of Commerce - NOAA - National Weather Service | |
| OSD | ABQ Open Space Division | local natural resource management agency |
| PLT | Project Learning Tree | conservation education program |
| PNM | Public Service Company of New Mexico | utility - electricity |
| PRC | Public Regulation Commission | |
| PSRVF | Philmont Scout Ranch Visiting Forester Program | conservation education program |
| RC&Ds | Resource Conservation & Development councils | non-profit consortium of regional stakeholders |
| RFA | Rural Fire Assistance | |
| RGWF | Rio Grande Water Fund | non-profit consortium of regional stakeholders |
| RHP | Returning Heroes Program | NMSF program |
| RMP | Resource Mobilization Plan | NMSF program |
| RMRS | USDA-FS Rocky Mountain Research Station | federal agency |
| Rx | Prescribed | |
| SWCD | Soil & Water Conservation District | state designated elected board for specific region |
| SWCDs | Soil & Water Conservation Districts | reference to all SWCDs in the state |
| SWWG | Southwest Wildfire Coordinating Group | consortium of fed agencies, NMSF |
| TMO | Timber Management Officer | staff position at NM State Forestry |
| U&CF | Urban & Community Forestry | |
| US BOR | Bureau of Reclamation | federal natural resource management agency |
| USACE | United States Army Corps of Engineers | federal natural resource management agency |
| USDA | United States Department of Agriculture | federal agency |
| USDI | United States Department of Interior | federal agency |
| USDI NPS | National Park Service | federal natural resource management agency |
| USDI USFWS | United States Fish & Wildlife Service | federal natural resource management agency |
| USDoD | United States Department of Defense | federal agency |
| USFS | United States Forest Service | federal natural resource management agency |
| USGS | USDI United States Geological Survey | federal agency |
| WFDSS | Wildland Fire Decision Support System | |
| WSFA | Western State Fire Assistance | grant program |
| WSFM | CWSF - Western State Forest Managers | ngo professional org support state agencies |
| WTB | Water Trust Board | |
| XCNM | Xeriscape Council of New Mexico | ngo |
| YCC | Youth Conservatio Corps | state agency |

# 2016-2020 Priority Landscapes



Upper San Juan
392,578 Acres

Chama River
516,636 Acres

Upper Sangre De Cristos
1,820,142 Acres

Jemez Mountains
561,703 Acres

Lower Sangre De Cristos
496,036 Acres

Zuni Mountains
175,032 Acres

East Mountains/ Manzanos Complex
878,594 Acres

Gila Mountains
983,090 Acres

Sacramentos
1,056,275 Acres

Lower Rio Grande
801,956 Acres
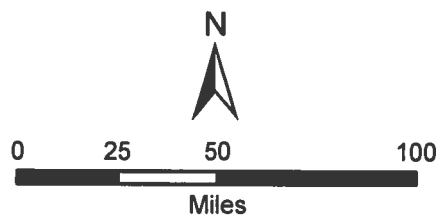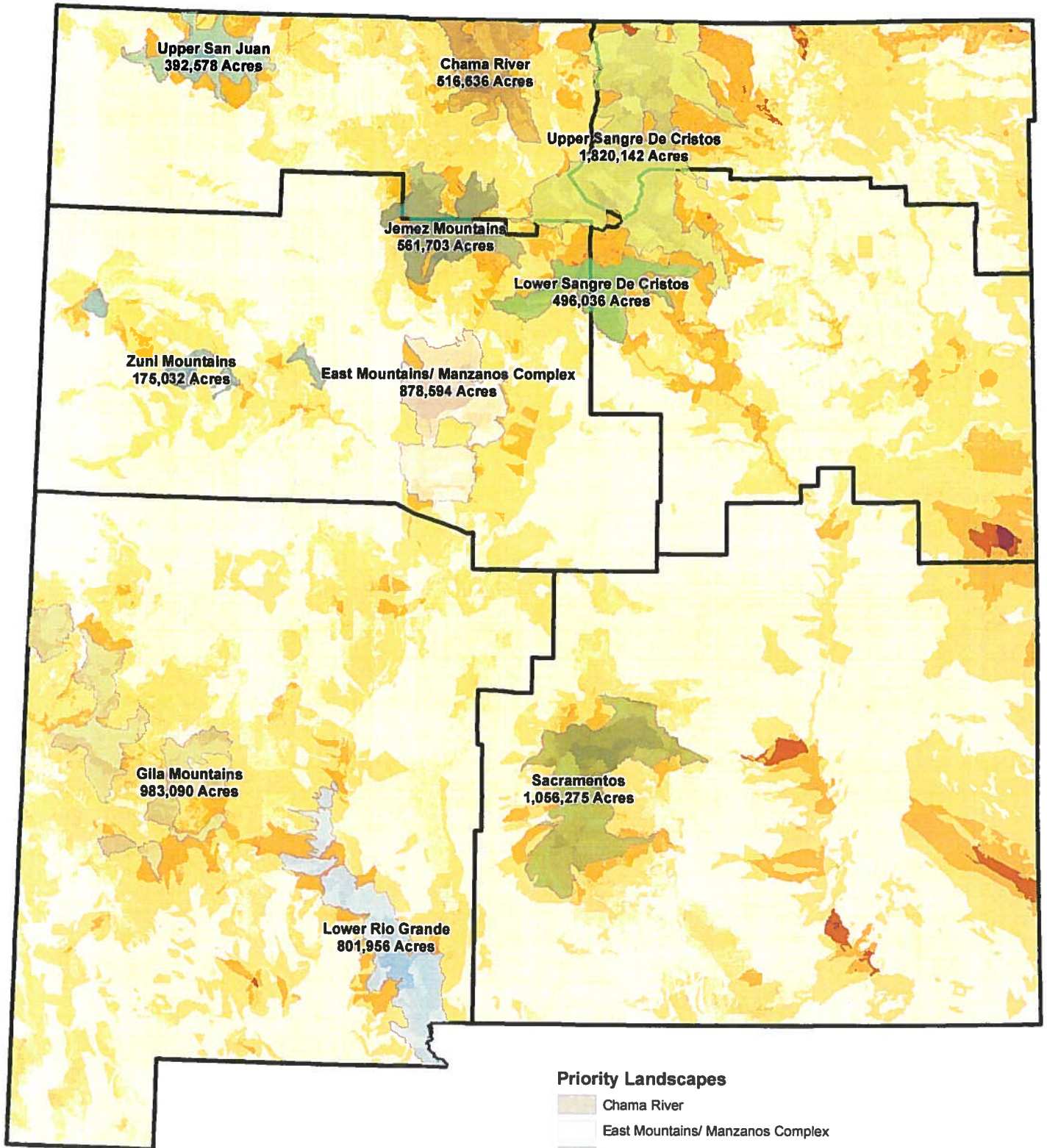
**Priority Landscapes**

- Chama River
- East Mountains/ Manzanos Complex
- Gila Mountains
- Jemez Mountains
- Lower Rio Grande
- Lower Sangre De Cristos
- Sacramentos
- Upper San Juan
- Upper Sangre De Cristos
- Zuni Mountains

**Water Quality and Supply Model**

- 1
- 2
- 3
- 4
- 5

NMSF Districts

N

0    25    50    100
Miles

NEW MEXICO
STATE FORESTRY

# Spatial Layers of Forest Action Plan:

## Availability, Updates, Problems, and Provenance

1. <u>2000/2030 Development Density Data:</u> This dataset is used in the **Development Potential (Risk)** model. This data comes from the Spatially Explicit Regional Growth Model (SeRGOM). This model was produced by Dr. Dave Theobald as a part of the USFS Forest on the Edge study (Stein et al., 2005). The original FTP site where the data was downloaded is no longer available for access.

   Dr. Theobald currently has a project to update this dataset which should be ready next year (end of 2016) and the ICLUS/SERGoM product was updated in 2010: http://cfpub.epa.gov/ncea/global/recordisplay.cfm?deid=205305.

2. <u>305b Impaired Watershed:</u> This dataset is used in the **Water Quality and Supply** model. This data was created by the New Mexico Environment Department as part of required reporting to the EPA. This list of watersheds is based on HUC-8 watersheds for the 2014-2016 list of impaired watersheds. The dataset used in the FAP uses the 2008 report watersheds and utilizes the HUC-12 watersheds. The 2014-2016 report is currently in its final draft, but has not yet been approved by the EPA. Spatial data layers may be available from the NMED.

   This layer was last updated on April 30, 2014 for the draft currently waiting for approval from the EPA.

3. <u>Accessibility:</u> This dataset is used in the **Economic Potential** model. This dataset was created to show the accessibility of logging potential for the economic development model. This essentially uses a digital elevation model to create a slope analysis, then categorizes the output in a Boolean (yes or no, 1 or 0) value. Areas with a slope of 40% or less are given a score of 5, all other areas are a zero. This is because it is considered too dangerous and tedious to log in areas with a slope greater than 40%.

   This dataset can be updated if there is new data available for the digital elevation model. Currently the statewide DEM available from RGIS is from 2009. This DEM is at a 30 meter resolution. There are also 10m resolution DEMs available from RGIS, but they would need to be mosaicked together. This process can be extremely time consuming and the resulting file can be VERY large. The benefit from updating this sub-model

would not be worth the effort required. There has not been enough change to the landscape to warrant revisiting this dataset and a change in resolution will not provide useful analysis to the assessment.

4. Aquifer Recharge: This dataset is used in the **Water Quality and Supply** model. This information uses a few inputs. There is rainfall data from PRISM at Oregon State. The dataset used in this model was the composite of rainfall data from 1951-2006. There have been updates of this dataset and they are available on the PRISM website. The MRLC land cover data that was used to classify the impervious land cover types is the NLCD dataset (30m resolution, 2011 vintage). The data was put through the "Chatudevi Formula" ($R = 2.0(P-15)^{0.4}$). The data that was output from this analysis was compared to the OSE groundwater elevation dataset by the technical team to see if the output of aquifer recharge matched up with areas of high groundwater elevation.

This dataset could have the newer PRISM precipitation data input into it, but the statistical weight of just 5 years on a 55 year dataset may not make much of a noticeable difference. The NLCD dataset that was used (2001) to show impervious layers may have captured more of the development that has taken place since the original dataset was used, and therefore may make a change in the amount of aquifer recharge in areas where development has occurred since the original model. This change would probably be noticeable mostly on and around urban areas, and may not have a huge effect on a watershed scale dataset. The reclassification of the NLCD dataset was done in house at TNC and the Division will need to mimic their method to provide continuity between the original model and the proposed updated model.

5. Aquifer Sensitivity: This dataset is used in the **Water Quality and Supply** model. This model was created by the Water Resources Research Institute (WRRI). It follows the DRASTIC model (D= Depth to water, R= Net Recharge, A= Aquifer Media, S= Soil Media, T= Topography, I= Impact of the Vadose Zone, C= Hydraulic Conductivity). This model essentially highlights areas where based on these factors the migration of contaminates poses a danger to the aquifer.

Todd Howell contacted the WRRI and talked with Bob Sabie. Steve Walker who was in charge of the GIS Coordination at WRRI has since left. As far as Bob knew this dataset had not been updated. Bob explained that this dataset is the result of local data being plugged into the DRASTIC model which is actually from the EPA. No one at WRRI knew the original date that the statewide model was run. Since none of the variables could have changed that much, the data used in this model, and the scale of the model itself makes this data good for the foreseeable future.

6. Availability of Woody Biomass Products: This dataset is used in the **Economic Potential** model. This model is part of the economic potential information and is meant to show the availability of woody biomass products other than sawmill grade timber. This dataset is created using the National Insect and Disease Risk Map information on Basal Area, and Quadratic Mean Diameter. This information has been updated, and is available online from the FHTET team. Frank Krist the Program manager for GIS and Spatial Analysis has made this data available to us.

   This model shows areas with high basal area density and a quadratic mean diameter 0-10 inches. This is an easily updated model, and the changes could be significant based on fire activity, logging, and insect and disease activity on the forests.

7. Availability of Timber: This dataset is used in the **Economic Potential** model. This dataset is meant to show the availability of sawmill grade timber. This dataset relies on the same information used in the availability of woody biomass model but with different classification parameters. The information for Basal Area and Quadratic Mean Diameter from FHTET/NIDRM are readily available.

8. Basal Area Loss: This dataset is used in the **Economic Potential** model. This information is part of the data that is provided by NIDRM and is readily available. We can download all the information at once. Since this data is kept up every year, this data could be significantly different year to year and should be updated if we can.

9. Cougar Corridors: This dataset is used in the Least Cost Path analysis that was used in the **Green Infrastructure** model. The information was furnished to us by Kurt Menke at Birds Eye View GIS. Kurt Menke reports there have been no updates made to this dataset. The Division will be redesigning the approach for creating the Green Infrastructure model.

10. Crown Fire Potential: This dataset is used in the **Wildfire Risk** model. This file was created by The Nature Conservancy. They utilized tools to create this that are available to us here at NMSF. Crown Fire Potential is calculated and output by the FlamMap tool. The inputs to this tool are from LANDFIRE and include (elevation, slope, aspect, canopy closure, fuel model 40, canopy base height, and canopy bulk density). This model also utilized RAWS weather station data for NM. The LANDFIRE data set is scheduled to incorporate recent FIA data in 2017. This new data will be 15-20 years more current than the data used for New Mexico previously. With additional recent drought conditions, there is a strong likelihood that this layer will change significantly from the

first analysis. However, timing with the LANDFIRE program is essential for the Division's new model construction to be sure new FIA data is incorporated.

11. <u>CWCS Key Areas:</u> This dataset is used in the **Fish and Wildlife Habitat (Biodiversity)** model. Comprehensive Wildlife Conservation Strategy key areas were created by NMDGF. The CWCS was completed in 2006.

    The CWCS is the Statewide Wildlife Action plan created by the NMDGF. This is currently in process of update, but the revision is not yet completed. Lance Tyson at NMDGF is anticipating finishing a draft by the end of 2015. They are going to do things "a little differently" in this iteration of the action plan, and Division may need to adapt the analysis accordingly. This Biodiversity model analysis needs to be significantly redesigned to insure an emphasis on plants, vegetative communities, and the interactions of wildlife on habitat. The CWCS data layers will be a useful part of this analysis, but other data on endangered plant and vegetative communities also needs to be included.

12. <u>Distance to Use:</u> This layer is used in the **Economic Potential** model. It utilizes the "wood_infrastucture" layer created by New Mexico Highlands University (NMHU), and the "Transportation GDB (geodatabase)" from RGIS at University of New Mexico (UNM). The wood infrastructure layer contains sites for processing wood products, and the Transportation Geodatabase from RGIS contains rails and roads.

    The wood infrastructure layer was made in cooperation with New Mexico Forest Industry Association, and it's possible that we could tap them for information to create a similar dataset if need be (excel spreadsheet with locations of processors). The transportation geodatabase at RGIS has most likely been updated as there has been more Tiger files made available since the FAP was written. I believe that we are going to have to have an actual transportation network to run any network analysis such as distances along the lines. We also may be able to update these with the E911 roads that has been created since the writing of the FAP.

13. <u>Erosion Risk:</u> This model is used in the **Water Quality and Supply** model. It was created in-house at TNC. It was created utilizing Rainfall-Runoff Erosivity Factor and methodology created by Renard and Friedmund (1994). The input information for this model was PRISM precipitation data from Oregon State University, STATSGO soil data from NRCS, NM DEM that is kept by RGIS (statewide, 30m resolution), and the NLCD (National Land Cover Dataset) from 2001.

There are updates available for PRISM data, and NLCD data. The DEM at RGIS has not been updated, but this was discussed in the Accessibility model discussion (#3 on this list). STATSGO is from 1997 according to the metadata that is available on water.usgs.gov/GIS/metadata/usgswrd/XML/muid.xml. If the PRISM data is composite, the addition of 5 years is unlikely to make a statistical difference in the data. The NLCD data was updated in 2011, and may have some differences in land cover since 2001 especially in urban areas. This is a very complicated model, and given the nature, scale, and resolution of the data an update is not necessary at this point.

However, the USGS and USFS have been working together on developing debris flow modeling to identify areas that are at risk for severe erosion following high fire severity. This new line of modeling has been done for specific regions in the state, and is not statewide at this time. Contacts for this project include Anne Tillery (atillery@usgs.gov) and Jessica Haas (USFS RMRS).

14. <u>Fire Regime Condition Class:</u> This dataset is used in the **Wildfire Risk** model. LANDFIRE is working on producing new base maps in 2015 and project completion is scheduled for 2018. There has been completed updates in 2012 and those could be used for an update of the Fire Regime Condition Class. The 2020 update of the Forest Action Plan can utilize the upcoming 2018 LANDFIRE base map updates.

15. <u>Flame Length:</u> This dataset is used in the **Wildfire Risk** model. This is another layer that is output using FlamMap and data from LANDFIRE. Some problems were noted by the technical team in the vegetation and land cover outputs from LANDFIRE that may have been fixed in the recent updates. This layer may be worth re-analyzing with current data.

16. <u>Forest Patch Continuity:</u> This dataset is used in the **Fragmentation** model. It utilizes the Southwest Regional Gap Analysis Project (SWReGAP) land cover data. This data is from 2006, and there aren't any planned updates of this data at the full statewide scale. A former researcher in this project suggested there might be some small areas being updated with funding from the Sage Grouse research and protection grants. A possible alternative for this dataset could be the use of the National Land Cover Dataset that was updated in 2011 and could possibly be reclassified to match what classes were listed in the SWReGAP dataset.

This dataset also utilized the Tiger roads and rails layers from the US Census Bureau (2006). This information has been updated and, since the creation of the E911 program, this source may not be the most extensive road file for the State of New Mexico. This layer may not have complete data for the Native American reservations in NM.

The last dataset that is mentioned is a "Utilities Raster". I have no idea where this came from, or what is in it. This is an ambiguity that we may only be able to figure out with the help of people who worked on the original version of this forest action plan.

17. Forest Patch Size: This dataset is part of the **Fragmentation** model and the discussion on #16 covers the same datasets and concerns as apply to this dataset.

18. Forested Species Habitat: This dataset is used in the **Fish and Wildlife Habitat (Biodiversity)** Comprehensive Wildlife Conservation Strategy key areas were created by NMDGF. The CWCS was made in 2006.

    The information in this model is also in a new draft of the "wildlife action plan" (CWCS). The update is expected later this year. There is a more in depth discussion of this included on item 11 in this list.

19. Game (Hunting): This dataset was created as part of the recreation analysis in the **Economic Potential** model. This dataset used NMDGF big game management units, and Antelope management units. Both antelope and elk use the same big game management units now, and they may have been updated since the time of the original FAP. These GMU shapes are available for download from the NMDGF website.

    This dataset also utilized the number of elk (2008) and antelope (2007-2008) tags that were issued for each different management unit. This is going to be easier to normalize with the same boundaries for each species now. This information is also available in table form from the NMDGF website, and will be up to date from the last calendar year.

20. Grassland Patch Continuity: This dataset is part of the **Fragmentation** model and the discussion on #16 covers the same datasets and concerns as apply to this dataset.

21. Grassland Patch Size: This dataset is part of the **Fragmentation** model and the discussion on #16 covers the same datasets and concerns as apply to this dataset.

22. Ignition Probability: This dataset used is part of the **Wildfire Risk** model. This dataset utilized information from USFS, NMSF, BIA, and BLM to create a layer of points of fires reported by each of those entities. They then created a density map of those to show the area of greatest probability of ignition based on previously reported fire locations.

    This dataset is easy to update, and given the last 5 years of data there may be some change. This dataset has fire points from 1987-2008. With the addition of the very busy

2011 year, in addition to the other years from 2008-2014, there may be a significant statistical difference apparent in the new model.

23. Impervious Surfaces: This dataset is used in the **Water Quality and Supply** model. The dataset is a reclassification of the NLCD dataset that was done by TNC. The NLCD dataset used was the 2001 release. This could be redone based on the 2011 data, though at this scale it may not have a large effect on the output dataset given that the small amount of change in urban areas and new roads probably recorded from urban sprawl and development. Although this dataset can be redone, the lack of probable new information means this work has a low priority compared with other more productive re-analyses.

24. Insect and Disease Surveys: This dataset is part of the **Forest Health** model. The data that is used in this is from the USFS Aerial Survey data from 1987-2008. There have been an additional 6 years of data added to this since the creation of the Forest Action Plan. Tom Zegler would probably be the best source for the decision as to whether there had been a large change that we might need to capture in an update in that time.

25. Landcover that Lowers Priority (SWReGAP): This dataset was used as part of the **Green Infrastructure** model. The dataset is reclassified SWReGAP data based on the intensity of land cover and weights the LCP model based on these intensities of use. Also used in this dataset are the Tiger roads from the US Census Bureau, which have been updated since 2006.

    This dataset (SWReGAP) has not been updated at the state scale since it was created, and the best possible option for substitution is the NLCD (2011). I am not sure whether or not the same reclassification could be easily done, and this dataset presented a very labor intensive data description (pg. 75 of data atlas). I think that this dataset, and the larger associated model is best left for the 10 year update of the Forest Action Plan. As mentioned early, the Green Infrastructure model approach will require a new technical advisory committee to ensure that the produced analysis provides desired output and validity.

26. NHNM Wildlife Occurrences: This dataset is used in the **Fish and Wildlife Habitat (Biodiversity)** model. The Natural Heritage New Mexico group constantly updates and administers this information. This information was given to TNC in the HUC10 resolution. The data was then made into a raster by TNC, and reclassed to show the number of species per HUC10.

    This dataset has viable updates to it, but Daniela Roth may be the best person to make the assessment on the need for updating this model based on what may have been

going on with this dataset in the past 5 years. She works closely with NHNM on botanical data.

27. NM Highlands Wildlands Network Design – Corridors:  This dataset is used in the **Green Infrastructure** model. It was created in 2003 as part of a report attempting to look at the landscape in terms of core habitat and areas important to animal movement. The problem identified in the data atlas is that the corridors are only loosely identified. This dataset has not been updated since the writing of the FAP according to Kim Vacariu the Western Director of The Wildlands Network.

28. NM Highlands Wildlands Network Design – Hubs: This data set is used in the **Green Infrastructure** model (probably, it's not named this directly anywhere in the data atlas). The data description of this is cut and pasted from the corridors description. It's a bit unclear what this data actually is. There are no explanations of constituent data, or processes used to create either layer from The Wildlands Project. Only known is that the original date of the report was 2003. This dataset has not been updated since the writing of the FAP according to Kim Vacariu the Western Director of The Wildlands Network.

29. NMDGF Corridors Assessment for WGA: This dataset is used in the **Green Infrastructure** model. It was created in 2007 as part of the Western Governors Association Wildlife Corridors Initiative in December 2007. It was created using expert knowledge of NMDGF biologists and the big game manager. It is assumed that this is an explanation of game corridors and habitat important to large game species (not necessarily all animals). Lance Tyson is contact for further information regarding updates and new available information.

This project was done as a pilot project in conjunction with the same type of project in Colorado. In talking with Lance Tyson at NMDGF he explained that this project was carried over from the WGA discussion into a new project called CHAT (Crucial Habitat Assessment Tool). They moved away a bit from making the emphasis on corridors to crucial habitats. This may affect the least cost path analysis, but it may not. This new dataset could possibly instead be added as part of the Hub information that weights the areas that the least cost path connects. This update would definitely benefit from a larger discussion with more stakeholders and expert opinions.

30. NMED Water Quality Risk Factors: This dataset is used in the **Water Quality and Supply** model. This information come from the NMED. They keep spatial layers of all WQR factors (petroleum tanks, hazardous waste sites, and active landfills). The data was

summarized by HUC12 watersheds by The Nature Conservancy. The data from NMED was from 2009, and the TNC summarized the data in 2009.

This dataset has been updated in different time periods. The petroleum tanks are updated weekly by NMED. The hazardous waste sites shapefile was last updated in 2012. Zac Stauber the GIS Coordinator for NMED was unsure when the last time that the active landfill shapefile was last updated. This data is relatively easy to combine and analyze and shouldn't be a big deal to update at all.

31. Non-native phreatophytes: This dataset is used in the **Economic Development** model. Just for kicks: *Phreatophyte refers to a deep-rooted plant that obtains its water from the water table or the layer of soil just above it.* I contacted Les Owen who told me that this dataset has not been updated at the state level since the FAP was written. At that time there was a big effort to compile the data from SWCDs across the state into one cohesive dataset to show areas of Salt Cedar, and similar invasive phreatophyte removal. There is the possibility to update this dataset but it would take a big effort in getting all this from the stat SWCDs.

   Since Russian olive and salt cedar are not considered tally trees in the Forest Inventory and Analysis dataset, the FIA data is not helpful as a source for this information. It is possible the NRCS National Resources Inventory may be a source for tracking these species over time.

32. Outstanding Natural Rivers: This data is used in the **Green Infrastructure** model. The EPA has a program of designating outstanding natural resource waters. This was used as a high value linear feature in the least cost path analysis for the Green Infrastructure model.

   This dataset is part of the deliverables to EPA. There is another draft of this information awaiting approval from the EPA, but it is currently not approved. Currently the newest update of this information is from 2012.

33. Patch Diversity: This dataset is part of the **Fragmentation** model and the discussion on #16 covers the same datasets and concerns as apply to this dataset. This is referred to as Patch Diversity in the table list, and the heading in the write up. It is referred to as "Patch Variety" in the actual body of the explanation of the layer.

34. Patch Rarity: This dataset is part of the **Fragmentation** model and the discussion on #16 covers the same datasets and concerns as apply to this dataset.

35. Percent Irrigated Cropland and Pasture: This dataset is used in the **Water Quality and Supply** model. It utilized the NLCD land cover dataset to select agricultural land, those

areas were then converted to shapefiles and intersected with HUC12 watersheds. This data output was used to calculate the acreage of irrigated cropland and pasture in each watershed, and figured then as a percent of total land area of the watershed.

The NLCD dataset was updated in 2011 and the data that was used for this analysis was the 2001 dataset. This is one of the models that may benefit from updating since the acreage of irrigated cropland and pasture is calculated on a smaller enumeration unit that at a statewide level like other datasets.

36. Percent normal precipitation: This dataset is used in the **Forest Health** model. The data used in this model is all precipitation data. PRISM, SWCCI, and Climate Wizard. This data is constantly updated, and the model used the years 2006-2008. It may benefit the model to update this data, as it is readily available.

37. Perennial Streams and Intermittent Streams: This dataset is used in the **Green Infrastructure** model. This dataset was derived from the USGS National Hydrography Dataset. It is updated regularly and there is new data available since the time this model was created. This was used in the Green Infrastructure model to show areas where perennial streams are located as a valuable resource to humans, and as a means of movement for wildlife.

38. Precipitation: This dataset is used in the **Economic Potential** model. This dataset was used in the Rangeland Productivity sub-model. It was used to weight show areas that had the highest rainfall and were overlaid with the SWReGAP dataset that was reclassed by Les Owen at NMDA to show areas of good rangeland productivity. These areas are shown to be areas that would have high regrowth due to the rainfall.

This dataset is sourced from the National Atlas, but the URL that is listed is contains "prism" so this may be PRISM data. This dataset can be updated, but the overlay that it is part may have to be redone to keep continuity of temporal resolution. Which means it needs the expert reclass done by Les Owen.  Since SWReGAP has not been updated, there is a possibility of recreating the same type of layer utilizing the NLCD data instead.

39. Priority Water Quality Watersheds: This dataset is used in the **Water Quality and Supply** model. The dataset was provided by NMED. This dataset is another part of the deliverables to the EPA as part of the Clean Water Act.

This dataset was updated and approved by the EPA last in 2012. There is a new draft currently awaiting approval from the EPA so updating this model should wait for the new dataset that comes from the 2014-2016 report.

40. Public Drinking Supply Sources: This dataset is used in the **Water Quality and Supply** model. The dataset was provided by NMED. Due to sensitivity issue, this data was summarized by HUC 12 Watersheds by NMED for the last assessment. There may be an opportunity to access this data for the next assessment using security measures that protect the information, but allow for use to help prioritize treatment areas.

    This dataset is constantly updated at NMED. The last update that was applied to the dataset was on May 5, 2015.

41. Rare Plant Occurrences: This dataset is used in the **Fish and Wildlife Habitat (Biodiversity)** model. The data comes from Natural Heritage New Mexico and is the occurrences of rare plants that is overlaid with HUC10 watersheds. Then classified the HUC10 watersheds based on the number of rare plant occurrences per watershed. The NHNM keeps this dataset updated.

    This dataset has viable updates to it, but Daniela Roth may be the best person to make the assessment on the need for updating this model based on what may have been going on with this dataset in the past 5 years. She works closely with NHNM on botanical data.

42. Rate of Spread: This dataset is used in the **Wildfire Risk** model. The dataset was created using FlamMap, and utilizing data from the LANDFIRE dataset. The LANDFIRE dataset has updates that were made in 2012 with more scheduled updates set to start this year, and projected to be completed by 2018. The five year update now may benefit from the updated 2012 dataset. However, the complete revamp of the base datasets may be really significant for the 10 year rewrite. We need to closer inspect and validate what changes and updates were made and to what datasets for the 2012 updates.

43. Riparian Patch Continuity: This dataset is part of the **Fragmentation** model and the discussion on #16 covers the same datasets and concerns as apply to this dataset.

44. Riparian Patch Size: This dataset is part of the **Fragmentation** model and the discussion on #16 covers the same datasets and concerns as apply to this dataset.

45. Roads and Railroads: This dataset is used in the **Economic Potential** model. The data atlas calls this dataset the "Transportation GDB" from RGIS. I was unable to locate that dataset in the RGIS data clearing house. There is however the new census data from 2010 that is available, which is an update on the 2006 data that was utilized on the previous write up. There is also a new E911 roads dataset that was done for the state and is a really good dataset of roads outside of Otero County, and the Native American reservations which have chosen to not participate.

The one consideration is that this model may have used the Roads and Rails as a road network which is different than just a shapefile. It has an intelligence input into it to make it possible to query distances along the lines. Since this was used in the "Distance to Use" map. It may be that they used a special transportation network GDB available from RGIS. If this model needs to be redone, the newest vintage of transportation network data available from RGIS should be utilized.

46. Scenic Byways: This dataset is used in the **Economic Potential** model. This data was used in the Recreation sub-model. The data was provided the National Scenic Byways Program. There was a new scenic byway designated in May of 2015 and will be added to this dataset. Aaron Detter at NMDOT is the contact for the NM Scenic Byways Program.

47. Shrub/Scrub Patch Continuity: This dataset is part of the **Fragmentation** model and the discussion on #16 covers the same datasets and concerns as apply to this dataset.

48. Shrub/Scrub Patch Size: This dataset is part of the **Fragmentation** model and the discussion on #16 covers the same datasets and concerns as apply to this dataset.

49. Species Specific Crucial Habitat (NMDGF/WGA): This dataset is used in the **Fish and Wildlife Habitat (Biodiversity)** model. The dataset was provided by the NMDGF and was part of the report done for the Western Governors Association in 2007.

    This dataset was also carried over from the WGA report made in 2007 to the new CHAT (Critical Habitat Assessment Tool) created by the WGA program. New information may be available for this, they are however outputting slightly different data than they used to so we may have to identify a new shapefile or spatial data layer that may be able to stand in for this information. This process should probably be undertaken with input from collaborators and partners as well as expert opinions.

50. Stand Density Index: This dataset is used in the **Forest Health** model. This dataset is from the National Insect and Disease Risk Map. It is part of the general data that is updated every year. There is new information available from FHTET NIDRM, and Frank Krist the director of this program has been in contact and happy to provide information. This information is easy to get and the analysis used to make this model is relatively simple, this model can be updated and it should be considered for update.

51. SWReGAP Landcover: This dataset is used in the **Green Infrastructure** model as it is listed in the Data Layers Used list. This dataset is used in many of the models and sub-models as the land cover dataset of choice. This dataset was created in 2004, using data from 1999-2001 from Landsat ETM+ imagery, as well as a DEM derived datasets. The

NM dataset contains 90 different cover types. This data came from a 5 state cooperative project that cost 5 million dollars to complete. There are currently no updates for this data, but there was one mention of new projects in discussion for 2015.

Todd Howell contacted Scott Shrader who was on the SWReGAP original project, but was unable thus far to get in contact with Ken Boykin. This project has not had a statewide update made to it, but has apparently had some small updates made to it with Sage Grouse grant money as new analyses were made. If this layer needs updated, NLCD data that may be able to stand in for this dataset.

52. SWReGAP Landcover (Rangeland Productivity): This dataset is used in the **Economic Potential** model. This dataset is a reclassified version of the SWReGAP that shows areas that are the best for rangeland productivity. The original version was done by Les Owen at NMDA/NMSU, with oversight from the FAP technical committee for this model. Input needed to update this dataset include 1: the professional input of Les Owen to keep the continuity of data preferably, or 2: An updated version of the SWReGAP data or a comparable resolution/classification land cover dataset to have for Les Owen to use.

53. SWReGAP Stewardship: This dataset is used in the **Green Infrastructure** model. This dataset is a subset of the SWReGAP data. They just exported the layers with a code "3" in the SWReGAP dataset. This subset is areas that "An area having permanent protection from conversion of natural land cover for the majority of the area, but subject to extractive uses of either a broad, low-intensity type (e.g., logging) or localized intense type (e.g., mining). It also confers protection to federally listed endangered and threatened species throughout the area." Since there aren't any confirmed updates to the statewide dataset of the SWReGAP data this dataset isn't updated for now. There may be some surrogate/comparable dataset which could provide this same type of data or from which this same type of data could be extrapolated... more research is needed.

54. SWReGAP Stewardship – GAP Status: This dataset is used in the **Green Infrastructure** model. This dataset is the complete information set from the previous point. Instead of just showing the areas that have a stewardship code of "3" it has the areas of "1" and "2". The descriptions of these codes is on page 67 of the Data Atlas.

55. T&E Spp Habitat: This dataset is used in the **Fish and Wildlife Habitat (Biodiversity)** model. This information was made by the Center for Applied Spatial ecology with the New Mexico Cooperative Fish and Wildlife Research Unit at New Mexico State University. The dataset was made by identifying possible areas for habitat for threatened and endangered species in New Mexico utilizing the SWReGAP data. The Nature Conservancy "combined" the potential habitat layer in 2009.

This data is based on the SWReGAP data and used the expert opinion of the staff at the CASE and NMCFWRU at NMSU. An update of this dataset will require the input of a new technical committee of professionals familiar with the issue.

56. TNC Conservation Areas: This dataset is used in the **Fish and Wildlife Habitat (Biodiversity)** model. This dataset was created by The Nature Conservancy created a layer of over 200 aquatic and terrestrial areas that are the "best remaining areas to conserve". This layer comes from one of the seven eco regional assessments done by TNC from 1999-2007.

    Steve Bassett, TNC-Santa Fe, said that this dataset has not been updated to the best of his knowledge, but that he would continue asking around and if he found anyone who had any different knowledge. Currently there are no updates for this dataset.

57. TNC Fish Atlas: This dataset is used in the **Fish and Wildlife Habitat (Biodiversity)** model. This dataset was created by TNC in 2007 and utilizes data from Natural Heritage New Mexico, and the National Hydrology Dataset at the 1:100,000 scale (USGS). The Atlas represents fish occurrence from 1975 to 2005 of 26 native fish species in New Mexico. This data is actually a raster layer created from "the Fish Atlas" and was created in 2009. Steve Bassett at TNC in Santa Fe was certain that this dataset had not been updated since it was created in 2009.

58. TNC Rangeland Ecosystem Assessment: This dataset is used in the **Green Infrastructure** model. This dataset is based on the NRCS "ecological site descriptions" it is focused on public rangelands managed by the BLM. The format that the data is in in the report was created by The Nature Conservancy in 2009. TNC or NRCS might be contacted to see if this data has been updated.

59. Un-fragmented Natural Land cover (SWReGAP/TIGER): This dataset is used in the **Green Infrastructure** model. They used the SWReGAP land cover dataset, removed all of the paved roads included in the TIGER roads dataset (2006) and measured the remaining land area. The SWReGAP has not been updated but the TIGER dataset has been.

60. US Census 2000 Tiger – Roads: This dataset is used in the **Green Infrastructure** model. This dataset is used as an input for the least cost path analysis. This dataset was updated with the last census data output.

61. Visitation: This dataset is used in the **Economic Potential** Recreation sub-model. This data contains actual visitation numbers for New Mexico State Parks, and National Forest Units. National Parks and Monuments, Wildlife Refuges, and BLM lands were all given values not based on actual visitation numbers because that data was not available for

them. National Parks and Monuments were given a 5. Wildlife refuges were given a 4 except Bosque Del Apache that was given a 5. BLM land was split into two classes, within 25 miles of an urban center and not within 25 miles of an urban center. Those classes were given 3 and 2 value respectively.

62. <u>Watershed with Specific Water Quality Impaired/Impacted Streams:</u> This dataset is used in the **Water Quality and Supply** model. This dataset is provided by the New Mexico Environment Department.

    This data is also a subset of the deliverables made to the EPA as part of the NMED compliance requirements for the Clean Water Act. The last update of this data was completed and approved by the EPA in 2012. The next draft is currently complete and awaiting approval. Updates to this model should wait until the data from the 2014-2016 report to be released.

63. <u>Wildland Urban Interface (WUI):</u> This dataset is used in the **Wildfire Risk** model. This dataset is the combination of two different datasets that was done in house at TNC. The first layer was downloaded by USFS/ SILVIS Lab, and was combined with the WUI shapefiles provided by the CWPPs from New Mexico State Forestry.

    The data from the SILVIS was downloaded in 2009, and that data was updated in 2010, so there is new data available from them. A majority of the CWPPs have recent updates with new shapefiles. The SILVIS data is available for download from their website.

64. <u>Woodland Patch Continuity:</u> This dataset is part of the **Fragmentation** model and the discussion on #16 covers the same datasets and concerns as apply to this dataset.

65. <u>Woodland Patch Size:</u> This dataset is part of the **Fragmentation** model and the discussion on #16 covers the same datasets and concerns as apply to this dataset.

66. <u>Working Forests:</u> This dataset is used in the **Economic Development** model. This dataset was made from data in the "OSE Administrative Database" and USDA FS Inventoried Roadless areas.

    The last update of the USDA FS Inventoried Roadless Areas on RGIS at UNM was done in 2009. So this data has not been updated since the FAP was written.