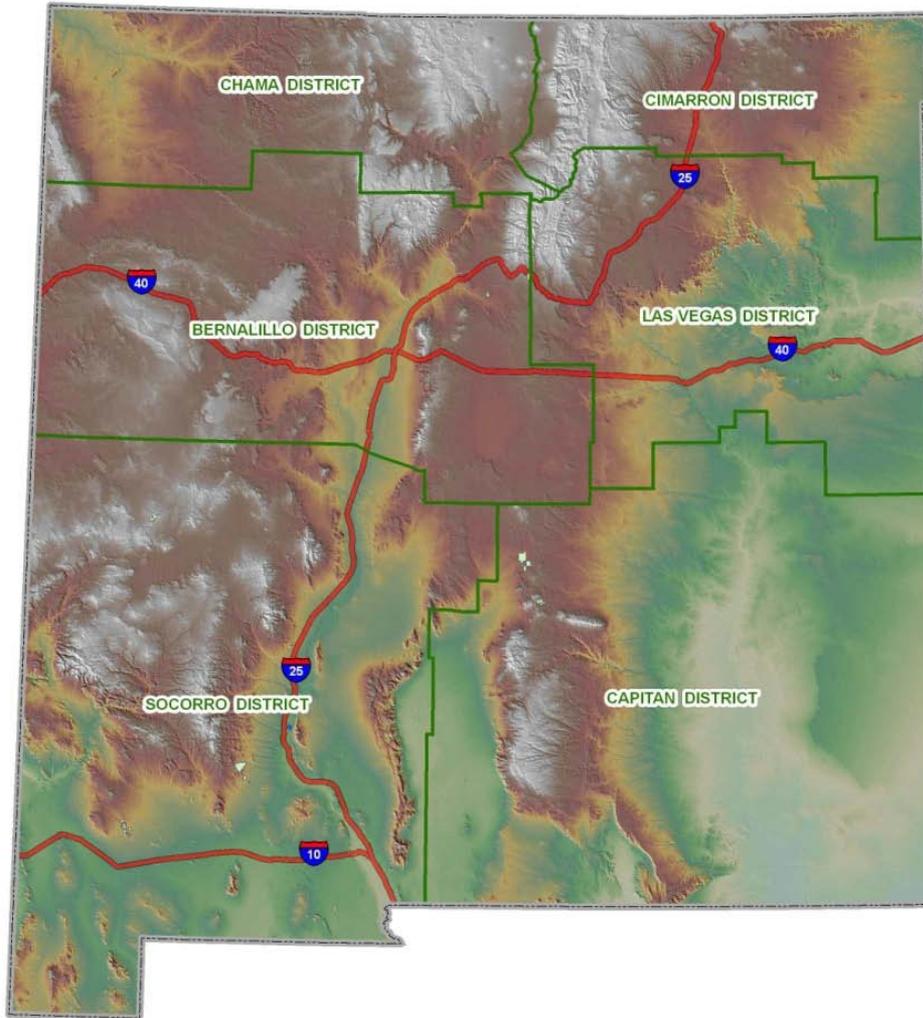




Mary Stuever
State Timber Management Officer

New Mexico's Forests and Woodlands



Elevation range: 2,817'
(Red Bluff Lake) to
13,161' (Wheeler Peak)

8 Life Zones – including
4 dominated by trees.

State is bisected by the
Rio Grande and has 6
major watersheds and
many closed basins.



STATE Motto:
"Crescit eundo"
- It grows as it goes

New Mexico Forest Overview

Sub-Alpine



New Mexico Forest Overview

Mixed Conifer



New Mexico Forest Overview



Ponderosa Pine

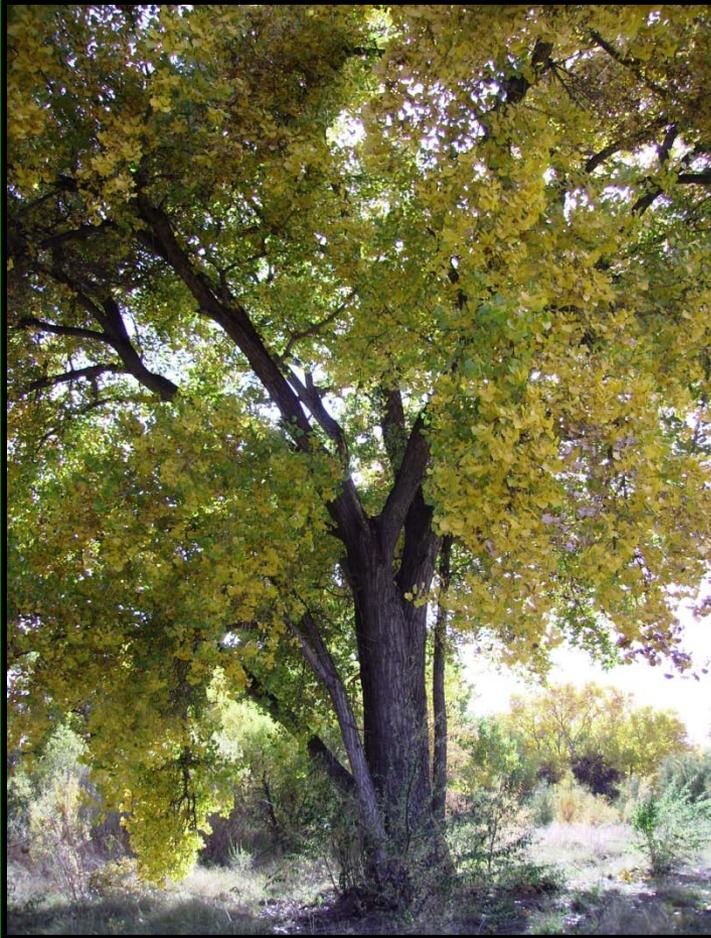
New Mexico Forest Overview



Piñon/Juniper



New Mexico Forest Overview



Bosque (Gallery Forest)

Common Issues

- Insects
- Disease
- Fire
- WUI expansion
- Noxious Weeds
- Understory overgrowth
- Biomass utilization

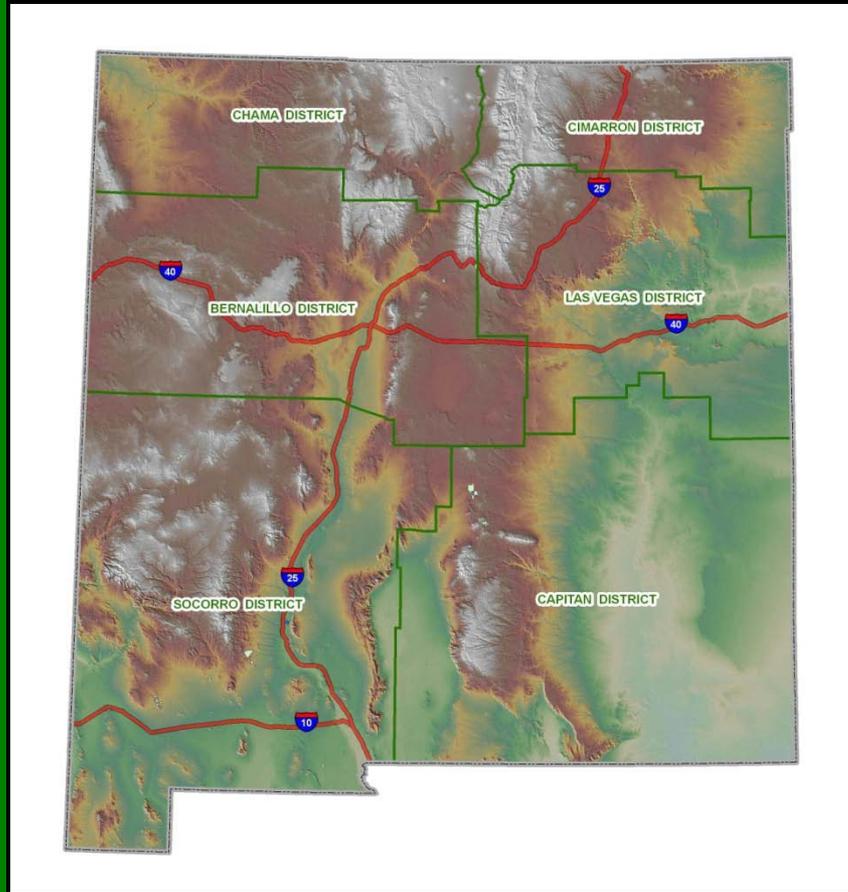


New Mexico State Forestry



- EMNRD – Forestry Division – est. 1957
- More than 60 Programs
- Major Areas
 - Wildland Fire Protection on State & Private Lands
 - Forestry Assistance to Private Landowners & Communities
 - Collaborative Leadership for all jurisdictions

State Forestry Districts and Programs



New Mexico Forest and Watershed Health Plan



2010 State Assessments

- Required by **FY '08 Farm Bill**
- All states must comply
- Must be **geospatial** based
- Make use of **existing data**
- Approved by the **important people**
- Project funding, especially from S&PF, will be tied to **priority ranking**.



Coordinate Activities for most effective impact

- Avoid “shotgun” pattern of activity on the landscape
- Protect communities and high value resources
- Leverage impact of limited resources



New Mexico State Assessment

**2008 FARM BILL FUNDING
REQUIREMENT**



**2005 FOREST & WATERSHED
HEALTH PLAN
RECOMMENDATION**



Priorities for Collaboration



The New Mexico State Assessment is about STAKEHOLDERS

- The Nature Conservancy
 - Forest Guild
 - The Trust for Public Lands
- Stakeholders
 - Tribal agencies and governments
 - Federal agencies
 - State agencies
 - Local agencies
 - Forest industry representatives
 - Landowners
 - Environmental organizations



- Layers developed by technical teams utilizing existing data.

Process

Spring 2009

- State Forestry contracts TNC
- Meets with Tribal NR managers

Summer 2009

- Stakeholder Meeting
 - July 2009
 - Technical Teams formed
- Model Development
 - Technical Team Assists
 - TNC – 6 models
 - FG – Econ Potential
 - TPL – Green Infrastructure

Fall 2010

- Stakeholder Prioritization

Winter 2010

- Executive Panel input

Spring 2010

- Development of State Response Plan and Strategy by June 2010



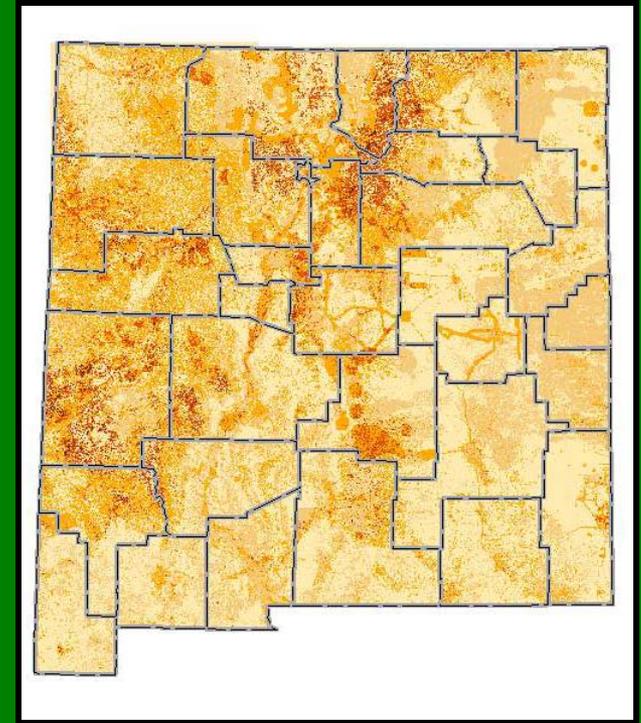
State Assessment sets baseline for collaborative efforts



- Large landscape perspective
- Common resource concerns (including forest health issues)
- Strengthen collaborative relationships
- Leverage federal, state and private money

Eight GIS Layers

- Forest Health
- Fragmentation
- Development Potential (Risk)
- Water Quality & Supply
- Fish & Wildlife (Biodiversity)
- Wildfire Risk
- Economic Potential (Development)
- Green Infrastructure



Wildfire Risk

Model Content

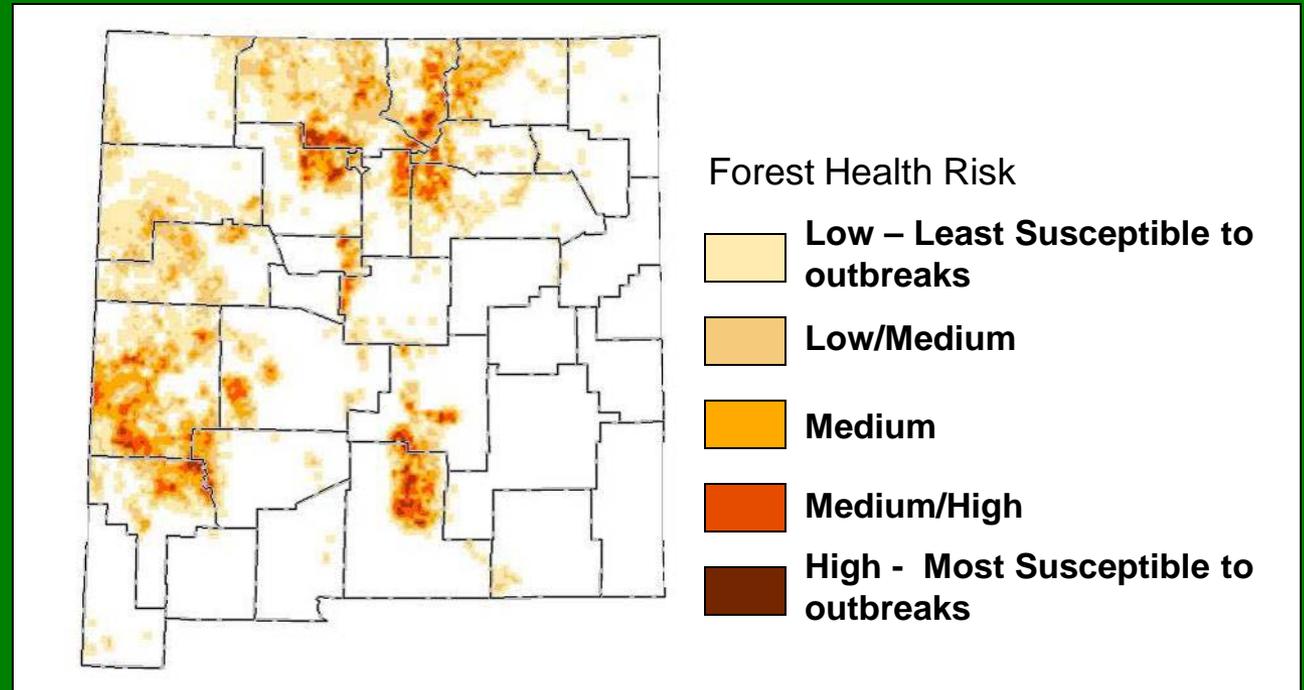


Process for Technical Teams

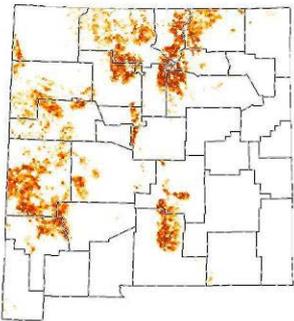
- Collect existing data sets
- Technical team develops understanding of data and guides principles for combining
- 3 Webinars per technical group
- Identify data gaps
- Document issues
- Develop model for prioritization

Forest Health

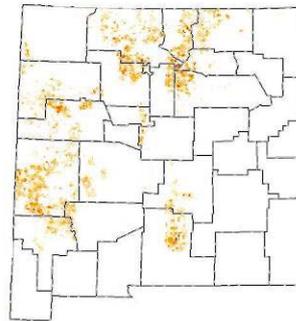
The intent of the forest health risk data layer is to identify areas that make a forest area more susceptible to insect and disease outbreaks



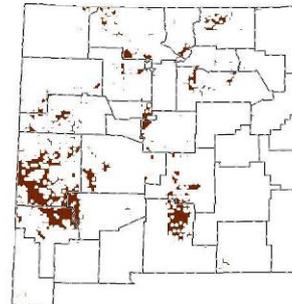
Stand Density Index



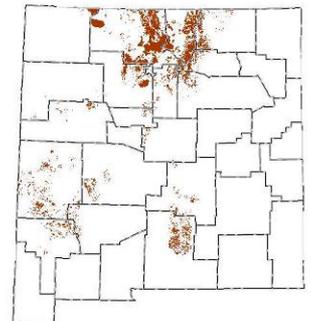
Basal Area Loss



% of Normal Winter Precip



Insect & Disease Survey



Forest Health

Data Considered But Not Used

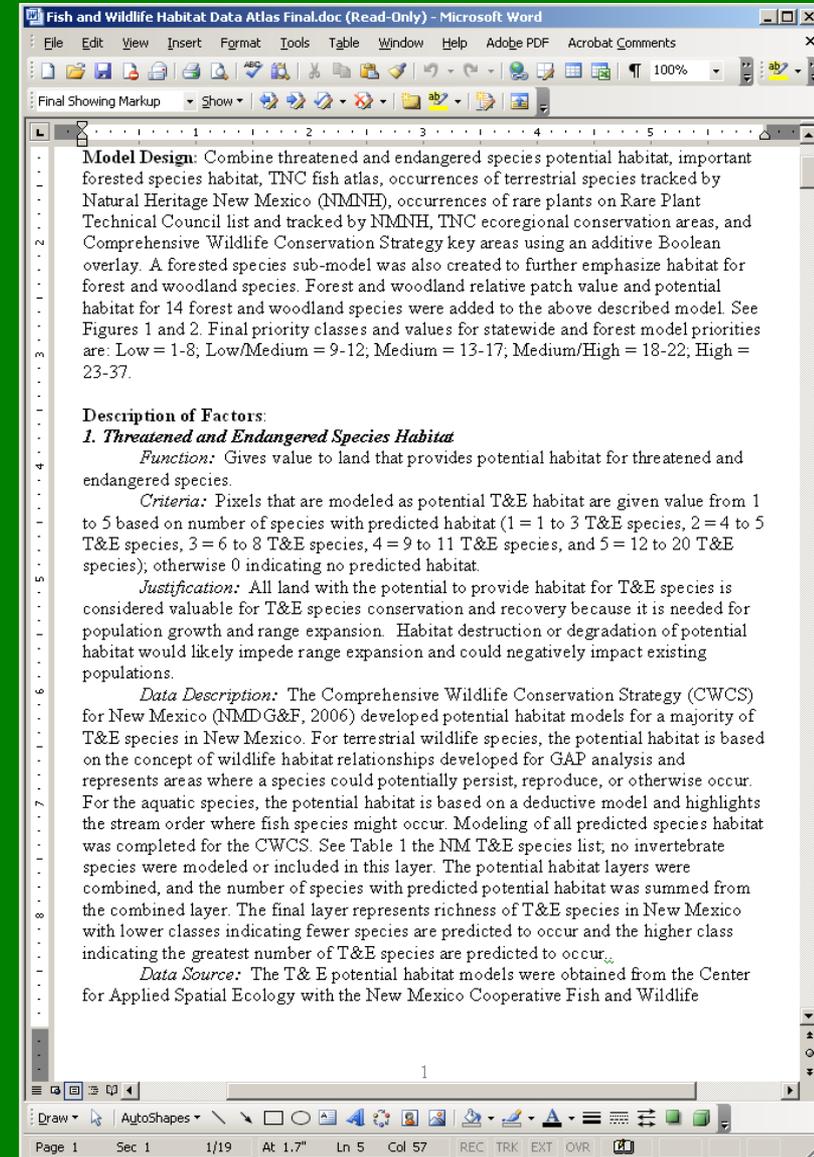
1. *Moisture Stress (1951-2006)*: The technical team noted that insect and disease susceptibility is driven primarily by drought stress from past 3 years and more particularly winter drought stress and decided that moisture stress trend data would not be an effective indicator.

Rank	Data Gap/ Need
high	Specific stand exam data and updated and complete FIA Data.
high	Comprehensive invasive species at statewide level.
high	Aspen and other upper elevation vegetation plot/baseline data
high	Lower elevation gallery forest plot data related to invasive species and loss of native riparian forest

Documentation of Models

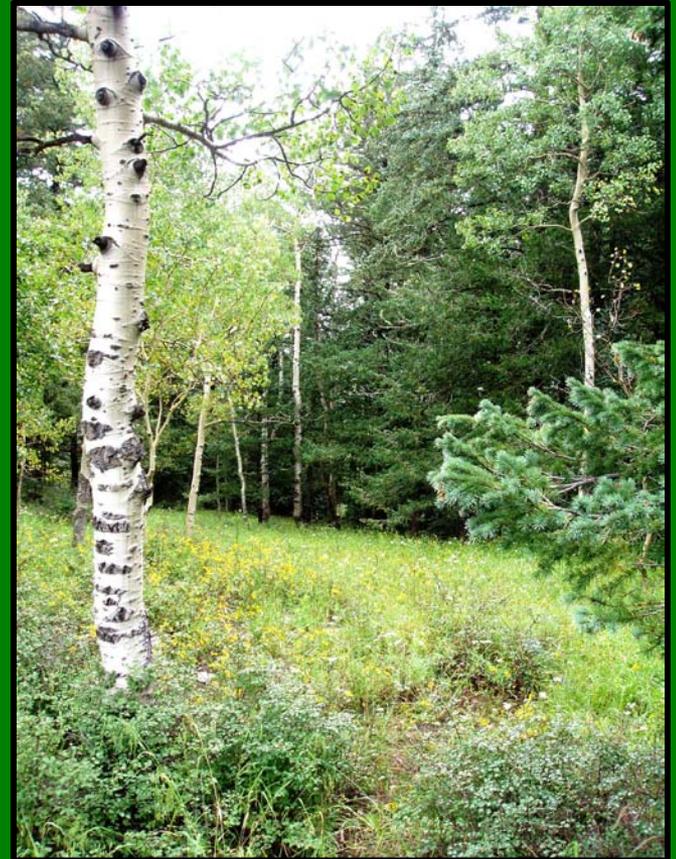
DATA ATLAS

- Overall Design of Model
- Description of Model Inputs
 - Function (eg gives value to T&E habitat)
 - Criteria (eg 1 = 1 to 3 T& E Species)
 - Justification or why layer important to model
 - Data Description
 - Data Source
- <http://allaboutwatersheds.org/groups/SAS/public/data-atlases>

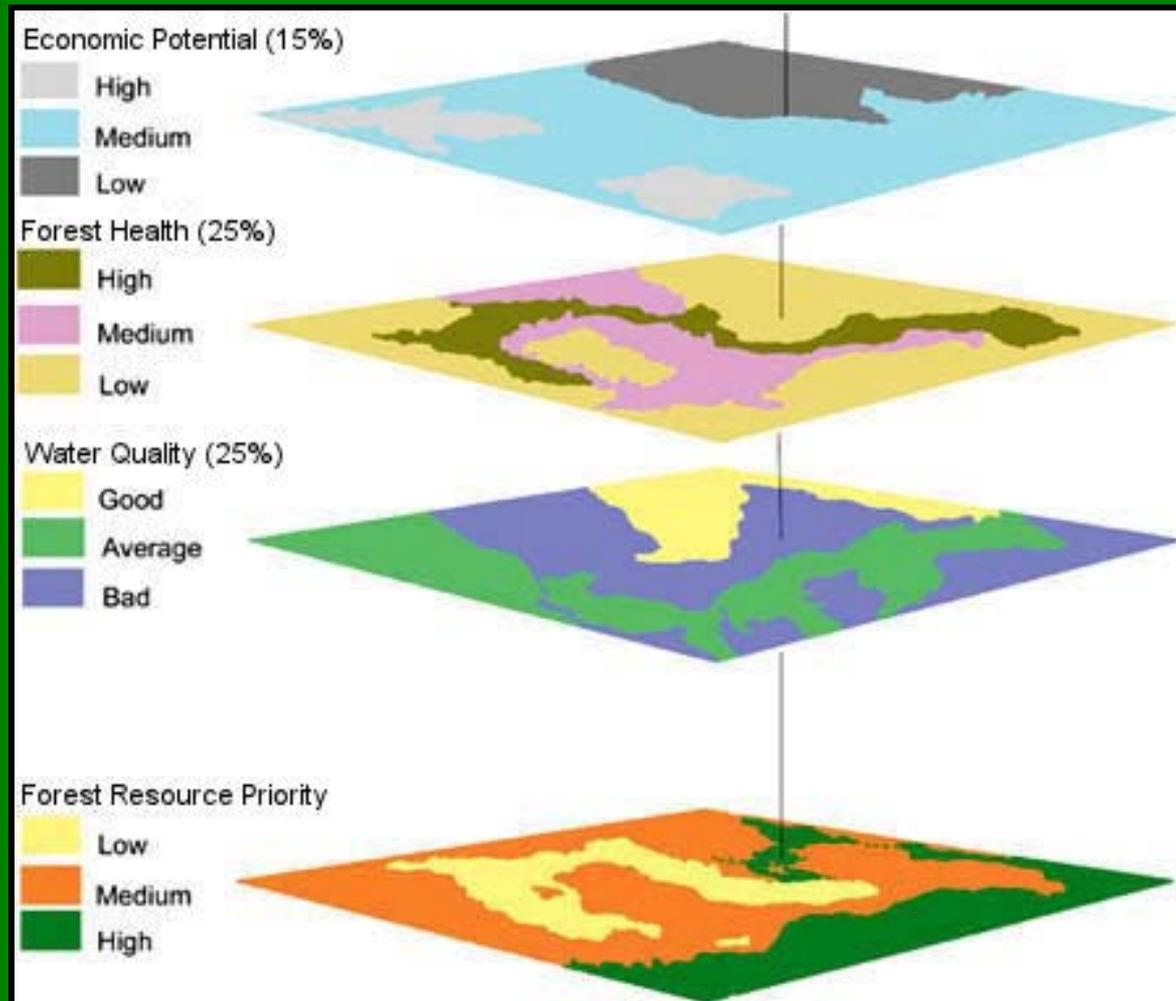


Data Gaps/Needs

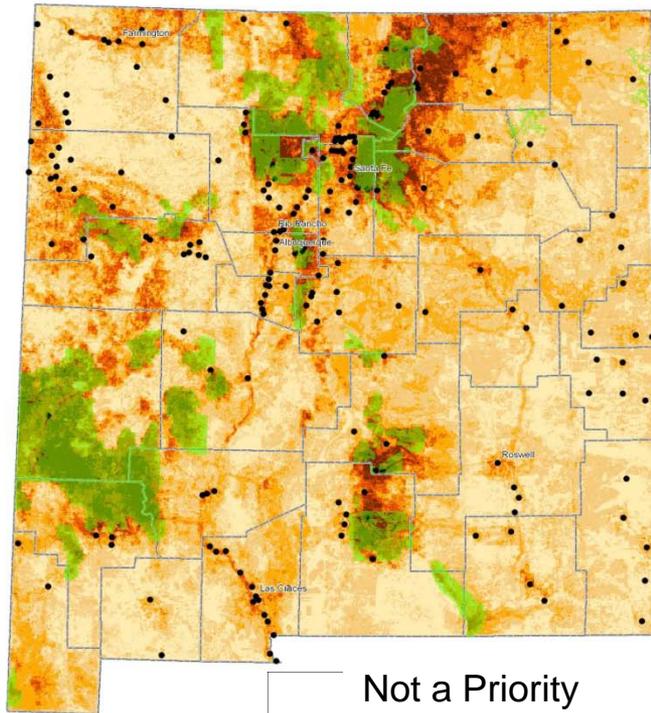
- **Forest Inventory Analysis (Partial Funding)**
 - Economic Potential
 - Forest Health
- **Structural/ Vegetation Quality**
 - Wildfire Risk
 - Water Quality & Supply
 - Fragmentation
 - Forest Health
 - Fish & Wildlife (Biodiversity)



Weighted Overlay Analysis



Stakeholder Priority Map

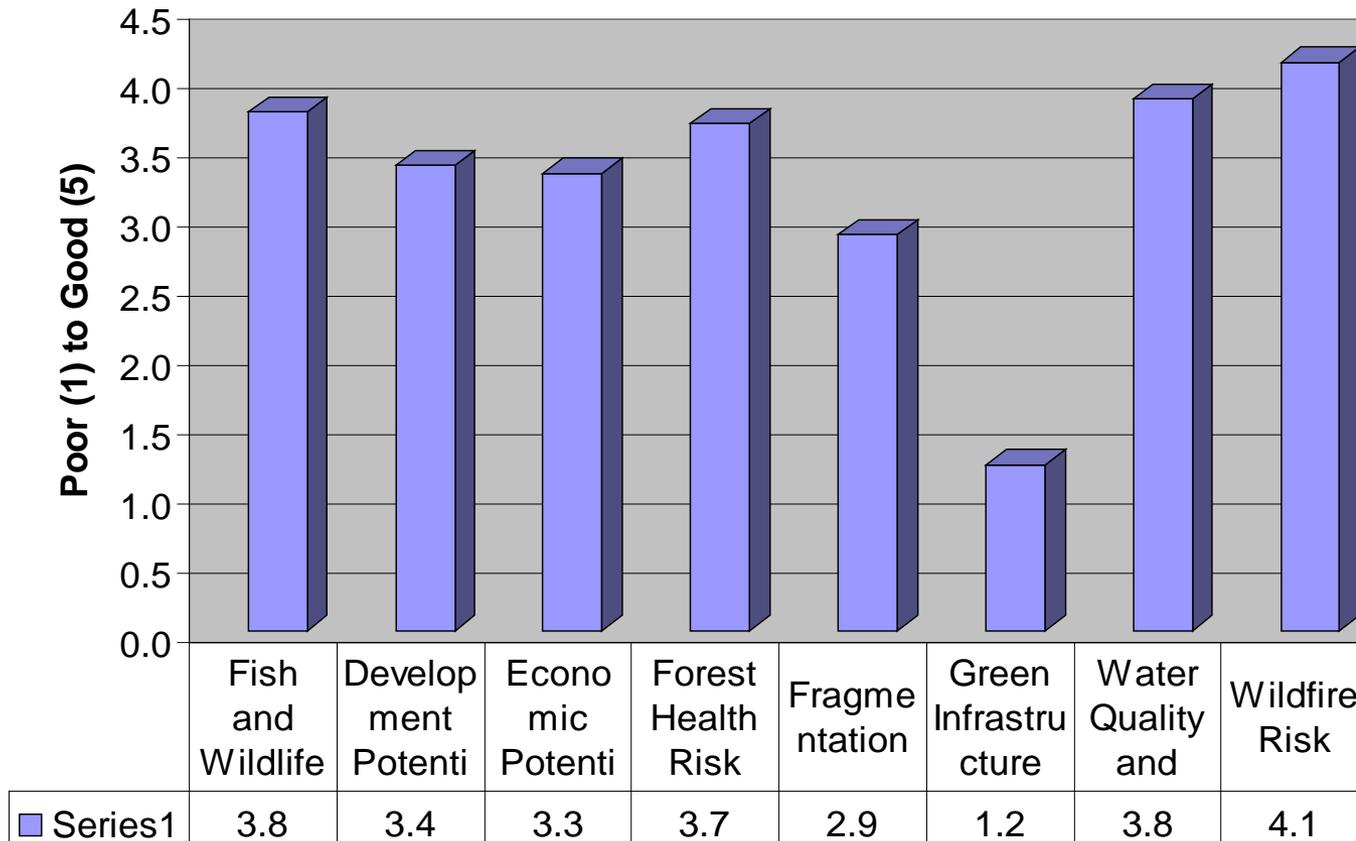


Not a Priority
Low Priority
Low-Moderate Priority
Moderate Priority
Moderate-High Priority
High Priority

- Stakeholder Model Weight
 - WQS = 16
 - Wildfire Risk = 15.4
 - F&W (Biodiversity) = 14.9
 - Forest Health = 14.5
 - Economic Potential = 13
 - Development Potential = 10.7
 - Fragmentation = 10.5
 - Green Infrastructure = 5

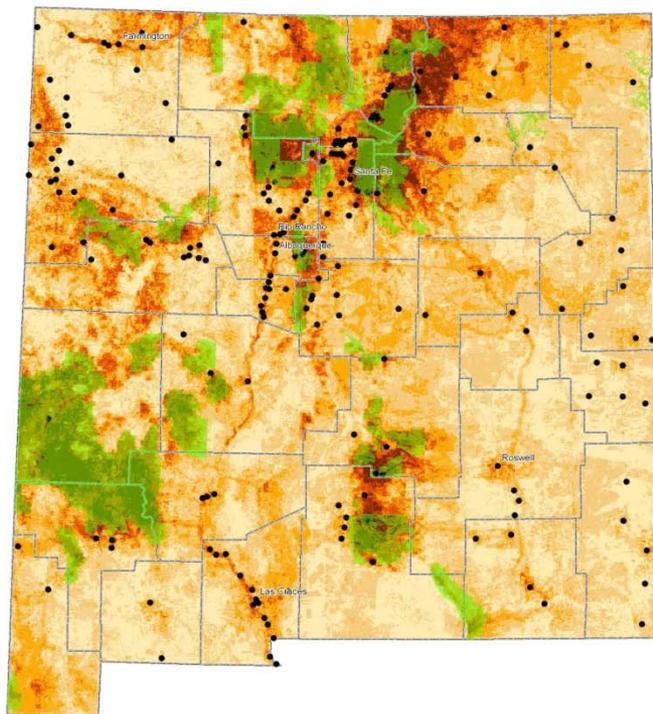
Stakeholder Data Confidence

How well does this model characterize the topic at the statewide scale?



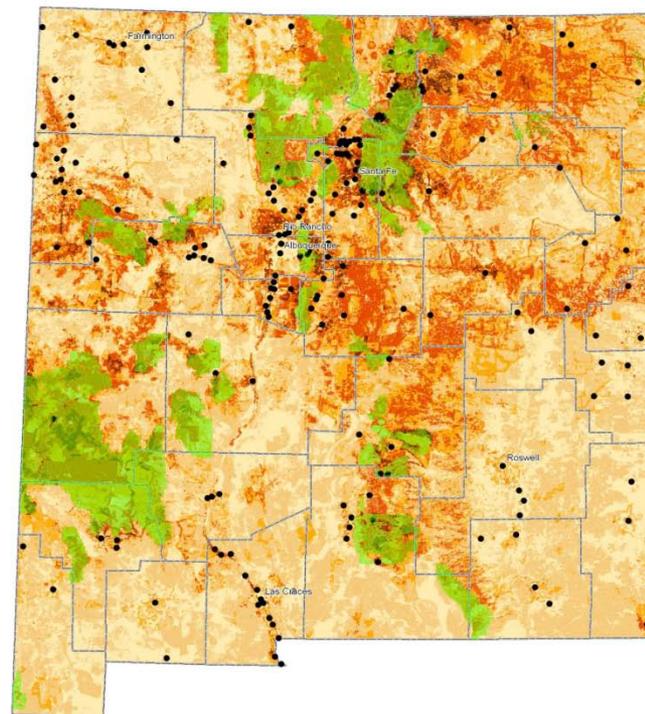
Development of Strategy & Response Plan

All Resource Layers



Conserve Working Landscapes

Fragmentation, Economic Potential and Development Potential



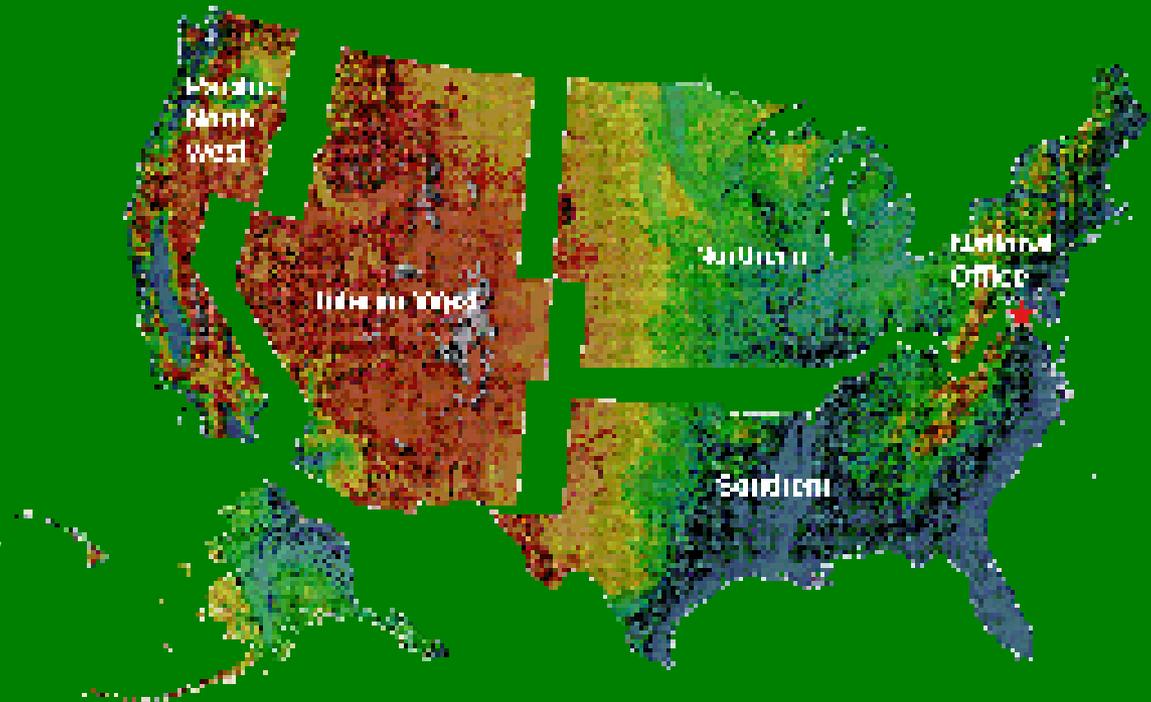
Forest Inventory and Analysis for New Mexico



- Newly funded ARRA project
- Partnership with State Forestry and Interior West FIA (USFS)
- Accelerated collection of data.

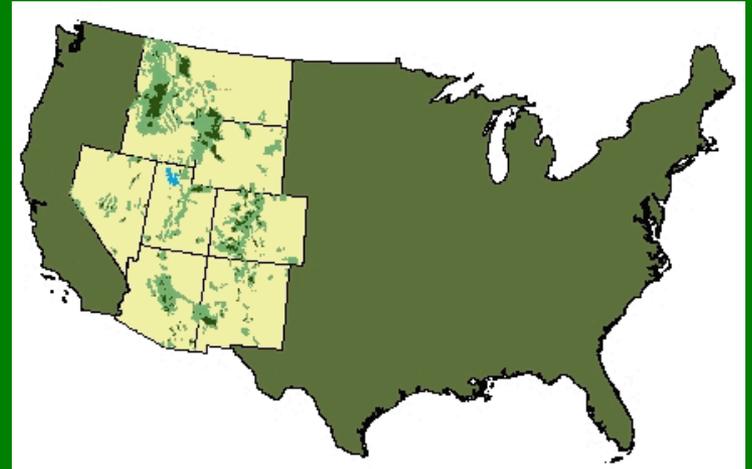
What is FIA?

- National Program
- Sponsored by USDA Forest Service
- ~70 years old
- Congress mandated FIA to collect data in all states every year
- Follows national protocols for data collection



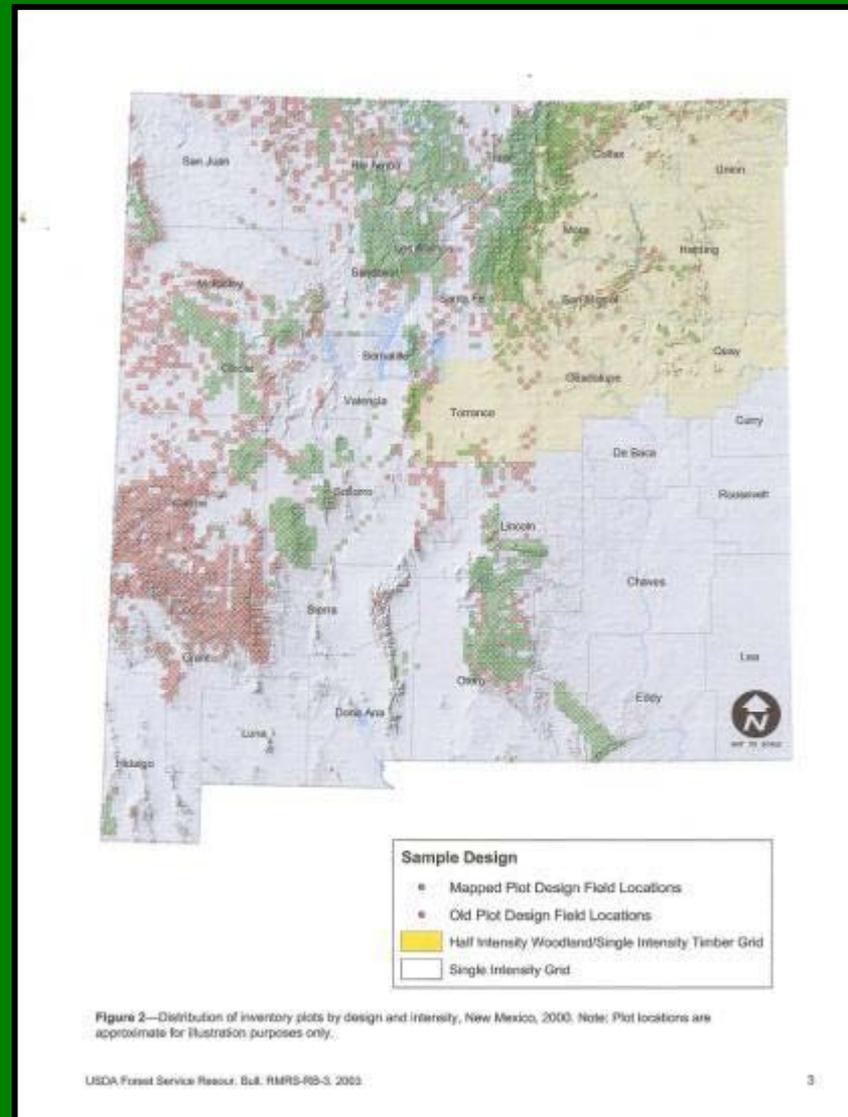
FIA in New Mexico

- New Mexico is part of the Intermountain West region
- Prior to 2000, data was collected in periodic efforts approximately every 10 years; crews moved from state to state
- Changed in 2000 to annual panels, in the Intermountain West region, total plots are divided equally geographically and among ownerships over 10 years.
- NM was left out for many years.
- First panel has been collected in the past two years.



Previous NM FIA collections

- 1987 – portions of the state
 - single radius plot
 - 1262 forest plots
- 1994 – Gila NF
 - 5 point variable radius method
 - 461 forest plots
- 1999 – portions of the state
 - 4 sub-plot 1/24 acre fixed method
 - 819 forest plots
 - re-measure some, but not all of earlier plots



Products



- Reports
 - Statewide
 - By national forests
- Includes cover types, volumes, stand age
 - By county
 - By ownership
 - Other tables

What the data means...



- **Industry**
 - Ability to properly size facilities to fit sustainable resource use
 - Understand the state's resources, county by county
- **Resource Managers**
 - Long range planning
 - Assessment

Problems with current data set



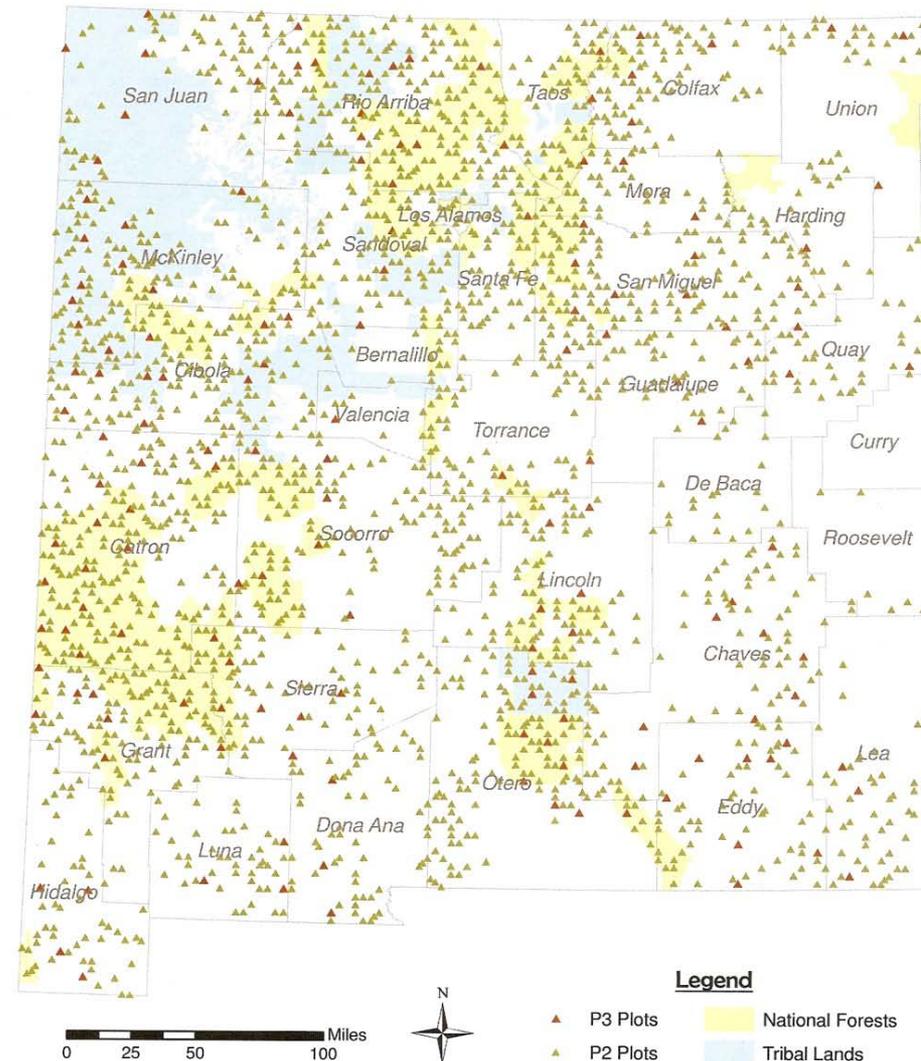
- Drought induced mortality
- Landscape scale mega-fires
- Incomplete data-set
- New issues of measuring biomass and carbon sequestration

2010 ARRA Project

- Partnership between EMNRD Forestry Division and Intermountain West FIA
- FIA prepares packets and analyzes data
- FIA crews
 - Assist with training
 - Collect P3 plot data
 - Provide QA-QC checks
 - Gather some P2 plot data
- State Forestry
 - Assist with obtaining landowner permission
 - Contract majority of P2 plots
 - Contract limited data analysis

New Mexico FIA Plots

Panels 2006, 2007, 2009, and 2010



Noxious weeds in New Mexico Forests

- **Increasing threat**
- **Impact the economic viability and threaten biodiversity and productivity of the land**
- **Identify; treat; restore native vegetation; monitor**



State Forestry Noxious Weeds Program

- Funding provided by the USFS
- *Treat weeds that threaten forested areas.*
- Fund local *Cooperative Weed Management Areas.*
 - *assessing and mapping invasive weed problems*
 - *treat weeds on private land*
 - education and outreach re: identification & action needed
 - Soil and Water Conservation District often fiscal agent
 - involve local, state and federal agencies along with private landowners



Forest Health Initiative

Management plans

Treatments

- specific FHI treatments
- FHI guidelines for other treatments (WUI, NFL, etc...)
- Adjacency to other projects

Public outreach

- technical assistance to landowners
- special events (fairs, conferences, public meetings, etc...)
- demonstration forests
- forestry camp
- visiting forester program (Philmont)



Questions?

