## The New Mexico Forest and Watershed Health Plan

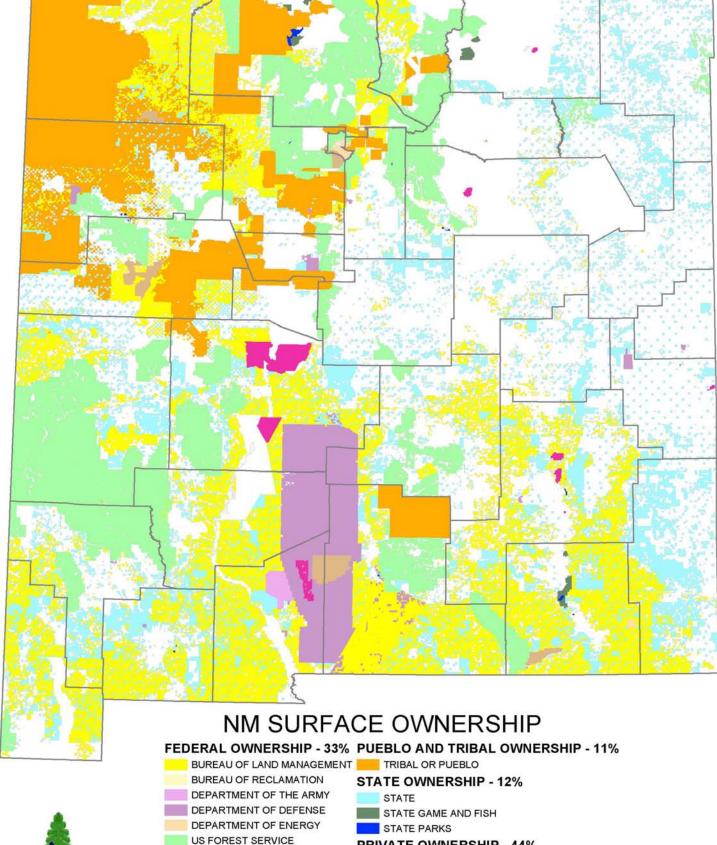
An Integrated Collaborative Approach to Ecological Restoration



Developed by The New Mexico Forest and Watershed Health Planning Committee

For The State of New Mexico Governor Bill Richardson

December 15, 2004



**PRIVATE OWNERSHIP - 44%** 

PRIVATE

County boundaries

Datum: NAD83 Projection: UTM, Zone 13N Surface ownership from BLM NMSO GeoSciences 2003, subject to ongoing revision. No warranties are made regarding the accuracy of this data.



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## THE NEW MEXICO FOREST and WATERSHED HEALTH PLAN An Integrated Collaborative Approach to Ecological Restoration

Developed by The New Mexico Forest and Watershed Health Planning Committee

December 15, 2004

Under the Auspices of The New Mexico Forestry Division Energy, Minerals, and Natural Resources Department 1220 South Saint Francis Santa Fe, NM 87504-1948 (505) 476-3325

## FOREWORD

Governor Bill Richardson and the New Mexico State Legislature called for the development of a statewide plan to address forest and watershed health. The responsibility for convening and stewarding the Forest and Watershed Health planning process was given to the Forestry Division of the Energy, Minerals and Natural Resources Department.

The Forestry Division assembled a broadly representative committee to collaboratively develop the Plan. The New Mexico Forest and Watershed Health Planning Committee is comprised of representatives from the wide variety of government agencies, citizen stakeholders and other experts involved in ecological restoration efforts across New Mexico. This planning effort represents an unprecedented collaboration among these diverse representatives, and the Forest and Watershed Health Plan has the full endorsement of the Committee.

The Committee's commitment is to the central goal of returning our environment to healthy functioning and resiliency of natural processes, such as wildfire and drought, so that social and economic values may be preserved. The Committee believes that ecological restoration must consider large landscapes including the forests, rangelands, and riparian areas within watersheds; must employ a long-term perspective of decades; and will be successful through the collaboration of all land ownerships, managements, and interests. It will take time for New Mexico to fully realize the benefits that this Plan describes, but the consequences of inaction are severe and prompt us to act now. The Plan provides the framework for how this work will be accomplished in New Mexico.

This document represents eleven months of work in Planning Committee meetings and public outreach sessions. The process began in late 2003 with interviews of people who are deeply involved in many aspects of forest and watershed management, planning and resource use. These interviews identified the primary concerns and needs regarding New Mexico's ecosystem health, which provided the starting point for the Planning Committee meetings held in the early part of 2004.

The Planning Committee sessions resulted in the establishment of a consensus vision, guiding principles and specific recommendations to address the identified needs, which the public reviewed at town hall meetings around the state during the summer of 2004. The Draft Plan was revised and then made available for final public review to support the Plan's finalization and submittal to the Governor. The Planning Committee is indebted to the more than 400 New Mexicans who participated in the planning effort and helped shape the development of the Plan.

The Governor's approval of the Plan will mean that the recommendations become action items that the State, with its stakeholders and partners, will begin to implement in 2005. The New Mexico Forest and Watershed Health Plan marks the beginning of a new movement in New Mexico to fully realize the ecological health and economic sustainability that is our children's future.

The New Mexico Forest and Watershed Health Planning Committee

## New Mexico Forest and Watershed Health Planning Committee

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## NEW MEXICO FOREST and WATERSHED HEALTH PLAN EXECUTIVE SUMMARY

The New Mexico Forest and Watershed Health Plan was initiated in late 2003 at the request of Governor Bill Richardson and the New Mexico State Legislature. The Plan is the product of work by more than 400 people who contributed their time and expertise to the collaborative planning effort.

#### NEED FOR THIS PLAN

The New Mexico Forest and Watershed Health Plan is in response to the conclusion that many of New Mexico's ecosystems are in an unhealthy state, as demonstrated by overly-dense woody vegetation, a degradation of biodiversity, and fragmentation and deterioration of wildlife habitat. As a result, New Mexico faces greater susceptibility to catastrophic wildfire and drought, compromised watersheds and decreased water supply, accelerated erosion, and desertification.

A wide range of efforts are already underway in New Mexico to reverse the symptoms of ecosystem decline. Millions of dollars are spent each year on ecological restoration, yet the impact on ecosystem health is still just a fraction of what needs to be accomplished. This Plan has been developed to facilitate, strengthen and streamline current on-the-ground work so as to achieve the greatest impact for every dollar spent.

A problem a century in the making will not be solved overnight. Thus, improving the outlook for New Mexico's forests and watersheds will require a long-term commitment of many decades by all those who share responsibility for restoring these ecosystems. This Plan describes a new approach to leadership at the State level that will act to coordinate and support this effort now and into the future.

#### VISION AND GUIDING PRINCIPLES

New Mexico's ecological and community health depends on the recognition of the inseparability of ecological, social and economic sustainability. The Planning Committee offers a three-part vision of New Mexico's forest and watershed health:

- diverse ecosystems are characterized by integrity and resiliency;
- diverse human communities are sustained by ecologically healthy landscapes that provide resources and amenities;
- and economies thrive by using the inherent productivity of healthy ecosystems.

To carry out this vision, the Planning Committee found it necessary to adopt a landscape approach that will require working across agency jurisdictions, ownership boundaries, cultural divides, and ecosystem types. This ambitious landscape approach will give New Mexico the use of the most sophisticated methods of ecological restoration and will require collaboration, teamwork, persistence, and continual learning. The Planning Committee developed Guiding Principles to shape how ecological restoration efforts should take place in New Mexico. These principles embody the three-part vision and are summarized as follows:

I. Ecological: Promoting ecological integrity, natural processes, and long-term resiliency is the primary goal of the New Mexico Forest and Watershed Health Plan.

II. Socio-Cultural: The values of New Mexico's diverse human communities will be supported and sustained by ecological restoration.

III. Economic: Economic productivity is dependent on healthy ecosystems, and will be leveraged to full advantage in support of long-term ecological health.

#### RECOMMENDATIONS

The 20 recommendations outlined in this Plan are the result of the Planning Committee's extensive study and discussion of the current impediments to on-the-ground restoration work. Each recommendation addresses areas where vested and well-defined interests exist. The Plan was developed through a stakeholder process to ensure that it considered and addressed the circumstances of these multiple interests to result in a broadly applicable and acceptable Plan.

The recommendations call for action that will transform the way ecological restoration is accomplished in New Mexico, strengthening on-the-ground efforts, eliminating unnecessary barriers to this work, and in the end realizing much greater impact for the dollars invested. Each of the recommendations represents a significant scope of work that will need to be planned and implemented over a period of decades to achieve the ultimate goal of ecological health. The Planning Committee recommends that the State is uniquely positioned to lead this effort, and to establish an integrated ecological restoration strategy that will guide New Mexico to this goal.

Upon the Governor's approval of the Plan, the recommendations will become action items that the State will initiate implementation of with its partners and stakeholders. In creating these recommendations, the Committee carefully considered the many existing resources and initiatives across the state, and intends that implementation of the recommendations will fully utilize them to ensure that duplication is avoided and that current successes form the foundation for future success. The recommendations are interdependent, and therefore, will need to be implemented concurrently and iteratively. As such, the recommendations as presented here do not represent any order of priority, and are organized in three parts to reflect the types of actions to be initiated by the State.

#### I. State-Level Action in Support of Local On-the-Ground Efforts

The following recommendations call for actions that will directly and immediately strengthen local restoration efforts through the creation of resources, tools and incentives.

I.A. Support Local Collaborative Projects

- I.B. Develop Incentives for Ecological Restoration and Long-term Maintenance
- I.C. Promote Sustainable Utilization Businesses and Markets
- I.D. Develop Labor Force
- I.E. Create Comprehensive Information Clearinghouse
- I.F. Develop Ecological Restoration Practices
- I.G. Develop Ecological Restoration Monitoring
- I.H. Develop Public Outreach

#### **II. State-Level Strategic Planning and Coordination**

This set of recommendations calls for action the State will take to develop large-scale tools and resources, address needed policy and legal changes, and build the State's capacity to provide the kind of leadership called for by this Plan. The results of these recommendations will affect local efforts more indirectly and over the longer term.

- II.A. Assess Statewide Ecological Condition
- II.B. Create and Implement Prioritization Framework
- II.C. Develop New Performance Measures
- II.D. Coordinate State Agency Funding
- II.E. Coordinate Other Funding Sources
- II.F. Mitigate Administrative Barriers
- II.G. Utilize Existing Authorities and Other Opportunities
- II.H. Coordinate Stakeholder Communication
- II.I. Educate Current and Future Generations

#### III. State-Level Management and Administration

These recommendations outline the leadership entities needed to manage the integrated approach to the State's ecological restoration activities and that will be responsible for implementation of the Plan.

III.A. Establish State Leadership Authority III.B. Establish Representative Advisory Group III.C. Implement NM Forest and Watershed Health Plan

Accomplishing the ambitious program outlined in these recommendations will require vision, leadership and a commitment to broadly inclusive collaboration. The Planning Committee and those who provided input into the Plan's development believe that the State is in the ideal position to accept this leadership challenge that will bring about the long-term ecological health of New Mexico for all New Mexicans.

Further, it is the Planning Committee's hope that the New Mexico Forest and Watershed Health Plan will be a source of interest and utility to other states engaged in ecological restoration planning and implementation, and that this Plan will foster new and more effective state-to-state collaboration on these issues so vital to the West.

## **KEY TERMS**

In the development of this Plan, the Planning Committee found that a number of terms needed clarification in order for the group to be able to reach agreement. The Planning Committee wrote definitions of these key terms to ensure that they were used consistently and clearly throughout the Plan. These definitions are included here to give the reader an understanding of how the terms are being used in this document.

**Collaboration** means involving all stakeholders in a set of decisions that guide how ecological restoration and maintenance is undertaken, supported, and evaluated. The spirit of collaboration is realized when decisions are adapted to address all stakeholder perspectives to the greatest degree possible.

**Coordination** means making sure that those involved are aware of what other related activity is taking place. Coordination helps to maximize the efficient use of resources, promote consistency in process and standards where appropriate, and sequence efforts to achieve the greatest impact.

**Disturbance regimes** are the range of events, natural to an ecosystem, that temporarily change the structure and function of the systems, such as wildfire, drought, floods and insect or disease outbreak, to which the system is adapted. Human alteration of disturbance regimes usually means that ecosystems become dysfunctional over the long-term.

**Ecological processes** refers to the natural cycles, disturbances and interactions of all parts of an ecosystem, such as nutrient and mineral cycles, fire or flood incidence, and species interactions.

**Ecological restoration** refers to a broad framework of activities for returning ecosystems to healthy functioning. Ecological restoration activities are based on specific landscapes and objectives, and should incorporate past experience as a guide to sustainable futures. These activities include, but are not limited to: reducing overly-dense woody vegetation, re-establishing native vegetation, repairing erosion and soil condition, restoring hydrological function, and monitoring all these activities for effective long-term maintenance.

**Economies** in New Mexico take many forms, and include those that are amenity-based, which refers to tourism, recreation, real estate and other like industries; product-based, which refers to forest products, mining and other extractive industries; as well as those that are agriculturally-based such as farming and ranching.

**Forest** refers to areas of land covered mostly by trees, and includes woodlands, riparian communities, shrub land, and other areas with woody plants, interspersed with meadows and grasslands.

**Health** refers to a condition where the system's parts and functions are sustained over time and where the capacity for ecological self-repair is maintained within a natural range of variability, allowing goals for sustainable uses, values and services to be met.

**Implementation** refers to the development of teams and specific action items to address the recommendations of this Plan. This is distinguished from implementation efforts at the local level, which are referred to here as "local on-the-ground efforts."

**Integration** means considering the other initiatives taking place as well as the impacts of these on the larger ecosystem over the long term, and having this consideration inform the effort.

Landscape means a spatial mosaic of several ecosystems, landforms, watersheds and plant communities that are repeated in similar form across a defined area irrespective of ownership or other artificial boundaries.

Landscape approach refers to the way the State will coordinate and manage ecological restoration and maintenance activities across New Mexico. The approach will be based on the scale at which natural processes (such as wildfire and flooding) occur, will encourage collaboration across jurisdictions and ownerships, and will consider causes of degradation to specific ecosystems. This approach is intended to replace the isolated, smaller-scale, symptom-specific projects of the past.

**Stakeholder** refers inclusively to all those interests involved in and/or affected by ecological restoration and maintenance, including federal, state, tribal, and local governments, private landowners, academia, public interest groups, citizens and others.

State refers to state government and its agencies.

**Statewide** refers to the entire state, which is inclusive of all geographic areas, all ownerships and all stakeholders.

**Sustainable** refers to a level of human use of a renewable natural resource that can continue through time without diminishing the resource's availability or quality.

**Watershed** refers to a region or land area that is drained by a single stream, river or drainage network, and includes all of the land within the entire drainage area. An example of a large watershed would be the Rio Grande valley from Colorado to Texas. Examples of smaller watersheds within the larger watershed are the Chama River valley and the Rio Puerco valley.

## NEW MEXICO FOREST and WATERSHED HEALTH PLAN INTRODUCTION

#### Increasing ecosystem health problems across the landscape

Many of New Mexico's ecosystems are in an unhealthy state. This condition has reached a critical state in many ecosystems, including 1) unnaturally high density of woody vegetation in some forest types, in woodlands and grasslands, and in riparian communities, 2) a degradation of biodiversity, including an increase of invasive species and noxious weeds such as salt cedar and thistles, and 3) fragmentation and deterioration of wildlife habitat. Results of these trends include susceptibility to catastrophic wildfire, compromised watersheds and decreased water supply, accelerated erosion, desertification, and other unwanted symptoms of ecological degradation. These unhealthy conditions have been created over time by factors including changes in settlement patterns, disruption by human intervention of natural processes such as fire and flooding, unsustainable use, and natural climatic variations.

New Mexicans are a land-based people, so it is no surprise that across the state a wide range of efforts are underway to reverse the symptoms of ecosystem decline. Generally, this on-theground restoration work is:

- site specific, i.e., taking place at the scale of a farm or ranch, a section of river, or a tract
  of forest;
- symptom specific, i.e., addressing invasive species, water quality, or hazardous fuel reduction;
- and ownership specific, i.e., championed by private landowners, tribes, or federal or state agencies.

As a precursor to the planning process, interviews were conducted with representatives from many of these current efforts as well as scientists, private sector business, public interest groups and others vested in ecological restoration. These interviews showed that, although there is a growing trend in New Mexico toward efforts that are collaborative, that work across jurisdictions and ownerships, and are beginning to consider the larger ecological context, there are still many impediments to ecological restoration efforts.

#### Collaboration among governments and broadly representative stakeholders

The initial concept for this planning effort was for a plan that would address forest health. Just as other initiatives consider a single resource or problem, the Forest Health Plan was singly focused, but would be developed collaboratively by a broad range of stakeholders (the Planning Committee). At the first Planning Committee meeting however, there was strong consensus that the focus on forests was not adequately addressing concerns about water and watersheds. Discussion about the enormity of the ecosystem health problem resulted in great concern that, despite the millions of dollars spent each year in New Mexico on restoration, the impact across the state is still just a fraction of what needs to be accomplished. From this meeting, it was decided to expand the focus of the planning effort to include entire watersheds, from high elevation forested areas to lower elevation rangeland and riparian areas.

As the Planning Committee members worked together, their thinking continued to evolve. They recognized that while existing ecological restoration efforts are making progress separately, they

are not being coordinated to address overall ecosystem conditions. The results of the interviews confirmed that efforts, regardless of jurisdiction or ownership, are often isolated and redundant, lacking basic information and tools, and dependent on individual effort for success. The Committee concluded that these efforts could achieve much more if they were coordinated and better supported, and that in the process, duplication would be eliminated and resources used more efficiently. The Committee also recognized the State's unique position to exercise leadership in this area that could cross the spectrum of jurisdictions involved and bring all parties together toward a focused statewide vision. It was at this point that the Planning Committee took on the bold challenge of crafting a restoration vision for the State that considered ecosystem health holistically across landscapes.

#### A problem a century in the making will not be solved overnight

The Planning Committee recognizes that improving the outlook for the State's forests and watersheds will require a long-term commitment of many decades to restore these ecosystems. The Plan recommends that this commitment should be to a coordinated approach set in the largest landscape context, one that crosses political and institutional boundaries. This approach will result in greater flexibility, greater ecological effectiveness, and greater opportunities for community benefit. In particular, a landscape approach will allow restoration to function at the scale of natural processes (such as fire, drought and insect outbreaks), to return natural integrity to ecosystems, and to protect human communities. The State's planning and coordination will take place at the landscape level, which will guide and support restoration and maintenance work occurring locally.

The landscape approach will also be a catalyst for the collaboration that is necessary to effectively integrate programs and resources to restore ecosystem health. New Mexico's forests and watersheds are controlled by many different federal, state, tribal, local and private entities. Therefore, implementation of this Plan will take place with respect for all the existing authorities and jurisdictions, and consultation will be a precursor to coordination and collaboration. In particular, the N.M. Stat. Sec. 72-14-3.1(E)(1) recognizes the unique situation of each Pueblo and Indian Nation and Tribe, and requires the State to conduct meaningful consultations with Tribal leaderships and governing bodies to formulate mutually agreeable policies. Thus, actions to carry out the Forest and Watershed Health Plan will be coordinated and integrated with the plans and policies of the Pueblos, Indian Nations and Tribes, Land Grants, Acequia managers, and other quasi-public bodies, as well as in consideration of the needs and resources of the private sector.

## VISION

New Mexico's ecological and community health depends on the recognition of the inseparability of the ecological, social and economic elements of sustainability. The three-part vision that the New Mexico Forest and Watershed Health Plan has been developed to realize is as follows.

#### **Ecological**

New Mexico's diverse ecosystems are characterized by integrity and resiliency. These healthy ecosystems exhibit ecological processes that are largely self-regulating; disturbance regimes that

function within their natural range of variation; watersheds that are characterized by recharged aquifers, good water quality, optimum stream flow, and stable soils; and the presence of a high proportion of native species and an infrequent occurrence of exotic species.

#### Socio-Cultural

New Mexico's diverse human communities are supported and sustained by ecologically healthy landscapes, and the human uses of land and water are conducted in ways that ensure long-term ecosystem health and sustainability. New Mexico residents are actively engaged in achieving and maintaining ecological health by sharing responsibility, working collaboratively and inclusively with each other; and honoring the social and cultural values and traditions that make up the character of New Mexico.

#### Economic

New Mexico's economy thrives as ecosystems are restored and sustainable businesses are built upon the resources provided by healthy forests and watersheds. The use of natural resources is consistent with the character of the landscape, and ecological functionality guides economic uses. The private sector uses the inherent productivity of New Mexico's healthy ecosystems for sustainable economic development, which in turn increases the vitality of New Mexico's human communities.

## **GUIDING PRINCIPLES**

The following Guiding Principles represent broad agreement as to how ecological restoration efforts should take place in New Mexico, and address important ecological principles, sociocultural concepts and economic issues. The integration of these three pillars toward the renewal and long-term stewardship of the natural landscape is at the heart of the New Mexico Forest and Watershed Health Plan.

# I. ECOLOGICAL: Promoting ecological integrity, natural processes, and long-term resiliency is the primary goal of the New Mexico Forest and Watershed Health Plan.

**Landscape Approach** Landscape integrity and sustainability are achieved by working at multiple scales. Ecological restoration efforts will be managed using a landscape approach in order to encompass the full range of natural processes and interactions between ecosystems. Ecosystems will be restored to health by addressing the interconnectedness of the landscape across scales and by including the full diversity of biological and physical components.

**Ecological Capacity** Statewide ecological restoration and maintenance efforts will be consistent with the region's inherent natural character, i.e., disturbance regimes, the mineral and water cycles, energy flow and ecosystem dynamics that characterize ecological processes and that support diverse native plant and wildlife populations and habitat. Restoration will take into account the overall condition of ecosystems, including vegetation diversity and structure; water quality and quantity; soil stability; and wildlife diversity and habitat.

Adaptive Management Current ecological conditions demand immediate and proactive action, yet the magnitude and complexity of the challenge will require a sustained effort and diverse practices over a period of decades. Best available science will be used as the basis for this effort, and as improved science develops, practices will be updated. Statewide ecological restoration and maintenance efforts will be evaluated on an on-going basis to ensure effectiveness.

## **II. SOCIO-CULTURAL:** The values of New Mexico's diverse human communities will be supported and sustained by ecological restoration.

**Collaboration** The responsibility for achieving and maintaining ecological health is shared among all land ownerships within a given community, whether they be state, federal, tribal, municipal, or private. While the roles and needs of private land owners, government land managers, and stakeholders are distinct, broadly inclusive collaboration will ensure that the best possible solutions are being developed and put into practice.

**Respect for Diverse Social and Cultural Values** The relationship between communities and the land is embodied in the social and cultural values and traditions of New Mexico, including the Land Grant and Acequia systems, Tribal and Pueblo traditional uses, agricultural uses, and other long-established as well as more recent land use practices. The collaborative process will respect these diverse values and practices, while considering the natural character of the landscape so as to achieve and maintain healthy functioning of the ecosystem for future generations.

**Communication and Education** The current level of awareness and understanding of ecological principles by the general citizenry, policy makers, and stakeholder groups creates the public will to affect ecological health. Communication and education will be integral and constant parts of the process.

# **III. ECONOMIC: Economic productivity is dependent on healthy ecosystems, and will be leveraged to full advantage in support of long-term ecological health.**

**Natural Resource Use and Capacity** Economic benefit flows from a healthy ecosystem. The inherent natural character of the landscape and its ecological functionality will guide the use of natural resources.

**The Role of the Private Sector** The roles of private land and the private sector are integral to New Mexico's ecological restoration effort. Public/private partnerships in restoration work and utilization of forest and watershed resources will be required to make restoration possible at the scale needed to achieve ecological health.

**Local Economies** New Mexico's rural and urban communities rely upon amenity-based, product-based, and agricultural economies. These economies will be strengthened by sustainable local businesses related to ecological restoration and long-term maintenance activities.

## RECOMMENDATIONS

The Planning Committee developed 20 recommendations based on consideration of how ecological restoration is currently taking place in New Mexico. What the Planning Committee found was that local restoration efforts are impeded by a wide variety of circumstances ranging from lack of information and resources, to cumbersome and antiquated processes, to outmoded thinking and a gap in leadership. The Planning Committee concluded that these issues need to be addressed in a comprehensive approach, and that the State is in the ideal position to exercise this leadership. The Planning Committee intends that, upon the Governor's approval of the Plan, the recommendations will become action items that the State, with its many partners and stakeholders, will begin to implement immediately.

These recommendations outline an ambitious program of work that will result in more efficient and effective restoration of New Mexico's ecosystems. Each of the recommendations represents a significant scope of work that will need to be planned and implemented over a period of decades to achieve the ultimate goal of ecological health. The Plan's recommendations are written broadly by design so as to provide the State a comprehensive overview of what will need to be accomplished, while allowing maximum flexibility for implementation.

In creating these recommendations, the Committee carefully considered the many existing resources and initiatives across the state. The Committee strongly urges that implementation steps be coordinated with and make use of existing efforts so that duplication is avoided and current successes form the foundation for future success.

The recommendations are interdependent, meaning that the results of any one recommendation will have an impact on the results of others. *As such, the recommendations will need to be implemented concurrently and iteratively, and therefore are not presented in any order of priority.* The recommendations are organized in three parts to reflect the types of actions to be initiated by the State, utilizing collaborative processes where appropriate.

- Recommendations under State-Level Action in Support of Local On-the-Ground Efforts call for actions that will directly and immediately strengthen local efforts through the creation of resources, tools and incentives.
- The State-Level Strategic Planning and Coordination recommendations call for action the State will take to develop large-scale tools and resources, address needed policy and legal changes, and build the State's capacity to provide the kind of leadership called for by this Plan. The results of these recommendations will affect local efforts more indirectly and over the longer term.
- The State-Level Management and Administration recommendations outline the new State leadership entities that will be responsible for implementing the Plan, as well as the first steps toward implementation of the Plan.

#### I. State-Level Action in Support of Local On-the-Ground Efforts

The following recommendations call for actions that will directly and immediately strengthen local on-the-ground efforts. There are a wide range of entities working on ecological restoration issues around the state, some of which include tribal and pueblo projects such as the Mescalero

Apache, Santa Ana and Sandia; projects like the Jemez Mountain effort that involves the Forest Service, Park Service, The Nature Conservancy, the City of Los Alamos and the Lab, and others; watershed projects under the Clean Water Act, Section 319 like the Galisteo, Rio Puerco and Tularosa projects; forestry projects on private land like the Vermejo and Armendaris, as well as a myriad of other projects on private land that are assisted by Soil and Water Conservation Districts (SWCDs), Conservancy and Irrigation Districts, Acequias, local governments, non-governmental organizations (NGOs) and others. These recommendations call for the development of tools and resources that will immediately assist these and other local on-the-ground projects.

#### I. A. Support Local Collaborative Projects

<u>Rationale:</u> Local ecological restoration projects are complex and challenging, and require specific knowledge, adequate resources, and other tools. The successes already achieved in New Mexico are attributed to dedicated groups of individuals who learned what needed to be done and figured out how to do it. However, precious time and resources are wasted each time a new group must start from scratch. As ambitions grow for restoration of statewide ecosystems, so too must efforts to support the local projects that will accomplish the work.

<u>Recommendation</u>: Support new and existing local collaborative efforts to plan and implement ecological restoration. Develop and maintain a toolkit and provide other support such as technical assistance, monitoring and practices guidelines, training, funding, and equipment. These resources will be provided to the local level by the most efficient delivery mechanism available, which may include the SWCDs, local governments, NGOs, etc. The unique needs and opportunities for Tribes and land grant communities will be addressed in the toolkit.

<u>Outcome:</u> Local restoration projects will more be easily initiated, and more rapidly produce onthe-ground results due to a streamlining and standardizing of the basic resources needed by these efforts.

#### I. B. Develop Incentives for Ecological Restoration and Long-term Maintenance

<u>Rationale:</u> New Mexico's communities, private landowners, and utilization businesses already have lots of reasons to participate in ecological restoration. These reasons include protecting their homes from wildfire, stabilizing their water supplies, and supplying their businesses with raw materials. However, the costs of a landscape approach need to be born across a broader population, therefore institutionalized incentives make sense as part of a long-term, landscape strategy.

<u>Recommendation</u>: Develop explicit, tangible incentives for all landowners, businesses, communities and decision makers that engage these key constituencies in ecological restoration and maintenance activities that are consistent with this Plan. Examples of possible incentives include tax rebates, reductions and credits, direct monetary and in-kind grants, training opportunities, ordinances, permits and licenses, etc.

<u>Outcome:</u> Appropriate incentives to facilitate ecological restoration will accelerate on-theground results over the entire state and will facilitate long-term maintenance.

#### I. C. Promote Sustainable Utilization Businesses and Markets

<u>Rationale:</u> Many New Mexico communities have at one time been supported by product-related economies and were destabilized when those industries declined. Utilization of the by-products of restoration efforts can contribute to local economic development and help cover costs associated with restoration efforts. The widespread availability of woody material will likely lead the region to major developments in technology and production methods. However, sustainable utilization businesses face a number of difficulties, such as decaying infrastructure, access to capital, inadequate labor force, and underdeveloped markets.

<u>Recommendation</u>: Promote, support, and sustain businesses that make use of all material resulting from ecological restoration activities through new and existing sustainable technologies. Remove barriers, develop incentives, and provide funds to support appropriate infrastructure and encourage a viable market for utilization products. The State will ensure that the unique business opportunities faced by tribes, land grant communities and the private sector are addressed.

<u>Outcome</u>: Thriving utilization businesses that work within existing communities will advance local economies and result long-term in a viable utilization industry that reduces restoration expenditures.

#### I. D. Develop Labor Force

<u>Rationale:</u> The local labor force is not consistently organized or trained to perform ecological restoration or maintenance work effectively. Community-based enterprises, including tribal and land grants, have opportunities to engage their members, but face many barriers to building the capacity of the local work force.

<u>Recommendation</u>: Support the development and maintenance of a diverse and stable professional and technical labor force to accomplish ecological restoration and maintenance activities through an effort that addresses incentives, education, training, compensation, insurance and other benefits.

<u>Outcome:</u> A trained and available labor force will make it possible to meet New Mexico's restoration and long-term maintenance needs, and will bring enduring employment benefits to communities.

#### I. E. Create Comprehensive Information Clearinghouse

<u>Rationale:</u> Currently there is no centralized way to access all ecological, socio-cultural or economic information related to restoration and maintenance of New Mexico forests and watersheds, nor is the existing information in a format consistent enough to enable useful

comparison. The result is that each initiative independently gathers information, much of which is duplicative of other initiatives and, in many cases, is lost when the particular initiative is completed.

<u>Recommendation</u>: Designate an accessible statewide clearing house and repository with compatibility guidelines for information developed in the planning, assessment, execution and monitoring of ecological restoration, including information such as natural conditions data, project-tracking data, schedules, contractors and equipment lists, etc. The issue of proprietary data from private and Tribal lands will be addressed in developing access to the clearinghouse.

<u>Outcome:</u> Accessible and usable ecological, socio-cultural and economic information will facilitate all aspects of ecological restoration and maintenance.

#### I. F. Develop Ecological Restoration Practices

<u>Rationale:</u> Many different kinds of land and water treatments are currently labeled as "restoration." Traditional management approaches often do not have science-based content that considers soil, water, nutrients, wildlife, biodiversity, and disturbance systems. A statewide-accepted approach to ecological restoration practices that considers these factors is needed.

<u>Recommendation</u>: Develop a science-based range of flexible guidelines and protocols for ecosystem restoration practices that achieve effective and ecologically sound treatment.

<u>Outcome:</u> Guidelines and protocols for ecological restoration practices will ensure that effective results are achieved to improve ecosystem health for future generations.

#### I. G. Develop Ecological Restoration Monitoring

<u>Rationale:</u> Tracking the effects of restoration activities is essential in order to assess the value of those efforts. Current monitoring practices are inadequate and inconsistent, often not comprehensive enough, and are not systematically being used to inform management practices. Consistent sets of monitoring guidelines for different ecosystem types need to be developed for local use. A number of resources have already been developed to address this issue in specific ecosystem types.

<u>Recommendation:</u> Collaboratively develop guidelines for monitoring of New Mexico ecosystems that integrate baseline data collection with short and long-term monitoring, and create a transparent mechanism for tracking outcomes and incorporating findings into the decision-making process. Use the information learned about measurable ecological effects of treatment activities to inform and modify restoration strategies, and guide management decisions and planning.

<u>Outcome:</u> Monitoring guidelines for New Mexico's ecosystems will result in more effective local ecological restoration and will guide long-term maintenance strategies.

#### I. H. Develop Public Outreach

<u>Rationale:</u> The broad public is aware of crises such as a drought or a fast-burning wildfire, but has little understanding of the complex circumstances that affect ecosystem health and urban and rural community well-being. For example, the relationship between water supply and watershed health, the importance of ecological processes like fire and flooding to overall ecosystem health, and the need to design ecological restoration projects at the scale of these natural processes are all complex ideas that require an understanding of the interdependence of ecological, socio-cultural and economic health. Public understanding is the first step toward public support of needed restoration and maintenance efforts.

<u>Recommendation</u>: Develop a professional and consistent ecological restoration campaign that effectively explains the need for an integrated approach to healthy ecological functioning and how it affects New Mexico residents, and make the campaign materials available for wide use among all entities (federal, state, tribal, local, private).

<u>Outcome:</u> Outreach will promote broad public understanding of and support for restoration and maintenance efforts over the long-term.

#### **II. State-Level Strategic Planning and Coordination**

The long-term coordination and management of statewide ecological restoration efforts at the landscape level is an ambitious undertaking that will require new information and tools. The State-Level Strategic Planning and Coordination recommendations call for action the State will take to develop large-scale tools and resources, address needed policy and legal changes, and otherwise build the State's capacity to provide the kind of leadership called for by this Plan. The results of these recommendations will affect local efforts more indirectly and over the longer term.

#### II. A. Assess Statewide Ecological Condition

<u>Rationale:</u> There is not a comprehensive, statewide picture of where restoration is most needed, where projects are being implemented and where there are gaps, how resources and funding are being used, and where the myriad of federal, state, tribal, local and private projects are linked to each other or working at cross-purposes.

<u>Recommendation</u>: Design an iterative, science-based process by which to assess statewide ecological conditions and restoration needs; analyze environmental threats to communities, causes of ecological degradation, current restoration activities, and distribution of funds; and identify the gaps and opportunities. Continue with restoration initiatives and projects that are already underway; conduct the initial assessment as soon as possible, using the results of the assessment for adaptive management and to guide new efforts; and conduct on-going assessments and analyses as needed.

<u>Outcome:</u> The assessment will provide the basis for the State's integrated strategic approach, as well as baseline information about current ecological conditions to be used to measure success in ecological restoration.

#### **II. B. Create and Implement Prioritization Framework**

<u>Rationale:</u> Federal, state, tribal and local government and private ecological restoration efforts are all taking place at the same time across New Mexico. The State does not have a system to facilitate the coordination, management and prioritization of projects that occur at different scales and that cross jurisdictional and ownership boundaries so as to ensure effective, efficient results and a collaborative process.

<u>Recommendation</u>: Using the assessment, identify the major landscape areas in New Mexico and collaboratively establish priority areas among and within them. Prioritization will be based on a set of criteria that include ecological, socio-cultural and economic factors and that incorporate local priorities. Use the prioritization to direct resources to those ecological restoration projects that are effective, demonstrate a collaborative approach, inform and educate the public, and use resources efficiently.

<u>Outcome:</u> The outcome will be a set of broad priorities for the entire state that will be the basis of the State's coordination and management activities. In addition, the collaborative prioritization process that is developed will be made available for use in local efforts to ensure that clear local priorities are identified and maximum impact is achieved.

#### II. C. Develop New Performance Measures

<u>Rationale:</u> The federal and state agencies are using performance measures that focus on tracking acreage accomplishment. While these measures are useful to provide accountability they do not adequately evaluate the effectiveness of ecological restoration efforts or the health of ecosystems over time.

<u>Recommendation</u>: Develop a standardized, practical approach to monitoring of restoration at the landscape level with quantifiable performance measures that indicate the effectiveness of restoration efforts in New Mexico. These measures will be used to guide the allocation of funds and other resources to fully support ecological restoration and long-term maintenance efforts.

<u>Outcome:</u> Monitoring and measurement will provide greater certainty of the accomplishments in improving ecosystem health across landscapes, as well as increased accountability for public expenditures and public/private efforts.

#### II. D. Coordinate State Agency Funding

<u>Rationale</u>: Ecological restoration programs exist in a number of state agencies. These efforts address important aspects of ecological health, but have not been coordinated to eliminate

redundancies and leverage resources. Furthermore, there may be other State sources of funding available for ecological restoration work that need to be identified.

<u>Recommendation:</u> Within State agency budgets, identify all funds available for ecological restoration and maintenance activities (e.g., fuels reduction, watershed and habitat improvement, invasive plants, erosion control, etc.) and coordinate for effective delivery to prioritized local efforts that achieve maximum on-the-ground results. Develop clear accountability mechanisms for these funds based on monitoring and performance measures.

<u>Outcome:</u> All available funding within State budgets is used to effectively deliver results, accomplishing as much as possible with the resources available.

#### II. E. Coordinate Other Funding Sources

<u>Rationale</u>: Although a variety of local, tribal, private and nongovernmental sources contribute, the majority of current funding for ecological restoration activities in New Mexico comes from federal agency budgets. The use of federal and other funding could be better coordinated for greater impact and better focused to support local efforts. Furthermore, the renewal of existing and pursuit of new funds is needed.

<u>Recommendation</u>: Increase coordination among federal agencies and other funding entities to eliminate duplication and overlap, make resource sharing easier, and focus available funds on mutual restoration priorities. Jointly pursue new and renewed specialized funding, e.g., the Collaborative Forest Restoration Program, Farm Bill, 319 Program funds, etc.

<u>Outcome:</u> The outcome will be coordinated investment of federal, state, local, tribal and private resources to accelerate delivery of effective results around collective restoration priorities. Success will generate support for additional resources needed to achieve the Plan's goals.

#### II. F. Mitigate Administrative Barriers

<u>Rationale:</u> Ecological restoration faces many administrative barriers that range in complexity from the types of contracts used, to federal land management agency mandates and budgets, to adequately addressing cultural resources clearances. Some of these ways of doing business are new, some have been in place for decades, and some have existed since the establishment of the agencies. There is potential to review and update some of the policies, procedures, and legal requirements that impede ecological restoration work, while preserving the protections that these provide.

<u>Recommendation</u>: Identify legal and policy barriers to ecological restoration activities and crossjurisdictional efforts. Develop the means to mitigate the barriers to the extent possible so as to streamline procurement and contracting, funding mechanisms, state and federal regulations, and other administrative barriers. <u>Outcome:</u> The outcome will be that ecological restoration efforts are supported by the framework of policies, procedures and requirements to the maximum extent possible, while maintaining adequate consideration for other protections and concerns.

#### II. G. Utilize Existing Authorities and Other Opportunities

<u>Rationale:</u> Existing authorities, funding streams and other opportunities have not been adequately considered so as to leverage the greatest support for ecological restoration activities. In addition, some of the new authorities that were intended to help local restoration efforts have taken time to filter down to the ground level, and have often required detailed interpretation to be put into practice. Some funding streams are not well enough understood to be fully utilized in restoration efforts.

<u>Recommendation</u>: Explore and utilize all opportunities to maximize ecological restoration activities and cross-jurisdictional, landscape efforts, e.g., the Joint Program of Work MOU (January 2003) among the Department of the Interior, the USDA Forest Service, The National Association of State Foresters, and the National Association of Counties; the Wyden Amendment; Coordinated Resource Management (CRM), Farm Bill appropriations, and others that exist or may be developed in the future.

<u>Outcome</u>: The outcome will be to demonstrate how existing authorities, funding streams and other opportunities can be maximized in support of ecological restoration and maintenance activities.

#### II. H. Coordinate Stakeholder Communication

<u>Rationale:</u> A wide range of agencies, groups and individuals, both rural and urban, have expertise and/or a stake in forest and watershed health, yet there is no consistent vehicle for communicating among these stakeholders about progress made and innovations in practices, or for soliciting regular feedback and addressing emerging concerns. These stakeholders are key to ensuring that ecological restoration and maintenance is accomplished effectively, and that there is a growing understanding of the complex issues involved.

<u>Recommendation</u>: Implement an effective, on-going communication plan to coordinate efforts, disseminate information, and share successes among all ecological restoration initiatives and stakeholders.

<u>Outcome:</u> Increased and meaningful stakeholder interaction will result in reduced conflict about forest and watershed management, greater synergy among initiatives, and more rapid results.

#### II. I. Educate Current and Future Generations

<u>Rationale:</u> The integrated, landscape approach to ecosystem health outlined in this Plan represents a major paradigm shift that will affect laws, policies and practices. Educating today's

young people about ecological principles is key to successfully making this shift: what children are taught today influences the policies of tomorrow.

<u>Recommendation</u>: Incorporate ecological restoration principles in K-12 and other learning institutions' curricula (e.g., Project Learning Tree), and develop experiential learning programs that can double as workforce programs (e.g., the Civilian Conservation Corps model).

<u>Outcome</u>: The outcome will be future generations that understand the complexity and importance of ecosystem health, and because of this understanding, will embrace policy and practices that ensure this health into the future.

#### III. State-Level Management and Administration

The new approach to ecological restoration called for here and the recommendations outlined above will require new leadership organization within the State that is highly inclusive of all stakeholders, able to coordinate and manage across landscapes, and considers all ecological issues in the development of its strategy. The State-Level Management and Administration recommendations propose new State leadership entities to be responsible for implementing the Plan, as well as some first steps toward implementation of the Plan.

#### III. A. Establish State Leadership Authority

<u>Rationale</u>: Many State entities are currently working in the area of ecological restoration, have demonstrated success in a number of the recommendations in this Plan, and will be instrumental to the long-term implementation of the Plan. Some of these State entities include, but are not limited to: the NM Forestry Division, which is working in communities on hazardous fuel reduction and other forestry-related issues; the NM Department of Agriculture, which works on a variety of ecological restoration issues through the Soil and Water Conservation Districts; the NM Environment Department, which administers the 319 Program that funds watershed projects to improve water quality; the State Land Office that works to restore watersheds on state trust lands; and the Department of Game and Fish. However, none of these agencies takes the lead in the area of ecological restoration, and therefore state efforts can be duplicative and result in unwanted gaps, overlaps and inconsistencies.

Articulated in the NM Forest and Watershed Health Plan is a vision that represents a major shift in the State's approach to ecological restoration: one that integrates all restoration activities. Implementation of the Plan's recommendations will require specialized expertise in a wide variety of areas as well as broad stakeholder involvement and will, in many cases, take years to fully implement. The scope and scale of these recommendations, combined with the need for coordination across state agencies and collaboration with all stakeholders, demands that a distinct entity be identified to lead this work.

<u>Recommendation</u>: The State of New Mexico should establish a new leadership authority to initiate implementation of the Forest and Watershed Health Plan and to coordinate long-term ecological restoration efforts throughout the state. This authority should be located in a new State

office that integrates the various existing State efforts into one unified effort to implement the Plan's recommendations.

The new office will be developed cooperatively by representatives from the various state agencies involved in ecological restoration activities and other related departments. Liaisons from federal agencies, the private sector and other entities will be included in this interagency operation to implement the recommendations. Additional expertise can be garnered from public and private agencies, contractors, stakeholder groups, and other entities organized under the aegis of the new office.

This office will take the lead on the fully-integrated and coordinated landscape approach to ecological health, ensuring that all actions are in keeping with the Plan's vision and guiding principles. The office will facilitate and coordinate the implementation of the Plan's recommendations, engaging stakeholders in collaborative planning and development processes as needed. The office will act as a clearinghouse for information, funding and other resources, and work with statewide, regional and national entities to initiate and support needed action and policy development. The office will work as efficiently as possible, and is not intended to be an approval entity or to conduct on-the-ground activities.

<u>Outcome:</u> The new office will provide organizational leadership within the State to institutionalize implementation of the Plan and to undertake the coordination and management of the State's ecological restoration activities over the long term.

#### III. B. Establish Representative Advisory Group

<u>Rationale</u>: The recommendations outlined in this Plan represent a substantial scope of work in areas where there exist vested and well-defined interests. The Plan was developed through a broadly representative stakeholder process under the belief that including all perspectives would result in a product not only that all could support, but in the end, one that would be the best possible. One of the primary tenets of the Plan is collaboration, and key to its successful implementation will be the continuation of this inclusivity.

Further, most of the recommendations will require the use of collaborative processes to fully implement, and will be made more effective through the use of existing entities and resources. A representative group to provide access to the many existing resources, to ensure that all stakeholders are appropriately considered, and to provide an accountability mechanism for the Plan's implementation will be a key element of the leadership.

<u>Recommendation</u>: Identify an Advisory Group comprised of high-level representatives of all stakeholders (federal, state, tribal, and local governments, private landowners and business, science and research community, public interest groups, etc.) to advise and provide direction on the Plan's implementation, to ensure coordination of and outreach to stakeholders generally, and to revise and update the Plan as needed.

<u>Outcome</u>: Collaboration among all entities will be a constant part of the process toward ecological restoration and long-term maintenance, resulting in greater efficiency and increased on-the-ground change.

#### III. C. Implement NM Forest and Watershed Health Plan

<u>Rationale</u>: The Plan's recommendations are written broadly by design, to give a comprehensive overview of what will need to be accomplished in order to achieve the healthy landscape envisioned. They are also broad so as to avoid preempting the development of implementation strategies that should be dynamic and responsive to changing resources and needs. The Governor's approval of this Plan will initiate the implementation process, which will require on-going collaboration, vision and hard work over a period of decades. To ensure that the recommendations are implemented and adapted as needed, a work strategy will be needed that is comprehensive, iterative, and measurable.

<u>Recommendation</u>: With the Governor's approval of the Plan, the new State office will develop a work strategy and teams to implement the recommendations. The new State office will take the lead on developing the implementation strategy, and will draw from State agencies and departments, Planning Committee representatives and other interested stakeholders and experts to make up the work teams.

In the implementation of the recommendations, every effort will be made to utilize and/or coordinate with existing resources and initiatives to take advantage of successful efforts and avoid duplication. In the process, the streamlining and leveraging of resources will be key to maximizing efficiency and results.

Part of the work strategy will be to highlight on-going and develop new on-the-ground projects that exemplify the Guiding Principles of this Plan to provide concrete examples of what the Plan envisions. The work strategy will also include methodology by which to evaluate the progress being made on implementation of the recommendations as well as their effect on local efforts.

<u>Outcome</u>: Implementation of each recommendation will be designed and initiated to begin to achieve the maximum effect from ecological restoration efforts toward ecosystem health throughout New Mexico.

## CONCLUSION

The Planning Committee recognizes that the ecological health of the state of New Mexico is a complex issue of significant magnitude that will require decades of effort to address. Further, all entities, from federal, state, local and tribal governments to private landowners and business to public interest groups and academia, will need to be involved in the development of solutions and their adaptation to changing circumstances. Just as it will take time for New Mexico to fully realize the benefits that this Plan describes, it will also take time for the learning and adaptation of New Mexicans as individuals, as agencies, as communities, and as governments to be fully realized.

Due to the scale of the problem and the impacts, the Planning Committee believes that the State is in the unique position to exercise leadership in ecological restoration. Through this leadership, the State can bring together all stakeholders toward the statewide vision of ecological, sociocultural and economic health.

The Plan's recommendations have been developed under a comprehensive framework for the ambitious work that needs to take place, which, once approved by the Governor, will become action items that the State will implement. The implementation of the recommendations will result in strengthened, streamlined, more efficient on-the-ground work across the spectrum of jurisdictions that will more rapidly realize the goal of long-term ecological health throughout New Mexico.

The ecological challenges faced by New Mexico are shared by many western states, and addressing these challenges will require collaboration across state borders. It is the Planning Committee's hope that New Mexico's planning and implementation efforts will be a source of interest and utility to other states working on these issues, and that state-to-state collaboration continues and enhances ecological, social and economic vitality in the West.

# SIGNATORY PAGES

We, the Executive Members of the Forest and Watershed Health Planning Committee, hereby recommend approval of the New Mexico Forest and Watershed Health Plan to New Mexico Governor Bill Richardson.

Upon the Governor's approval, the New Mexico Forest and Watershed Health Plan becomes final, and the Plan's Recommendations shall become Action Items for the designated State entity to begin implementing as described in the Plan as soon as possible.

The New Mexico Forest and Watershed Health Plan represents an important opportunity for New Mexico to provide a leadership model in ecological restoration for other states in the West.

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Harv Forsgren Regional Forester, Region 3 USDA-Forest Service

December 31 2004

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H. Dale Hall Regional Director, Region 2 US Fish & Wildlife Service

12/15/07 Date

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Roland Johnson / Governor, Pueblo of Laguna

Ruc. 27, 2004

Date

New Mexico Forest and Watershed Health Plan December 15, 2004

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an Darlene Koontz

Superintendent Bandelier National Monument National Park Service 12-16-04

Date

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1-3-05 Date

Patrick Lyons // State Land Commissioner New Mexico State Land Office

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12-29-04 SW Regional Director, Bureau of Indian Affairs

New Mexico Forest and Watershed Health Plan December 15, 2004

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Paul Orbuch Counsel, Western Governors' Association

12-17-04

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una Trukop 12.21.04 Joanna Prukop

Cabinet Secretary New Mexico Energy, Minerals and Natural Resources Department

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Linfa S.C. Rundell New Mexico State Director Bureau of Land Management

Nec. 15 2004

Date

New Mexico Forest and Watershed Health Plan December 15, 2004

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Rosendo Trevino, III State Conservationist, NRCS

Date

12/ 15/04

New Mexico Forest and Watershed Health Plan December 15, 2004

#### New Mexico Forest & Watershed Health Plan Governor's Decision Record December 15, 2004

I hereby approve the New Mexico Forest and Watershed Health Plan and accept its recommendations. Further, I direct the Secretaries of Energy, Minerals and Natural Resources; Agriculture; Environment; Indian Affairs; the State Engineer; and the Director of the Department of Game and Fish to work collaboratively among themselves and with federal land management agencies and affected stakeholders to integrate the implementation action items of this Plan with the implementation of related state plans and initiatives, including specifically the New Mexico Statewide Policy and Strategic Plan for Non-Native Phreatophyte/Watershed Management.

Mad 30,2015 MA Date Bill Richardson

Governor of the State of New Mexico