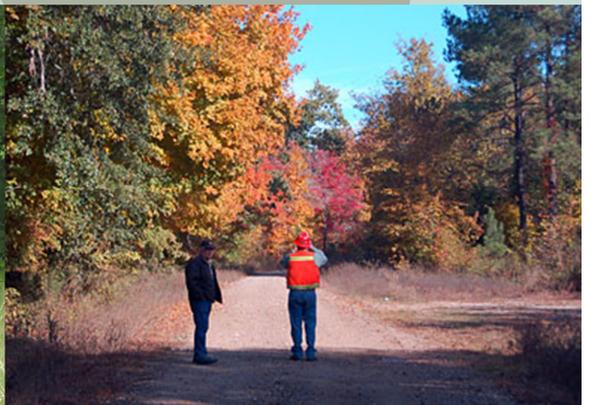




Oklahoma Forest Resource Strategy 2010 to 2015 *and Beyond*



The Oklahoma Forest Resource Strategy, 2010 to 2015, and Beyond

John Burwell, Director and State Forester
Oklahoma Forestry Services - Oklahoma Department of Agriculture, Food, and Forestry
2800 North Lincoln Boulevard. Oklahoma City, OK 73105 (405) 522-6158
www.forestry.ok.gov

Primary Authors: Erin Johnson, Forest Resource Planner, Oklahoma Forestry Services
George Geissler, Management Forester, Oklahoma Forestry Services
David Murray, GIS Specialist, Oklahoma Forestry Services

Development and publication of this document was assisted by a grant from the National Association of State Foresters.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue

Table of Contents

Executive Summary.....	1
State and Private Forestry Redesign – National Priorities.....	3
Oklahoma Forestry Services' Overview.....	5
State Forestry Programs.....	7
Deliverable: Forest Resource Management.....	7
Program Area: Forest Regeneration.....	7
Program Area: State and Private Forestry Assistance.....	8
Program Area: Forest Product Utilization and Marketing.....	10
Program Area: Forestland Conservation.....	11
Program Area: Urban and Community Forestry.....	12
Program Area: Management Financial Assistance.....	12
Deliverable: Forest Resource Protection.....	14
Program Area: Forest Water Quality Management and Protection.....	14
Program Area: Rural Fire Protection.....	15
Program Area: Rural Fire Defense.....	16
Program Area: Forest Health.....	17
Program Area: Protection Financial Assistance.....	17
Deliverable: Forest Resource Education.....	18
Program Area: Environmental Education.....	18
Program Area: Forest Heritage Center.....	18
Program Area: Education Financial Assistance.....	19
Deliverable: Forest Resource Support.....	19
Program Area: Informational Services/Communication.....	19
Program Area: Safety and Training.....	19
Program Area: Forest Resource Planning and Policy.....	20
Program Area: Forest Inventory and Analysis (FIA).....	20
Partnerships.....	22
Strategic Issues and Priority Areas.....	23
Issue: Forest Sustainability and Health.....	23
Goal, Objectives, Strategies.....	25
Issue: Wildfire Risks to the Forest Resources.....	33
Goal, Objectives, Strategies.....	34
Issue: Forest Economics and Markets.....	39
Goal, Objectives, Strategies.....	41
Issue: Water Quality and Availability.....	44
Goal, Objectives, Strategies.....	46
Issue: Community Forest Health and Care.....	51
Goal, Objectives, Strategies.....	53
Issue: Impacts of Climate Change.....	58
Goal, Objectives, Strategies.....	60
Multi-State Areas (Regional Priority).....	63
National Priorities, Objectives, Outcomes and State and Private Forestry Core Performance Measures.....	64
Appendices.....	67

This Page Left Intentionally Blank

Executive Summary

In 2008, the USDA Forest Service implemented a “Redesigned” State and Private Forestry Program (S&PF Redesign). It was formed in response to the combined impacts of increasing pressure on the nation’s forests and decreasing S&PF resources and funds. Redesign focuses on three national priorities: conserve working forests, protect forests and enhance benefits from trees and forests. Under the S&PF Redesign, each state is required by the Cooperative Forestry Assistance Act (CFAA), as amended by the 2008 Farm Bill, to analyze its forest conditions and trends and delineate priority forest landscapes in a State Assessment.

Based on the State Assessment, a Statewide Forest Resource Strategy is required by each state and will become the foundation for formulating S&PF competitive project proposals and guiding S&PF program direction. Each State Forest Resource Strategy should:

- Outline long-term strategies and programs to address priority landscapes identified in State Assessments and the three national priorities
- Describe how the state proposes to invest funding to address management objectives
- Include long-term timeline for projects and program implementation
- Identify partner and stakeholder involvement
- Identify strategies for monitoring outcomes
- Describe how state’s proposed activities will accomplish S&PF objectives
- Describe how S&PF programs will be used to address priority landscapes
- Incorporate existing statewide natural resource plans

States have been preparing the initial state assessments and strategies since 2008. Oklahoma Forestry Services (OFS), with the help of interested stakeholders and public input, completed the Oklahoma Forest Resource Assessment Draft in March 2010. With input from stakeholders, OFS identified six critical issues impacting Oklahoma’s forestlands. A geospatial analysis was conducted to delineate high priority areas across Oklahoma where future efforts might be focused for each of the following issues:

- Forest Sustainability and Health
- Wildfire Risks to the Forest Resource
- Forest Economics and Markets
- Water Quality and Availability
- Community Forest Health and Care
- Impacts of Climate Change

Oklahoma’s Forest Resource Strategy highlights how OFS plans to utilize resources to address the six critical issues and priority areas identified in the Oklahoma Forest Resource Assessment. This document will also provide OFS with the framework to develop service area action plans. The strategy document is organized into four main sections:

- **State and Private Forestry Redesign National Priorities:** Provides an overview of the “Redesigned” S&PF Program and the national priorities.
- **Oklahoma Forestry Services Overview and Program Areas:** Outlines what the division’s responsibilities entail and provides general descriptions of all current OFS programs.
- **Strategic Issues Threatening Oklahoma’s Forest Resources and Priority Areas:** This is the most important part of this document, where priority area maps as well as goals, objectives, and long-term strategies outline how OFS and interested stakeholders plan to address the issues impacting our forests. There is a matrix for each issue which demonstrates the resources needed to accomplish long-term strategies and links each strategy to a national priority.
- **National Priorities – Performance Measures:** Each long-term strategy is linked to one or more of the national priorities and in this section of the document, performance measures are outlined for the national priorities.

This Page Left Intentionally Blank

State and Private Forestry Redesign – National Priorities

In 2007, the USDA Forest Service and National Association of State Foresters (NASF) assembled a State and Private Forestry (S&PF) Redesign Board to review the current trends affecting trees and forests and to consider the most effective roles for state and federal government in sustaining forest benefits. The purpose of redesigning S&PF is to shape and influence forestland use on a scale and in a way that optimizes public benefits from trees and forests for both current and future generations.

The State and Private Forestry Redesign team agreed on three national priorities that are long term in nature and will serve multiple functions, including communicate the conditions, threats and opportunities of the nation's forests and associated benefits, identify the desired outcomes and key strategies that will guide the investment of federal funds, and provide the framework for simplified program and budget structure. The three national priorities were also listed in the 2008 Farm Bill. The Oklahoma Forest Resource Strategy includes goals and strategies that will address our state's and nation's priorities. Listed below are the national priorities and objectives which will be discussed further throughout this strategy.

1. Conserve Working Forest Landscapes

Objectives:

- Identify and conserve high priority forest ecosystems and landscapes
- Actively and sustainably manage forests

Key Strategies should include:

- Forest products, woody biomass, and environmental services market development
- Tax policies, conservation easements, county planning tools
- Facilitating other social and economic incentives to encourage retention of important forest landscapes. Technical assistance to communities and landowners on various techniques available to maintain healthy forests will be an essential supporting activity.

Desired Outcomes (Actions):

- Reducing the rate of conversion of forested landscapes to other uses
- Informing decisions about which landscapes should be conserved as working forests to optimize public benefits for current and future generations

2. Protect Forests from Harm

Objectives:

- Restore fire-adapted lands and reduce risk of wildfire impacts
- Identify, manage, and reduce threats to forest and ecosystem health

Key Strategies should include:

- Restoration of fire adapted forests
- Monitoring, assessment, and treatment of forest insect and disease pathogens
- Prevention, early detection, and rapid response to eradicate or control invasive species (An ongoing national inventory and assessment of forest conditions and technical assistance would be essential supporting activities.)

Desired Outcomes (Actions) - Reduce threats to and restore forest health and productivity associated with:

- Uncharacteristic wildfire
- Insects and disease
- Invasive species

3. Enhance Public Benefits from Trees and Forests

Objectives:

- Protect and enhance water quality and quantity
- Improve air quality and conserve energy
- Assist communities in planning for and reducing wildfire risks
- Maintain and enhance the economic benefits and values of trees and forests
- Protect, conserve, and enhance wildlife and fish habitat
- Connect people to trees and forests, and engage them in environmental stewardship activities
- Manage and restore trees and forests to mitigate and adapt to global climate change

Key Strategies should include:

- Strategic use of trees and forests in urban environments
- Watershed planning
- Enhancing community fire protection capabilities
- Linking environmental health with community well being (Promoting environmental literacy and partnership building will be important supporting activities to increase public understanding of the benefits provided by trees and forests and build support for managing forests to secure those benefits)

Desired Outcomes (Actions):

- Enhancing the suite of public benefits associated with trees and forests such as: clean air and water, fish and wildlife habitat, open space, outdoor recreation opportunities, renewable materials (building materials, paper products, bio-energy, medicinal products), economic attributes (employment, reduced heating and cooling costs, enhanced property values, reduced water storage and treatment costs, reduced flood risk and impacts, reduced fire suppression costs and impacts) and climate change buffering
- Reducing the risk to communities from uncharacteristic wildfires

Oklahoma Forestry Services' Overview

Oklahoma Forestry Services' mission is to conserve, enhance and protect the forest resources of Oklahoma for present and future generations. There are numerous programs and partnerships needed for Oklahoma Forestry Services (OFS) to be able to fully deliver its mission. This section of the strategy gives an overview of OFS' purpose and responsibilities.

State Forester Responsibility

The Director of Oklahoma Forestry Services is the State Forester, equivalent to the State Forester in all 50 states. In each state, the State Forester is recognized as the lead forester for all activities on state and private forestland. Through federal cooperative agreement and state statute, State Foresters assume responsibilities in managing and protecting the State's forest resources in close cooperation with other federal and state agencies, forest industry, private landowners, communities, educational institutions, groups and the public at large.

Oklahoma Forestry Services works in concert with the USDA Forest Service to deliver a wide variety of federal cooperative programs to the state's landowners and citizens. Under federal law and cooperative agreement, State Foresters are the delivery arm of federal forestry programs administered by the Forest Service in both resource protection and resource management on state and private lands.

Program Foundations

Oklahoma Forestry Services activities and responsibilities are dictated by a wide variety of federal and state laws, cooperative agreements and program directives. The Oklahoma Forestry Code, codified as O.S. Title 2, Article 16, guides the delivery of all forestry division services in the State. In addition, as explained below, the State Forester is the formal delivery mechanism for federal forestry programs in a cooperative partnership with the United States Department of Agriculture Forest Service.

Federal Partnership

Many federal laws have established cooperative forestry programs since the early 1920s. The Cooperative Forestry Assistance Act of 1978, as amended by the 1990, 2002 and 2008 Farm Bills, and other federal conservation legislation, establishes much of the basis for the state/federal forestry partnership. It is extremely important to understand this relationship.

Under federal law and cooperative agreement, State Foresters are the technical delivery arm of federal forestry programs administered on state and private forestlands by the Forest Service.

Simply stated, when Congress assigns the Secretary of Agriculture federal forestry program responsibilities on America's private forestlands, the USDA Forest Service develops the program in partnership with the 50 State Foresters and the National Association of State Foresters. On-the-ground forestry assistance provided to recipients of federal programs is handled by the State Foresters, not by federal USDA Forest Service employees.

In the 2008 Farm Bill, the role of USDA Natural Resource Conservation Service (NRCS) in forestry assistance was increased through expansion of their existing landowner assistance programs. In September 2008 an agreement at the national level between the USDA Forest Service, the NRCS, the National Association of State Foresters (NASF) and the National Association of Conservation Districts (NACD) established that **"State forestry agencies have the primary leadership role and responsibility for delivery of forestry programs on State and private lands"** in the United States, including USDA Forest Service Cooperative programs and NRCS programs.

Oklahoma Forestry Services maintains its relationship with the USDA Forest Service Cooperative programs. In addition, the State Forester and NRCS have an agreement in place whereby the State Forester provides forestry assistance under the federal EQIP, WRP, and HFRP programs. This expansion of NRCS programs resulted in dramatically higher levels of reforestation, afforestation and timber stand

improvement over previous years. Oklahoma has more Indian tribal governments than any state in the U.S. The U.S. Department of Interior, Bureau of Indian Affairs (BIA) has an extensive presence in Oklahoma as a result of its trust responsibilities for all Tribal and allotted lands. Oklahoma Forestry Services has had an agreement in place with the BIA for many years addressing its partnership in providing fire protection on such ownerships in eastern Oklahoma. This agreement addresses all aspects of fire protection including fire use, suppression, detection, prevention, preparedness, coordination, training, and information exchange.

The following statement is excerpted from the NASF report "Ecosystem Management on Non-Federal Lands." It captures the expected role and importance of State Foresters in meeting public expectations on forestland:

Public expectations for forestlands transcend political, administrative, jurisdictional and ownership boundaries. Consequently, the public has many of the same expectations for non-federal lands as they do for federal lands. Non-federal forestlands comprise a significant majority of the forested land base of the United States. These lands have played a major role in meeting society's needs and will have an increasingly important role in the future. State forestry agencies and the technical services they provide are an essential part of the organizational structure that will respond to meet these needs.

State Forestry Programs

Oklahoma Forestry Services' programs generally fall under one of four major deliverables: Management, Protection, Education and Support. In the following section, an introductory paragraph on the deliverable is followed by program areas with brief descriptions of each state level program and its supporting programs. The descriptions include a summary of the program's purpose and its target audience. The numerous programs and services OFS manages and provides will help address the six strategic issues identified in the Oklahoma Forest Resource Assessment and later discussed in this Forest Resource Strategy.

Deliverable: Forest Resource Management

Oklahoma's diversity, in both rural and urban areas, poses special challenges and opportunities to use trees and forests to improve the economy, mitigate environmental problems and improve the quality of life of our citizens. Professional foresters are needed to assist Oklahomans with wildlife habitat improvement, windbreak establishment and renovation, erosion control, water quality protection, watershed improvement, urban and community forestry, generation of income through forest products, creation or expansion of businesses, forest recreation and many other areas.

Oklahoma Forestry Services strives to deliver programs and resources to Oklahomans to help manage the forest resources. OFS utilizes a variety of programs to support landowners in managing their forestlands. Much of this assistance is provided through a partnership on the federal level with the USDA Forest Service. The major program areas include forest regeneration, state and private forestry assistance, forest product utilization and marketing, forestland conservation, urban and community forestry and management financial assistance.

Program Area: Forest Regeneration

Oklahoma's diverse climate, topography and soils demand high quality, locally adapted planting stock to be successful. Seed used in the production of these seedlings must be from sources collected locally, genetically improved or otherwise known to be adapted to our extremes of temperature and precipitation. The Forest Regeneration Center and the Forest Tree Improvement Center, managed by OFS, provide excellent seedlings for an array of forest conservation projects in Oklahoma.

Program: Forest Regeneration Center (FRC)

Purpose and Description: The Forest Regeneration Center is one of the oldest environmental programs in Oklahoma, established in 1926 in Stillwater. OFS currently operates the Forest Regeneration Center at a 120-acre site south of Norman at Goldsby. Over the past six years, the FRC has delivered over 4 million seedlings annually for timber production and environmental enhancement plantings. Over 30 species of trees and shrubs are grown and distributed to landowners to meet their objectives for windbreaks, wildlife habitat, timber production, erosion control and other conservation purposes.



Most of the seed used in the program is collected in Oklahoma from known sources to assure its adaptation to our planting conditions. A small number of containerized seedlings are grown for planting on harsh sites in western Oklahoma. The FRC is currently conducting a beta test of 300,000 loblolly containerized seedlings to potentially replace some of the bare-root seedling stock used for reforestation. All requests for ornamental plantings are referred to the private sector.

The Forest Regeneration Center not only provides quality seedlings, it also emphasizes new research and education. Some of the research projects over the past few years highlight seedling quality,

phyto-remediation, seed source viability and cultural practices to lower production cost while maintaining seedling quality. In certain circumstances, trees can absorb or mitigate pollutants, such as heavy metals, excess nutrients and other contaminants (phyto-remediation). The Regeneration Center team also spends time on educating the public through tours of the facility as well as tree planting demonstrations and seedling survival studies.

Target Audience: All landowners, including local, state and federal agencies, groups and individuals needing tree and shrub plant materials for conservation purposes may order seedlings.

Program: Forest Tree Improvement Center (FTIC)

Purpose and Description: Oklahoma Forestry Services operates the State's Forest Tree Improvement Center, which is located on OSU's Kiamichi Forest Research Station near Idabel, Oklahoma. Its purpose is to develop genetically improved seed for the production of high quality planting stock for Oklahoma landowners. Approximately 60 acres are planted in superior loblolly and shortleaf pine. Cones are collected each autumn, and the seed produced is used by the Forest Regeneration Center to grow improved seedlings for use by private landowners.

Genetic pine improvement thus far ranges from 15 to 34.2 percent on the various orchards. To adequately insure that high performance standards are met, OFS has remained an active member of the Western Gulf Forest Tree Improvement Program (WGFTIP) Cooperative which helps our staff carry on this program at a fraction of the cost and gives us access to forest geneticists not available otherwise.

In addition to providing genetically improved seedlings, the FTIC also maintains a hardwood seed orchard for bur oak, baldcypress and sawtooth oak seed collection, is conducting the Great Plains Ponderosa Pine research project and also grows and researches Christmas tree species.

Target Audience: The direct beneficiary of the activities of the Forest Tree Improvement Center is the State's Forest Regeneration Center. Ultimately, all landowners planting genetically improved trees benefit. Through our membership in the Western Gulf Cooperative, other Co-op members also benefit from our program, as we do from theirs, through the sharing of genetic material and expertise.

Program Area: State and Private Forestry Assistance

The State of Oklahoma owns tens of thousands of acres of forested lands which are held by various state agencies. OFS is responsible for the management of those lands. Approximately ninety percent of Oklahoma's forestlands are privately owned, with the majority being owned by small, non-industrial owners. At present, there are only a small number of private forestry consultants who work with landowners, and these are concentrated in eastern Oklahoma.

Whether it is a private landowner or another state agency, OFS foresters help landowners manage their land to meet a variety of objectives and provide technical forestry advice on tree planting, wildlife habitat improvement, forest recreation, erosion control and other forest-related land management. Specific activities include on-the-ground reconnaissance, evaluation of forest resources, forest inventory, preparation of written forest management plans, distribution of technical information, assistance in harvesting and marketing of timber and forest products, and assisting landowners in finding vendors or private consultants.

Some programs that help the foresters provide technical assistance are.

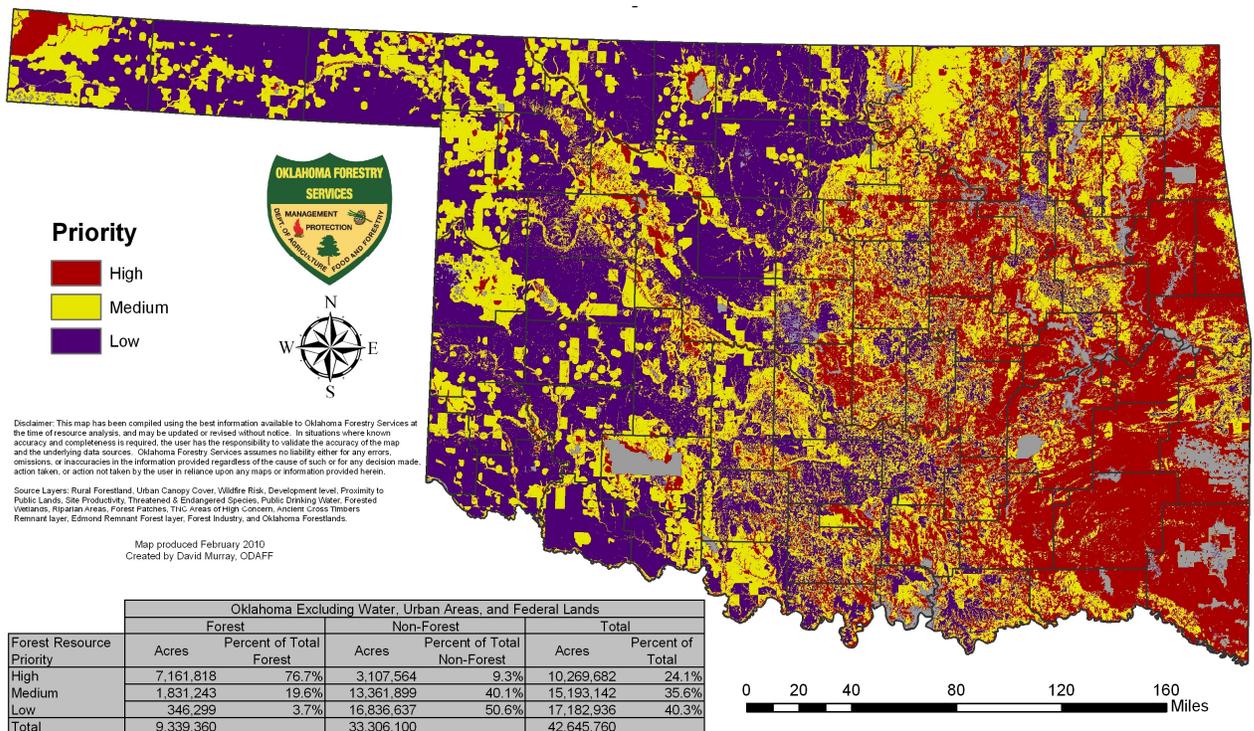


Program: Forest Stewardship

Purpose and Description: The Forest Stewardship Program provides assistance to owners of forest land and other lands where good stewardship, including agroforestry applications, will enhance and sustain the long term productivity of multiple forest resources. Special attention is given to landowners in important forest resource areas and those new to, or in the early stages of managing their land in a way that embodies multi-resource stewardship principles.

The State Forest Stewardship Coordinating Committee helps guide the program in cooperation with the State Forester. A Forest Stewardship Management Plan is prepared for landowners who submit a Stewardship Application. Landowners with an approved Forest Stewardship Plan are eligible for a variety of federal, state and private cost-share/grant programs to help implement specific practices prescribed in the plan. Forest Stewards who implement their plans receive recognition from the State Forester.

Figure 1: Priority Lands for Oklahoma Forest Stewardship Program



The program provides landowners with the professional planning and technical assistance they need to keep their land in a productive and healthy condition. The planning assistance offered through the Forest Stewardship Program may also provide landowners with enhanced access to other USDA conservation programs and/or forest certification programs. Below is a map that depicts priority areas where the Forest Stewardship Program will be focused.

The Forest Stewardship Program is authorized by the Cooperative Forestry Assistance Act of 1978, as amended, 16 U.S.C. 2103A.

Target Audience: Oklahoma's private, non-industrial landowners are the primary audience for the program. To be eligible for Forest Stewardship, landowners must enroll all their lands, and the lands must be at least 25 percent forested or to be converted to forest through tree planting.

Program: Public Lands Management

Purpose and Description: Oklahoma Forestry Services is partially responsible for all forest management activities conducted on state-owned forestlands. This includes those lands under the jurisdiction of other state agencies including Oklahoma Department of Wildlife Conservation, State Department of Tourism and Recreation and the School Lands Commission. OFS also provides technical forest management assistance on lands owned by local governments and the administration of the state's forest land conservation programs.

Target Audience: State agencies

Program: Oklahoma Non-Traditional Landowner and Community Outreach

Purpose and Description: The Non-Traditional Landowner and Community Outreach program provides assistance to non-traditional participants in Oklahoma. This program has three primary goals: provide outreach support and technical assistance to non-traditional participants, encourage young people to seek careers in forestry, and to work with Langston University to develop and/or enhance projects of mutual forestry interest for targeted landowners and/or communities. Partially funded through the Forest Stewardship Program, the Non-Traditional Landowner Outreach program is a joint project between the Oklahoma Forestry Services, Langston University and the USDA Forest Service.

Target Audience: Non-Traditional Landowners and Communities

Program: American Tree Farm System (ATFS)

Purpose and Description: Tree Farms are more than pine plantations or Christmas tree farms. Tree Farms are varied in nature and contain many different habitats and stages of forest regeneration, from seedlings to mature timber. Biodiversity is a critical component of a certified Tree Farm. Tree Farmers must maintain natural forest buffers and other aspects of conservation techniques.

ATFS was established in response to concerns that America's private forests were being cut at unsustainable rates without reforestation. It all began in 1941 when the first Tree Farm was designated in Washington State. The Tree Farm's purpose was to demonstrate sound forest management practices to area landowners. The American Tree Farm System works to sustain forests, watersheds and healthy wildlife habitat through the power of private stewardship by offering affordable forest certification for family forest landowners in the United States.

ATFS has undergone many changes since its beginnings in 1941 and is now recognized internationally as a credible forest certification system. ATFS certifies landowners to the American Forest Foundation's Standards of Sustainability for Forest Certification to ensure markets remain open to Tree Farmer's wood, by undergoing third-party certification audits by independent, ANSI-ASQ National Accreditation Board (ANAB) accredited certification bodies.

ATFS has established standards and guidelines for property owners to meet to become a Certified Tree Farm. Under these standards and guidelines, private forest owners must develop a management plan based on strict environmental standards and pass an inspection by an ATFS trained forester every five years.

The American Forest Foundation (AFF) is a non-profit 501(C) (3) conservation and education organization that strives to ensure the sustainability of America's family forests for present and future generations.

Target Audience: Private landowners

Program Area: Forest Product Utilization and Marketing

Purpose and Description: Oklahoma's forest resources have the potential to contribute to the State's economy. There is ample opportunity for new or expanding forest industry firms. Underutilized forest

resources, such as redcedar and central Oklahoma hardwoods, are untapped resources that can support sustainable economic development in rural communities and give landowners an economic incentive to manage and improve their forestlands. Developing technologies in biomass energy and biofuels using wood may help make the U.S. more energy self-sufficient.

OFS' forest utilization and marketing program offers Oklahoma's forest-resource based industries with technical support and information. Assistance is provided both existing businesses and potential businesses that have an interest in expanding, improving or developing the forest industry, or marketing forest products.

OFS maintains statistics on the state's forest resources, industry characteristics and the economic impact of forestry in Oklahoma. As time permits, Forestry helps develop and promote the growing eastern redcedar industry in central and western Oklahoma, and other wood product related opportunities.

Target Audience: Forest-based industries wishing to develop or expand are the primary beneficiaries.

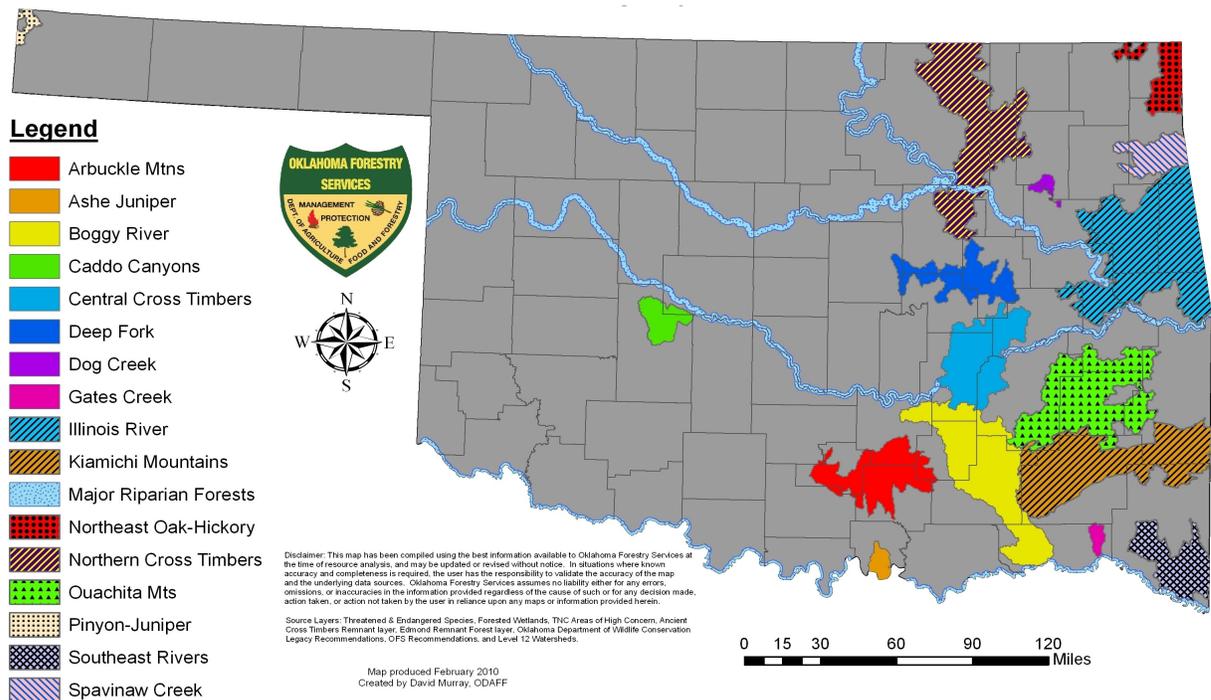
Program Area: Forestland Conservation

Forestlands make significant contributions to the natural and economic health of our state. Loss of forested acres and the fragmentation of the remaining acres reduce the potential of the forest to provide the economic, social and ecological benefits that we depend on. OFS works with several organizations including, The Nature Conservancy, Land Legacy, Inc., National Wild Turkey Federation and other non-governmental organizations, to conserve forestlands.

Program: Forest Legacy (FLP)

Purpose and Description: The Forest Legacy Program is a federally funded program to protect forestlands that provide exceptional values but which are threatened by development or conversion to non-forest uses. FLP is an entirely voluntary program. To maximize the public benefits it achieves, the program focuses on the acquisition of partial interests in privately owned forest lands identified in the assessment of need included as a part of the Oklahoma Forest Resource Assessment.

Figure 2: Oklahoma Forest Legacy Areas



FLP helps the States develop and carry out their forest conservation plans. It encourages and supports acquisition of conservation easements, legally binding agreements transferring a negotiated set of property rights from one party to another, without removing the property from private ownership. Most FLP conservation easements restrict development, require sustainable forestry practices, and protect other values. Below is a map that depicts identified Forest Legacy Areas.

Target Audience: Legacy is directed toward owners of high-value working forests that may be threatened by development.

Program Area: Urban and Community Forestry

Purpose and Description: The Urban and Community Forestry Program provides technical advice to communities, homeowners, businesses, schools, groups, non-profit organizations and many others on managing the urban forest ecosystem to improve the environmental health benefits and services and to provide for a safe, healthy quality of life for all Oklahomans. At the local level, Division foresters provide technical assistance on a wide variety of projects. In the State Office, two program specialists assist the foresters, provide technical assistance and administer competitive matching grants for urban forestry program development, and for tree planting on public transportation corridors in cooperation with the Oklahoma Department of Transportation. Forestry Services also administers the Tree City, Campus and Line USA Programs of the National Arbor Day Foundation, and works with other state and national organizations to promote the positive impacts trees in urban areas provide.

In 1990, Forestry Services formed the Oklahoma Urban and Community Forestry Council. The Council is a statewide organization designed to promote urban forestry. Forestry Services and the Council sponsor an annual conference and jointly sponsor other activities.



Program: Urban and Community Forestry Assistance

Purpose and Description: Specific technical activities include tree inventories and analysis, master planning, species selection, tree maintenance information and training, and promotion of the values of the benefits and services urban and community trees provide. Group assistance is generally on a project basis, such as for tree planting or education programs. Individuals generally seek information or assistance on tree care, planting recommendations, or assessment of construction damage or pest problems. On occasion limited federal grant funds are available to assist communities with program development and education projects.

Target Audience: Our partners include Oklahoma cities and towns, homeowners, businesses, schools, groups, non-profit organizations and many others interested in or working to improve the urban forest resource. The agency has a strong network of volunteers throughout the state as a result of grant projects and Council activities.

Program Area: Management Financial Assistance

Oklahoma Forestry Services in partnership with many organizations provides financial assistance to landowners and communities implementing forestry practices. Most of the cost-share and grants available to landowners and communities are only provided for a limited amount of time and to specific locations around the state depending on program or project focus.

Program: Forest Resources Development Program

Purpose and Description: Forestry Services administers the Forest Resources Development Program (FRDP), a state-level forestry cost-share program. FRDP enables Forestry Services to administer state funds, donations and federal funds. Forestry also provides the technical forestry assistance to cooperators applying for financial assistance from other federal cost-share programs that involve forestry practices, such as the Conservation Reserve Program (CRP).

Target Audience: Oklahoma's private, non-industrial landowners applying for funding assistance

Program: Natural Disaster Recovery Grants

Purpose and Description: When federal funding is secured following catastrophic events Oklahoma Forestry Services, in cooperation with the USDA Forest Service, offers assistance to communities recovering from these severe ice storms.

Funds are available on a competitive cost-share basis to assist state and local governments, approved non-profit organizations, educational institutions, and community tree volunteer groups with the recovery efforts such as tree health assessments, hazard tree mitigation, and replanting efforts.

Target Audience: State agencies, cities, towns, universities, state and non-profit entities that have public education responsibilities and/or entities with public lands within the scope of their care and responsibilities

Program: Urban and Community Forestry Grants

Purpose and Description: Through Oklahoma Forestry Services and the Urban and Community Forestry Council, federal funds are administered for urban forestry activities that support, promote and enhance local community forestry programs. The intent of the Urban and Community Forestry Assistance Program is to enable local communities to effectively manage and improve their community forest and to fully realize the value and services trees provide throughout Oklahoma's, cities, towns, communities and public lands.

Target Audience: State agencies, cities, towns, universities, state and non-profit entities that have public education responsibilities and/or entities with public lands within the scope of care and responsibilities

Program: Oklahoma Department of Transportation Tree Grants

Purpose and Description: Forestry Services partners with the Oklahoma Department of Transportation to deliver a tree planting program along major public transportation corridors. The purpose of this grant is to improve communities and the enjoyment of the traveling public through the use of trees; e.g., screening, aesthetics, erosion control, noise barrier, environmental services and other positive impacts on public lands.

Target Audience: Cities, towns, universities, public schools, state agencies, Tribes and/or entities with public lands within the scope of their care and responsibilities

Program: Trees for Oklahoma Program

Purpose and Description: This is an initiative to expand pine reforestation on recently harvested land or on lands being converted to forests in southeast Oklahoma. The program is funded by Huber Engineered Woods LLC of Broken Bow, Oklahoma, to provide free seedlings to qualified landowners.

Target Audience: Private non-industrial landowners

Program: Canadian River Riparian Forest Restoration Project

Purpose and Description: This project is designed to enhance and restore the riparian forest and habitat along a portion of an approximately 70-mile section of the Canadian River and its tributaries located in western Oklahoma, thereby enhancing the ecosystem services provided. The project emphasizes control of invasive species (such as juniper) and regeneration with cottonwood or other bottomland hardwood species.

Target Audience: Landowners in the identified riparian areas along the Canadian River

Program: Environmental Quality Incentives Program (NRCS)

Purpose and Description: This project provides landowners with financial and technical assistance to improve or establish forestland in southeastern Oklahoma. Only private, non-industrial forestland within the Local Emphasis Areas (LEAs) is eligible. Through a cooperative agreement, OFS foresters provide direct technical assistance to landowners. Financial assistance will be provided through EQIP to establish and improve forests on lands with a site index of 50 or more.

Environmental benefits will include carbon sequestration, sediment reduction, and improvements in the quantity and quality of forest products. Other benefits include opportunities for local landusers to implement best management practices in an affordable manner.

Target Audience: Landowners in the Local Emphasis Areas

Deliverable: Forest Resource Protection

Oklahoma Forestry Services strives to protect the State’s forest resources from numerous threatening factors. OFS supports landowners with protecting their forest resources with several program areas including water quality protection, rural fire protection and defense, forest health and protection financial assistance.

Wildfires cause considerable damage to Oklahoma’s natural resources each year. Because forest management is such a long-term investment, many landowners hesitate to improve their forestlands due to the threat of wildfire. Woods arson remains a problem in some areas and timber theft is common, especially when timber prices are high. As more people move to the fringe of cities or into rural areas, the “values at risk” increase considerably for fire protection forces.

Across the state, over 900 rural fire departments help protect communities, rural homes and natural resources from fire. Rural fire protection is one key to rural economic development, yet many small departments are poorly equipped, inadequately trained and under-funded.

Insect and disease problems are common in Oklahoma’s rural and urban forests, although only a few species cause severe economic damage. The southern pine beetle remains the largest threat to the southern pine region, with populations generally endemic and only occasionally erupting and causing severe damage. Oklahoma’s forests are also susceptible to gypsy moth attack, and isolated spots have been detected as close as northern Arkansas.

Program Area: Forest Water Quality Management and Protection

Purpose and Description: Program efforts strive to minimize the impact of forestry activities on water quality, as well as to use forestry practices, such as tree planting, to help solve water related problems. OFS is charged by statute with administration of the state’s forest water quality management program, including development of forestry best management practices. Technical assistance is provided to forest landowners to plan and encourage implementation of proper forestry



practices to minimize soil erosion and protect water quality, especially for road construction and maintenance. Statewide planning and an active education program for loggers, land managers and the public, has helped make people aware of the need for water quality protection.

Oklahoma's forest water quality program is non-regulatory and relies on industry and landowner cooperation to protect water quality during forestry activities. Raising the awareness of various audiences within the forestry community is essential to program success. Working cooperatively with the State Extension Forester, Oklahoma Forestry Association and the Arkansas Timber Producers Association, we conduct logger and landowner BMP workshops and develop educational materials. Contractor "tailgate" sessions are held on logging sites where BMP needs can be addressed most effectively. Demonstration sites are used in educational activities where loggers and landowners can learn about forest road BMPs, or agricultural producers observe low-cost gully control treatments using trees. Complaints are investigated and resolved as necessary to address legitimate water quality impacts from forestry activities.

Program: BMP Compliance Monitoring

Purpose and Description: Forestry Services monitors the compliance with Oklahoma's Forestry Best Management Practices using a protocol established by the Southern Group of State Foresters. Monitored sites are selected randomly from a large pool of tracts that have received treatment within the past two years. Our water quality forester uses the BMP Checklist to determine the extent to which the BMPs were followed, and to identify significant risks to water quality that need follow-up action. Observations on each site are shared with the landowner, land manager and contractors as an educational tool to improve overall BMP performance and help assure that Oklahoma's water resources are protected. The most recent monitoring project was completed in February 2010.

Target Audience: Loggers, landowners, land managers, mill owners and the general public benefit from the program

Program Area: Rural Fire Protection

Purpose and Description: Forestry Services is responsible for wildland fire protection throughout the State of Oklahoma's approximately 44 million acres. Forestry Services' firefighting resources are frequently requested to travel across the State to provide suppression assistance on large, complex wildfires which tax the local jurisdiction's ability to manage. As land management practices change over time, requests for suppression assistance from outside of the Protection Area are anticipated to increase.

While responsible for fire protection statewide, the Forestry Services' firefighting resources are concentrated in a 6.2 million acre Initial Attack Area which covers all or parts of 15 counties in eastern Oklahoma. This Initial Attack Area is formally designated by the State Forester, based upon identified



needs and available Forestry Services firefighting resources. Active fire detection utilizing aircraft and fire towers coupled with the rapid response by two-person fire crews with firefighting equipment minimize the damage to property and natural resources.

Fire prevention and law enforcement activities in arson and timber theft investigation by Oklahoma Department of Agriculture, Food and Forestry (ODAFF) special officers contribute to a balanced protection program. Landowners within OFS' Initial Attack Area are required to notify Forestry Services when planning or initiating a prescribed burn or burning debris. For the past five years, OFS forces

have responded to over 9,000 wildfires that totaled approximately 750,000 acres. These fire suppression efforts have saved over 8,000 structures with a value of approximately 275 million dollars. Due to data

limitations, the above statistics only include a small number of the actual fires that have occurred in Oklahoma.

OFS works with the National Weather Service to deliver Oklahoma's Red Flag Warning program to advise residents of extreme fire weather conditions that require extra caution to prevent wildfires. The State Forester is also responsible for monitoring county-level burn bans and advising the Governor when a more stringent outdoor burning ban is appropriate. OFS also has developed Voluntary Smoke Management Guidelines designed to reduce or prevent negative smoke impacts resulting from prescribed burning.

In addition to fire suppression and prevention responsibilities, OFS administers several National Fire Plan Grants which provide financial support for improved fire protection across Oklahoma. These National Fire Plan grants are utilized, but not limited, for the funding of hazard mitigation projects, equipment purchases, promotion of Firewise Communities and the development of Community Wildfire Protection Plans.

Target Audience: The OFS Fire Protection program serves Oklahoma's population of approximately 3.7 million residents, including all federal, state and private landowners. Cooperative agreements with Oklahoma's approximately 900 Fire Departments, the USDA Forest Service, and the USDOJ Bureau of Indian Affairs are also used to support fire protection across Oklahoma.

Program: Firewise

Purpose and Description: Oklahoma Forestry Services with the help of an independent contractor provides technical and financial assistance to implement the national Firewise program. This program is a multi-agency effort designed to reach beyond the fire service by involving homeowners, community leaders, planners, developers, and others in the effort to protect people, property, and natural resources from the risk of wildland fire - before a fire starts. The Firewise Communities approach emphasizes community responsibility for planning in the design of a safe community as well as effective emergency response, and individual responsibility for safer home construction and design, landscaping, and maintenance.

Target Audience: Fire Departments, communities, cities, towns, and individuals

Program Area: Rural Fire Defense

Purpose and Description: The Rural Fire Defense Program (RFDP) offers broad assistance to Oklahoma's approximately 900 rural fire departments to improve local fire protection services. Under an agreement with the U.S. Forest Service, the RFDP acquires federal excess property that is placed with fire departments for their use for fire protection purposes only. Rural Fire Coordinators, under contract to Oklahoma Forestry Services, provide planning and technical assistance to fire departments in eleven rural fire coordination districts (departments within the Association of Central Oklahoma Governments are served directly by Forestry Services).



Financial assistance is also offered to fire departments through federal and state funded grants. These grants include fire hydrant program, state funded 80/20 grants and federally funded 50/50 grants for training and equipment (See Financial Assistance Program Area). Fire departments may purchase firefighting supplies, such as hose, nozzles and protective clothing, through Forestry Services' revolving fund program. The RFDP administers competitive matching grant programs as well.

Well organized and equipped fire departments help lower a community's insurance risk rating, saving considerable sums in premiums for residents and businesses.

Target Audience: Title 18 rural fire departments, Title 19 fire districts and municipal fire departments are the primary beneficiaries. OFS has formal cooperative agreements with more than 900 fire departments in all of Oklahoma's seventy-seven counties. Each of these departments receives some form of assistance annually.

Program Area: Forest Health

Purpose and Description: The Forest Health Program is a cooperative program with the USDA Forest Service to assist in maintaining the health of Oklahoma's forests. Forestry Services monitors forest pest conditions statewide, with emphasis on the southern pine beetle. We also cooperate with Animal and Plant Health Inspection Service (APHIS) on special surveys, primarily for gypsy moth. OFS provides pest diagnosis and control recommendations and resource management information to homeowners and landowners to help protect their forests and trees. The USDA Forest Service has initiated a formal Forest Health Monitoring Program in some states, but we are not yet participating.

Target Audience: State and private forest landowners are the primary audience, urban homeowners receive pest assistance on a very limited basis.

Program: Southern Pine Beetle Prevention Program

Purpose and Description: The southern pine beetle (SPB) is a major threat to the pine forests of Oklahoma and the southern United States. This cooperative program with the USDA Forest Service encourages landowners to implement practices which reduce the susceptibility of Oklahoma's forests to future SPB outbreaks. Limited financial assistance is available through the FRDP for thinning practices that improve the health of dense stands.

Target Audience: Forest landowners

Program Area: Protection Financial Assistance

Oklahoma Forestry Services in partnership with many organizations provides financial assistance to landowners and communities implementing practices to protect forest resources. Most of the cost-share and grants available to landowners and communities are only provided for a limited amount of time and to specific locations around the state depending on program or project focus.

Program: Community Wildfire Protection Plan Grants

Purpose and Description: This program provides grants for development of a Community Wildfire Protection Plan. These plans help local governments identify wildfire risks, educate the residents and develop contingency plan for protection.

Target Audience: Communities, cities, towns, fire departments

Program: Rural Fire Operational Grants

Purpose and Description: State-funded 100-percent operational grants are annually awarded to eligible fire departments, based upon legislative appropriations.

Target Audience: Fire departments statewide

Program: Rural Fire 80/20 Matching Grants

Purpose and Description: State-funded 80/20 grants may be used for construction or improvement of fire stations or for equipment purchase. Funds are competitive.

Target Audience: Fire departments statewide

Program: Dry/wet Fire Hydrants

Purpose and Description: When funds are appropriated, the RFDP administers a state-funded dry/wet fire hydrant program. Through this program the Rural Fire Coordinators place hydrant supplies with fire departments for local installation. These hydrants are often installed in cooperation with County Commissioners and Conservation Districts.

Target Audience: County Commissioners and Conservation Districts, fire departments

Program: Volunteer Fire Assistance Grants

Purpose and Description: Federally-funded 50/50 grants are awarded for training and equipment under the Volunteer Fire Assistance Program.

Target Audience: Rural and community fire departments under 10,000 population

Deliverable: Forest Resource Education

Oklahoma Forestry Services strives to educate Oklahomans about our state's forest resources and associated benefits. Providing excellent education to the public requires that Oklahoma's foresters, educators and natural resource professionals are knowledgeable about Oklahoma's forest resources and the issues threatening them. Therefore OFS provides continuing education opportunities for internal employees as well as provides educational programs to natural resource professionals, students and the public. The three major program areas utilized to provide forest resource education to the state includes environmental education, the Forest Heritage Center and education financial assistance.

Program Area: Environmental Education

Purpose and Description: Education of Oklahoma citizens about forestry and natural resource issues has been a critical component of Forestry Services' programs since its creation in 1925. A knowledgeable citizenry makes informed decisions about the use, management and protection of its resources. Every OFS employee is involved in some form of public education activity during the course of each year, whether developing and implementing formal programs described below, or presenting workshops or school programs, appearing in parades, playing Smokey Bear or Tree Bear, developing exhibits, writing news articles or providing information to the public.



Project Learning Tree (PLT), a national environmental education program, is cosponsored by Oklahoma Forestry Services and the Oklahoma Forestry Association and utilized to educate students statewide about forest and natural resources. The goal of the program is to teach students how to think, not what to think. Nearly every Oklahoman is affected by or benefits from our forests. It is important that Oklahomans understand these benefits, the consequences of our actions and how we can help.

Target Audience: Natural resource professionals, in-service and preservice educators, youth leaders, Oklahoma landowners and citizens, visitors and tourists

Program Area: Forest Heritage Center

Purpose and Description: The Forest Heritage Center (FHC) is a cooperative effort with the State Department of Tourism and Recreation and the Forest Heritage Center Advisory Board. Located in Beavers Bend State Park north of Broken Bow, the Center serves as forestry museum, conference center and educational facility. Forestry Services develops and administers the forestry educational and interpretive program at the Center through its Program Director. Specific activities include presentation of

tours, development and maintenance of exhibits, coordination of items on loan or donated for display, preparation of a quarterly newsletter, development of special exhibits and events and other activities.

The Center features a series of 14 large-scale diorama paintings and display cases by Atlanta artist Harry Rossoll, illustrator of Smokey Bear. These cases portray the history of the forest and its development from prehistoric times to the present. The FHC is the home of Tree Bear®, a mascot and spokesman for the good things that come from trees. Forestry Services, in cooperation with the FHC Advisory Board, completed a People of the Forest photographic exhibit that portrays the important role of Dierks Forests, the traveling timber towns and the Civilian Conservation Corps in the history of the state's forests.

A youth environmental education program under the FHC Advisory Board and coordinated by OFS is the Forestry and Wildlife Youth Camp which provides students, ages 13-15, with the opportunity to experience forestry and wildlife professions, learn about Oklahoma's natural resources and build an awareness of environmental components and issues.

Target Audience: The primary audience includes visitors to Beavers Bend State Park, tour groups such as organizations and schools who schedule a tour of the Center, and professional groups and agencies using the Center's meeting facilities, camp participants.

Program Area: Education Financial Assistance

Oklahoma Forestry Services in partnership with many organizations provides financial assistance to individuals and organizations for the purpose of increasing the understanding our state's natural resources. Most of the cost-share and pass thru grants are only provided for a limited amount of time and to specific locations around the state depending on program or project focus.

Target Audience: Universities, public schools, non-profit organizations, state agencies, etc.

Deliverable: Forest Resource Support

Oklahoma Forestry Services strives to provide high quality, ecologically sound assistance in keeping with our mission to conserve, enhance and protect Oklahoma's forestlands. This requires more than just direct technical assistance. This includes a variety of programs that help provide safety and training, forest resource planning, data regarding the volume and conditions of our forested lands and information services.

Program Area: Informational Services/Communication

Purpose and Description: Raising the awareness of the state's citizens is important. Information and education is an important part of all Forestry Services activities. OFS does not have a formal and separate I&E program, but relies on a half-time specialist to address important forestry communications needs. OFS offices respond to public requests for information, as well as generate publicity about their programs and services. Forestry Services also works closely with ODAFF's Information Services Division and media spokesperson on news releases and publicity.

A key part of Forestry Services information and communication efforts is the OFS website (www.forestry.ok.gov), a tool available to all Oklahomans that provides easy access to informational brochures and important forest resource publications or links.

Target Audience: Individuals, groups, agencies and others with a need to know about trees and forests and related information

Program Area: Safety and Training

Purpose and Description: The safety and training efforts of OFS are not based in any one program or staff person, but are presently incorporated in all programs and services. However, there is an active safety program at the Area level. A full-time Safety Coordinator provides numerous in-house training opportunities, such as Defensive Driving, CPR, and First Aid. The Safety Coordinator also conducts

inspections of Forestry Services facilities to ensure compliance with Department of Labor safety standards.

The Forestry Services Incident Qualifications Committee, formed in 2003, is responsible for administering employee incident qualifications and training records. The Qualifications Committee meets quarterly to approve completed Position Task Books, document employee incident experience, and to schedule National Wildfire Coordinating Group training courses. The safety and training program is targeted to improve employee job performance through enhanced knowledge, skills and abilities which has a direct correlation with reducing on-the-job accidents.

Target Audience: OFS employees benefit from safety and training activities.

Program Area: Professional Development

An important component to providing education and information to Oklahoma's citizens is insuring that natural resource professionals have the proper tools and knowledge. Forestry Services' utilizes many training programs and information to enhance the knowledge and understanding of foresters and other personnel on Oklahoma's forest resources, customer needs and programs and tools needed to implement forest management practices.

An example of professional development training undertaken by OFS is the USDA Forest Service Changing Roles Program. This program provides state and federal natural resource agencies with a set of flexible resources to conduct their own training programs, aimed toward building skills and tools to successfully tackle wildland urban issues.

Target Audience: Natural resource professionals and others providing technical assistance to Oklahoma landowners

Program Area: Forest Resource Planning and Policy

Purpose and Description: Planning encompasses the OFS long-range organization and program management efforts, including the State Forest Resource Assessment and development of issues, public input processes and annual work plans. Program planning is inclusive in all OFS programs, and Forest Resource Planning is rarely considered a separate program. The long-term nature of the forest resource increases the importance of strategic planning activities, yet limited staff often reduces the time devoted to planning. One part of forest resource planning includes data collection, analysis and display which are conducted using a Geographic Information System (GIS). GIS applications are tools that allow OFS' personnel to analyze spatial information, edit data, display maps and present results.

Target Audience: All OFS employees participate in the annual work planning process. Key staff develops more specialized resource planning projects. The ultimate beneficiaries of quality strategic and long-range planning are the customers of Forestry Services.

Program Area: Forest Inventory and Analysis (FIA)

Purpose and Description: The Forest Inventory and Analysis Program is a partnership between Oklahoma Forestry Services and the USDA Forest Service. This program reports on the overall extent and condition of Oklahoma's forests using a continuous forest inventory process. Forest inventories have been conducted in eastern Oklahoma approximately every 7 to 10 years since 1936.

Inventory data is collected on a grid of permanent plots established about three miles apart. Crews use exacting procedures to take measurements on each plot that include species, size and condition of trees, evidence of harvesting, insects and diseases, fire or other forest impacts. Additional plots are evaluated for forest health purposes. The data is compiled and analyzed by the USDA Forest Service.

This process determines the status and trends of Oklahoma's (and the nation's) forested areas including forestland ownership patterns, forest location and extent, species composition, the size and health of trees; as well as removals by harvest, and losses to forest pests and other causes. This information is

invaluable for planning and rural economic development purposes. It also enables us to evaluate whether current forest management practices are sustainable in the long run and to assess whether state policies will allow the next generation to enjoy Oklahoma's forests as we do today.

Oklahoma's FIA program expanded statewide in 2008, and now involves measuring 20% of the plot grid annually in eastern Oklahoma and 10% in central and western counties.

Target Audience: Oklahoma Forestry Services, Oklahoma forestland owners, Oklahoma forest industry

Partnerships

Oklahoma Forestry Services works with numerous public, private and non-governmental organization partners to provide a variety of programs, projects and assistance to deliver our mission to enhance, conserve and protect Oklahoma's forest resources. Many of the programs were discussed in the previous section but there is a multitude of projects and assistance OFS and partners provide to an array of groups that might not be included in this document. As the landscape and ownerships change over time so can the partnerships that OFS works with to manage Oklahoma's forest resources. In the strategic issue section of this document, most of the key partnerships are linked to the long-term strategies for each issue.

Strategic Issues and Priority Areas

The issues discussed in this section are the six issues that were identified in the Oklahoma Forest Resource Assessment. Oklahoma Forestry Services with the help of interested stakeholders has identified long-term strategies to address the major threats to the State's forest resources. In order for Oklahoma's State Forester to address these long-term strategies, there are necessary resources. These resources include the existing programs described in the previous section as well as special initiatives, essential partnerships and funding to continue to enhance, conserve and protect Oklahoma's Forest Resources.

Issue working groups analyzed the six issues and determined major goals and strategies to address the issues threatening Oklahoma's forests. For each issue, there are maps which depict the priority and focus areas. The priority area map illustrates areas that have been identified as high priority lands and the focus area map illustrates the highest priority counties where resources should be focused.

Issue: Forest Sustainability and Health

Issue Description

- ❖ ***The productivity, health, and environmental benefits of Oklahoma's diverse forest ecosystems are significantly threatened by many factors including but not limited to land-use changes, ecological pressures, economic issues, and landowner and societal influences.***

A healthy and sustainable forest is one that can maintain biodiversity, productivity, and regeneration capacity for present and future generations. Oklahoma's landscape is typically, and incorrectly, viewed as non-forested which has led to the loss of many forested areas. Much of what we know about the health and sustainability of Oklahoma's forests is derived from the USDA Forest Service's Forest Inventory and Analysis (FIA) Program. Concerns about the health and sustainability of Oklahoma's forests, although of a statewide nature, generally focuses more on eastern Oklahoma where reliable data has been collected for a long period of time, and where the majority of the State's productive forestlands and timber industry are located. Oklahoma's eastern forests have remained fairly stable over the past 50 years.

Even though from 1993 to 2008 overall forestland acreage in eastern Oklahoma had increased by more than 200,000 acres, there was still approximately 380,000 acres of forestland lost to non-forest uses, such as agriculture, urban development and rights of way (USDA-FS, FIA). As a whole, it appears that forest regeneration, either by natural or artificial means, is more than offsetting the losses to conversion. The data above are only accurate for eastern Oklahoma, and there may be cause for concern about conversion impacts in central and western Oklahoma. As indicated above, FIA plots are currently being surveyed for the entire state which could drastically change the total number of documented forested acres in Oklahoma.

Land-use changes, ecological pressures, economic issues, as well as landowner and societal influences are all threatening the health and sustainability of Oklahoma's forests. When the health and sustainability of Oklahoma's forests diminish, so do the associated benefits. A more detailed description of the Forest Sustainability and Health Issue can be found in the Oklahoma Forest Resource Assessment.

The maps below depict priority forestlands and focus areas for the Forest Sustainability and Health Issue.

Figure 3: Oklahoma Forest Sustainability and Health Priority Areas

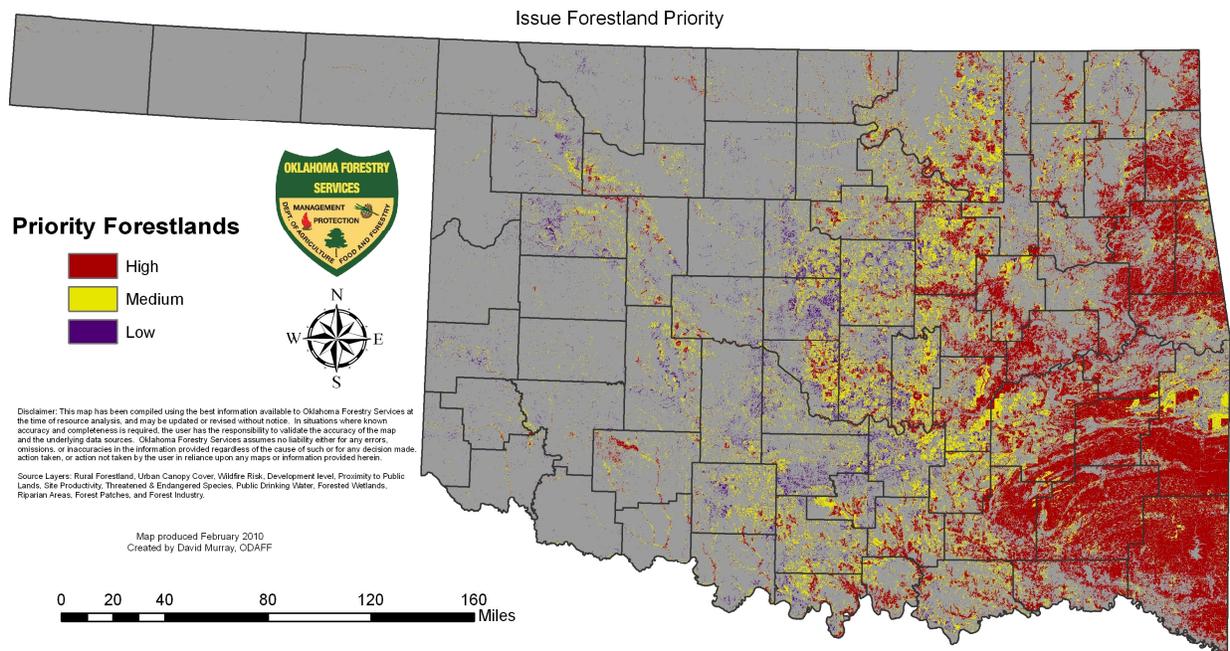
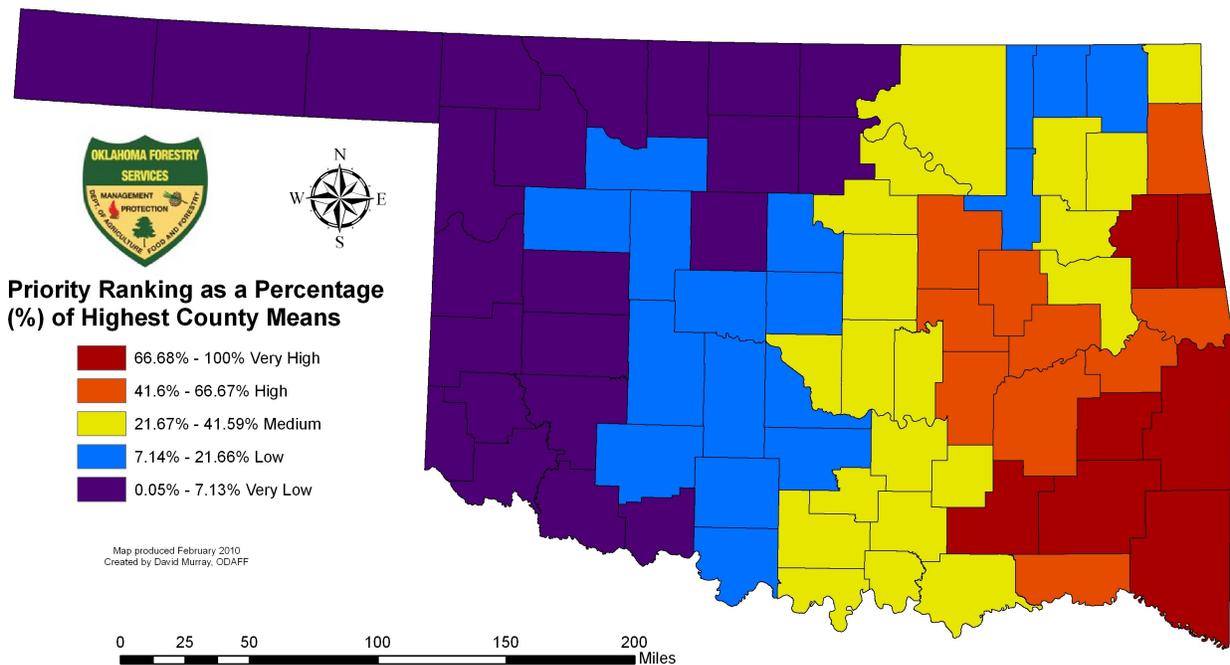


Figure 4: Oklahoma Forest Sustainability and Health Focus Areas



Priority Ranking created from the High, Medium, Low priorities of the Forest Sustainability & Health GIS Model output, as depicted in the Oklahoma Forest Resource Assessment. The original values for these priorities (3, 2, and 1, respectively) were used to find the mean value for each county; the priority ranking shown here reflect the percentage of the highest county mean.

Goal, Objectives, Strategies

Oklahoma Forestry Services with the help of interested stakeholders identified a goal with objectives and strategies to address the issue and help promote forest health and sustainability across the state. The long-term strategies will be used by OFS to develop action plans for service areas around the state.

Goal 1: Sustain Oklahoma forestlands to enhance their productivity, health, and environmental benefits.

Objective 1.1: Ensure the sustainability, health and productivity of Oklahoma's forestlands by encouraging the proper use of forest management and improvement practices.

Strategy 1.1.1: Raise awareness among landowners and land users of the full suite of forest benefits, and alternative practices that will maintain or enhance those benefits.

Strategy 1.1.2: Encourage the exchange of information and peer-to-peer assistance among forest landowners.

Strategy 1.1.3: Recognize landowners who practice good forestry and conservation on their lands.

Strategy 1.1.4: Increase the percentage of Oklahoma's priority forestlands that are managed under an approved forest management plan.

Strategy 1.1.5: Assure that landowners have access to well-trained and motivated natural resource professionals, vendor services and science-based information.

Strategy 1.1.6: Assure that state-owned forestlands are appropriately managed and contributing to the State's overall environmental goals.

Strategy 1.1.7: Improve coordination with other natural resource agencies and organizations on forestry issues.

Strategy 1.1.8: Provide incentives and a quality investment climate that will motivate landowners to sustainably manage their forestland.

Strategy 1.1.9: Assure an adequate supply of quality seedlings for Oklahoma landowners for reforestation and other tree planting needs.

Strategy 1.1.10: Encourage the use of science-based forestry practices to improve forest health and resiliency.

Strategy 1.1.11: Mitigate land-use changes to Oklahoma's diverse forest ecosystems and conserve important forest landscapes across Oklahoma.

Strategy 1.1.12: Reduce the risks and disincentives associated with long-term forest management by providing access to law enforcement and legal recourse for woods crimes, including timber theft, arson and vandalism.

Strategy 1.1.13: Develop and utilize the tools, expertise and programs appropriate to both traditional and emerging customers and owners of Oklahoma's forestlands and woodlands.

Objective 1.2: Increase awareness of societal impacts on Oklahoma's forest resources.

Strategy 1.2.1: Raise the awareness of legislators, policymakers and key audiences of the contributions forests and trees make to Oklahoma.

Strategy 1.2.2: Use all aspects of information media to raise awareness of forestry and natural resource issues.

Strategy 1.2.3: Help young people gain an appreciation for forestry and the important role forests and trees play in their lives.

Strategy 1.2.4: Facilitate information exchange and coordinate state education efforts among interested groups on forestry issues.

Strategy 1.2.5: Assure that professional foresters and natural resource professionals are trained and kept informed concerning forest pest threats and forest health issues in Oklahoma.

Strategy 1.2.6: Increase wildland arson awareness and increase the simplicity and ease of reporting.

Strategy 1.2.7: Increase awareness of fire ecology and the benefits of fire as a management tool.

Strategy 1.2.8: Increase the likelihood that trees and tree planting will be considered a viable solution to a wide variety of environmental problems and challenges facing Oklahoma in the future.

Objective 1.3: Minimize the threats to Oklahoma's forest resources.

Strategy 1.3.1: Assess and monitor Oklahoma's forest lands for outbreaks of serious insect and disease infestations or forest health impacts and undertake control measures where warranted and feasible.

Strategy 1.3.2: Promote use of proven seed sources that are more resistant to insects and diseases, drought and other influences.

Strategy 1.3.3: Track the health and sustainability of Oklahoma's diverse forest resources over the long term, to detect trends and support development of appropriate forest policy.

Strategy 1.3.4: Raise public and resource professional awareness about existing and potential threats to the health of the forests in Oklahoma.

Objective 1.4: Mitigate identified threats to Oklahoma's forest resources.

Strategy 1.4.1: Enhance the State's prescribed burn program to restore fire to the landscape where appropriate.

Strategy 1.4.2: Assure that recommended mitigation practices are appropriate to the actual threat and its potential impact.

Strategy 1.4.3: Implement actions to stop invasive species from entering and becoming established in Oklahoma.

Resources Necessary for State Forester to Address Strategies

The matrices below outline the resources and partnerships needed to accomplish each long-term strategy. The program areas are the same as those described in the OFS overview and existing program section of this document. Each long-term strategy links to one or more of the national priorities which have proposed core performance measures set by the S&PF Redesign Team (See pages 64-66).

The matrix below outlines the resources needed in order for the State Forester to accomplish the long-term strategies. An "X" indicates the programs and partnerships that are needed or will be utilized to accomplish a strategy and the highlighted area indicates Oklahoma Forestry Services' primary area or deliverable that will be the lead on implementing the strategy.

Goals, Objectives, Strategies	Oklahoma Forestry Services' Deliverables and Program Areas																				Partnerships										Farm Bill National Priorities								
	Management					Protection					Education			Support																									
	Forest Regeneration	State and Private Forestry Assistance	Utilization and Markets	Forestland Conservation	Urban and Community Forestry	Management Financial Assistance	Water Quality Protection and Management	Rural Fire Protection	Rural Fire Defense	Forest Health	Protection Financial Assistance	Environmental Education	Forest Heritage Center	Education Financial Assistance	Forest Resource Planning	Information Services and Communication	Safety and Training	Forest Inventory and Analysis	USDA Forest Service	Natural Resources Conservation Service	Farm Services Agency	Land Trust Organizations (TNC)	Oklahoma State Parks	ODWC	US Fish and Wildlife Service	Oklahoma State University	Forest Industry	Bureau of Indian Affairs	Langston University	Oklahoma Forestry Association	Oklahoma Urban and Community Forestry Council	Law Enforcement	Society of American Foresters	Oklahoma Woodland Owners Association	The Wildlife Society	American Tree Farm System	National Wild Turkey Federation	Conserve Working Forest Landscapes	Protect Forests from Harm
Issue: Forest Sustainability and Health																																							
Goal 1: Sustain Oklahoma forestlands to enhance their productivity, health and environmental benefits.																																							
Objective 1.1: Ensure the sustainability, health and productivity of Oklahoma's forestlands by encouraging the proper use of forest management and improvement practices.																																							
Strategy 1.1.1: Raise awareness among landowners of forest benefits	X	X			X	X	X		X		X	X			X	X		X	X			X	X		X			X	X			X		X	X			X	
Strategy 1.1.2: Encourage exchange of info among forest landowners	X	X			X			X							X	X		X	X			X		X			X	X			X	X			X	X	X	X	X
Strategy 1.1.3: Recognize landowners who practice good forestry		X													X			X	X			X						X				X		X		X		X	
Strategy 1.1.4: Increase percentage of OK's priority forestlands under management	X	X	X	X	X	X												X	X		X	X		X		X	X			X			X	X	X	X	X	X	
Strategy 1.1.5: Assure that landowners have access to well trained natural resource professionals	X	X			X				X		X			X	X	X		X	X			X	X		X	X	X	X	X			X			X	X	X	X	X
Strategy 1.1.6: Assure management of state-owned forestlands	X	X		X					X					X	X							X	X														X	X	X
Strategy 1.1.7: Improve coordination with other natural resource agencies and organizations	X	X			X		X		X		X			X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

The matrix below outlines the resources needed in order for the State Forester to accomplish the long-term strategies. An "X" indicates the programs and partnerships that are needed or will be utilized to accomplish a strategy and the highlighted area indicates Oklahoma Forestry Services' primary area or deliverable that will be the lead on implementing the strategy.

		Oklahoma Forestry Services' Deliverables and Program Areas																Partnerships														Farm Bill National Priorities											
		Management						Protection				Education		Support				Partnerships														Farm Bill National Priorities											
Goals, Objectives, Strategies		Forest Regeneration	State and Private Forestry Assistance	Utilization and Markets	Foremland Conservation	Urban and Community Forestry	Management Financial Assistance	Water Quality Protection and Management	Rural Fire Protection	Rural Fire Defense	Forest Health	Protection Financial Assistance	Environmental Education	Forest Heritage Center	Education Financial Assistance	Forest Resource Planning	Information Services and Communication	Safety and Training	Forest Inventory and Analysis	USDA Forest Service	Natural Resources Conservation Service	Farm Services Agency	Land Trust Organizations (TNC)	Oklahoma State Parks	ODWC	US Fish and Wildlife Service	Oklahoma State University	Forest Industry	Bureau of Indian Affairs	Langston University	Oklahoma Forestry Association	Oklahoma Urban and Community Forestry Council	Law Enforcement	Society of American Foresters	Oklahoma Woodland Owners Association	The Wildlife Society	American Tree Farm System	National Wild Turkey Federation	Conserve Working Forest Landscapes	Protect Forests from Harm	Enhance Public Benefits from Trees and Forests		
Issue: Forest Sustainability and Health																																											
Goal 1: Sustain Oklahoma forestlands to enhance their productivity, health and environmental benefits.																																											
Objective 1.2: Increase awareness of societal impacts on Oklahoma's forest resources.																																											
Strategy 1.2.1: Raise awareness of legislators, policy makers and key audiences of the contributions forests and trees make to OK																																											
		X						X		X			X	X		X	X	X	X									X													X	X	
Strategy 1.2.2: Use all aspects of information media to raise awareness of forestry issues																																											
		X						X		X			X	X		X	X	X	X	X									X	X	X											X	X
Strategy 1.2.3: Help young people gain an appreciation for forestry and the important role forests play																																											
		X											X	X	X				X	X		X	X	X	X	X	X	X	X	X	X										X	X	
Strategy 1.2.4: Facilitate information exchange and coordinate state education efforts among interested groups on forestry issues																																											
													X	X		X			X	X																						X	X

Issue: Wildfire Risks to the Forest Resources

Issue Description

- ❖ **Wildfire presents a risk to Oklahoma’s natural and community resources as well as public safety.**

Wildfire is an issue throughout Oklahoma. The issues associated with wildfire are troublesome in that fire has many benefits when applied properly, but can have destructive consequences when left unchecked. Wildfires often cause economic damage to forestlands, endanger firefighters and threaten public safety and property. State and federal natural resource agencies expend a considerable amount of their annual budgets on wildfire suppression to prevent these unwanted consequences.

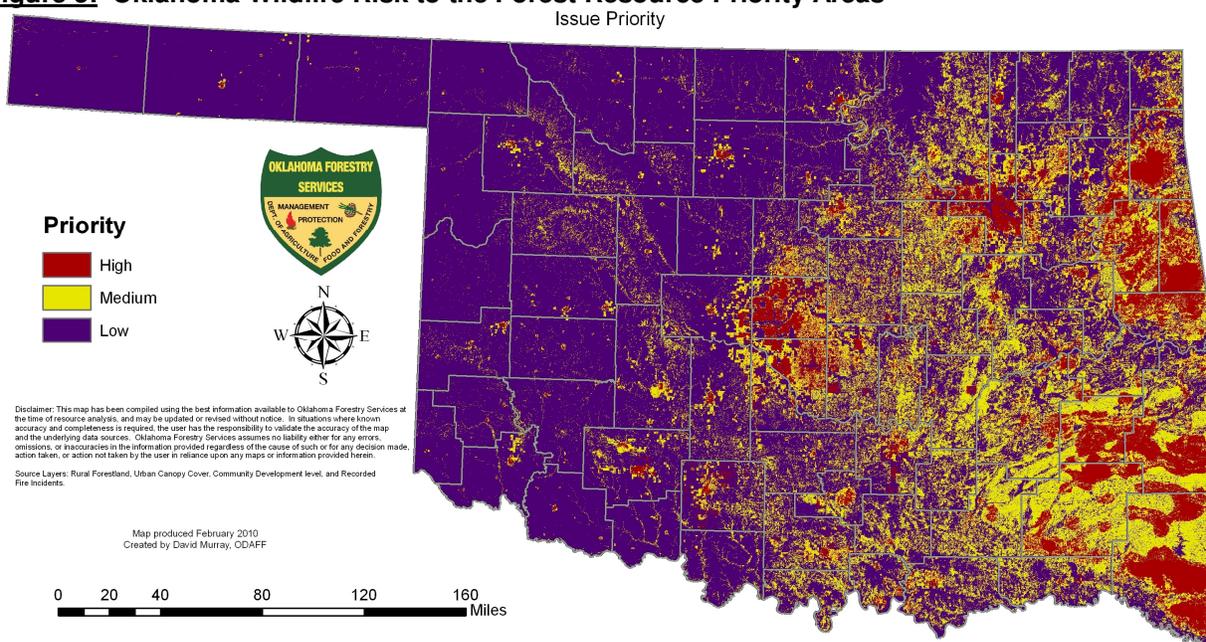
The improper or lack of forest management practices in many parts of Oklahoma, coupled with the suppression of fire for nearly 100 years have allowed for significant accumulation of wildland fuels which contributes to wildfire severity. State and Federal agencies which suppress wildland fire also spend funds to introduce fire on the landscape under proper conditions for the benefit that fire has on native vegetative communities and to reduce the hazard present.

Furthermore, fire complexity has increased with population growth, especially within the wildland-urban interface where an increasing number of structures in rural areas continues to complicate the fire control and use picture. Oklahoma’s history of severe weather and drought as well as the effects of climate change have increased the chances of more catastrophic wildfires and are affecting ecosystem functionality.

Since 2004, Oklahoma Forestry Services alone has responded to over 9,000 fires totaling approximately 750,000 acres statewide. These fire suppression efforts have saved over 8,000 structures with a value of approximately 275 million dollars. Due to data limitations, the above statistics only include a small number of the actual fires that have occurred in Oklahoma. A more detailed description of the Wildfire Risks to the Forest Resource Issue can be found in the Oklahoma Forest Resource Assessment.

The map below depicts priority forestlands for the Wildfire Risk to the Forest Resource Issue.

Figure 5: Oklahoma Wildfire Risk to the Forest Resource Priority Areas



The map above depicts the wildfire risk to the forest resource but it should be noted that Oklahoma Forestry Services fire protection efforts extend statewide and are not limited to the forest resource. OFS personnel are well trained and often requested on destructive fires outside of the eastern initial attack protection area. Therefore to ensure the safety of Oklahomans, funding for fire protection can not be focused only on the forest resource.

Goal, Objectives, Strategies

Oklahoma Forestry Services with the help of interested stakeholders identified a goal with objectives and strategies to address the wildfire risk issue. The long-term strategies will be used by OFS to develop action plans for service areas around the state.

Goal 2: Reduce the risk of destructive wildfires to Oklahoma's natural resources and its threat to public safety.

Objective 2.1.1: Raise public awareness of wildfire issues in Oklahoma.

Strategy 2.1.1: Develop and implement a wildfire prevention education program to increase knowledge of landowners, students and the public about Oklahoma's wildfire issues.

Strategy 2.1.2: Raise awareness of communities, fire departments and local citizens about issues and risks associated with the wildland-urban interface and Firewise principles.

Strategy 2.1.3: Improve media understanding of the issues related to wildland fire and pursue their cooperation to inform the public of those issues.

Strategy 2.1.4: Improve communications with communities and local citizens concerning wildfire events.

Objective 2.2: Develop a cohesive structure among state, federal, local and tribal fire control organizations within the state to reduce occurrence and harmful effects of wildfires.

Strategy 2.2.1: Assure an active "Oklahoma Fire Council" made up of representatives of state, federal, local and tribal representatives.

Strategy 2.2.2: Promote and utilize joint training opportunities to institute ICS into everyday operations of fire organizations at every level.

Strategy 2.2.3: Increase the utilization of law enforcement personnel and administrative mechanisms to discourage illegal burning.

Objective 2.3: Reduce the likelihood of devastating wildfires through the use of fire prevention, preparation and hazard mitigation practices.

Strategy 2.3.1: Aggressively pursue fines and penalties established in law for violations related to illegal burning.

Strategy 2.3.2: Promote Firewise Communities and Community Wildfire Protection Plans to protect communities from damage caused by wildfires.

Strategy 2.3.3: Develop the means to implement Community Wildfire Protection Plans through funding and support for interface communities throughout the state.

Strategy 2.3.4: Identify Oklahoma's most fire prone areas and areas of highest risk of loss from wildfire in order to target efforts to reduce such risks and losses.

Strategy 2.3.5: Increase fuels management to reduce the occurrence of devastating wildfire events.

Objective 2.4: Achieve and maintain an effective and efficient wildfire suppression capacity.

Strategy 2.4.1: Develop a statewide aviation plan.

Strategy 2.4.2: Ensure that fire suppression equipment is capable of meeting the changing conditions.

Strategy 2.4.3: Ensure that OFS fire suppression personnel are fully qualified and capable of performing required duties in a safe and effective manner.

Strategy 2.4.4: Improve wildfire protection outside of the Forestry Service's initial attack protection area in eastern Oklahoma.

Strategy 2.4.5: Provide assistance to communities and fire departments throughout the state.

Strategy 2.4.6: Assure that Oklahoma's volunteer and community fire departments are trained and equipped to safely and effectively address the wildland firefighting needs in their jurisdictions.

Strategy 2.4.7: Maintain the capacity to respond to wildfire emergencies outside the state in support of the Southern Fire Protection Compact when conditions warrant.

Resources Necessary for State Forester to Address Strategies

The matrices below outline the resources and partnerships needed to accomplish each long-term strategy. The program areas are the same as those described in the OFS overview and existing program section of this document. Each long-term strategy links to one or more of the national priorities which have proposed core performance measures set by the S&PF Redesign Team (See pages 64-66).

The matrix below outlines the resources needed in order for the State Forester to accomplish the long-term strategies. An "X" indicates the programs and partnerships that are needed or will be utilized to accomplish a strategy and the highlighted area indicates Oklahoma Forestry Services' primary area or deliverable that will be the lead on implementing the strategy.

		Oklahoma Forestry Services' Deliverables and Program Areas																				Partnerships					Farm Bill National Priorities															
		Management					Protection					Education			Support							Partnerships					Farm Bill National Priorities															
Goals, Objectives, Strategies		Forest Regeneration	State and Private Forestry Assistance	Utilization and Markets	Forestland Conservation	Urban and Community Forestry	Management Financial Assistance	Water Quality Protection and Management	Rural Fire Protection	Rural Fire Defense	Forest Health	Protection Financial Assistance	Environmental Education	Forest Heritage Center	Education Financial Assistance	Forest Resource Planning	Information Services and Communication	Safety and Training	Forest Inventory and Analysis	USDA Forest Service	Natural Resources Conservation Service	Farm Services Agency	Land Trust Organizations (TNC)	Oklahoma State Parks	ODWC	US Fish and Wildlife Service	Oklahoma State University	Forest Industry	Bureau of Indian Affairs	Langston University	Oklahoma Forestry Association	Oklahoma Urban and Community Forestry Council	Law Enforcement	Society of American Foresters	Oklahoma Woodland Owners Association	The Wildlife Society	American Tree Farm System	National Wild Turkey Federation	Conserve Working Forest Landscapes	Protect Forests from Harm	Enhance Public Benefits from Trees and Forests	
Issue: Wildfire Risk to the Forest Resource																																										
Goal 2: Reduce the risk of destructive wildfires to Oklahoma's natural resources and its threat to public safety.																																										
Objective 2.1: Raise public awareness about wildfire issues in Oklahoma.																																										
Strategy 2.1.1: Develop and implement a wildfire prevention education program		X				X		X								X	X		X								X	X													X	
Strategy 2.1.2: Raise awareness about issues and risks associated with WUI and FireWise principles		X				X		X	X			X				X			X							X	X															X
Strategy 2.1.3: Improve media understanding of issues related to wildfires								X								X			X						X	X																X
Strategy 2.1.4: Improve communications with communities and local citizens concerning wildfire events								X								X			X						X	X																X
Objective 2.2: Develop a cohesive structure among state, federal, local and tribal fire control organizations, to reduce occurrence and effects of wildfires.																																										
Strategy 2.2.1: Assure an active "Oklahoma Fire Council" made up of representatives from state, federal, local and tribal organizations								X	X							X			X							X																X
Strategy 2.2.2: Promote and utilize joint training opportunities								X	X							X	X		X						X	X																X
Strategy 2.2.3: Increase the utilization of law enforcement personnel (ODAFF) to discourage illegal burning								X								X	X		X									X														X

Issue: Forest Economics and Markets

Issue Description

- ❖ ***Oklahoma's traditional forest markets are in a state of decline and non-traditional markets are underdeveloped, trends which are challenging landowners and communities who rely on those markets for jobs and economic stability.***

Traditional forest products markets are changing or lack stability, causing great uncertainty among landowners and the communities that rely on the industry for jobs and economic growth. Although interest in ecosystem services and non-traditional wood products (carbon, biomass and bio-energy, recreation, water and wildlife) markets are increasing, market mechanisms for these are not well developed. Conflicts are likely to develop between new and traditional wood product markets. For any market, resource sustainability is critical. Access to forest inventory data at the local, state and regional levels is essential. The economic contribution of forestry to the state can increase substantially with better resource management and incentives, and focused attention on the new emerging markets.

In 2009, the Forest2Market Inc. produced a report that described the economic impact of privately owned forests across the United States. Privately owned forests are an important part of the Oklahoma economy. These forests employ active management techniques (land management planning, fertilizing, planting, thinning, and harvesting) to produce timber, logs, pulpwood, chips and wood fuel. These outputs are then used by manufacturers to create higher value wood products such as paper, furniture, energy, etc. According to the report, each job in a forestry related industry creates 1.8 jobs in other industries and on average each 1,000 acres of privately-owned forest is responsible for the creation of 8 jobs.

The recent downturn in the national economy, and especially the housing market, has seriously affected the state's forest products sector. The Weyerhaeuser Company's large pine sawmill at Wright City, in continuous operation since 1910, announced its closure in March 2009, putting 200 mill employees out of work. Other large mills, such as Huber's OSB plant and the Pan-Pacific's MDF plant at Broken Bow, Weyerhaeuser's sawmill at Idabel and the Valley Timbers' sawmill at Antlers, have temporarily reduced operations by more than 50%. The number of small sawmills is at its lowest level in recent history.

On the positive side, interest continues to increase in finding economic uses for the wide spreading juniper species and using woody biomass for renewable energy and biofuels is attracting considerable attention. A more detailed description of the Forest Economics and Markets Issue can be found in the Oklahoma Forest Resource Assessment.

The maps below depict priority forestlands and focus areas for the Forest Economic and Market Issue.

Figure 6: Oklahoma Forest Economics and Markets Priority Areas

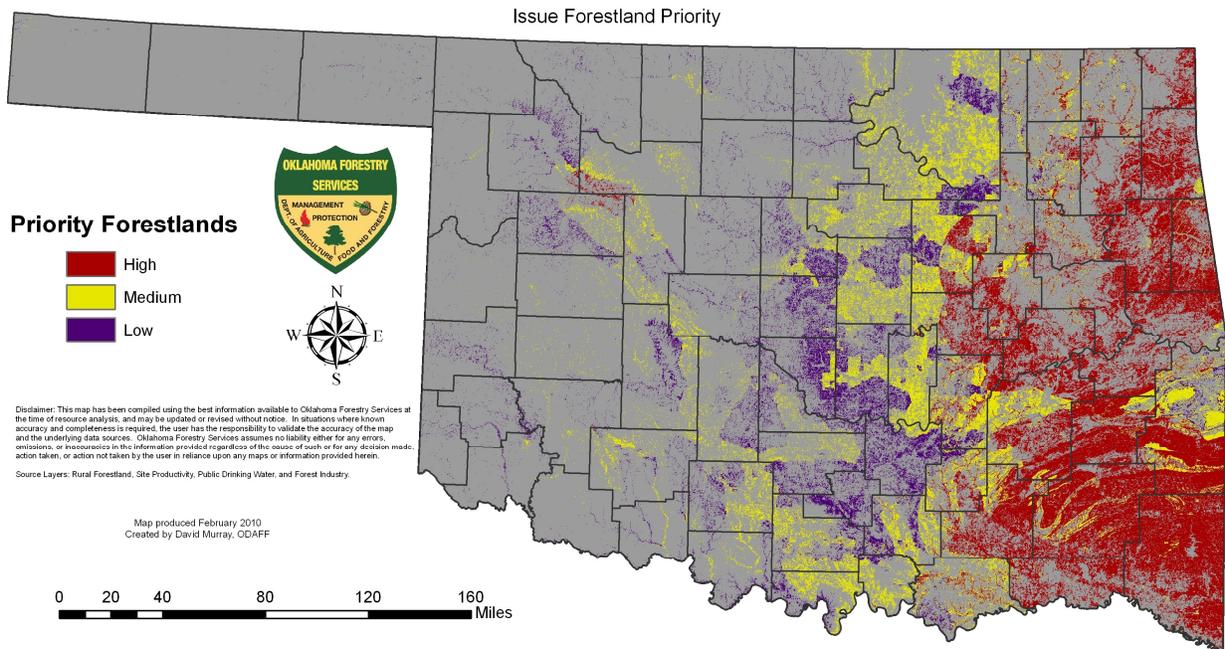
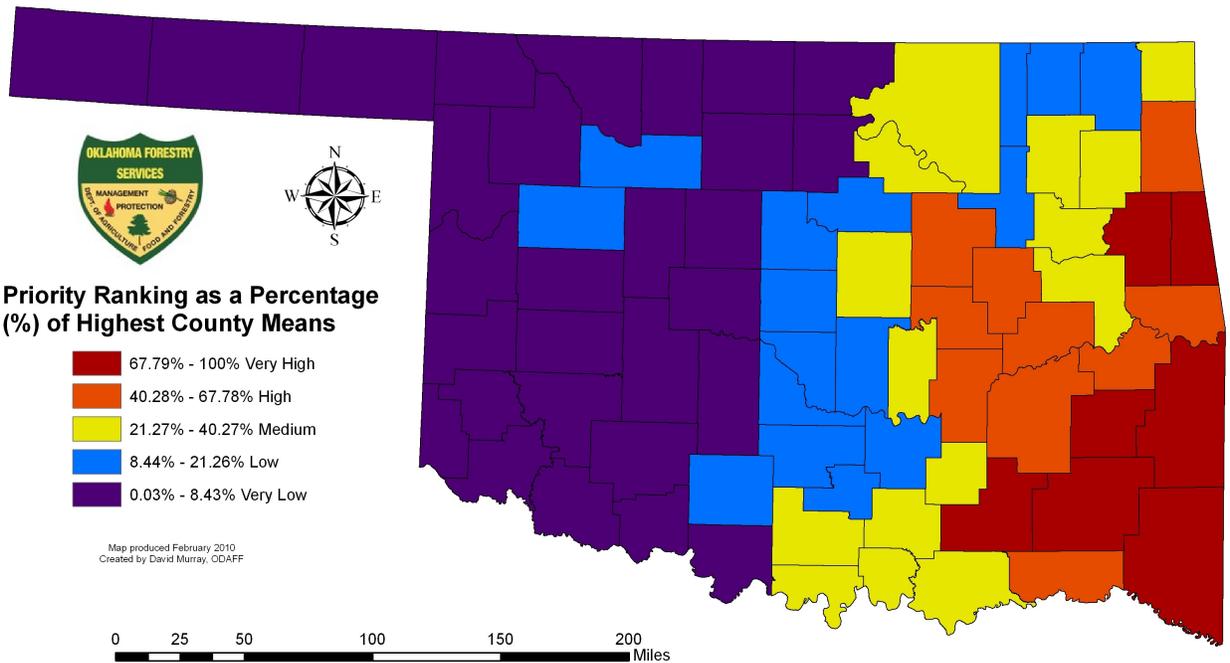


Figure 7: Oklahoma Forest Economics and Markets Focus Areas



Priority Ranking created from the High, Medium, Low priorities of the Forest Economics GIS Model output, as depicted in the Oklahoma Forest Resource Assessment. The original values for these priorities (3, 2, and 1, respectively) were used to find the mean value for each county; the priority ranking shown here reflect the percentage of the highest county mean.

Goal, Objectives, Strategies

Oklahoma Forestry Services with the help of interested stakeholders identified a goal with objectives and strategies to address the Forest Economics and Markets Issue. The long-term strategies will be used by OFS to develop action plans for its service areas around the state.

Goal 3: Enhance the viability and sustainability of existing and emerging forest resource markets.

Objective 3.1: Stay abreast of and communicate forest resource market information.

Strategy 3.1.1: Develop the capacity to monitor developments in Oklahoma's forest products markets, pursue opportunities and share information with key stakeholders.

Strategy 3.1.2: Increase awareness of forest products and markets specific to locations.

Strategy 3.1.3: Provide easy access to information and resource statistics of value to the industry, landowners or consumers.

Objective 3.2: Maintain or increase the supply of quality wood products.

Strategy 3.2.1: Encourage landowners to consider growing forest products as a viable land management option.

Strategy 3.2.2: Encourage education/research directed at potential forest products.

Strategy 3.2.3: Increase awareness of national and international trade policy relative to the impacts on Oklahoma's forest resources.

Strategy 3.2.3: Promote the use of wood and forest products in lieu of alternative materials to expand markets for Oklahoma's renewable timber resources.

Objective 3.3: Encourage the development of non-traditional forest product markets.

Strategy 3.3.1: Define and identify the non-traditional markets/product opportunities in Oklahoma.

Strategy 3.3.2: Educate Oklahoma on traditional and non-traditional forest markets and products.

Strategy 3.3.3: Develop an infrastructure for marketing non-traditional products.

Strategy 3.3.4: Encourage research on non-traditional products/markets.

Strategy 3.3.5: Stay engaged with the development of emerging forest product markets, and share information as appropriate.

Resources Necessary for State Forester to Address Strategies

The matrices below outline the resources and partnerships needed to accomplish each long-term strategy. The program areas are the same as those described in the OFS overview and existing program section of this document. Each long-term strategy links to one or more of the national priorities which have proposed core performance measures set by the S&PF Redesign Team (See pages 64-66).

The matrix below outlines the resources needed in order for the State Forester to accomplish the long-term strategies. An "X" indicates the programs and partnerships that are needed or will be utilized to accomplish a strategy and the highlighted area indicates Oklahoma Forestry Services' primary area or deliverable that will be the lead on implementing the strategy.

Oklahoma Forestry Services' Deliverables and Program Areas																																									
Goals, Objectives, Strategies	Management					Protection				Education		Support				Partnerships												Farm Bill National Priorities													
	Forest Regeneration	State and Private Forestry Assistance	Utilization and Markets	Forestland Conservation	Urban and Community Forestry	Management/Financial Assistance	Water Quality Protection and Management	Rural Fire Protection	Rural Fire Defense	Forest Health	Protection/Financial Assistance	Environmental Education	Forest Heritage Center	Education/Financial Assistance	Forest Resource Planning	Information Services and Communication	Safety and Training	Forest Inventory and Analysis	USDA Forest Service	Natural Resources Conservation Service	Farm Services Agency	Land Trust Organizations (TNC)	Oklahoma State Parks	ODWC	US Fish and Wildlife Service	Oklahoma State University	Forest Industry	Bureau of Indian Affairs	Langston University	Oklahoma Forestry Association	Oklahoma Urban and Community Forestry Council	Law Enforcement	Society of American Foresters	Oklahoma Woodland Owners Association	The Wildlife Society	American Tree Farm System	National Wild Turkey Federation	Conservative Working Forest Landscapes	Protect Forests from Harm	Enhance Public Benefits from Trees and Forests	
Issue: Forest Economics and Markets																																									
Goal 3: Enhance the viability and sustainability of existing and emerging forest resource markets.																																									
Objective 3.1: Stay abreast of and communicate forest resource market information.																																									
Strategy 3.1.1: Develop the capacity to monitor developments in OK's forest product markets		X	X												X		X	X	X						X	X							X					X		X	
Strategy 3.1.2: Increase awareness of forest products and markets specific to locations		X	X								X	X			X			X	X							X										X			X		X
Strategy 3.1.3: Provide easy access to information and forest resource statistics			X											X	X		X	X								X												X		X	
Objective 3.2: Maintain or increase the supply of quality wood products.																																									
Strategy 3.2.1: Encourage landowners to consider growing forest products	X	X	X								X			X	X	X		X								X									X		X		X		X
Strategy 3.2.2: Encourage education and research of potential forest products			X															X							X	X											X		X		X
Strategy 3.2.3: Increase awareness of national and international trade policy			X													X		X							X	X											X		X		X
Strategy 3.2.4: Promote the use of wood and forest products in lieu of alternative materials		X	X		X						X	X			X	X	X	X							X	X												X		X	

Issue: Water Quality and Availability

Issue Description

- ❖ ***Water is a critical natural resource and an element that is essential to life. Many human-related activities and other factors may adversely affect the sustainability, quality and availability of Oklahoma's water resources for present and future generations.***

The State of Oklahoma is blessed with 200 lakes and reservoirs, 167,600 miles of rivers and streams and roughly 55,646 miles of shoreline along lakes and ponds (Oklahoma Water Resources Board). The watersheds associated with many of these lakes and rivers are forested and provide clean water, excellent recreational opportunities, and habitat for many species of wildlife. Oklahoma forests produce the cleanest water of any land use, providing numerous public benefits, including absorbing rainfall, slowing and filtering runoff, reducing flooding, and recharging aquifers, yet the role of trees and forests in protecting water quality is not well recognized by the public. Therefore, maintaining and protecting forested watersheds, while important, is not considered by many landowners and citizens as high priority.

Human activities can impact water quality and quantity through a variety of methods, resulting in pollution categorized as either point source or non-point source in nature. Some examples of human activities that can lead to point and non-point source pollution affecting our water resources are poultry litter runoff, improper septic systems, improper pesticide application, timber harvesting, road construction, urban development, mineral extraction, excessive fertilization and oil and gas production sites.

Another factor that is contributing to non-point source pollution is urban stormwater runoff. According to the Environmental Protection Agency, the 2004 *National Water Quality Inventory* reports that runoff from urban areas is the leading source of impairments to surveyed estuaries and the third largest source of water quality impairments to surveyed lakes.

Well-managed forests and healthy forest watersheds produce the highest water quality, and they can be manipulated to benefit stream flows and accommodate downstream users to some extent. Trees and forests reduce soil erosion, protect stream banks, filter pollutants, and reduce impacts of storm water runoff. Proper forest management, including the use of Forestry Best Management Practices (BMPs), protecting streamside management zones and restoring riparian forests and planting trees to prevent erosion are critical elements of state efforts to protect water quality and availability. A more detailed description of the Water Quality and Availability Issue can be found in the Oklahoma Forest Resource Assessment.

The maps below depict priority forestlands and focus areas for the Water Quality and Availability Issue.

Figure 8: Oklahoma Water Quality and Availability Priority Areas

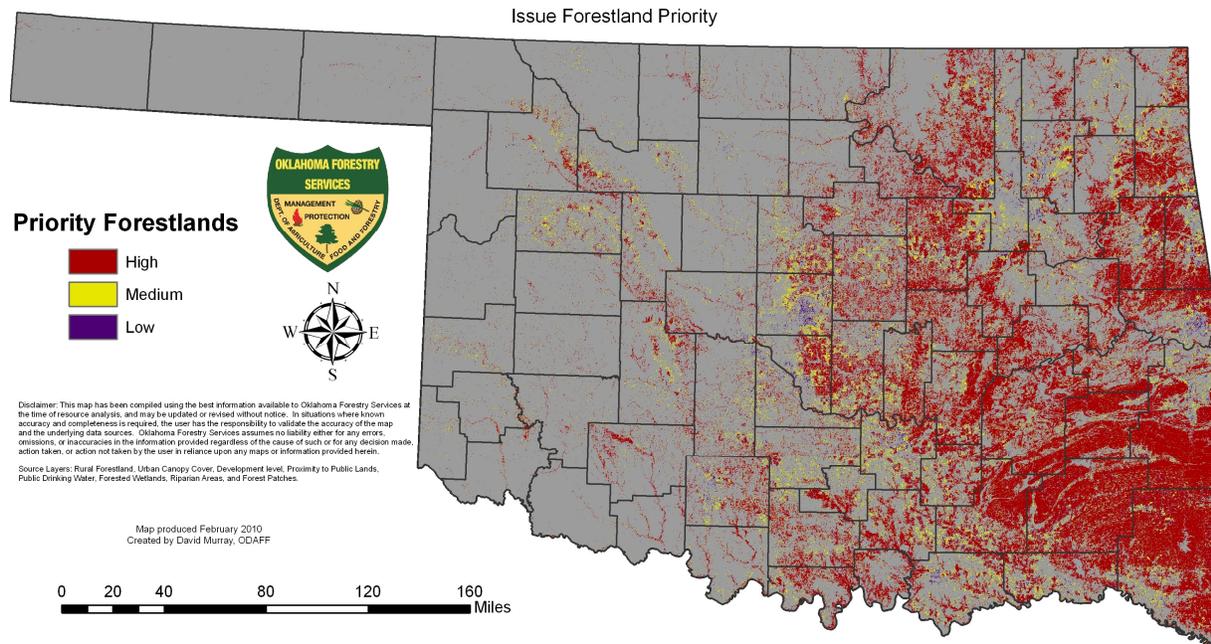
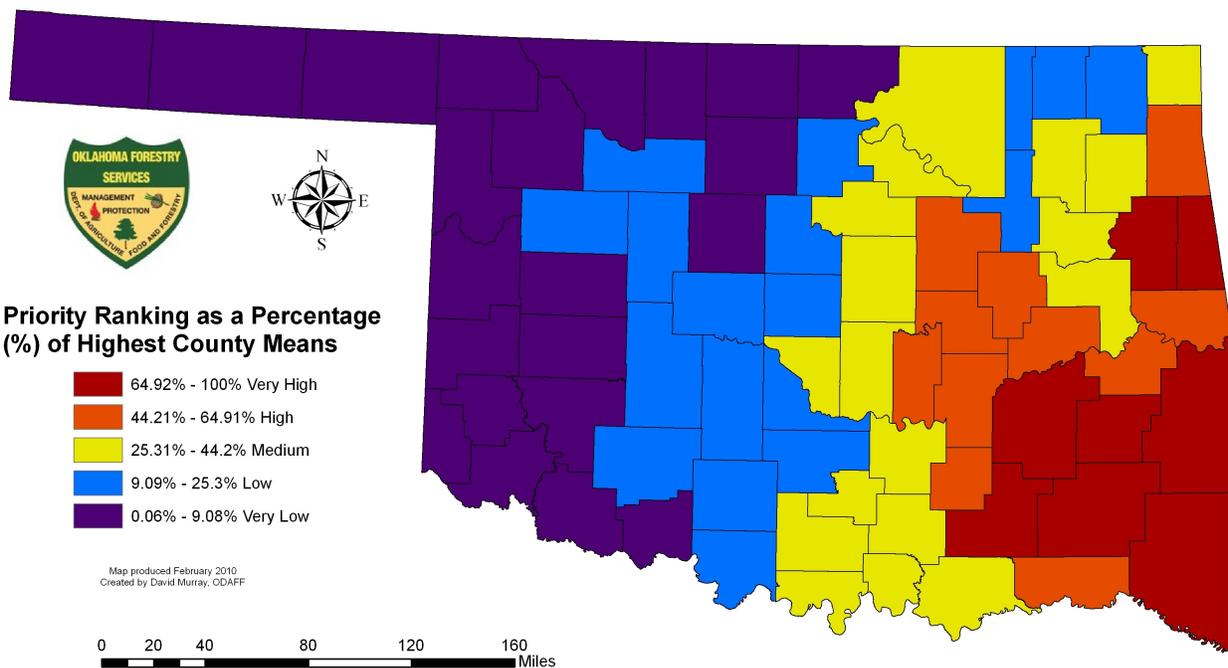


Figure 9: Oklahoma Water Quality and Availability Focus Areas



Priority Ranking created from the High, Medium, Low priorities of the Water Quality GIS Model output, as depicted in the Oklahoma Forest Resource Assessment. The original values for these priorities (3, 2, and 1, respectively) were used to find the mean value for each county; the priority ranking shown here reflect the percentage of the highest county mean.

Goal, Objectives, Strategies

Oklahoma Forestry Services with the help of interested stakeholders identified a goal with objectives and strategies to address the Water Quality and Availability Issue. The long-term strategies will be used by OFS to develop action plans for service areas around the state.

Goal 4: Minimize adverse effects of human activities and other factors on Oklahoma's water resources.

Objective 4.1: Raise the awareness of decision makers, stakeholders and concerned citizens about the role of forests and trees in protecting water quality and sustaining water supplies in Oklahoma.

Strategy 4.1.1: Make urban residents aware of the value of tree planting, maintenance of green space, and management and protection of forest watersheds to mitigate the effects of development on the environment.

Strategy 4.1.2: Make landowners aware of the potential impact of their forestry practices on water quality, and the role of tree planting and forest management in protecting soil productivity and water resources.

Strategy 4.1.3: Assure that natural resource professionals understand the importance of protecting water quality as they manage the land, and the proper techniques necessary to do so.

Strategy 4.1.4: Provide appropriate information and assistance to legislators and policymakers on forestry practices and water issues, so they can make informed decisions concerning the resource.

Strategy 4.1.5: Assure that contractors and others responsible for implementing forestry practices (loggers, vendors, equipment operators, etc.) understand the need to consider and protect water quality during their operations.

Strategy 4.1.6: Promote the use of applicable forestry BMPs by non-forestry land users, such as county commissioners, agricultural producers, developers, etc.

Objective 4.2: Assure that forest management and water quality management practices used in Oklahoma address the needs of the State's water resources and are based upon best available scientific information.

Strategy 4.2.1: Maintain an effective forest water quality management program in Oklahoma, including elements of technical assistance, research, education, and planning.

Strategy 4.2.2: Assure that state and private landowners have access to technical information, planning assistance and the tools they need to help minimize water quality problems associated with land use.

Strategy 4.2.3: Maintain up-to-date and effective Forestry Best Management Practice Guidelines for the State of Oklahoma that are scientifically based and developed in cooperation with key stakeholders.

Strategy 4.2.4: Promote the development or protection of open/green space in urban and interface areas.

Strategy 4.2.5: Assure that recommended water quality management practices consider adaptation needs dictated by climate change.

Strategy 4.2.6: Reduce the negative impacts of invasive species on Oklahoma’s forest water resources.

Strategy 4.2.7: Increase the overall voluntary implementation of Oklahoma’s forestry BMPs to minimize adverse impacts from forestry activities.

Strategy 4.2.8: Assure that complaints or water quality concerns brought to our attention are addressed effectively and in a timely manner.

Objective 4.3: Increase incentives that will motivate landowners to consider water quality and related issues during their land use activities.

Strategy 4.3.1: Modify the income tax or property tax code to provide incentives for landowners to install forestry BMPs, or to modify their practices to protect water quality.

Strategy 4.3.2: Participate in development of new markets for ecosystem services, where values are placed on maintaining forest water quality.

Strategy 4.3.3: Promote development of landowner cooperatives that encourage water quality protection and watershed management at the landscape scale.

Strategy 4.3.4: Enhance Oklahoma’s Forest Resources Development Program and offer cost-share assistance for forest water quality management practices.

Objective 4.4: Actively engage in state and national water issues that impact forestry.

Strategy 4.4.1: Monitor changes in water legislation and policy at the state and national levels.

Strategy 4.4.2: Strengthen cooperative relationships with other agencies and organizations involved with water issues in Oklahoma.

Strategy 4.4.3: Participate in planning and coordination issues of the Southern Water Quality Program Coordinators and Southern Group of State Foresters.

Resources Necessary for State Forester to Address Strategies

The matrices below outline the resources and partnerships needed to accomplish each long-term strategy. The program areas are the same as those described in the OFS overview and existing program section of this document. Each long-term strategy links to one or more of the national priorities which have proposed core performance measures set by the S&PF Redesign Team (See pages 64-66).

The matrix below outlines the resources needed in order for the State Forester to accomplish the long-term strategies. An "X" indicates the programs and partnerships that are needed or will be utilized to accomplish a strategy and the highlighted area indicates Oklahoma Forestry Services' primary area or deliverable that will be the lead on implementing the strategy.

Goals, Objectives, Strategies	Oklahoma Forestry Services' Deliverables and Program Areas																		Farm Bill National Priorities																								
	Management						Protection				Education			Support					Partnerships										Farm Bill National Priorities														
	Forest Regeneration	State and Private Forestry Assistance	Utilization and Markets	Forestland Conservation	Urban and Community Forestry	Management Financial Assistance	Water Quality Protection and Management	Rural Fire Protection	Rural Fire Defense	Forest Health	Protection Financial Assistance	Environmental Education	Forest Heritage Center	Education Financial Assistance	Forest Resource Planning	Information Services and Communication	Safety and Training	Forest Inventory and Analysis	USDA Forest Service	Natural Resources Conservation Service	Farm Services Agency	Land Trust Organizations (TNC)	Oklahoma State Parks	ODWC	US Fish and Wildlife Service	Oklahoma State University	Forest Industry	Bureau of Indian Affairs	Langston University	Oklahoma Forestry Association	Oklahoma Urban and Community Forestry Council	Law Enforcement	Society of American Foresters	Oklahoma Woodland Owners Association	The Wildlife Society	American Tree Farm System	National Wild Turkey Federation	Conserve Working Forest Landscapes	Protect Forests from Harm	Enhance Public Benefits from Trees and Forests			
Issue: Water Quality and Availability																																											
Goal 4: Minimize adverse effects of human activities and other factors on Oklahoma's water resources.																																											
Objective 4.1: Raise awareness of decision makers, stakeholders and concerned citizens about the role of forests and trees in protecting water quality and sustaining water supplies.																																											
Strategy 4.1.1: Make urban residents aware of the value of tree planting, maintenance green space, etc.		X			X		X					X				X	X		X																					X	X	X	
Strategy 4.1.2: Make rural landowners aware of potential impact of their forestry practices on water quality	X	X		X			X					X				X	X		X	X						X				X											X	X	
Strategy 4.1.3: Assure that natural resource professionals understand importance of protecting water quality as they manage land		X		X	X		X	X								X	X		X	X		X	X	X	X	X			X				X				X				X	X	
Strategy 4.1.4: Provide appropriate information and assistance to legislators and policy makers on forestry practices and water issues	X	X			X		X					X				X			X	X									X				X								X	X	
Strategy 4.1.5: Assure contractors and others responsible for implementing forestry practices understand the need to protect water resources	X	X		X	X		X	X								X	X		X	X		X	X	X	X	X			X												X	X	
Strategy 4.1.6: Promote the use of applicable forestry BMPs by non-forestry land users	X	X		X	X		X									X	X		X	X		X							X											X	X		

The matrix below outlines the resources needed in order for the State Forester to accomplish the long-term strategies. An "X" indicates the programs and partnerships that are needed or will be utilized to accomplish a strategy and the highlighted area indicates Oklahoma Forestry Services' primary area or deliverable that will be the lead on implementing the strategy.

Goals, Objectives, Strategies	Oklahoma Forestry Services' Deliverables and Program Areas																Partnerships																Farm Bill National Priorities										
	Management				Protection				Education				Support				Partnerships																Farm Bill National Priorities										
	Forest Regeneration	State and Private Forestry Assistance	Utilization and Markets	Forestland Conservation	Urban and Community Forestry	Management Financial Assistance	Water Quality Protection and Management	Rural Fire Protection	Rural Fire Defense	Forest Health	Protection Financial Assistance	Environmental Education	Forest Heritage Center	Education Financial Assistance	Forest Resource Planning	Information Services and Communication	Safety and Training	Forest Inventory and Analysis	USDA Forest Service	Natural Resources Conservation Service	Farm Services Agency	Land Trust Organizations (TNC)	Oklahoma State Parks	ODWC	US Fish and Wildlife Service	Oklahoma State University	Forest Industry	Bureau of Indian Affairs	Langston University	Oklahoma Forestry Association	Oklahoma Urban and Community Forestry Council	Law Enforcement	Society of American Foresters	Oklahoma Woodland Owners Association	The Wildlife Society	American Tree Farm System	National Wild Turkey Federation	Conserve Working Forest Landscapes	Protect Forests from Harm	Enhance Public Benefits from Trees and Forests			
Issue: Water Quality and Availability																																											
Goal 4: Minimize adverse effects of human activities and other factors on Oklahoma's water resources.																																											
Objective 4.2: Assure that forest management and water quality management practices used in Oklahoma address the needs of the State's water resources and are based upon best available scientific information.																																											
Strategy 4.2.1: Maintain an effective forest water quality management program	X						X									X	X																							X	X		
Strategy 4.2.2: Assure that state and private landowners have access to technical assistance to help minimize water quality problems	X						X									X	X																								X	X	
Strategy 4.2.3: Maintain up-to-date and effective Forestry Best Management Practice Guidelines							X									X										X																X	
Strategy 4.2.4: Promote the development and protection of green space in urban areas	X				X		X									X																									X	X	
Strategy 4.2.5: Assure that recommended water quality practices consider adaptation needs	X				X		X																																		X	X	
Strategy 4.2.6: Reduce the negative impacts of invasive species on OK's water resources	X						X												X	X		X	X	X	X																X		
Strategy 4.2.7: Increase overall voluntary implementation of OK's forestry BMPs	X			X			X												X							X														X	X		
Strategy 4.2.8: Assure that complaints or water quality concerns are addressed effectively							X												X																						X		

Issue: Community Forest Health and Care

Issue Description

- ❖ ***The health and value of Oklahoma's community forests are not fully realized and provided for because there is a general lack of understanding, management, and conservation of this important resource.***

Oklahoma's community forests are threatened by numerous factors, largely a result of the population density of the people living within this forest type. The community forest is often managed as individual trees or as small groups rather than looking at the entire landscape as a working forest ecosystem. Trees throughout our cities and towns, including individual trees in yards and parks, or along our streets and waterways, need to be viewed and managed as a working forest ecosystem to provide the greatest benefit of ecosystem services and highest quality of life for the residents within our communities. It is critical to take a proactive management approach to addressing the needs of our community forests because the make-up, health and overall condition of this forest impact the connected forests beyond the traditional city boundaries.

According to the American Forests, impervious surfaces have increased by 20% over the past 2 decades in urban areas across the United States. Stormwater facilities are created to compensate for the tree loss but these facilities are expensive to build and maintain. Planting trees and conserving greenbelts and corridors is a much easier way to reduce stormwater runoff and save money.

Community forestry information and education is not generating widespread support and advocacy at the local/municipal level needed to develop local proactive community forest management programs. Currently, only 25 out of 599 communities in Oklahoma are recognized as a Tree City USA. Although these communities represent approximately 70 percent of the urban population and 50 percent of the State's population, improvement in the number of participating communities will extend the benefits of community forestry statewide. A more detailed description of the Community Forest Health and Care Issue can be found in the Oklahoma Forest Resource Assessment.

The maps below depict priority forestlands and focus areas for the Community Forest Health and Care Issue.

Figure 10: Community Forest Health and Care Priority Areas

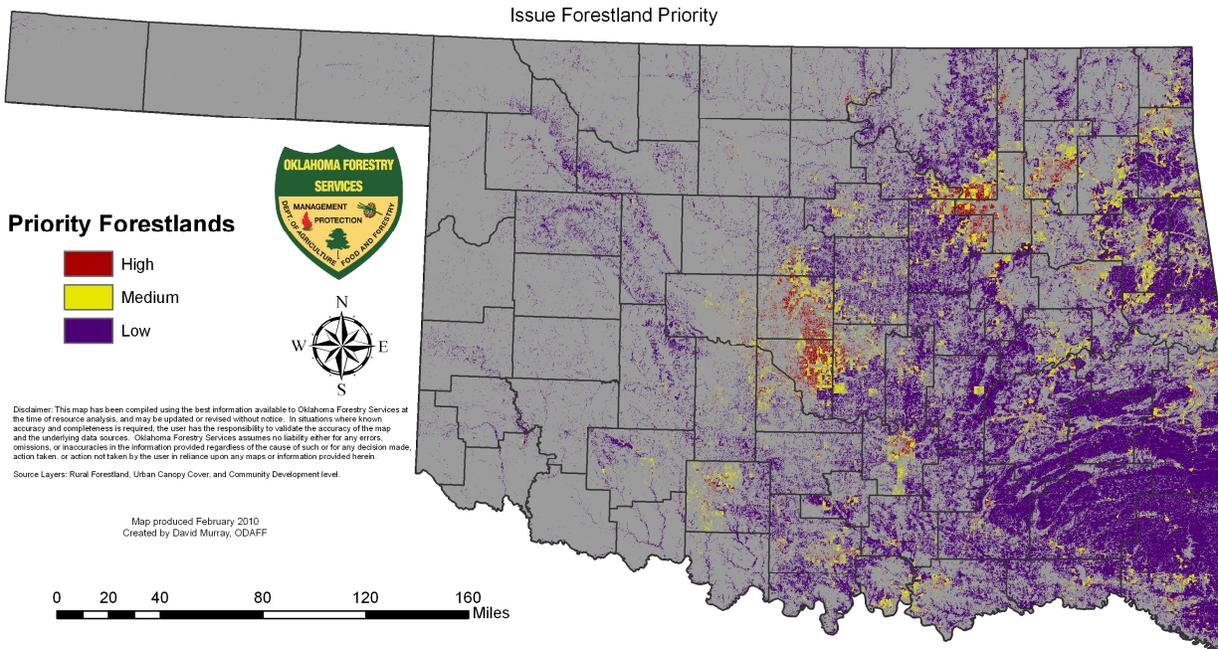
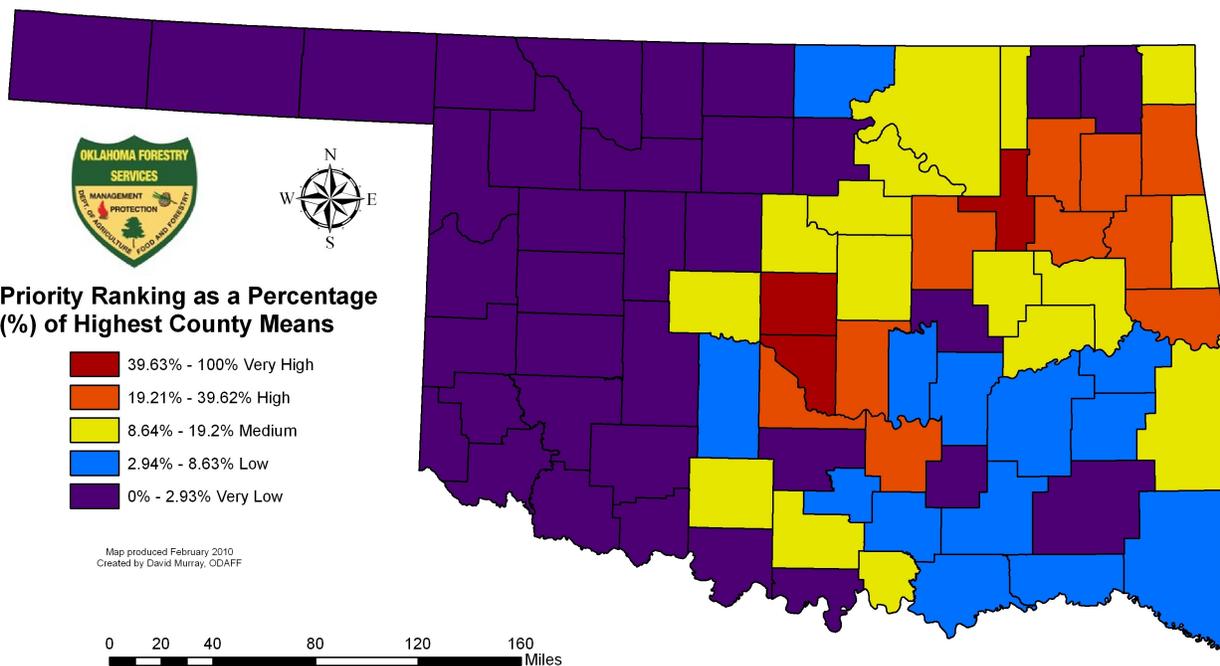


Figure 11: Community Forest Health and Care Focus Areas



Priority Ranking created from the High, Medium, Low priorities of the Community Forest GIS Model output, as depicted in the Oklahoma Forest Resource Assessment. The original values for these priorities (3, 2, and 1, respectively) were used to find the mean value for each county; the priority ranking shown here reflect the percentage of the highest county mean.

Goal, Objectives, Strategies

Oklahoma Forestry Services with the help of interested stakeholders identified a goal with objectives and strategies to address the Community Forest Health and Care Issue. The long-term strategies will be used by OFS to develop action plans for service areas around the state.

Goal 5: Realize and provide for the health and value of Oklahoma’s community forests.

Objective 5.1: Improve the management of Oklahoma’s community forests.

Strategy 5.1.1: Develop outreach initiatives to reach new communities and non-traditional audiences.

Strategy 5.1.2: Develop and maintain a wide range of partnerships and coordinate with other organizations on community forestry issues.

Strategy 5.1.3: Stay abreast of technology changes and changes in management practices.

Strategy 5.1.4: Provide trained and professional technical assistance to communities.

Strategy 5.1.5: Assure that OFS professionals are appropriately trained in U&CF principles and with issues they may encounter in the wildland-urban interface.

Strategy 5.1.6: Utilize community forest management activities that promote biodiversity.

Strategy 5.1.7: Minimize the threat of invasive species.

Strategy 5.1.8: Promote the appropriate use of fire in urban areas and the wildland urban interface.

Strategy 5.1.9: Develop the capacity to respond to natural disasters affecting community forests, including ice storms and severe weather events.

Objective 5.2: Ensure the conservation of community forests.

Strategy 5.2.1: Encourage greenbelts, riparian corridors and conservation easements.

Strategy 5.2.2: Assist with the development of local land-use policies, development incentives, and ordinances.

Strategy 5.2.3: Encourage community forestry advocacy groups (e.g., Tree Boards).

Strategy 5.2.4: Provide leadership in adoption of community planning techniques, such as Green Infrastructure, management of urban watersheds using forestry techniques and conservation of open space.

Objective 5.3: Increase the understanding and appreciation of Oklahoma’s community forests.

Strategy 5.3.1: Educate Oklahoma’s citizens on the values and benefits of Oklahoma’s community forests.

Strategy 5.3.2: Develop and maintain a marketing and communications plan.

Strategy 5.3.3: Educate Oklahoma’s citizens on proper care and maintenance of community forests.

Strategy 5.3.4: Raise awareness among community leaders about forest-related issues and benefits, and encourage their consideration in planning and development.

Strategy 5.3.5: Document the benefits provided by trees and forests in an urban setting and promote the economic values of tree planting, tree care and the maintenance of forest cover in communities.

Resources Necessary for State Forester to Address Strategies

The matrices below outline the resources and partnerships needed to accomplish each long-term strategy. The program areas are the same as those described in the OFS overview and existing program section of this document. Each long-term strategy links to one or more of the national priorities which have proposed core performance measures set by the S&PF Redesign Team (See pages 64-66).

The matrix below outlines the resources needed in order for the State Forester to accomplish the long-term strategies. An "X" indicates the programs and partnerships that are needed or will be utilized to accomplish a strategy and the highlighted area indicates Oklahoma Forestry Services' primary area or deliverable that will be the lead on implementing the strategy.

Goals, Objectives, Strategies		Oklahoma Forestry Services' Deliverables and Program Areas																				Farm Bill National Priorities																					
		Management					Protection				Education			Support			Partnerships																										
		Forest Regeneration	State and Private Forestry Assistance	Utilization and Markets	Forestland Conservation	Urban and Community Forestry	Management/Financial Assistance	Water Quality Protection and Management	Rural Fire Protection	Rural Fire Defense	Forest Health	Protection/Financial Assistance	Environmental Education	Forest Heritage Center	Education/Financial Assistance	Forest Resource Planning	Information Services and Communication	Safety and Training	Forest Inventory and Analysis	USDA Forest Service	Natural Resources Conservation Service	Farm Services Agency	Land Trust Organizations (TNC)	Oklahoma State Parks	ODWC	US Fish and Wildlife Service	Oklahoma State University	Forest Industry	Bureau of Indian Affairs	Langston University	Oklahoma Forestry Association	Oklahoma Urban and Community Forestry Council	Law Enforcement	Society of American Foresters	Oklahoma Woodland Owners Association	The Wildlife Society	American Tree Farm System	National Wild Turkey Federation	Conserve Working Forest Landscapes	Protect Forests from Harm	Enhance Public Benefits from Trees and Forests		
Issue: Community Forest Health and Care																																											
Goal 5: Realize and provide for the health and value of Oklahoma's community forests																																											
Objective 5.1: Improve the management of Oklahoma's community forests.																																											
Strategy 5.1.1: Develop outreach initiatives						X	X					X		X		X			X																					X			
Strategy 5.1.2: Develop and maintain a wide range of partnerships						X														X																					X	X	
Strategy 5.1.3: Stay abreast of technology						X											X			X																					X	X	
Strategy 5.1.4: Provide trained and professional technical assistance to communities			X	X	X	X				X							X			X																					X	X	
Strategy 5.1.5: Assure that agency professionals are appropriately trained in urban and WUI issues					X												X			X																					X	X	
Strategy 5.1.6: Utilize community forest management activities to promote biodiversity			X		X	X														X																					X	X	X
Strategy 5.1.7: Minimize the threat of invasive species		X	X		X	X				X										X																						X	
Strategy 5.1.8: Promote the appropriate use of fire in urban areas and the WUI			X			X			X		X									X																					X	X	
Strategy 5.1.9: Develop the capacity to respond to natural disasters affecting community forests			X			X	X			X							X			X																						X	

The matrix below outlines the resources needed in order for the State Forester to accomplish the long-term strategies. An "X" indicates the programs and partnerships that are needed or will be utilized to accomplish a strategy and the highlighted area indicates Oklahoma Forestry Services' primary area or deliverable that will be the lead on implementing the strategy.

Goals, Objectives, Strategies	Oklahoma Forestry Services' Deliverables and Program Areas																		Partnerships												Farm Bill National Priorities												
	Management						Protection						Education																														
	Forest Regeneration	State and Private Forestry Assistance	Utilization and Markets	Forestland Conservation	Urban and Community Forestry	Management/Financial Assistance	Water Quality Protection and Management	Rural Fire Protection	Rural Fire Defense	Forest Health	Protection/Financial Assistance	Environmental Education	Forest Heritage Center	Education/Financial Assistance	Forest Resource Planning	Information Services and Communication	Safety and Training	Forest Inventory and Analysis	USDA Forest Service	Natural Resources Conservation Service	Farm Services Agency	Land Trust Organizations (TNC)	Oklahoma State Parks	ODWC	US Fish and Wildlife Service	Oklahoma State University	Forest Industry	Bureau of Indian Affairs	Langston University	Oklahoma Forestry Association	Oklahoma Urban and Community Forestry Council	Law Enforcement	Society of American Foresters	Oklahoma Woodland Owners Association	The Wildlife Society	American Tree Farm System	National Wild Turkey Federation	Conserve Working Forest Landscapes	Protect Forests from Harm	Enhance Public Benefits from Trees and Forests			
Issue: Community Forest Health and Care																																											
Goal 5: Realize and provide for the health and value of Oklahoma's community forests																																											
Objective 5.3: Increase the understanding and appreciation of Oklahoma's community forests.																																											
Strategy 5.3.1: Educate OK's citizens on the values and benefits of OK's community forests		X		X	X	X						X	X			X	X																								X		
Strategy 5.3.2: Develop and maintain a marketing and communication plan					X							X	X			X																									X	X	X
Strategy 5.3.3: Educate OK's citizens on proper care and maintenance of community forests		X		X	X							X				X																									X	X	
Strategy 5.3.4: Raise awareness among community leaders about forest-related issues and benefits	X	X		X	X							X	X			X																											X
Strategy 5.3.5: Document the benefits provided by trees and forests in an urban setting and promote economic values						X													X																							X	

 Indicates Primary Deliverable

Issue: Impacts of Climate Change

Issue Description

- ❖ ***Oklahoma's diverse forest ecosystems, ecosystem components, and associated benefits will be affected by climate change.***

Oklahoma's extensive forestlands and individual trees provide significant benefits to their owners and to society as a whole, yet there is considerable concern as to whether those benefits can be maintained in the future under changing climate scenarios. Because of serious concerns expressed by at least part of the scientific community, public attention has been galvanized on the well-publicized buildup of greenhouse gases (especially carbon dioxide), increasing temperatures, melting glaciers and extreme weather events, as well as on predictions of potentially catastrophic changes in our climate over the next century. The United States and countries around the world have devoted considerable resources to collect and analyze data, establish trends, model future scenarios, assess potential impacts and propose mitigation strategies intended to slow, stabilize or even reverse the predicted changes in our environment.

Although the role of forests in mitigating global climate change has not been fully determined, professional foresters and the forestry community are prepared to contribute to the overall strategy. It is important to explore the potential impacts of climate change in Oklahoma and their effects on the state's forest resources.

Oklahoma has one of the most diverse landscapes of any state and lies at a crossroads between eastern forests and western prairie, and northern versus southern plains ecosystems. Landscape level changes influenced by climate are part of our past and will be part of our future. It is likely that those changes may be expressed more clearly at the fringes of ecosystems - in Oklahoma and Texas for example - than in other states in the southern region.

The Oklahoma Climatological Survey (OCS) has accumulated a considerable amount of data concerning Oklahoma's climate, and is concerned about the trends indicated and the likely changes that will result. The OCS expects the following scenarios to occur should the projected range of warming happen:

- The frequency of hot extremes and heat waves will increase
- Cold extremes and cold air outbreaks will decrease
- Atmospheric water content will increase
- The jet stream and its associated storms will move poleward

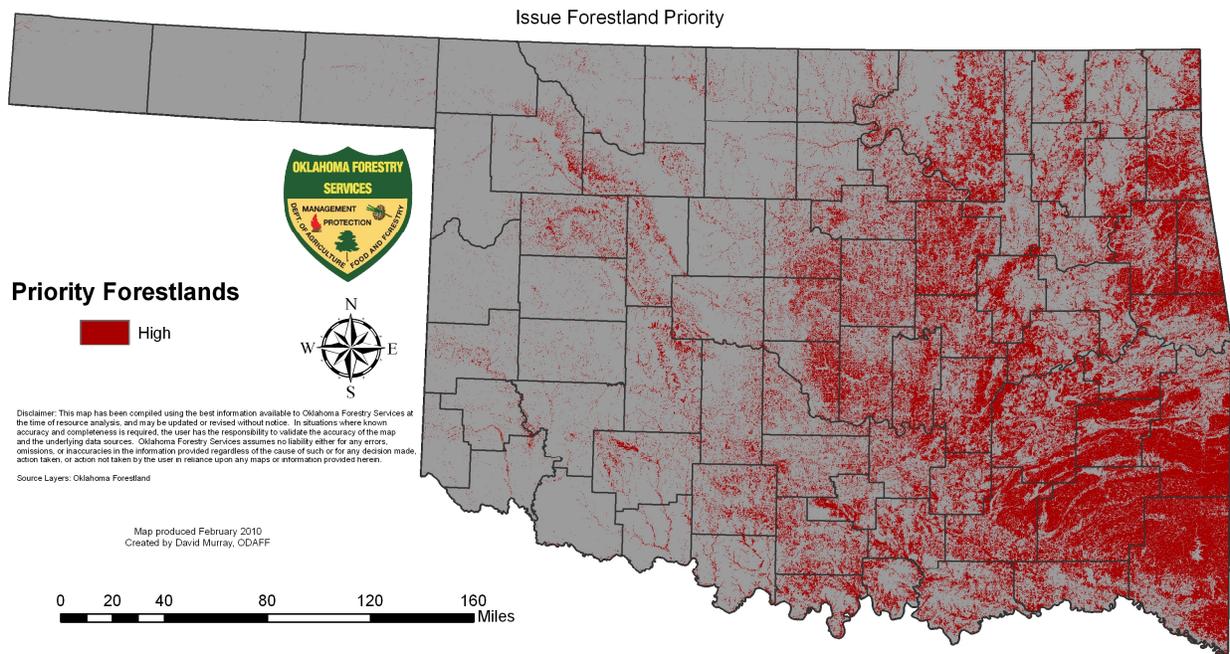
OCS also predicts these implications for Oklahoma:

- The warm season becomes longer and arrives earlier
- The cool season warms and shortens which leads to a longer frost free period and growing season
- Earlier maturation of orchard crops leaves them more vulnerable to late freeze events
- Increase year-round evaporation from the ground transpiration from green vegetation
- Drought frequency and severity increases, especially in the summer
- Drier and warmer conditions will increase conditions conducive to wildfires
- Rain-free periods will lengthen, but individual rainfall events will become more intense
- More runoff and flash flooding will occur

The USDA Forest Service is also conducting a considerable amount of research on climate change. Researchers involved in the Southern Global Change Program at the Southern Research Station predict temperature increases of 5 to 10 percent and precipitation decreases of 10 to 25 percent during the period 2000-2020 across most of Oklahoma. A more detailed description of the Impacts of Climate Change Issue can be found in the Oklahoma Forest Resource Assessment.

The map below depicts priority forestlands for the Impacts of Climate Change Issue.

Figure 12: Impacts of Climate Change Priority Areas



Goal, Objectives, Strategies

Oklahoma Forestry Services with the help of interested stakeholders identified a goal with objectives and strategies to address the issue of Climate Change. The long-term strategies will be used by OFS to develop action plans for service areas around the state.

Goal 6: Enhance the capability of Oklahoma’s forests to adapt to the environmental stresses of climate change.

Objective 6.1: Maintain healthy vigorous forest ecosystems.

Strategy 6.1.1: Promote active forest management to reduce the risk of wildfire and stress-related issues.

Strategy 6.1.2: Help assure that the State is prepared to address and adapt to potential forest resource changes caused by climate change.

Strategy 6.1.3: Evaluate current and predicted future forest conditions and their possible impacts on Oklahoma’s forests and develop adaptive management strategies for consideration by landowners to help mitigate their risk.

Objective 6.2: Increase OFS and public awareness and knowledge of climate change, mitigation, and management toward resilient forests using the best scientific information.

Strategy 6.2.1: Work with other natural resource agencies and programs to educate the public on climate change, mitigation, and the role forestry plays in both.

Strategy 6.2.2: Develop an interest in climate change and mitigation amongst groups and individuals who are not currently involved in forestry or natural resource programs and activities.

Strategy 6.2.3: Increase OFS understanding and sensitivity to climate change issues and their real or potential impacts on trees and forest vegetation in Oklahoma.

Strategy 6.2.4: Educate and discuss with other natural resource agencies, landowners, and forestry professionals the management strategies to maintain or produce resilient forests.

Strategy 6.2.5: Communicate with and train natural resource professionals on current climate change research and adaptive forest management practices.

Resources Necessary for State Forester to Address Strategies

The matrices below outline the resources and partnerships needed to accomplish each long-term strategy. The program areas are the same as those described in the OFS overview and existing program section of this document. Each long-term strategy links to one or more of the national priorities which have proposed core performance measures set by the S&PF Redesign Team (See pages 64-66).

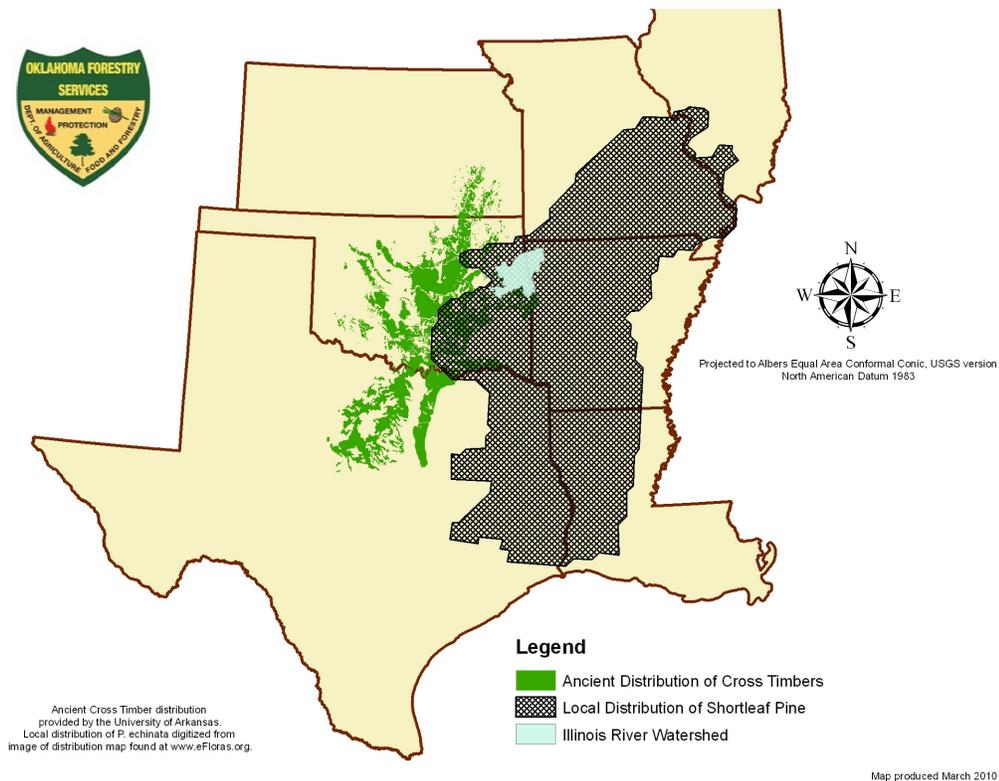
The matrix below outlines the resources needed in order for the State Forester to accomplish the long-term strategies. An "X" indicates the programs and partnerships that are needed or will be utilized to accomplish a strategy and the highlighted area indicates Oklahoma Forestry Services' primary area or deliverable that will be the lead on implementing the strategy.

Goals, Objectives, Strategies		Oklahoma Forestry Services' Deliverables and Program Areas																				Farm Bill National Priorities																				
		Management					Protection					Education			Support			Partnerships																								
		Forest Regeneration	State and Private Forestry Assistance	Utilization and Markets	Forestland Conservation	Urban and Community Forestry	Management Financial Assistance	Water Quality Protection and Management	Rural Fire Protection	Rural Fire Defense	Forest Health	Protection Financial Assistance	Environmental Education	Forest Heritage Center	Education Financial Assistance	Forest Resource Planning	Information Services and Communication	Safety and Training	Forest Inventory and Analysis	USDA Forest Service	Natural Resources Conservation Service	Farm Services Agency	Land Trust Organizations (TNC)	Oklahoma State Parks	ODWC	US Fish and Wildlife Service	Oklahoma State University	Forest Industry	Bureau of Indian Affairs	Langston University	Oklahoma Forestry Association	Oklahoma Urban and Community Forestry Council	Law Enforcement	Society of American Foresters	Oklahoma Woodland Owners Association	The Wildlife Society	American Tree Farm System	National Wild Turkey Federation	Conserve Working Forest Landscapes	Protect Forests from Harm	Enhance Public Benefits from Trees and Forests	
Issue: Impacts of Climate Change on the Forest Resources																																										
Goal 6: Enhance the capability of Oklahoma's forests to adapt to the environmental stresses of climate change																																										
Objective 6.1: Maintain healthy vigorous forest ecosystems.																																										
Strategy 6.1.1: Promote active forest management to reduce the risk of wildfire and stress-related issues		X	X		X	X		X	X							X	X	X		X	X																			X	X	
Strategy 6.1.2: Be prepared to address and adapt to potential forest resource changes		X	X		X	X										X	X			X	X					X	X														X	X
Strategy 6.1.3: Evaluate current and predicted future forest conditions and their possible impacts										X						X	X			X	X					X	X														X	X

Multi-State Areas (Regional Priority)

This section illustrates a few important forested areas found in Oklahoma that cross state boundaries. These are large project areas where funding can be focused on a landscape scale across multiple states. Oklahoma has identified many long-term strategies in the section above that will address the issues across these large forested landscapes. Oklahoma shares common issues with surrounding states and in these 3 large forested landscapes, long-term strategies, addressing these common issues, will be implemented. Coordination with other surrounding states of long-term strategies identified in these areas will be necessary for successful projects and implementation.

Figure 21: Multi-state Areas



National Priorities, Objectives, Outcomes and State and Private Forestry Core Performance Measures

S&PF Core Performance Measures: “The most significant indicators of success, used to assess accomplishments at the national level for all State and Private Forestry investments, organized by the Redesign National Priorities and Objectives.”

Measures in italics are “pilot” measures. Redesign Implementation Council agreed upon a general format for the proposed measure, but recommends that these measures not be reported until spatial systems or other appropriate data are available to do so. In the meantime, special efforts should be made to develop qualitative case studies for these Outcomes.

National Priority	Objective	Outcome	Proposed Core Performance Measures	Qualitative Performance Reporting Options
Conserve Working Forest Landscapes	Identify and conserve high priority forest ecosystems and landscapes.	High priority forest ecosystems and landscapes are identified and conserved.	CURRENT MEASURE – High priority forest ecosystems and landscapes are protected from conversion (acres - annual and cumulative).	<ul style="list-style-type: none"> • Other Legacy Products - videos, state success stories, etc. • Other Program Options - Areas protected by states, assisted by FS studies; Cities protect forests after working with U&CF to develop plans.
	Actively and sustainably manage forests.	Forests are actively and sustainably managed.	CURRENT MEASURE <ul style="list-style-type: none"> • Number of acres in forest areas being managed sustainably as defined by current Forest Stewardship Management Plan (cumulative) – through a nationally consistent monitoring program. 	<ul style="list-style-type: none"> • Numerous options, no specifics discussed.
Protect Forests from Harm	Restore fire adapted lands and/or reduce risk of wildfire impacts.	Fire-adapted lands are restored and/or risk of wildfire impacts is reduced.	CURRENT MEASURE <ul style="list-style-type: none"> • Number of acres treated to restore fire-adapted ecosystems that are (1) moved toward desired conditions and (2) maintained in desired conditions (annual) • Total # of acres treated to reduce hazardous fuels on state and private lands through State Fire Assistance (annual, direct federal grant only) • Percentage of at risk communities who report increased local suppression capacity as evidenced by: (1) The increasing number of trained and/or certified fire fighters and crews or (2) Upgraded or new fire suppression equipment obtained or (3) Formation of a new fire department or expansion of an existing department involved in wildland fire fighting. 	<ul style="list-style-type: none"> • Numerous options, no specifics discussed.
	Identify, manage and reduce threats to forest and ecosystem health	Threats to forest and ecosystem health are identified, managed and reduced.	CURRENT MEASURE <ul style="list-style-type: none"> • Number and percent of forest acres restored and/or protected from (1) invasive and (2) native insects, diseases and plants (annual). 	<ul style="list-style-type: none"> • Numerous options, no specifics discussed.

Measures in italics are "pilot" measures. Redesign Implementation Council agreed upon a general format for the proposed measure, but recommends that these measures not be reported until spatial systems or other appropriate data are available to do so. In the meantime, special efforts should be made to develop qualitative case studies for these Outcomes.

National Priority	Objective	Outcome	Proposed Core Performance Measures	Qualitative Performance Reporting Options
Enhance Public Benefits from Trees and Forests	Protect and enhance water quality and quantity.	Water quality and quantity is protected and enhanced.	NEW MEASURE • <i>Acres and percent of priority watershed areas where S&PF activities are enhancing or protecting water quality and quantity.</i>	• Special focus on developing qualitative case studies and success stories.
	Improve air quality and conserve energy.	Air quality is improved and energy is conserved.	NEW MEASURES • <i>Population of communities benefiting from S&PF activities designed to contribute to an improvement in air quality.</i> • <i>Population of communities benefiting from S&PF activities that result in energy conservation.</i>	• Develop case studies to tell the story of dollars saved per year using strategic planting for conservation.
	Assist communities in planning for and reducing forest health risks.	Communities plan for and reduce their risks from forest health threats.	CURRENT MEASURE • Number and percent of communities-at-risk covered by CWPP or equivalent that are reducing their risk of wildland fire (annual). • Percent of population living in communities developing or managing programs to plant, protect and maintain their urban and community trees and forests.	• Numerous options, no specifics discussed.
	Maintain and enhance the economic benefits and values of trees and forests.	The economic benefits and values of trees and forests are maintained and enhanced.	CURRENT MEASURE • Number of communities and percent of population served under an active urban forest management plan. NEW MEASURES • <i>Number of total jobs (direct, indirect and induced) sustained or maintained in the economy annually due to S&PF investments.</i> • <i>Total value of resources leveraged through partnerships with states and other partners.</i>	• Urban FIA in 5 states - utilize that to develop case studies of ecosystem services from urban forests. • Develop success stories highlighting job creation/retention. • Provide statistics on state/private forestland (especially NIPF) contribution to forest products sector. • Qualitative description of Legacy tracts' contribution to economic benefits, including recreation.

Measures in italics are "pilot" measures. Redesign Implementation Council agreed upon a general format for the proposed measure, but recommends that these measures not be reported until spatial systems or other appropriate data are available to do so. In the meantime, special efforts should be made to develop qualitative case studies for these Outcomes.

National Priority	Objective	Outcome	Proposed Core Performance Measures	Qualitative Performance Reporting Options
Enhance Public Benefits from Trees and Forests	Protect, conserve and enhance wildlife and fish habitat.	Wildlife and fish habitat is protected, conserved and enhanced.	NEW MEASURES <ul style="list-style-type: none"> • <i>Acres of priority habitat areas where S&PF activities are protecting, conserving and enhancing wildlife and fish habitat.</i> • <i>Acres of connected forest resulting from S&PF investments.</i> 	<ul style="list-style-type: none"> • Special focus on developing qualitative case studies and success stories. • Qualitative information on T&E species protected on Legacy tracts. • Qualitative success stories about game species/other important species (not limited to T&E) on areas covered by Stewardship Plans.
	Connect people to trees and forests, and engage them in environmental stewardship activities.	People are connected to trees and forests and are engaged in environmental stewardship activities.	CURRENT MEASURE <ul style="list-style-type: none"> • Number of people who annually participate in FS and state forestry agency environmental literacy programs and activities. NEW MEASURES <ul style="list-style-type: none"> • <i>Number of people (measured in person days) engaged in environmental stewardship activities as part of a S&PF program.</i> 	<ul style="list-style-type: none"> • Numerous options, no specifics discussed.
	Manage trees and forests to mitigate and adapt to global climate change.	Trees and forests are managed to help mitigate and adapt to global climate change.	NEW MEASURES <ul style="list-style-type: none"> • <i>Acres and percent of priority areas vulnerable to climate change where S&PF activities are contributing to resilient forests able to adapt to climate change.</i> • <i>Potential carbon sequestered through implementation of forest management practices that result from S&PF investments on private forestlands.</i> 	<ul style="list-style-type: none"> • Special focus on developing qualitative case studies and success stories.

Appendices

This page left intentionally blank

Appendix A: Coordination with Stakeholders

Letters and announcements were sent out to personnel from each organization on the stakeholder list below. Many of the stakeholders participated in meetings and provided input throughout the development of this assessment.

- December 2008: Informative letter sent out to stakeholder list on Oklahoma Forest Resource Assessment and Strategy.
- January 15, 2009: Forest Advisory Meeting (stewardship committee)
- February 3, 2009: Press Release to announce survey on website
- February 2009: Summary of Oklahoma Comprehensive Wildlife Conservation Strategy received.
- March 2009: Survey opened to interested stakeholders and public (Over 200 surveys received from stakeholders and public on statewide issues)
- May – July 2009: Issue Working Group Meetings (Several people from the Stewardship and State Technical Committee were participants in one or more of the Issue Working Groups. Groups focused on issue descriptions and identified a goal with some objectives and strategies).
- September 21, 2009: Press Release and ODAFF Newsletter (Agri Roundup) article
- November 23, 2009: Follow up letter sent to stakeholder list
- December 28, 2009: Information received from ODWC – Forest Legacy Areas
- April 14, 2010: Oklahoma Forestry Services Leadership Meeting (Discussed goals, objectives and long-term strategies to address the issues identified in the assessment)
- May 7, 2010: Draft Strategy posted to website for review by OFS leadership team

Stakeholder List Includes:

Oklahoma Forest Advisory Committee (Stewardship Coordinating Committee): USDA Forest Service – Ouachita National Forest, USDA Natural Resources Conservation Service, USDA Farm Services Agency, USDO – Fish and Wildlife Service, USDO – National Park Service, Oklahoma Department of Wildlife Conservation, Oklahoma Department of Tourism and Recreation – State Parks Division, Oklahoma Conservation Commission, Oklahoma Association of Conservation Districts, Noble Foundation – Wildlife Society, The Nature Conservancy – Oklahoma Chapter, Oklahoma State University – Natural Resource Ecology and Management, Oklahoma State University – Extension, Langston University, Oklahoma Forestry Association, The Campbell Timberlands Group, International Paper, Bureau of Indian Affairs, Oklahoma Department of Agriculture, Food and Forestry, Oklahoma Urban and Community Forestry Council, Large and Small Landowners, Oklahoma Forestry Services, Oklahoma Forest Industry, Consulting Foresters

State Technical Committee: Farm Services Agency, Oklahoma Conservation Commission, Oklahoma Pork Council, U.S. Environmental Protection Agency, Land Legacy, Inc., Oklahoma Farm Bureau, Oklahoma Wheat Growers Association, American Farmer and Ranchers, Tulsa Metropolitan Authority, Oklahoma Grazing Lands Coalition, Oklahoma Department of Wildlife Conservation, U.S. Fish and Wildlife Service, Noble Foundation, Cherokee Nation, Oklahoma State University, Oklahoma Forestry Services, Vance Air Force Base, USDA APHIS – Wildlife Services, Oklahoma Office of the Secretary of the Environment, Playa Lakes Joint Venture, Natural Resources Conservation Service

Appendix B: Incorporated Natural Resource Plans or Projects

To help develop strategies to address the critical issues identified in the Oklahoma Forest Resource Assessment, information and data from existing programs as well as a number of natural resource plans were considered and utilized. Listed below are some of the other state and natural resource plans or projects incorporated into this Forest Resource Strategy.

- Oklahoma Comprehensive Wildlife Conservation Strategy, 2005 (State Wildlife Action Plan). Ron Suttles, Natural Resources Supervisor. Oklahoma Department of Wildlife Conservation. www.wildlifedepartment.com/CWCS.htm
- Oklahoma Forest Legacy Plan, 2007 (Draft Assessment of Need). Kurt Atkinson, Assistant Director. Oklahoma Forestry Services. www.forestry.ok.gov
- Ecoregional Assessments. The Nature Conservancy, Oklahoma Chapter. <http://www.nature.org/wherewework/northamerica/states/oklahoma/about/science.html>
- Oklahoma Comprehensive Water Plan, 2009 in development. Oklahoma Water Resources Board. <http://environ.okstate.edu/OWRRI/waterplan/>
- Southern Forest Futures Project, 2009 in development. U.S. Forest Service and Southern Group of State Foresters. <http://www.srs.fs.usda.gov/futures/>
- Oklahoma Forest Resource Issues 1980 and Program Direction through 1995. John Burwell, State Forester. Oklahoma Department of Agriculture, Forestry Division.
- Oklahoma Community Wildfire Protection Plans. Kelly Hurt, Firewise Coordinator. Oklahoma Forestry Services. www.forestry.ok.gov

*This publication was developed and printed by the
Oklahoma. Department of Agriculture, Food & Forestry, as authorized by Terry Peach, Commissioner.
250 copies were printed at a cost of \$?????. June 2010.
Copies have been provided to the Publications Clearinghouse of the Oklahoma Dept. of Libraries*

This agency is an equal opportunity employer and provider.

