

# National Priorities Section and Forest Action Plan Review

## Update Report

Missouri, 2015

### National Priorities Section

The 2008 Farm Bill, under Title VIII – Forestry, amends the Cooperative Forestry Assistance Act of 1978 to include the requirement that each state develop a long-term, state-wide assessment and strategies to address assessment findings for its forest resources.

In response the Missouri Department of Conservation (MDC) collaboratively developed *Missouri's Forest Resource Assessment and Strategy* (FRAS) with help from over forty partner organizations. FRAS was completed in June, 2010. It has since been renamed *Missouri's Forest Action Plan* (FAP).

The Assessment identified Desired Future Conditions (DFCs) for Missouri's forest resources, key threats and opportunities which impact our ability to achieve these DFCs, and priority geographies for focusing limited resources. Subsequently, the Strategy detailed how MDC and partners can use existing resources to address Assessment findings and leverage additional resources to the extent possible.

The scope of the FAP includes all land ownerships, both public and private. The FAP uses the term “forest” in the broadest of senses including all forest and woodland natural communities, rural and urban settings, and everything from the largest area of forest in the Ozarks to individual city street trees.

An important focus of the FAP is to ensure that Missouri's forest resources are managed sustainably. For the purposes of the FAP sustainability is defined and guided by the “Seven Criteria of Forest Sustainability” established in the United Nations 1993 Montreal Process:

1. Conservation of Biological Diversity
2. Maintenance of Productive Capacity of Forest Ecosystems
3. Maintenance of Forest Ecosystem Health and Vitality
4. Conservation and Maintenance of Soil and Water Resources
5. Maintenance of Forest Contribution to Global Carbon Cycles

6. Maintenance and Enhancement of Long-Term Multiple Socioeconomic Benefits to Meet the needs of Societies
7. Legal, Institutional, and Economic Framework for Forest Conservation and Sustainable Management  
(NAASF, 2008)

The Missouri FAP is further guided by the mission of the Missouri Department of Conservation:

“To protect and manage the fish, forest, and wildlife resources of the state; to facilitate and provide opportunity for all citizens to use, enjoy, and learn about these resources.”  
(MDC, 2015)

In the 2008 Farm Bill Congress identified three national priorities to focus the state assessment and strategy development:

### **1. Conserve Working Forest Landscapes**

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

### **2. Protect Forests from Harm**

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

### **3. Enhance Public Benefits from Trees and Forests**

- 3.1. Protect and enhance water quality and quantity
- 3.2. Improve air quality and conserve energy
- 3.3. Assist communities in planning for and reducing forest health risks
- 3.4. Maintain and enhance the economic benefits and values of trees and forests
- 3.5. Protect, conserve, and enhance wildlife and fish habitat
- 3.6. Connect people to trees and forests, and engage them in environmental stewardship activities
- 3.7. Manage trees and forests to mitigate and adapt to global climate change

In an effort to focus MDC efforts on critical issues and move beyond routinely “doing what we’ve always done” on a daily basis, Department Administration asked each Division to identify three long-term “Stretch Goals” to help guide budgeting, and thus work on the ground, for FY 2012 (beginning July 1, 2011). The practice continues annually.

Forestry Division’s first set of Stretch Goals was:

- Implement the Statewide Forest Action Plan
- Engaging Missouri landowners to actively care for their woods.
- Raise the performance bar of the Forest Products Industry.

There was no change to the Stretch Goals in FY 2013. However, each year a different set of operational strategies was identified to be carried out that year to help move the Division toward achieving each Goal. Innovative budget items for activities related to accomplishing Stretch Goals receive funding priority in Forestry Division’s annual budgets.

FY 2014 saw the addition of a fourth Stretch Goal and its own set of operational strategies:

- Establish a Forestry Division communication strategy.

FY 2015 brought some wording changes to the existing Goals:

- Implement landscape scale management in important areas identified through the Forest Action Plan (Priority Forest Landscapes) and the Comprehensive Conservation Strategy (CCS) process.
- Raise the performance bar of the Forest Products Industry.
- Encourage Missouri landowners to actively care for their woods.
- Increase citizen awareness of the benefits trees provide.

And finally for FY 2016 landscape scale management in priority geographies had been underway long enough, and had established operational procedures in place, that a new Goal could be established to replace the landscape scale management goal from FY ’15:

- Enhance Forestry Division, and the Department’s, efforts to inform the public of the threats associated with forest pests and actively manage invasive plants, insects, and diseases.

While none of the Stretch Goals are copied directly from the National Priorities they, and their annual operational strategies, all do respond directly to the National Priorities.

The remainder of this section will be devoted to highlighting MDC accomplishments from the various program areas that contribute to achieving each of the National Priorities.

## **1. Conserve and Manage Working Forest Landscapes for Multiple Values and Uses.**

### ***Issue Addressed: Use of Prescribed Fire***

The Missouri Department of Conservation has a very active and successful prescribed fire program utilizing prescribed fire for the purpose of fuel reduction, ecosystem restoration, habitat management, and silvicultural practices. On average, MDC staff will conduct 348 prescribed fires, applying fire to 40,552 acres of state lands annually.

Due to continually changing staffing levels and unpredictable weather patterns, MDC prescribed burns are ranked and prioritized annually. This process allows MDC staff to review the burns that will have the greatest impact on our management objectives and if possible, coincide with possible management objectives of partnering agencies and adjoining landowners.

Prescribed fire is just one of several effective land management tools available to our land/resource managers. From our experiences and outcomes that result from our actions on state lands, MDC staff are often able to better assist Missouri private landowners with not just prescribed fire but with other types of land management tools as well.

*Missouri Forest Action Plan Strategy 5.1.1, Strategy 5.3.2, Strategy 5.4.4, Strategy 5.4.5, Strategy 5.5.1*



**FY '11 - FY '15 Prescribed Fire Averages**

Land Type	Average Burn Size	Average # of Burns	Average Acres / Year
Forest (FOR)	49.8	16.4	817
Glade (GLA)	75.2	17.8	1,339
Grassland (GRA)	90.2	128.2	11,562.2
Old Field (OLF)	95.1	72.4	6,888.4
Savanna (SAV)	143.6	19.2	2,757.6
Woodland (WDL)	189	85.4	16,123
Wetland (WET)	121	8.8	1,064.6

***Issue Addressed: Providing Technical Assistance to Landowners***

**Call Before You Cut**

Having no laws regulating timber harvesting, most private land timber sales in Missouri have no forester involvement. High-grading is the norm. In an effort to inform landowners about better forest management Missouri began its Call Before You Cut (CBYC) program, along with five other states, in the Spring of 2009. Advertising was minimal the first couple of years because of uncertainty about the potential response rate. We didn't want to be buried in requests and not be able to service them. Advertising was increased in FY '12 resulting in a ten-fold increase in contacts to 760 landowners who control over 101,000 acres of forest land.

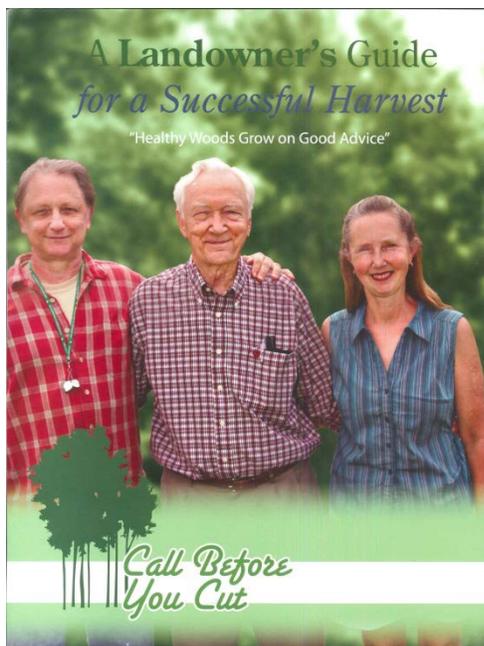
CBYC targets, but is not limited to, landowners who are considering having a timber sale. Landowners contact the program through a toll-free phone number or the CBYC web site and are sent a packet of information containing basic forest management information pertaining mostly to having a successful timber harvest. As of November 2015, 2,450 landowners controlling over 273,000 acres of forest land have contacted Missouri CBYC.

A new aspect has been added to the program in the past year. Landowners who contact CBYC and have at least 40 acres of forested land receive a follow up phone call during which they are offered a free initial site visit from a professional consulting forester. MDC pays the consultant a flat fee plus mileage after a successful site visit. To date, 92 landowners owning over 10,000 acres of forest have taken advantage of a free site visit.

*Call Before You Cut supports all three of the National Priorities and also falls under the following strategies in Missouri's Forest Action Plan:*

*1.1.1, 1.1.2, 1.1.3 – Forest Land Conservation Strategies*

*2.1.1. and 2.1.2 – Technical Assistance Strategies*



*CBYC Packet*

***Issue Addressed: Sustainably, Responsibly Conducted Timber Harvesting***

### **Professional Timber Harvester**

Begun in 1997 as a partnership between MDC and the Missouri Forest Products Association (MFPA), the Professional Timber Harvester training program was the first effort to provide information to loggers to upgrade their forestry skills. Information provided includes:

- Best Management Practices (BMP) to protect water quality
- Silviculture basics for long term forest sustainability and profitability

- Tree falling safety
- Logging operation efficiency

After initial training, each individual is required to submit proof of Continuing Education Unit (CEU) to maintain currency with the program. About 1,000 people have completed the course, and there are currently 512 individuals that are PTH certified.

### **Missouri Master Logger Certification**

Begun in 2008 as a partnership between MDC, MFPA, and the Missouri Logging Council, the Missouri Master Logger Certification program is a more recent effort to enhance logger forestry skills and provide a means to reassure private forest landowners of well-done timber sale.

The Missouri Master Logger Certification is a performance-based certification system affiliated with the American Loggers Council. The Certification demonstrates that the Missouri Master Logger meets the following criteria:

- No violation of any performance standard that, if violated, would lead to considerable sedimentation or degradation of water resources (or imminent degradation).
- A harvest plan/contract was followed.
- No violation of any performance standard that poses an imminent threat to safety of workers.
- Evidence that their Professional Timber Harvester Program continuing education training is current.
- Evidence that the applicant complies with worker's compensation, if applicable, and employment, state, and federal laws.
- Insurance policies are/will be in place for general liability.
- Keeps a written contract or agreement on file, with any and all amendments signed by the landowner.

All Certification criteria are inspected by third-party verifiers, with documentation submitted to a verification board. Master Logger Certification is good for two years, and is renewable after passing a renewal inspection process.

Any complaints received about a Master Logger are investigated by the third-part verifier process, and actions taken when warranted. There has been one certification revoked for violations of performance standards. There are currently 16 Missouri Certified Master Loggers.

*The programs above meet National Priorities and Objectives 1.2, 2.1, 2.2, 3.1, 3.3, 3.4, 3.5, 3.6, and 3.7.*

*The programs above meet State Forest Action Plan Strategies 2.1.1, 2.1.2, 3.1.1, 4.1.1, 4.2.1, 6.1.1, 6.1.2, 6.1.4, 6.4.1, 6.5.1, 6.6.1, 7.4.1, 9.7.1, 10.1.1.*

***Issue Addressed: Forest Health Monitoring***

Missouri's Forest Health Program annually monitors major invasive forest pests, including the gypsy moth, thousand cankers disease and emerald ash borer. Various visual and trap surveys have been conducted in cooperation with other state and federal agencies including the Missouri Department of Agriculture and USDA Animal Plan Health Inspection Service.

An invasive forest pest hotline and website allow the public to report, and MDC foresters to investigate, suspected infestations. These activities help us conserve and manage forest landscapes (Priority 1) and protect forests from harm (Priority 2, Objective 2.2) by enhancing our ability to detect invasive pest introductions before they become widely established. The likelihood of an effective response is greatly increased when invasive pest introductions are detected early.

*Responds to State Forest Action Plan Strategy 7.1.1*

***Issue Addressed: Development of Missouri Forest Management Guidelines***

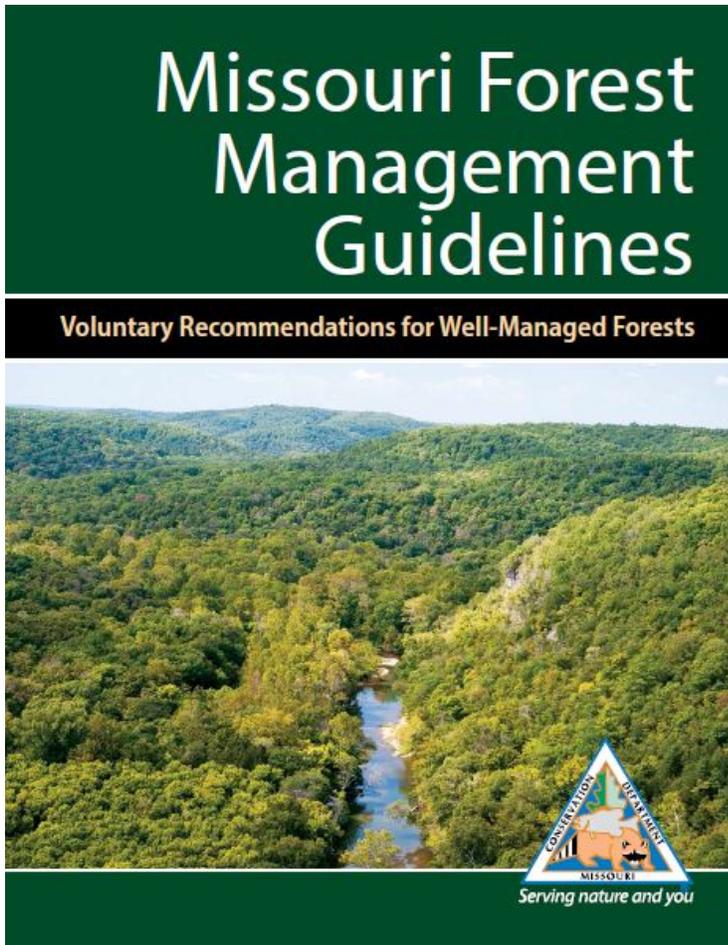
All three National Priorities were met through the development of our new *Missouri Forest Management Guidelines – Voluntary Recommendations for Well-Managed Forest*.

Forests are one of Missouri's most important and valuable resources. Unfortunately, they are often misunderstood, mismanaged or taken for granted. Considering that 84% of Missouri's forest land is owned by private landowners, most of whom have limited knowledge or experience regarding forest management, the need for a set of comprehensive forest management guidelines was recognized. These voluntary Forest Management Guidelines were developed specifically for Missouri with an overall goal of providing guidance that is scientifically sound, socially acceptable, and economically practical. The guidelines are appropriate for forest landowners, forest industry professionals, professional foresters and resource managers. This document provides the tools and techniques for landowners and forest managers to apply to future management of forests and overtime we believe these guidelines will become the accepted best management practices for forest management activities in Missouri.

Missouri's 15.5 million acres of forests provide a wealth of benefits to all Missourians. Missouri's forest products industry contributes approximately \$7.3 billion to Missouri's economy annually; it supports 41,200 jobs and generates \$77 million each year in state sales tax revenue. Missouri's forests provide clean water and air, unique and diverse habitats for a wide variety of birds, terrestrial and aquatic wildlife, as well as scenic beauty. Additionally, each year

thousands of Missourians head out to our forests to participate in countless outdoor recreation pursuits. Unfortunately, Missouri's forests face many threats including existing and emerging insect and disease issues, an ever growing expansion of invasive species, conversion to non-forest uses, mismanagement and no management. These guidelines were developed to assist in maintaining a healthy and sustainable forest resource through the promotion of a thriving forest products industry necessary to manage our forests and ensure that forest values and services including water and air quality, wildlife habitat, outdoor recreation, scenic beauty, and economic opportunities are enhanced and protected for future generations of Missourians.

The development of these guidelines took place over an 18 month period and included the input from five technical teams comprised of scientific professionals in their field of study as well as people working in the forestry profession. All are members of our partner agencies and organizations affiliated with the Missouri Forest Resources Advisory Council. In addition, public input was solicited during a 60 day public comment period. All of the comments were carefully considered by the authors. This is intended to be a living document and will be continually reviewed and revised through time as new scientific information is discovered, new practices developed, new issues emerge, or forest conditions change.



It is our hope that this 230-page set of guidelines will be universally adopted and used throughout Missouri to assist forest managers and woodland owners in meeting their goals and objectives to promote healthy and sustainable forests.

### ***Issue Addressed: Preparing for Certification of State-Owned Forest Lands***

Thoughts of certifying Missouri's state-owned forest land system were first voiced in the late 1990's. A certification "gap analysis" by a professional certification auditor identified several barriers to successful certification. To better understand forest certification requirements and how other states approached and implemented certification, an MDC field forester undertook a two year project to understand the requirements and how they could apply to MDC's particular institutional situation and culture.

Actions have been steadily taken to address the deficiencies identified by the gap analysis. These include:

- A relentless, yet low-key, effort on the part of the State Forester to inform the Department's Administration about forest certification to allay the fears that such a commitment raises.
- A 5-year effort to establish a statewide, 462 plot continuous forest inventory system on MDC forest lands. These are FIA-type plots and the data is being managed by the Northern Forest Experiment Station.
- Development of the aforementioned *Missouri Forest Management Guidelines – Voluntary Recommendations for Well-Managed Forest*.
- Enhancements to the Department's state land timber sale procedures including BMP implementation, development of a best bid system for timber sales, and the addition of pre-harvest sale planning with the logger.
- Development and implementation of a Department-wide state land area planning process with a public input procedure, for all Department areas.
- Requirement of Professional Timber Harvester training for loggers working on state lands.
- Recent permanent reclassification of an FTE to a Certification Manager.

This activity recently culminated in action by the Missouri Conservation Commission approval to move ahead with forest certification on Department lands.

### ***Issue Addressed: Joplin Tornado Tree Resource Recovery***

#### **Joplin Tornado Assistance (FAP 8.2.2, 8.1.2)**

After the destructive EF-5 tornado that tore through the communities of Joplin and Duquesne in May 2011, MDC secured special funding from the U.S. Forest Service to help both towns address tree issues. Part of the funding from this grant was used to hire an hourly employee to serve as a Tree Recovery Coordinator to work with both communities, citizens, and volunteer groups. In FY13, the Coordinator worked with the City of Joplin facilitating the planting of more than 10,758 trees,

enabling the distribution of hundreds more trees to homeowners, coordinated the work of over 3,500 volunteers providing 21,000 hours of assistance, provided input on revisions to various city ordinances that impact trees, and coordinated numerous offers of financial totaling over \$160,000 for tree restoration. An additional 5,000 trees have been planted since 2013.

Financial assistance was provided to Forest ReLeaf of Missouri allowing them to expand production in their tree nursery to provide thousands of trees to Joplin and Duquesne in FY13. Funding through the Tree Resource Improvement and Maintenance cost share program was provided to the city of Joplin for educational efforts and to the Joplin R-VIII School District for pruning education and planting.



## 2. Protect Forests From Threats.

### *Issue Addressed: Wildfire Suppression*

Not only does MDC has an active prescribed fire program, we also have a very active wildfire suppression program which includes MDC staff and a strong cooperating relationship with the rural fire departments located throughout the state. In order to conduct the number of successful prescribed fires and to be able to provide the citizens of Missouri with quick, effective and safe wildfire suppression resources, MDC maintains a strong commitment to provide its own staff and rural fire department members the training they need to perform these prescribed fire activities and wildfire suppression duties.

To ensure staff are trained and capable of conducting safe, effective prescribed burns and are able to respond as an initial attack resource on wildfire, appropriate training must be offered. Level 1 is our entry level fire training coursework. Through FY 15, it was offered 10 times for 125 students. Level 2 is our Incident Command level training. Through FY 15, it was offered on three occasions for 48 students. Level 3 is our Burn Boss course. It was offered twice through FY 15 for 35 students. Other trainings included 11 work capacity test and annual fireline safety refreshers, and two chainsaw safety classes. MDC provided 10 personnel to assist with instruction at the 2015 Midwest Wildfire Training Academy and 81 Department staff attended courses.

The Level 1 course work is also offered to rural fire department members. Through FY 15, it was offered on 11 separate occasions reaching 301 fire department members.

### *Missouri Forest Action Plan Strategy 5.4.5*



*Elk Pen Fire, Summer 2012, Missouri*



*Reynolds County, Missouri, March 2012*

## ***Issue Addressed: Private Land Stewardship in the Current River Watershed***

The Current River watershed, home to the Ozark National Scenic Riverways, has been the focus of two recent efforts to communicate the value of forest management to private landowners. The hoped for result from increased levels of private land management is protection and enhancement of water quality in tributaries of the Current River, and then in the Current River itself. A cold, clear Ozark river fed primarily by springs, the Current provides important wildlife habitat, and recreational opportunities.

The first project is a U.S. Forest Service grant funded in 2013. This grant consisted of several goals ranging from outreach materials, landowner contacts to field days and technical assistance. These activities benefited two Forestry Division stretch goals including engaging landowners and raising the bar of the forest products industry.

The Conservancy worked with many partners including the Missouri Department of Conservation. Department staff including Foresters and Private Land Conservationists, along with the Private Land Program Manager assisted with developing outreach strategies including direct mail and information on using Call Before You Cut. The Conservancy coordinated with the Missouri Forest Products Association (MFPA) to obtain approval to offer the workshops as continuing education credit for the Professional Timber Harvesters certification.

During 2014, the Conservancy completed the following activities:

- Drafted an outreach strategy in cooperation with private land and forestry staff from MDC
- Developed a prioritization of landowners in the targeted sub-watersheds of Big Barren, Blair, Chilton, Leatherwood, Rocky, Rogers, and Thorny Creek watersheds
- Directly mailed 127 woodland owners in sub watersheds of the current river watershed
- Organized a workshop series for landowners and loggers
- Initiated discussions with several landowners about forest management plans and/or easements

In June of 2015, a timber sale field tour was held for landowners and loggers. The event was a great success with 24 landowners and loggers in attendance. Presenters included MDC staff who discussed the timber sale on Rocky Creek Conservation Area. Discussion included even and uneven-aged management, best management practices, habitat benefits for wildlife, and benefits of working with a professional forester.

The second project is part of the Chiefs' Joint Landscape Restoration Partnership between the Forest Service and NRCS. The Missouri Ozark Highlands Restoration Partnership: Freshwater Conservation and Woodland Management Project includes many partners: NRCS, Mark Twain

National Forest, Missouri Department of Conservation, Ozark National Scenic Riverways, Missouri DNR, Missouri Forest Products Association, National Wild Turkey Federation (NWTf), Ozark Regional Land Trust, Quality Deer Management Association, Leo A. Drey Foundation, and The Nature Conservancy (TNC).

The three-year, \$2.3 million project seeks to expand resource management with willing landowners to implement conservation practices for wildlife, water quality, and woodland health.

Priority resource concerns to address include Degraded Plant Condition, Water Quality Degradation, Fish and Wildlife- Inadequate Habitat, and Soil Erosion. The following at-risk species and habitats are expected to benefit from practices to restore woodlands and improve freshwater resources, thus providing potential regulatory certainty to landowners:

- Endangered species including the Ozark hellbender, Indiana and other bat species, and freshwater mussels
- Glade species
- Shortleaf pine habitats
- Bottomland forest habitat

Mark Twain National Forest project goals include leveraging the benefits of the existing CFLR project across the broader landscape through collaborative integrated actions that will restore the Current River and other high priority watershed's aquatic and terrestrial habitats to benefit rare ecosystems and improve water quality across multiple ownerships. All of the proposed activities have cleared the National Environmental Policy Act process in various Environmental Assessments with one remaining decision scheduled to be through the objection process by January 2015.

This project will provide a safer environment, improve water quality, and enhance habitat conditions in a sustainable forested environment for the communities within the project area. The resource management activities will also support local rural economies by providing jobs for loggers, mills, field contractors, consulting foresters, and seasonal technicians. Clean water and healthy forests will continue to support outdoor tourism activities.

These two projects address multiple FAP goals.

### ***Issue Addressed: Improved Timber Sale Bid Procedures***

The Forest products program has assisted in the development and implementation of the MDC best bid system for timber sales. The best bid system awards points based on price (75%), participation in both the PTH and MLC programs and use of performance bond (25%). The

system allows a Master Logger using a fully PTH trained crew to pay less for the timber than a competitor without those qualifications, and still be able to have the bid awarded to them.

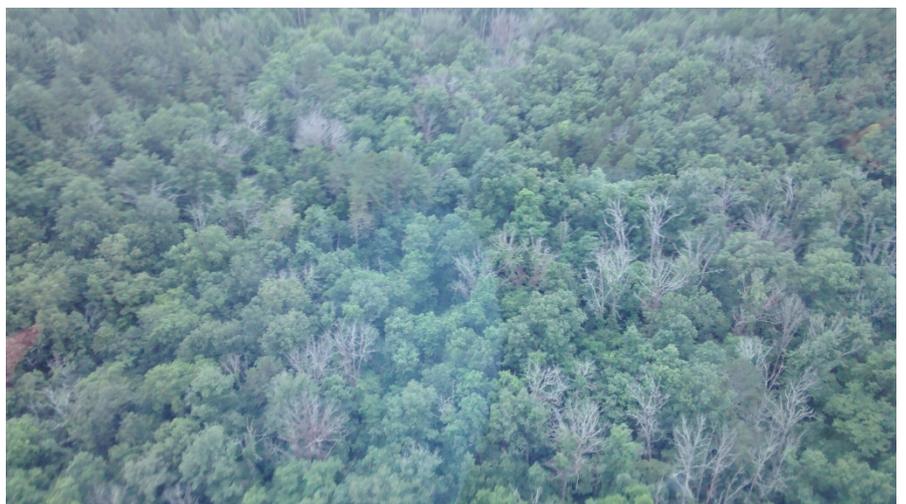
*The program above meets National Priorities and Objectives 1.2, 2.1, 2.2, 3.1, 3.3, 3.4, 3.5, 3.6, and 3.7.*

*The program above meets State Forest Action Plan Strategies 1.2.1, 2.1.1, 2.1.2, 3.1.1, 4.1.1, 4.2.1, 6.1.1, 6.1.2, 6.1.4, 6.4.1, 6.5.1, 6.6.1, 7.4.1, 9.7.1, 10.1.1.*

### ***Issue Addressed: Missouri Invasive Forest Pest Plan***

Monitoring and managing threats to Missouri forests (Priority 2, Objective 2.2) is a primary focus of MDC's Forest Health Program. The majority of forest health staff effort has involved monitoring invasive forest pests and providing outreach concerning those threats, as described under Priorities 1 and 3, respectively.

Two additional forest health accomplishments are worth noting under Priority 2. Forest Health Program staff provided leadership in strategic planning efforts to prepare Missouri's responses to pest threats. Cooperating with other state and federal agencies within the Missouri Invasive Forest Pest Council, an overarching response plan (Missouri Invasive Forest Pest Plan) and Missouri's Thousand Cankers Disease Action Plan were completed. Additionally, Forest Health staff collaborated with University of Missouri and Forest Service researchers in investigations of the causes of Rapid White Oak Mortality. Research results will hopefully provide answers that improve management of Missouri's white oaks.



*Rapid White Oak Mortality*

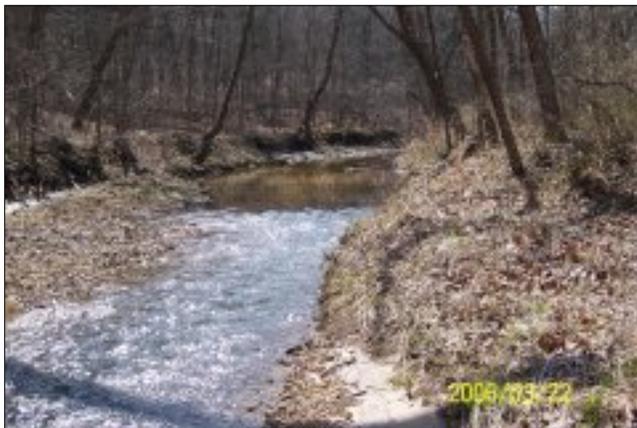
## ***Issue Addressed: Completed Forest Legacy Projects***

Missouri has completed two Forest Legacy Program projects. Both are located in the LaBarque Creek watershed in exurban St. Louis. LaBarque Creek contains very high quality stream habitat. The first completed project protected over a half mile of both banks of the creek. A fee purchase, this 154-acre tract became an addition to Young Conservation Area.

The second project protects 429 acres of upland habitat just upslope from LaBarque Creek. Another fee purchase, this tract is now known as the Myron & Sonya Glassberg Family Conservation Area. It is managed primarily as a recreation area and receives heavy use. Attractions include a newly renovated fishing lake, a hiking trail, and a scenic overlook from a bluff above the Meramec River valley.

The LaBarque Creek watershed is located 10 miles from downtown St. Louis, and is highly threatened by development. These projects have made a significant impact on the conservation and preservation of this important natural resource, and have made these lands available as a recreation resource for the citizens of Missouri.

*These projects respond to Missouri Forest Action Plan Strategy 9.5.1*



*LaBarque Creek*



*Scenic Overlook*



### 3. Enhance Public Benefits from Trees and Forests

#### *Issue Addressed: Volunteer Fire Department Assistance*

The Volunteer Fire Assistance program will be used to provide wildfire suppression equipment, communications equipment and personal protective equipment to the volunteer fire departments throughout the state through a VFA 50/50 matching grant program. Eligible fire departments in Missouri total approximately 800 in number. Grant funds will be given to requests for dry hydrant hardware, wildland fire personal protective equipment (PPE), communications equipment, small wildland fire suppression equipment and wildland fire gear used to equip FEPP and FFP brush trucks.

- Emphasize building community fire suppression capacity for communities at greatest risk from wildland fire, and provide funding for essential training and equipment.
- Assist rural fire departments by providing local leadership in the area of firefighter safety and the purchase wildland fire resistant protective clothing;
- Projects in the acquisition and conversion of Federal Excess Personal Property (FEPP) and Fire Fighter Property (FFP) vehicles to firefighting apparatus.
- Installation of dry fire hydrants to improve water supplies for fire suppression in rural areas

Through the Volunteer Fire Assistance funding, received from the US Forest Service and additional funding from MDC, we are able to provide an average of 172 fire departments a grant award ranging from a minimum of \$500.00 up to a maximum of \$4,000.00 reimbursement. Over the past 5 years we have been able to award an average of \$391,467 to rural Missouri fire departments.

#### *Missouri Forest Action Plan Strategy 5.2.1*



## ***Issue Addressed: Landowner-Led Habitat Cooperatives***

MDC staff from Private Land Services and Forestry Divisions have assisted in the formation of, and serve as technical advisors for, habitat coops located around the state. There are currently 29 coops. The focus of the coops varies from deer (13), to quail (7), to all wildlife (6), with one each prairie restoration, wetland, and woodland habitat thrown into the mix for good measure. The level of participation and intensity of the participants varies across the state. One of the longest running coops, over 10 years, is very passionate about deer population management – to the point that they keep very detailed records of animals harvested, game camera counts, etc.

Using landowner's interests as a way to start a conversation about habitat management has shown itself to be effective. If a landowner is interested in deer hunting it doesn't take long to start talking about habitat management, and before you know it you're talking about forest management with someone who likely wouldn't have been interested if they were approached initially about forest management.

None of these coops are legal entities. They are just groups of closely located landowners who have a common interest. Several of them share labor to accomplish projects on each other's land. MDC has used grants from NGOs such as the Wild Turkey Federation to purchase equipment to be used by members of the coop.



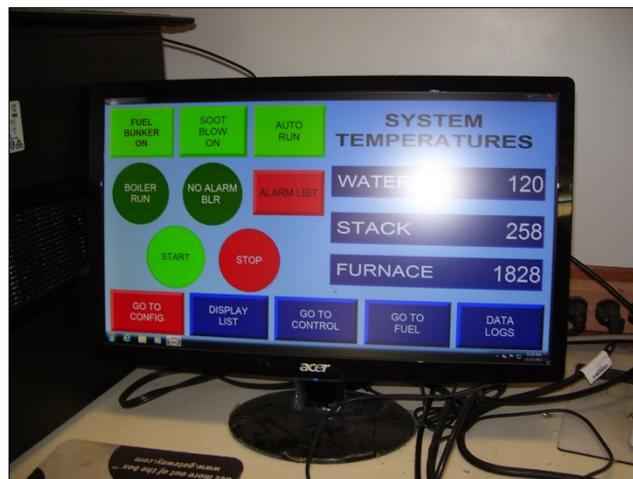
*MDC Staff with Landowner Prescribed Burn Crew*

## ***Issue Addressed: Fuels for Schools***

The Fuels for Schools program enabled six school districts in rural Missouri counties to install biomass boiler heating systems. This allowed the schools to save money and move from a non-sustainable fuel to sustainable wood biomass fuels.

*The program above meets National Priorities and Objectives 1.2, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7.*

*The program above meets State Forest Action Plan Strategies 3.1.1, 6.1.4, 6.6.1, 7.4.1, 10.1.1.*



### ***Issue Addressed: Forest Health Outreach***

MDC foresters and forest health staff provided outreach to communities, arborists, others in the green industry, and the general public about monitoring and managing both native and exotic forest pests. Information was presented through workshops, written material, websites and news media. Particular emphases were placed on detecting and preparing for the arrival of invasive pests and reducing the risk of their introduction by reducing firewood movement.

Management tools were developed such as “Forest Health Alerts” and an “Emerald Ash Borer Management Guide for Missouri Homeowners”. These activities enhance public benefits from trees and forests (Priority 3, Objective 3.3) and contribute directly to protecting forests from threats (Priority 2, Objective 2.2).

### ***Issue Addressed: Community Tree Resource Improvement & Maintenance***

**Tree Resource Improvement and Maintenance cost share** (FAP 8.1.1, 8.1.2,8.2.1, 8.2.2, 8.3.1, and 8.7.1)

Since MDC FY11 the Missouri Department of Conservation has funded 182 grants providing \$1.6 million in dollars to Missouri communities of all sizes across the state. These funds assisted with the long term care of community forests. This investment was matched with \$1.3 million in local dollars. These funds were used primarily to complete tree inventory projects, plant trees, education Missourians about trees and their benefits and complete tree pruning and removal.

<b>MDC Fiscal Year</b>	<b>Number of Grants Awarded</b>	<b>MDC Investment</b>	<b>Local Match</b>
FY11	30	\$206,386	\$194,059
FY12	37	\$271,386	\$233,973
FY13	36	\$304,104	\$322,637
FY14	31	\$324,487	\$231,631
FY15	48	\$496,003	\$362,965
<b>Total</b>	182	\$1,602,366	\$1,345,265

## ***Issue Addressed: Trees Work Campaign***

In state fiscal year 2013, Missouri’s forestry division launched a new promotional and educational campaign called Trees Work. The campaign was designed to increase communication and outreach efforts with Missourians to help them better understand the benefits that trees, woodlands, and forests provide. Materials focused on how trees work for your wallet, your health, your family, your community, our environment, and our economy.

Over the last three years, the Trees Work campaign has received state and national recognition for the campaign and additional outreach, which has included a dedicated website, public service announcements, event sponsorship and participation, and other activities. In FY14, the division obtained a USFS grant to broaden outreach efforts in the Trees Work campaign. In FY15, a statewide survey showed a 13 percent increase in Trees Work messaging awareness. Trees Work is now a core component of all of the division’s communication efforts.

*Trees Work supports the National Priority of “Enhance Public Benefits from Trees and Forests.” It also falls under the following strategies in Missouri’s Forest Action Plan:*

*2.4.1 – Public Awareness Strategies (for private forest landowners)*

*3.2.1 – Climate Change Mitigation Strategies*

*6.1.3 – Forest Product Market Strategies*

*8.1.1 – Public Awareness Strategies (quality of life and sustainability in cities)*

*11.5.1 – Communications Strategies (logistical framework for sustainability)*

### **Trees Work Posters**

“Without Trees. . .” posters, which have been displayed in hundreds of businesses, churches, libraries, and public areas in Missouri. The posters cleverly demonstrate how trees connect our lives every day. And they are a great example of the 42,500 Missouri jobs created through the forest industry, as they are handcrafted by Firecracker Press in St. Louis. The artists there use woodblocks made from Missouri cherry trees, recycled ink, and locally-made paper – some made with recycle t-shirts. Each poster is carefully hand-printed and perfectly captures the look and feel of how trees work.



WITHOUT TREES...  
HAMMOCKS WOULD JUST BE  
BLANKETS ON THE GROUND.

FIND OUT HOW TREES REDUCE STRESS - [www.TREESWORK.org](http://www.TREESWORK.org) trees work

WITHOUT TREES...  
2x4s WOULD BE 0x0s.

FIND OUT WHAT MISSOURI TREES MAKE - [www.TREESWORK.org](http://www.TREESWORK.org) trees work

WITHOUT TREES...  
HIDE AND SEEK WOULD JUST BE  
SEEK.

FIND OUT HOW TREES WORK FOR YOUR FAMILY - [www.TREESWORK.org](http://www.TREESWORK.org) trees work

WITHOUT TREES...  
WE'D BE UP A CREEK  
WITHOUT A PADDLE.

FIND OUT HOW TREES PROTECT OUR WATER - [www.TREESWORK.org](http://www.TREESWORK.org) trees work

## Radio Public Service Announcements

Actor John Goodman (a fellow Missourian) recorded six public service announcements in FY 15 about how our trees and forests benefit our daily lives. John's ads and others can be heard at <http://mdc.mo.gov/discover-nature/trees-work/promotional-materials-and-events/audio>.



## ***Issue Addressed: State Forest Nursery***

The George O. White State Nursery has distributed approximately 15 million low cost seedlings from 2011 through 2015 (5 years). Of those, 79,000 seedlings went towards Stream Team projects, 487,000 to 4<sup>th</sup> graders for Arbor Day, and 850,000 for Department plantings.

The Forest ReLeaf growing out station in Saint Louis, Missouri received 75,000 seedlings over this period to distribute to Joplin after the tornado and to other public agencies throughout the state. The impact of distributing seedlings goes beyond the state borders as our out of state customers ordered approximately 885,000 seedlings.

The nursery, on an annual basis, makes available approximately 65 species of trees and shrubs. This is one of the most diverse selections of bare-root seedlings available from a state nursery. Seedlings are available at low cost to Missourians in bundles of as few as 10 trees.



# **State Forest Action Plan Review**

## **Implementation Highlights**

### **1. Conserve and Manage Working Forest Landscapes for Multiple Values and Uses**

#### **Fire:**

1. MDC partners with the US Forest Service, US Park Service, TNC and other interest groups to work to prioritize prescribed burns in areas where lands adjoin.
2. Actively use prescribed fire for the purpose of fuel reduction, ecosystem restoration, habitat management, and silvicultural practices.
3. At the same time, we work hard to suppress and limit fires in areas of high quality forest stands with the intension of producing quality timber products.

#### **Private Land:**

1. An excellent working relationship with NRCS which has been nurtured over the years has resulted in a continuing dedicated EQIP funding pool as well as several special initiatives.

#### **Forest Products:**

1. The Forest Products program has continued funding support for implementation of the Professional Timber Harvester training program.
2. The Forest Products program has continued funding support for implementation of the Missouri Master Logger Certification program.

#### **Forest Health:**

1. Monitored major invasive forest pests (gypsy moth, thousand cankers disease, emerald ash borer) in cooperation with state and federal partners (Objectives 1.2 and 2.2).

## **State Land:**

1. Salvaged over 32 million board feet of timber from over 4500 acres of state forest lands that were destroyed by a derecho and the tornadoes associated with it on May 8, 2009. The salvage operation took approximately two years to complete.
2. Developed the Missouri Forest Management Guidelines, and a companion pocket reference guide.
3. Completed the the installation of 462 Continuous Forest Inventory plots.
4. Completed the second harvest cycle on the Missouri Ozark Forest Ecosystem Project (MOFEP). MOFEP is a 100+ year research project that examines the effects of forest management on many aspects of the forest ecosystem. The project was started in 1990.
5. Piloted and then implemented state-wide the Best Bid timbers sale bidding system.
6. Continue to implement ongoing state land forest inventory cycle.
7. Implemented over 265,000 acres of forest management over the last 5 years.

## **Community Forestry:**

1. Tree planting is funded through the Tree Resources Improvement and Maintenance grant. All planting projects are evaluated to be sure that the right trees for the planting location is selected and that a diversity of trees is planted.
2. Through TRIM enabled 100+ communities to complete tree inventory projects which gathered data in publicly owned trees allowing municipalities to assess their community forest.
3. Partnered with Forest ReLeaf of Missouri to complete a canopy assessment of parts of the St. Louis Metro area.

## **2. Protect Forests From Threats**

### **Fire:**

1. MDC partners with the US Forest Service, US Park Service, TNC and other interest groups to work to prioritize prescribed burns in areas where lands adjoin.

2. Have improved our network of fire weather stations. There are 12 stations owned and maintained by MDC. All of which are now linked via satellite to all fire agency personnel within Missouri.
3. Offer a Volunteer Fire Assistance Grant opportunity for Rural Missouri fire departments. Funds are awarded for projects such as dry hydrant hardware, wildland fire personal protective equipment (PPE), communications equipment, small wildland fire suppression equipment and wildland fire gear used to equip FEPP and FFP brush trucks.
4. MDC is very active in the Federal Excess Personal Property (FEPP) and Fire Fighter Property (FFP) programs. These programs are able to provide Missouri fire departments with equipment such as vehicles and other emergency response equipment that the VFA grant is not designed for.

### **Private Land:**

1. Working in the various Department-designated priority geographies is allowing staff to learn new skills in dealing with private landowners, and will help us begin to tackle, however slowly, some very thorny long-term issues with private land management – most of which are related to agriculture where folks are making a living.
2. Having a TELE workshop here in Missouri has been a help to staff working in priority geographies. They have begun to employ some of the concepts taught in that training.

### **Forest Products:**

1. A NRCS Conservation Innovation Grant was used to initiate a BMP cost share program that paid both the landowner and logger for installing timber sale BMPs .

### **Forest Health:**

1. Maintained forest insect and disease diagnostic lab (Objective 2.2).
2. Developed and implemented invasive forest pest response plans (Missouri Invasive Forest Pest Plan and Thousand Cankers Disease Action Plan) in cooperation with state and federal partners (Objective 2.2).
3. Collaborated with university and Forest Service researchers to investigate causes of rapid white oak mortality (Objective 2.2).
4. Developed a task force to address invasive pest concerns in firewood and developed firewood policy recommendations for state and federal land managers and regulators (Objectives 1.2 and 2.2).

### **State Land:**

1. Completed two Forest Legacy projects totalling 583 acres in the St. Louis area. These projects are detailed elsewhere in this report.

2. Completion of a 6-year timber harvesting study covering nine counties in the Ozarks where much of Missouri's forest industry is located, has helped us better understand the dynamics of private land timber harvesting in that area.

### **3. Enhance Public Benefits from Trees and Forests**

#### **Fire:**

1. Assist communities with the development of Community Wildfire Prevention Plans.
2. Promote and sponsor communities in the Firewise Communities / USA program.
3. Provide fire department with grant funding to assist with training and equipment purchases which will improve wildfire response capabilities.
4. MDC has begun to pay more attention to the impact of several fire burning within close proximity of each other. There are several agencies with active prescribed fire programs and would often burn on the same days resulting in large amount of residual smoke in communities throughout the nights.
5. Continue to promote the Wildfire Safety Message and public awareness of the dangers of wildfire. Utilize Smokey Bear to promote and spread this message.

#### **Private Land:**

1. Continued funding and a positive, long-term vision in the Department for Call Before You Cut is enabling us to continue advertising to contact more landowners. Some of our contacts are indicating that they heard about CBYC from a friend – this is great that the peer-to-peer communication is beginning to happen.
2. The Forest and Woodland Association of Missouri is working through the growing pains that all new organizations go through. FWAM will provide a needed voice for forests in the state.

#### **Forest Products:**

1. Since 2007, every year each of MDC's eight administrative regions names a Logger of the Year based on several criteria including:
  - a. Good working relationships with landowners and foresters.
  - b. Minimal damage to remaining trees and resources.
  - c. Prevention of soil erosion.
  - d. Site aesthetics after harvesting.
  - e. Safe work performance and use of equipment.

- f. Good utilization of harvested trees.
- g. Wildlife management concerns.
- h. Use of proper forest management techniques.

A state winner is then named from among the Regional winners. All winners must have completed the Professional Timber Harvester training program.

Naming and publicizing Regional winners provides landowners with a group of loggers to choose from when managing their lands.

2. Every three years Department foresters visit all the sawmills and other primary timber processors in their counties to conduct the Timber Product Output Survey. The survey gives foresters a chance for more interaction with the forest products in their area as well as collecting valuable information. This information is then used to publish a Primary Wood Processors directory.

### **Forest Health:**

1. Developed numerous outreach products (e.g., brochures, exhibits, posters, FAQ sheets) to educate about invasive forest pests and the risk of their introduction through firewood movement (Objectives 2.2 and 3.3).
2. Developed outreach products (e.g., “Forest Health Alerts”, “Emerald Ash Borer Management Guide for Missouri Homeowners”) to provide forest health management tools for foresters and general public (Objectives 2.2 and 3.3).

### **State Land:**

1. Implemented a Department-wide state land area planning process with public input as a significant component.
2. Continue to work with various user groups who recreate on the lands we hold in public trust for the citizens of Missouri. Equestrian groups are one of our most demanding publics.

### **Community Forestry:**

1. Through the Missouri Arbor Award of Excellence in each of the five years recognized municipalities, individuals, businesses, and nonprofit organizations for outstanding community forestry work.
2. Participating in a multi-state US Forest Service Landscape Scale Restoration Grant designed to increase utilization of urban wood. MDC FY15 is year one of this grant.

3. Hired a Community Forestry Plan contractor for each of the five years helping over 40 communities with the development of a landscape planting plan for a specific geography in each community.
4. Grew the Tree City USA program from 81 to 86 participating communities in 2014.

### **Outreach & Communication:**

1. Adding a permanent Outreach & Communication Program Supervisor to the Central Office staff is already paying big dividends across all program areas.
2. Implementing the Trees Work promotional and educational campaign to help Missourians better understand the benefits that trees, woodlands, and forests provide.

## **Implementation Challenges**

### **Fire:**

1. Each year MDC staff prioritize prescribed burns. And each year, there are usually small windows of opportunity to conduct these burns. If weather is not a limiting factor, the number of staff available to conduct the burns is. Also, in the southern portion of the state, there are several agencies that utilize prescribed fire as a management tool. On days when the weather is right, MDC will often choose not to burn to help reduce the amount of smoke put into the air.
2. MDC continues to promote the development of CWPP's and participation in the Firewise Communities / USA program. Unfortunately, the majority of the fire departments within Missouri are volunteer and they simply don't have the time nor the volunteer man power to carry out and complete this additional work.
3. Many of our resource managers are leaning towards the use of a ring head fire when conducting prescribed burns. This method continues to cause wildfire type burn conditions and the end result is more excessive damage to residual timber stands and more soil exposure. The use of a ring head fire is often due to limiting man power or timing to conduct larger burns.

## **Private Land:**

1. Increasing numbers of small acreage private land tracts. We must develop strategies to get these landowners the kinds of information they need without visiting every one of them.

## **Forest Products:**

1. Implementation challenges for the programs mainly relate to adequate funding and time for training. More PTH classes could be offered but this would require increased funding and personnel to deliver the increased programs. Industry interest remains steady for PTH, and is increasing for Master Logger Certification.
2. A continuing challenge for both programs will be promoting the use of PTH and/or MLC loggers by private landowners and across all industry lands.
3. Implementation challenges have been mainly in the area of getting private landowners and consulting foresters to use the best bid system.
4. Implementation challenges have been in understanding the process and having the expertise to deal with contracts, bids, architects, contractors, etc. Some of the contracts have faced long delays in getting work completed. Adaptations had to be made on the fly to solve implementation problems. USFS technical advice has been invaluable in accomplishing this project.

## **Forest Health:**

1. Key state and federal agencies have a history of excellent cooperation in recent years on matters relating to invasive forest pests. Nevertheless challenges exist in having all agencies participate fully in invasive pest response activities. The Missouri Firewood Task Force developed “Firewood Policy Recommendations to Slow the Introduction of Invasive Forest Pests.” The resulting recommendations have not been implemented largely because one partner agency disagrees with management options supported by all other participating agencies.
2. Another challenge is decreased funding to the University of Missouri that has impacts on extension activities affecting forest health. Reduction in faculty and other staff who could provide outreach and research regarding forest health concerns reduces the state’s ability to respond to increasing threats from invasive forest pests.

## **State Land:**

1. Finding properties that will score well as Forest Legacy projects that are also lands that fit into MDC’s state land acquisition strategies and priorities as fee acquisitions.

2. Bats, and other species with Endangered Species Act (ESA) involvement. We have no staff in the Department who understand and really know how to deal with the ESA.
3. Generally speaking, Missouri is covered by an even-aged forest that resulted from the great timber liquidation that occurred around 1900. This has resulted in a forest that is beginning to decline all at the same time. We can't really keep up with it on state lands. Mortality is increasing significantly year to year, and while we still have net positive growth across the state, it is slowing down.
4. Dealing with the recreation demands of our various user publics is an increasing balancing act with an increasing number of conflicts between the groups.
5. As more and more people recreate on state lands, the area maintenance required to keep areas in a condition that invites public use becomes more and more of a time drain for our staff.

### **Community Forestry:**

1. Vacancies within the agency.
2. Impact of natural disasters like the Joplin tornado, ice storms, and high winds.

### **Outreach & Communication:**

1. Implementation challenges for the Trees Work effort over the past five years have been the same challenges any nonprofit advocacy effort would encounter. Building brand recognition and capturing the attention of the target audiences are the primary challenges, but the surveys show people respond positively to the Trees Work messaging and are recognizing its brand.

## **Implementation Focus**

### **Fire:**

1. Provide staff with information, data and alternatives to a ring head fire. Begin to emphasize the use of alternative ignition patterns to control heat and burn characteristics during prescribed burn activities.

2. Development of CWPP's and involvement in Firewise Communities / USA. As mentioned above, the majority of Missouri's fire departments are volunteer based and have limited members. As a result, most of these fire departments don't have the time nor the man power to develop and emergency response plan (CWPP). Most fire departments are reactionary and simply respond to emergencies as they occur. Figure a way to tie CWPP development and Firewise into another program area in an effort to break into a new audience.

### **Private Land:**

1. Continuing to adjust Call Before You Cut advertising to maximize effectiveness.
2. Developing a strategic approach to small acreage landowners.

### **Forest Products:**

1. The focus for the next five years is to continue growth of both programs. The Department of Conservation requires Professional Timber Harvester training for the on-site supervisor on all Agency timber sales. Preference points are awarded for PTH trained logging crews, as well as Master Logger Certified operators through the use of our best bid system. This system will continue to be promoted to private landowners and private consulting foresters.
2. The focus related to the best bid system for the next five years will be continuing use by MDC on agency timber sales, use on private lands where MDC foresters are involved in sale administration, and continued promotion of the system with private consulting foresters and landowners at large.
3. The focus for Fuels for Schools for the next five years will be in determining the feasibility of continuing the program. This will depend on funding and staff time availability.

### **Forest Health:**

1. A primary focus of Missouri's Forest Health Program for the next five years is the increasing threat from invasive forest insects, diseases and plants. MDC Forestry Division has identified this topic as one of its four "Priority Focus Areas" for FY16 and FY17. Outreach has been a critical component of this effort, and outreach activities need to continue increasing. As one example, the Forest Health staff has begun working with cooperators to develop a First Detectors Program to train volunteers how to detect and report invasive forest pests. More attention will also be directed toward responding to invasive plant concerns. A terrestrial invasive plant strategic plan will be developed and invasive plant priorities identified.

### **State Land:**

1. Over the next five years our focus will be on forest certification. Certification provides the assurances to the citizens of Missouri that we are managing our forest resources so that all can enjoy their environmental, social, and economic benefits.

### **Community Forestry:**

1. Refinement of identification of urban priority areas.

### **Outreach & Communication:**

1. Implementation focus for the next five years: Trees Work is now a core component of all of the division's communication efforts. The forestry division will continue promoting the benefits of trees through various advertising campaigns, outreach efforts, and incorporating those messages into other division communication.

## **Data Needs or New Issues**

### **Fire:**

1. MDC land / resource managers are busy people. Each has their own responsibilities for the areas they manage. They will write burn plans and carry out the burn for a particular burn unit and then more or less are done with that individual burn. The need to follow through with long term monitoring of objectives needs to be injected into the prescribed fire process.

### **Private Land:**

1. Intensified National Woodland Owner Survey sampling that will allow meaningful conclusions to be drawn at the MDC Regional level. Things are changing out there and we need to be able to adjust to those changing ownership conditions, as well as changing landowner attitudes.

### **Forest Health:**

1. The most significant new issues that have arisen in the last five years in the forest health arena are thousand cankers disease (TCD) of walnut and rapid white oak mortality (RWOM). TCD was mentioned only briefly in Missouri's Forest Action Plan, but since then TCD infestations have been found in several locations in the eastern US and much more has been learned about the TCD threat. RWOM was not recognized as a tree health syndrome in Missouri until after the Forest Action Plan was written. Research is underway to provide more answers about causes of RWOM.

### **State Land:**

1. Continuing to understand how to accomplish forest management on state lands that is responsive to the habitat needs of as many different types of wildlife as possible will be a continuing challenge. Bringing an understanding of how forest management is an ongoing process that can create many different types of habitats to our fellow land managers in the Department seems to be an ongoing challenge. More information on the habitat needs of many different types of wildlife, and the optimum spatial arrangement of those habitats will be critical to our land management in the future.

### **Community Forestry:**

1. Better data on urban forest health and composition. To that end we are partnering with the US Forest Service to speed up data gathering in urban FIA plots and expanding the number of cities sampled beginning in FFY17.