

Missouri Forest Resources Advisory Council
Missouri Farm Bureau, Jefferson City, MO
Tuesday, September 11, 2012

“Draft” MEETING MINUTES

Welcome & Self Introductions – Bob Ball, Chairman, welcomed everyone to the meeting and introductions were made. The following were in attendance:

Allen, Lisa – Mo. Dept. of Conservation
Alley, Joe – Mo. Society of American Foresters
Ball, Bob – Mo. Forest & Woodland Association
Becker, Anastasia – Mo. Dept. of Agriculture
Bill, Michael – Mo. Dept. of Conservation
Brown, Mike – USDA/APHIS
Brundage, Scott – The Walnut Council
Brunk, Gene – Mo Community Forestry Council
Burk, John – Nat. Wild Turkey Federation
Chase, Teresa – Mark Twain Nat'l Forest
Coggeshall, Mark – Mo Nut Growers Association
DeWitt, Bob – Mo. Dept. of Conservation
Dorst, Hank – Eastern Ozarks Forestry Council
Dorst, Katie – Mark Twain Forest Watchers
Garrett, Gene – Mo. Center for Agroforestry
Gartner, Justine – Mo. Dept. of Conservation
Guinan, Pat – University of Missouri Extension
Hoffmann, Mike – Mo. Dept. of Conservation
Homfeldt, Tammy – Mo. Forest Products Assoc.

Jones, Shelby – Mo. Consulting Foresters Assoc.
Keyser, Ed – Conservation Federation of Mo.
Kuhn, Nick – Mo. Dept. of Conservation
Lawrence, Rob – Mo. Dept. of Conservation
Lovelace, Wayne – Mo. Nurseryman's Association
Mahfood, Steve – The Nature Conservancy
Murphy, Dave – The Conservation Fed. of Mo
Palm, Harlan – The Walnut Council
Schweiss, Brian – Mo. Dept. of Conservation
Smith, Kelly – Mo. Farm Bureau
Stafford, Tony – Mo. Dept. of Agriculture
Stelzer, Hank – MU Forestry Extension
Stout, Robert – Mo. Dept. of Natural Resources
Thurman, Steven – US Army – Ft. Leonard Wood
Tuttle, John – Mo. Dept. of Conservation
Van Sambeek, Jerry – USFS No. Research Station
Wamsley, Collin – Mo. Dept. of Agriculture
Wright, Simeon – Mo. Dept. of Conservation
Baldwin, Donna – Mo. Dept. of Conservation

Officer Elections and Appointments - Chairman Bob Ball reported that with Steve Jarvis leaving Missouri, we will need to fill the vice chair position in the interim capacity. The nominating committee sought nominations and reported that Kelly Smith has agreed to accept the nomination for the interim Vice Chair. Dave Murphy made a motion to approve Kelly's nomination. Wayne Lovelace seconded the motion; the motion passed. The group thanked Kelly for accepting the nomination.

Bob reported the nominating committee will be looking for nominations for a new slate of officers for 2013, so please let them know if you are interested. Elections will be held at the December meeting.

June Minutes (Review and Approve) – Bob Ball reviewed the June 13, 2012, meeting minutes. Bob asked if anyone had changes to the meeting minutes. Gene Garret made a motion to approve the minutes as written; Gene Brunk seconded the motion. The minutes were approved as written.

Severity and Extent of the Drought in Missouri - Pat Guinan, State Climatologist, University of Missouri, gave a presentation on drought in Missouri. His presentation highlighted the following:

- Annual average precipitation 1895-2011
- US drought monitor for May, July, and August – flash drought (a rapidly developing drought).

- Daily solar radiation for May-July 2012 vs. average at Sanborn Field, Columbia
- Missouri daily short crop evapotranspiration, May-July 2012
- May-August average precipitation
- May-August temperature trends
- January 2008-August 2012 departure from average temps and precipitation
- US drought monitor for September and US seasonal drought outlook
- Precipitation forecast for next few days and Sept-Oct-Nov temperature & precipitation outlooks
- Top 15 driest Mays in Missouri and what happened the following summer.

In summary:

- ✓ An intense, persistent and historic growing season drought affected Missouri in 2012. The combination of above normal temperature, low humidity, numerous sunny days, and lack of precipitation in May and June led to a statewide “flash drought” and rapid onset of impacts, i.e. agriculture.
- ✓ Above normal temperature and below normal precipitation in July and August increased the magnitude and intensity of the drought. Historic climate data for Missouri indicates it was the driest, and warmest, May through August period since 1936.
- ✓ Remnants of Isaac over Labor Day weekend provided significant relief for Missouri, but the drought is far from over. Complete drought elimination for Missouri will take frequent, widespread and significant precipitation events as we progress into the fall season. A significant deficit has accumulated over the past 4-5 months and it will take a substantial amount of water to recharge depleted resources above and below the ground.
- ✓ The 2012 drought resulted in numerous impacts, affecting many sectors in Missouri. However, it is a young drought when compared to the 5-year drought that impacted Missouri in the 1950’s. An important question we all need to consider is how prepared are we when the next 1950’s drought affects the Show Me State?

The group thanked Mr. Guinan for his informative presentation.

Increases in Insect and Disease Issues from Drought Stress – Rob Lawrence, Forest Entomologist, MDC, gave the following presentation:

Drought impacts:

- Trees stressed by drought and other biotic and abiotic agents are susceptible to increased attacks by insects (borers) and diseases (root pathogens).
- Long term issues:
 - Impacts may be delayed 2-10 years or more
 - Examples: April 2007 trees, oak decline

Urban forest

- Drought – July-August 2011
- Borer attacks on ornamentals
- Expect many reports in the next 2-3+ years

Oak Decline – is a complex phenomenon involving interactions of climate, site and stand characteristics, and a variety of biotic and abiotic stressors. Result – gradual decline of tree health and eventual tree death.

Factors influencing oak decline include advanced age, high percentage of red oak, poor site quality, high stocking, drought, repeated defoliation, frost, ice or wind injury, red oak borer, two-lined chestnut borer, other insects, armillaria, and hypoxylon.

Predisposing factors:

- Lumber boom (1880s-1920s)
- Grazing; repeated fires to maintain pastures
- Young black and scarlet oaks. Good competitors on dry sites; pine seedlings not as fire tolerant
- Second growth forest: large black/scarlet oak component on dry sites; even-aged stands; age now 80-100+ years.

Recent oak decline research:

- Multiple studies – different approaches
- Mortality higher for red oaks than white oaks
- Red oak mortality
 - Large portion occurs on drier sites
 - Several studies: site factors not significant
 - Red oaks more abundant on drier sites
 - Red oaks: advance age = more vulnerable to drought effects.
- Drought does play a prominent role!
- Stand density role: some evidence
- Voelker et al. 2008 – greater pre-decline basal area on sites with higher red oak mortality.
- Kabrick et al 2008 – black oak mortality since 1999-2001 drought (MoFEP sites) related to BA of large competitors; scarlet oak mortality related to individual tree size.
- Decline is a long term phenomenon – triggered by drought or other stress event; reduced growth rates may be triggered by drought events and can last for decades; slow-growing trees are more susceptible to early mortality.

Oak Decline and mortality episodes:

- Have occurred sporadically since the 1960s
- Usually following drought events.

Red Oak Borer

- Typically not a mortality factor
- Unprecedented populations (1999-2003)
- Outbreak cause is unclear. Warmer temps? Decreased wood density?
- 2-year life cycle. Emerge in odd-numbered years
- 2011: late summer drought; young larvae
- 2012: late emergence? (June-August)

Predictions:

- Oak decline is a very complex phenomenon. Predictions are difficult
- Increase red oak mortality is likely: one of the most severe droughts on record; even-aged red oak stands are older (cohort senescence)

- Armillaria likely to play a significant role
- Red oak borer: unknown, but population increases

Gypsy Moth trapping

- Hosts – oaks and over 300 other species
- 2011 – 6,024 traps put up in 60 counties
- 2011 – 4 positive traps (1 moth per trap)
- Positive trap history – 1980-2010

Potential Resurgence of Oak Decline – Simeon Wright, Forest Pathologist, MDC, gave the following presentation:

White oak decline and mortality 2011-2012

- Where is it occurring?
- What are the symptoms?
- Factors responsible
- Impacts of weather stress (not just 2012 stress)
- What's next?

White oak decline and mortality reports

- Pockets or random trees
- Other oak species unaffected
 - Different damage patterns - Upland locations, bottomland locations

Oak decline and mortality reports

- Urban and rural locations
- Little evidence prior to early August 2011
- Rapid browning of leaves throughout large sections or entire canopy
- Brown leaves hang in canopy
- Occurs in bottomland sites – lower slopes, north slopes, better sites.
- Hypoxylon canker and armillaria root rot; native borers – contributing factors to decline; not normally primary cause of death; hypoxylon and armillaria fungi associated with health oaks
- Folia damage – insect defoliators; leaf hoppers
- Jumping oak gall – severe white oak infestation 2010; may be a contributing factor in some areas.
- Phytophthora – causes root rots or other diseases; phytophthora cinnamomi associated with white oak fine root death; favored on moist bottomland, lower slopes and heavy soils
- Weather factors – unprecedented wetness 2008-2009; drought conditions summer 2011; spring 07 freeze; freeze injury 2012 in some areas.
- Physiological explanations – favorable moist conditions may alter root to shoot ratio; droughty sites may encourage larger root systems or increase root photosynthate storage; trees frequently exposed to drought may handle drought better than trees in moist areas
- Research – evaluate phytophthora root rot; evaluate insects and fungi they carry; assess tree growth rate; look for other diseases/fungi.

Forestry Division Stretch Goals – Lisa Allen, State Forester, MDC, gave a presentation. She noted our Director was looking for what will we accomplish in 36

months. Problem for forestry – trees don't grow in that amount of time. Really, these are long term goals – broad issue themes.

1. Implement the statewide Forest Action Plan (Emerging Issues/FAP Program).

Two years of effort were invested in developing this plan. In FY13, as we begin our second year of implementation, we will address the following areas:

- Proactively support the Focus Area Review to identify key conservation landscapes in each region. This includes ensuring that elements are in place in focus areas that will lead to success. Examples include a project manager, a project team comprised of appropriate MDC staff and partners, a plan for the project, support for resource analysis, understanding what success looks like, and commitment to monitoring to determine effectiveness of the project.
- Explore and flesh out the concept of Urban Forest Opportunity Areas. Key questions to answer include: What do these look like? Which MDC staff should be involved? How do we define boundaries? What are the likely sorts of activities and potential partners? Completion of an urban forester workload analysis in late FY12 or early FY13 will assist in this effort.
- Continue development of statewide and local partnerships to facilitate strategy implementation. In FY12 we supported several U.S.D.A. Forest Service competitive grant applications in priority geographies and launched the Forest and Woodland Association of Missouri. We will continue these efforts in FY13 as well as exploring other avenues to partner with key groups.
- Provide staff training in the skills necessary for successful FAP implementation

2. Engaging Missouri landowners to actively care for their woods (Private Land Program). Provide support to advance several initiatives that are new, or recently launched, which target Missouri's forest landowners. Efforts in FY13 will address three key areas.

- Encourage participation in programs like the Forest & Woodland Association of Missouri, Heritage Woods, or the American Tree Farm® program.
- Raise public awareness of the value of Missouri's woods through targeted market research, the development of a marketing plan, and financial support to implement plan recommendations.
- Support outreach efforts like *Call Before You Cut*, landowner field days, and use of the *Green Horizon* newsletter.

3. Raise the performance bar of the Forest Products Industry (Forest Products Program). Because loggers are involved in all timber sales, they have a tremendous impact on the forest resource of the state. In FY13 we will:

- Propose a Monitoring and Evaluation project to determine the effectiveness of the *Professional Timber Harvester (PTH)* program which

will include a hard look at implementation of Best Management Practices on private land).

- Implement the new state land bid procedures which allows us to select the highest and best bid on state land timber sales. This new process awards points to bidders who use *PTH* trained loggers and are a *Missouri Master Logger*, and have had satisfactory performance in the past.
- Explore the concept of branding Missouri forest products. This project will require close work with partners and should result in a tool to elevate the value of Missouri grown and manufactured wood products.
- Support the Missouri Forest Products *Missouri Master Logger Certification* program to encourage greater participation from across the state. We will continue to work with other agencies and partners to encourage the use of trained loggers and will direct field staff to clearly identify for the public which loggers have which qualifications. A greater effort will be made to publicize this program and its participants.
- Complete the Timber Product Output survey in the spring of 2013 for the harvest year 2012.

4. **Establish a Forestry Division Communication Strategy (Community Forestry/Communications Program).** This will include an overall Division strategy and will cross all Forestry Division's program areas.

- We will develop a Communication Plan that will establish an overall Division communication strategy and also address key issues in each program area.
- The plan will dovetail with Department communications and branding efforts but focus on key Forestry programs and messages.
- We will engage other Divisions and Forestry partners in the implementation of the plan.

Emerald Ash Borer Detections & Thousand Cankers Disease Summary – Collin Wamsley, State Entomologist, MDA; Mike Brown, USDA-APHIS/Rob Lawrence, Forest Entomologist, MDC, all gave a presentation.

Emerald Ash Borer

- History – EAB discovered feeding on ash trees in southeastern Michigan and adjacent area in Canada in 2002. Thought to have been introduced to North America 8-15 years prior.
- Native to Asia; likely hitchhiked to US on wooden packing material, crates, or pallets. Attacks only ash in North America (all ash).
- Biology – wood-boring beetle; complete metamorphosis (egg, larva, pupa, adult); life cycle is typically one generation per year. Host – only ash in North America;
- Bio-control: parasitoid release history 2007-2011. Parasitic wasps are much smaller than EAB. Some states are trying controlled releases of the wasp to monitor their effect on EAB.
- 2012 detections – Platte, Reynolds, and Madison counties. Also Wyandotte County in Kansas. Doing delimit surveys in Platte, grid surveys in western Clay

and northern Jackson counties. Targeted survey in Jackson. Delimit survey methods are visual and “destructive sampling”.

- Quarantine – 1) to prevent the artificial movement of the pest to areas beyond its current distribution 2) people can move the pest further in a vacation weekend than it would naturally move in decades 3) preventing artificial spread gives science a chance to catch up. August 2012 federal quarantine areas are Wayne, Reynolds, Iron, Madison, Shannon, and Carter.
- What is regulated? Entire ash trees, ash limbs and branches, ash logs and lumber, ash chips or other ash products, all hardwood firewood (non-coniferous), and any article presenting risk of spread.
- Compliance Agreements – agreements between business/individual and state/federal regulatory agency (USDA/MDA); described requirement for handling regulated articles to reduce risk of spread; treatment requirements are dependent on type of operation (tree trimmer, mill, firewood, logger, mulch/yard waste, etc.; properly treated material can move, with permit/certificate/compliance agreement.
- Update on the outreach coordinator position, federal EAB budget, MDA’s outreach budget cut about 60%. Next year unlikely they will receive any funding. USDA MDA budget went from \$37MM to \$4.5MM.
- Media – radio ads purchased through fall 2013. Several remaining billboards. Seasonal magazine ads. All are branded with the EAB logo and website.
- St. Louis Cardinals game – had 55 in-game 30 second ads on Cardinals Radio Network, scoreboard slide, 1 pre-game interview, ceremonial first pitch. Option on playoff game radio ads.
- Goals of outreach – have as many knowledgeable people as possible looking for and reporting new infestations, communicate risk of moving firewood. Targets: arborists, municipalities, forest products industry, nursery industry, outdoor enthusiasts such as campers and hunters.
- EAB workshops – approximately 200 people attended KC workshop on August 28, geared toward arborists and industry. Upcoming workshops in St. Louis and Kansas City will be geared toward municipalities.
- Direct mailings – residents and “absentee landowners” in Carter, Iron, Madison, Reynolds, and Shannon counties. Targeted industry groups in Kansas City.

Thousand Cankers Disease Update

- States known to have thousand cankers disease as of September 1, 2011 (Washington, Oregon, California, Nevada, Idaho, Utah, Arizona, Colorado, New Mexico, Pennsylvania, Virginia, and Tennessee.)
- States with TCD regulations as of September 1, 2011 (Minnesota, Nebraska, Kansas, Oklahoma, Missouri, Illinois, Indiana, Michigan, Tennessee, North Carolina, Virginia, and Pennsylvania.)
- Walnut twig beetle pheromone – a new tool for TCD survey (traps)
- TCD trapping in Missouri 2012 – 62 traps located statewide. Approximately 257 visual survey sites.

- Plans are being made for next year. Will be meeting with MDC soon to evaluate this year. MDA receiving USDA funding next year for trapping and visual survey. Coupled with state funding, we hope to put 4 surveyors in the field next year.
- Outreach materials – brochure, guidesheet, and pocket cards.

Harlan Palm complimented MDC, MDA, APHIS, etc., on leading the way. He noted he is glad to hear of survey and monitoring, but asked what is MoFRAC's action plan when TCD is found? How can we help? Gene Garrett suggested this be addressed by the blue ribbon panel. Gene invited Harlan to attend their next meeting on October 3rd in Ashland – he invited Simeon and Collin.

Updates from Mark Twain National Forest – Teresa Chase, Acting Forest Supervisor, gave the following updates (year in review):

- Dave Whittekiend left in May and went to Utah. Have been searching for replacement through Washington DC office.
- Some goals include restoration, jobs in communities, and hazardous fuel reduction. Busy year with activities. Fortunate that we were awarded Collaborative Forest Landscape restoration process on MTNF. We got around \$600,000 to do restoration projects and jobs in communities (service contracts, stewardship contracts). Expect to have over 10 year period of funding. Part of the restoration includes prescribed fires, timber sales, road work, road maintenance, etc. They have 300,000 acres that overlap with MDC and private land. Lot of outside group support/partnerships. Doing a lot of inventory (stream crossing issues).
- Another project they have been focusing is in the Mill Creek watershed (southwest of Rolla) and its tributaries. Momentum is going. Timber harvest work to meet goals of restoring woodlands.
- Lot of work with threatened/endangered species (hellbender, bats).
- Fires – drought has affected and had a banner year for fire. Fire behavior was different as well, canopy fire. Brought crews in from all over the nation.
- Stewardship sales – go through an approval process. Got several approved. Ongoing project with Wild Turkey Federation in Poplar Bluff, expanding that.
- Secure Rural Schools funding – where counties can opt for steady funding.
- Climate Change – research division is analyzing our vulnerabilities and how can we adapt.
- Fire - CWPP

Report from the MoFRAC Working Group – Gene Garrett, Group Coordinator, noted they have been meeting monthly and have been very active and working on behalf of the forests in Missouri. He noted you may remember Tony Parks came to a meeting and gave a presentation that said we were not harvesting enough wood, and mills are not getting enough wood. The fall in the housing industry and other factors are involved. As a result of this presentation, MoFRAC put together this blue ribbon panel to tackle the tough issues. There is a lack of forest management resulting in too many stems on a per acre basis. Many of our problems are that we are not managing enough of our forest land, and we need to get the word out to increase management.

The panel meets in Ashland. Last meeting was very inspiring. Conversation got down to brass tacks. At the last meeting Jarvis, Allen, Brundage, Stafford, Smith, Dwyer, Jones, Ball. About 3 meetings ago, the group realized they were missing a wildlife representative, so they invited John Burk. The Working Group is trying to figure out how to get the word out on the importance of forest management. Will bring motions back to the group. One thing being discussed is the outdated State Forestry Law. It's antiquated and needs to be updated. At the last meeting, Lisa led the charge and brought insight (background) that we lacked. We devoted 1 ½ hours to it. There are things we can do that we were unaware of. The Conservation Commission has some authorities that won't need to go through legislature. Hope to bring something to the next meeting.

Gene noted they also talked about forest management demonstration areas in the state. They have identified the criteria (10+ acres, ownership patterns, liabilities, etc). The Working Group is in the process of finalizing the criteria. They appointed a sub-committee to address this issue. Will start making contacts, put together a list of professionals. Want to identify individual landowners who have land that clearly demonstrates good forest management. Hope to discuss at December meeting.

Another problem the committee thought they could address was the Timber Price Trends report. Great deal of discussion on this, so they named another sub-committee to look into it further. They met recently. Concern is that the landowner doesn't realize the maximum value of their timber. Group decided the report should serve as an educational tool for determining timber value. They talked about adding a line graph to compare prices to last year. Increase distribution of the report. Need hard copies of the report at USDA offices. Need to make it such that the landowner can fully understand it. Also need to increase the number of reports being submitted. MDC is requiring timber sale reports from their foresters for all timber sales.

How do we reach landowners? How do we increase the information they receive. Farm Bureau, MDC, and CFM are big players. Use Green Horizons to get word out – circulation is around 4,000.

Mike Bill Update- Teams have continued to meet once per month to review and revise content. Teams have been identifying information gaps and developing content to complete all sections of the document.

- Wildlife Habitat –drafted bmp guidance for snags, dens, course woody debris, and mast. Working on putting together the wildlife habitat sustainability chapter
- Heritage & Cultural Resources – drafted bmp guidance for invasive species and endangered species and have started to develop guidance for cultural resources
- Visual Quality – Developing criteria for determining visually sensitive sites and bmp's to help improve the aesthetics of roads and forest management activities. Working with the Missouri Division of Tourism to determine what roads are considered "scenic" by MDT.

- Soils Productivity – Developing bmp’s for rutting, compaction, slash retention, grazing, and minimizing infrastructure. Ross Glenn has been working on several portions of the manual including adding the water quality bmp’s and the pesticide bmp chapter. John Kabrick is writing the soil resources sustainability chapter
- Silviculture team- The team is actively working on all aspects of Silviculture for the document. Dan Dey is the lead for the project but is working with all members of the team to draft content. Matt Olson has also been actively engaged and has been working on several portions of the document.
- The Integration Team- met in early August and has put together comprehensive “first Draft” of the document with all of the teams’ products combined. After each integration team meeting a new updated draft of the document will be sent out to technical teams. Drafts will be identified by a watermark that says Version1 -2-3 etc. This team will be meeting once a month. The integration team members have been reviewing the document and are identifying information gaps. Individual technical team members have been assigned to fill in the gaps and to send them to other technical team members for review.

Updates, Meetings & Events - MoFRAC Partners:

Missouri Chapter Walnut Council Fall Meeting – October 5&6, Polo, MO
 Forrest Keeling Nursery – chestnut roast – October 20th
 Sept 29th EOFC/MDC field day on private land, Van Buren, MO
 Forest Soils Workshop – October 9-11, Potosi
 Fire and Timber Quality Workshop – October 16-17

Open Discussion

Send agenda items to Bob as they come to mind. Next meeting will be December 11th at Farm Bureau HQ. Remember to suggest officer candidates to the Nominating Committee.

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