

Missouri Forest Resources Advisory Council
Missouri Farm Bureau, 701 South Country Club Dr., Jefferson City

Wednesday, March 11, 2015
9:00 a.m. – 3:00 p.m.

MINUTES

Welcome & Introductions – John Tuttle, MoFRAC Chair, welcomed everyone to the meeting and the following were in attendance:

Lisa Allen, Mo. Dept. of Conservation
Joe Alley, USDA Natural Res. Cons. Service
Donna Baldwin, Mo. Dept. of Conservation
Bob Ball, Mo. Chapter Walnut Council
Lynn Barnickol, Mo. Consulting Foresters Assoc.
Anastasia Becker, Mo. Dept. of Agriculture
Best, Stephen, USFS Mark Twain Nat'l Forest
Kurt Boeckmann, Mo. Dept. of Natural Resources
Marvin Brown, Forest & Woodland Assoc. of Mo.
Mike Brown, USDA APHIS PPQ
Scott Brundage, Mo. Consulting Foresters Assoc.
Gene Brunk, Mo. Community Forestry Council
Mark Coggeshall, Mo. Nut Growers Assoc.
Hank Dorst, EOFC, Mark Twain Forest Watchers
Susan Flader, LAD Foundation
Justine Gartner, Mo. Dept. of Conservation
Nate Goodrich, Nat. Resources Cons. Service
Jason Jensen, Mo. Dept. of Conservation
Shelby Jones, Mo. Consulting Foresters Association

Shibu Jose, Mo. Center for Agroforestry
Ed Keyser, Conservation Federation of Missouri
Rebecca Landewe, The Nature Conservancy
Wayne Lovelace, Mo. Nurseryman's Assoc.
Rick Merritt, Mo. Tree Farm Committee
Sam Orr, Mo. Consulting Foresters Assoc.
Harlan Palm, Mo. Chapter of Walnut Council
Brian Schweiss, Mo. Dept. of Conservation
Kelly Smith, Mo. Farm Bureau
Hank Stelzer, Univ. of Mo. Dept. of Forestry
John Tuttle, Mo. Dept. of Conservation
Jerry Van Sambeek, USFS Northern Research Station
Denise Vaughn, Interested Party
Steve Westin, Mo. Dept of Conservation
Jason Green, Pioneer Forests
Curt McDaniel, Natural Resources Conservation Service
Rose Marie Muzika, University of Missouri

Review and Approve September 3, 2014 Meeting Minutes – Hank Dorst asked if anyone had changes to the meeting minutes. With no changes noted, Gene Brunk made a motion to approve the minutes; Mark Coggeshall seconded the motion. The minutes were approved as written.

Election of Officers – John reviewed the slate of nominations as presented by the Nominating Committee (Shelby Jones, Anastasia Becker, and Jason Jensen). He asked if anyone had nominations to make from the floor. With no additional nominations received, the members voted on the following:

- Vice Chair – Rebecca Landewe – approved.
- Secretary – Lynn Barnickol – approved.

NRCS Farm Bill Program Update – Curt McDaniel, Assistant State Conservationist-Programs, gave an update on some of the Farm Bill programs as follows:

- EQIP
 - Summary of FY14 – Forestland Practices - \$868,576.36
 - Change for FY15 – requirement of forest management plans when implemented on forestland under any fund pool:
 - Brush management (exception is made for glade/savanna restoration)
 - Herbaceous weed control
 - Forest stand improvement

- Forest trails and landings
 - Stream crossings
 - Change for FY15 – requirement of forest management plan only when implemented on forestland under the forestland fund pool:
 - Access control
 - Prescribed burning
 - Firebreak
 - Upland wildlife habitat management
- Regional Conservation Partnership Program
 - Our Missouri Waters Targeted Conservation
 - Little Otter Creek Watershed Project
 - Restoring Glade and Woodland Communities for Threatened Species in the Ozarks of Southeast Missouri (select counties in southeast Mo.: Ste. Genevieve, St. Francois, Perry, Madison, Iron, Reynolds, Shannon, Carter, Ripley, Wayne)
 - Northwest Missouri Urban and Rural Farmers United for Conservation
 - Regional Grassland bird and Grazing Land Enhancement Initiative
- Restoring Glade and Woodland Communities for Threatened Species in the Ozarks of southeast Missouri:
 - Access control
 - Brush management
 - Conservation cover
 - Conservation crop rotation (in the Grotto Sculpin recharge zone)
 - Critical area planting
 - Early successional habitat development and management
 - Fence
 - Field border
 - Firebreak
 - Forage and biomass planting
 - Forest stand improvement
 - Grade stabilization structure (in the Grotto Sculpin recharge zone)
 - Grassed waterway (in the Grotto Sculpin recharge zone)
 - Herbaceous weed control
 - Heavy use protection
 - Prescribed burning
 - Stream crossing
 - Tree planting and shrub establishment
 - Tree and shrub site prep
 - Upland wildlife habitat management
 - Water and sediment control basin (in the Grotto Sculpin recharge zone)
- Chiefs' Joint Landscape Restoration Partnership – Missouri Ozark Highlands Restoration Partnership (showed a map)
- Showed a summary of Missouri Ozark Highlands Restoration Partnership Budget 2015-2107
- Conservation Stewardship Program – Non-Industrial Private Forest Land
 - Some variation in Missouri offerings this year

- Enhancement Activities
 - 6 from previous years
 - 5 revised
 - 14 new
 - 10 not offered
 - 15 “grazing” activities not offered on NIPF
- Missouri Addendums
 - Additional guidance to put conservation on the ground

Bob Ball asked about funding for FY15 – increase in funding. Curt noted they did get an increase. Jose Shibu asked about not allowing grazing in the woods. What about silvopasture? Curt noted that is not considered the same.

John Tuttle thanked Curt for his presentation.

Selling Timber by Weight – Jason Green, Pioneer Forests, gave the following presentation:

Scaling Timber –

- International ¼ inch rule – estimate
- Doyle – estimate
- Scribner – estimate
- Weight – estimate
- All timber scaling is an estimate
- Actual board feet is dependent on many variables

International ¼ Rule

- Assumes deductions for slabs and saw kerf
- Also assumes deductions for taper
- Taper increases/decreases by ½ inch for every 4 foot section
- Most commonly used south of the Mo. River
- Overscales small logs
- Underscales large logs
- Pioneer Forest used this scale for decades

Doyle Scale

- Deducts 4 inches from diameter for slabbing
- Very simple equation $(D-4)^2 \cdot (L/16)$
- Underscales small logs
- Overscales large logs
- Advantage to the buyer in smaller timber
- Commonly used for high quality white oak and walnut sales
- Used in central and northern Missouri

Advantages of Scaling –

- Familiarity, it's the convenient way to sell timber
- You can bid timber out and drive up stumpage price with competition
- Seller may be more comfortable knowing what the timber is worth with a lump sum bid
- Buyers figure overrun into their bid. The timber appears to be more valuable
- Billing-loggers pay for what is scaled
- Foresters know what they mark/sell
- Good for teaching young foresters.

Disadvantages of Scaling Timber:

- It slows down timber marking and/or the buyer at the mill yard. It is time consuming. One tree per minute is max.
- Forester only marks and scales sawtimber 11" dbh and larger to a 10" top. No top wood scaled.
- No stumpage paid for small diameter products
- Volume scaled can vary drastically due to many factors (log rule, quality, taper, sawmill practices, quality of sawmill equipment, etc.)
- Requires more gear
- Hard on your body, more walking.

Popularity of Weight Scaling

- Is becoming more popular
- Especially popular with small diameter or low value products (blocking and pulpwood)
- Is used regularly in the south
- Landowner gets paid for all products (sawlogs, blocking, pulpwood, etc.)
- Logger only pays for what he can sell
- Loggers pay for all volume that leave the woods
- Fast and easy. Speeds up marking in the woods >2 trees marked per minute. No need to scale logs on the mill yard.
- Allows foresters to mark and sell trees in more size classes
- Easier on the body, less walking.

Disadvantages:

- Relatively new and unfamiliar
- Sawmills may not have proper scales
- Requires more sale administration
- Needs to sort products correctly to maximize stumpage.
- May be easy to sneak a load out without paying
- Unable to bid timber out. Could miss out on competition between timber buyers
- Weight of logs varies by species, diameter, season, etc. Still an estimate.
- Not recommended for selling high quality or large diameter trees
- Large diameter sawlogs weigh less per board foot.
- Requires high level of familiarity with timber markets
- Requires knowledge of board feet per load or tons per load

- Not recommended for inexperienced foresters
- May require larger log landing.

Converting tons to board feet

- 12 pounds per board foot is the most common conversion.
- $1000 \text{ bdft} = 12,000 \text{ lbs}$
- $12,000 \text{ lbs} / 2000 \text{ lbs} = 6 \text{ tons}$
- $1000 \text{ bf} = 6 \text{ tons}$

Establishing stumpage prices:

- Price is determined based on current markets by product minus logging costs.
- Logging costs for sawlogs are estimated at 12-14 cents per board foot international $\frac{1}{4}$ " or \$20-\$30 per ton.
- Logging costs go up with smaller diameter products unless logged along with sawlogs

Hardwood sawlog prices:

- Sawmills are currently paying \$340-380 delivered
- Delivered price - logging costs = stumpage price
- $\$360/\text{MBF} - \$140/\text{MBF} = \$220/\text{MBF}$
- $\$60.00/\text{ton} - \$23.33/\text{ton} = \$36.67/\text{ton}$

Blocking and pulp:

- Blocking
- Delivered price - logging costs = stumpage price
 $\$35/\text{ton} - \$25/\text{ton} = \$10/\text{ton}$
 $\$210/\text{MBF} - \$150/\text{MBF} = \$60/\text{MBF}$
- Pulpwood
- Delivered price - logging costs = stumpage price
 $\$23/\text{ton} - \$21/\text{ton} = \$2/\text{ton}$
 $\$138/\text{MBF} - \$126/\text{MBF} = \$12/\text{MBF}$

Loss of Clip and Download Ability to Obtain GIS Data from CARES – Lynn Barnickol gave the following update:

Early in December 2014, Matt Arndt reported that the Map Room containing CARES site at University of Missouri was experiencing budget cuts. The service to be cut by June 30, 2015 are the **clip and download feature** that allows accessing small area GIS data including aerial photos, topo lines, lakes and streams, roads, etc. This is important to consulting foresters who make maps for Forest Stewardship Plans and Harvest Plans utilizing cost share funding as well as other forestry related plans. Consulting foresters not having the clip and download feature would be required to download county wide GIS data rather than the GIS data for small areas such as a typical forested ownership. The size of the PC files for a county are in mega bytes requiring hours to download over a fast internet connection and fast PC operating

system. Loss of the clip and down load feature results in hours of time to make a single map. To consultants time is money and the cost of making maps for plans becomes excessively expensive.

Matt Arndt has been wading through all of the available GIS data and has found solutions to the disappearance of CARES. There are several sites that allow free download of GIS data on a county or 7.5' Quad basis that are very large files – The National Map (<http://viewer.nationalmap.gov/viewer/>), NRCS GeoSpatial Data Gateway (<http://datagateway.nrcs.usda.gov/>) – but Matt has only been able to find one solution to be able to clip and download data for a small area using NRCS Geospatial Data Gateway files. Additionally, Mike Morris with MDC has supplied 7.5 topographic map files as a partial fix. Those can stay on a PC and can be easily accessed.

However, if plan maps call for topo lines over-lying an aerial photo the only site that Matt has been able to find that allows download of shapefile topo lines (hypsography) is CARES. Everything else will either give you a Digital Elevation Model (DEM) or a USGS Topo, which both are image files. To be able to overlay topo lines onto an aerial photo, you'll need the shapefiles (or other similar vector file format). CARES offers an FTP site with all of their reference files for the hypsography layer, but they are not natively in shapefile format. It is possible to get them there, but it's rather messy and requires the use of several third party programs. The attached hypsography shapefile download instructions file goes through the steps necessary to convert from the native download format to shapefile format. If you use ArcGIS, you will be able to open the native file. For those of us who do not care to spend that much money on GIS software (\$3,000), you'll have to convert the files. Matt is currently in the process of downloading all of the hypsography files for Missouri, and it looks like it is going to take around 3 hours total, not including time to extract and convert each file.

ArcGIS (and likely several others Matt is planning to make that upgrade to EasyGIS (\$360)) so it will connect directly to a data server, and can extract imagery and data directly through the software. That is another, likely much less cumbersome, way to gain access to small scale data.

In the interim and on a temporary basis Matt is willing to provide shape files to consultants who have a mapping program such as Easy GIS or others.

The group discussed other possible options. Rebecca Landewe will send Lynn information on an add-on program she has used. Bob Ball suggested the consultants pay for the clip and download feature from CARES. However the leadership supervising CARES is not returning phone calls.

Rapid White Oak Mortality – Rose Marie Muzika, University of Missouri

- Rose Marie showed current distribution of white oak based on FIA data. Also reviewed a chart showing white oak longevity and persistence along with stressors such as drought.

- RWOM first reported in 2011. Continued to get reports through 2014 and new locations. Reports from 43 counties in the state. Some areas experience 100% mortality. Nearly 3 million board feet salvaged in recent years.
- Symptom progression: some trees die slowly, other suddenly. At some sites observations suggest suppressed trees die last. Some rapid mortality occurs after hot, dry weather in late summer.
- Most damage occurred on lower slopes along drainages and on better quality sites.
- Difference between oak decline and RWOM? Rapid dieback and sudden mortality with RWOM. Decline happens over many years. No distinct causal agent in RWOM, in decline you have the causal agents.
- Getting to the root of the matter
- Study approach: surveys, intensive field studies, climate, dendrochronology, and preliminary synthesis.
- Conducted forester and citizen surveys. Forester surveys revealed: RWOM mostly associated with lower slopes and drainages in the Ozarks, disproportionate effect on larger trees, red oak and post oaks dying
- Intensive studies were at Sunklands CA and Harmon Springs on MTNF. Both areas were dominated by white oaks. Randomly selected plots and ranked them as low, medium and high vigor.
- Survey detection rates – looked at canopy vigor, percent of white oak mortality and slope position, crown positions of dead white oaks.
- Hypoxylon canker survey –visual survey of all living white oak trees in plots; hypoxylon canker not visible on living oaks; hypoxylon canker on dead trees. Considered a secondary fungus; might be taking over as a primary fungus.
- *Armillaria* ongoing research: root rot, *A. mellea* most pathogenic, associated with traditional oak decline; sampled one tree in each high and low vigor plots; so far, *A. mellea* and *A. gallica* present in low vigor plots
- *Phytophtohora cinnamomi* is exotic to U.S., pathogen of oaks, chestnut, shortleaf pine, others; soils that fluctuate between wet and dry are optimal; flourishes in wet soils; drought increases severity; and symptoms are hard to see. Survey methods included soil baits, isolated more than 800 Phytophtohora-like isolates; DNA identification. On high and low vigor plots.
- Wood and bark boring insects: ongoing research. Sampled 13 trees from Sunklands and 5 from MTNF; emerged from stem and canopy logs; *Xyleborinus gracilis* from 31% of trees at Sunklands and 80% of trees at MTNF; native to SE US.
- Associated factors: Insect damage and cankers – fungi associated with insects. Jumping oak gall may be a factor.
- The climate situation: 2007 Easter freeze; 2008 was the third wettest year on record followed by another wet year in 2009. Cold weather, drought, flooding, followed by drought and heat. Absence of weather pattern, great variances and extremes.
- Tree ring analysis –abruptness of mortality correspondence with stressors; age and site related factors.

- Looked at growth rates in declining vs. living white oaks.
- Summarize: various factors are causal, contributing and interacting – pathogens, insects, and anomalous climate condition; etc.

MDC Update – Lisa Allen/John Tuttle

- Forest Certification – going through the process for past several years to evaluate our participation in one of the certification programs, SFI or FSC. We have been preparing for this by supporting a detail position to focus on feasibility, and a gap analysis to see what we still need to do. Getting things in place to move in the direction of SFI certification (more compatible with our management and procedures). Lisa is currently working with Administration to take to Commissioners for approval. Intent would be a third party audit to take us through the process about a year from now. We would be the first organization in Missouri to hold SFI certification.
- State Forestry Law – looking at revising this old program. Brian Schweiss and Steve Westin have worked hard on this. MoFRAC's blue ribbon panel made good recommendations. We think we can enhance this program without changes to Missouri statutes (things that are under the authority of the Conservation Commission). Proposed name "Missouri Managed Woods Program" patterned after WI's managed forest law. Looking at enhancing the benefits of the program in addition to the tax benefit. Hope to have some sort of approval by July, and take about a year to put it in place and get money in the budget. We currently also budget for taxes paid to counties (by MDC) for acres enrolled in the program.
- Trees Work has been very successful. MDC is receiving the Arbor Day Foundation's Public Awareness of Trees award. This program will now be handled by a full time position in Central Office that will focus on communication needs for the Division.
- Tree City USA is celebrating its 40th anniversary in 2016. We have a goal to increase our TCUSA communities in the state.
- April 4th we will be hosting an Open House at the George O. White State Forest Nursery in Licking. Great event.
- Forest Legacy Update - Steve Westin distributed a handout that summarized the results of national panel that ranked proposed projects. Missouri had one project proposed – a project at the Eleven Point Forest in Oregon County requesting \$3MM in funding. Ranked 29th. The cut off for funding was ranked 19th.

Brainstorm Agenda Topics & Speakers

- EPA waters of the state

- Better distribution of Timber Price Trends
- Forester ethics
- Results of Logger survey revealed they are tired of bad actors giving them all a bad name. Can anything be done about it?
- Benefits of prescribed fire. Gene Brunk suggested it be covered within the context of getting back to pre-settlement days - who decided that was better? Was it? What do we want our forests to look like and why? Could be a long discussion. John asked for suggestions for speakers. Scott added that it would be nice to come to consensus on what should be burned and what should not be burned.
- Results of MU's SAF self-assessment survey. Could tie in with ethics piece. (Hank Stelzer, June meeting)
- Air quality regulations – smoke management. (Rebecca). How it fits into climate change; smoke projections when making prescriptions, etc.
- White nose syndrome update (Rebecca)
- MDA's Ag Stewardship Assurance Program (Brian). One category is forestry. Speaker could be Dept. of Ag.
- Impacts to forest management from bats (Lisa)
- Keep topics statewide issues. (Lisa)
- Woody biofuel tests by MU – follow-up with producers. (Scott)
- Forest Products Branding (Bob Ball)
- Invasive species management (Bob Ball)
- Logging (Jason Green)
- Presentation on trends in prices and products (Sam Orr)

Partner Updates, Meetings, and Events

- Forest and Woodland Association of Missouri - next meeting in conjunction with Earth Day in St. Louis. Will have a speaker. April 25th. Topic will be Urban Tree Utilization by Sawmills. Revised the organizations fiscal year to July-June. Next September's annual meeting will be at the nursery.
- The Nature Conservancy – Rebecca noted that their new state director will be on board soon.
- Conservation Federation of Missouri's annual convention is in 2 weeks here in JC. Forestry Committee meeting will be on the 21st.
- Missouri Community Forestry Council – had annual conference last week. One of the biggest yet. Many arborists. Next year's meeting will be in St. Joseph, first week of March.
- Mo. Dept. of Agriculture – gypsy moth surveys will continue, walnut twig beetle surveys, EAB surveys.
- Mark Twain Nat'l Forest – northern long eared bat. Turned in our assessments to US Fish & Wildlife Service. Oak decline field work, looking at salvage on 20-30,000 acres.
- Mo. Dept. of Natural Resources - Todd Samsel is the director. Environthon – Missouri will host the national this year.

- USDA PPQ – working with EAB quarantine (statewide) and working with timber industry to understand compliance. Visiting mills and facilities.
- Pioneer Forest – still logging. Cut 4.5-5MM feet sawtimber each year. Last few weeks have been difficult with ice and snow.
- Natural Resources Conservation Service – Missouri in top 10 of states for writing forest management plans.
- Mo. Dept. of Conservation – HB833 would be amendment to Chapter 234 that would eliminate the practice of clear-cutting of forests in Missouri. This is a critical tool we don't want to lose. Second part would establish a forest management consortium to assess all timber sales in Missouri. This bill hasn't been assigned to committee. Hank made a motion that MoFRAC write a letter opposing this bill. Rick Merrit 2nd the motion. Gene Brunk suggest MoFRAC just endorse the position already sent by MoSAF. Joe Alley suggested MoFRAC write a separate letter as it would have more weight. Motion passed with some members abstaining (state agencies, federal agencies). Lynn Barnickol will draft a letter.
- Tree Farm – recognition program, no charge. New policy in place where to be certified, they have to pay a \$10 fee. Tree Farmers are being notified. Legislation has been proposed to make it that NGO's cannot be supported by MDC. Would affect many programs and partner groups.
- Northern Research Station – funding is down but still maintaining programs.
- Mo Nut Growers – May 9th meeting will be on grafting, will be held halfway between Columbia and KC. Walnut field day will be in Illinois
- Walnut Council – Jerry Van Sambeek, member of the planning committee, announced the National Meeting of the Walnut Council is being hosted by the Missouri Chapter of the Walnut Council and the Missouri Society of American Foresters on June 14 to June 17 in St. Charles, MO. Monday and Tuesday are all-day field trips to the Beckmann walnut plantings, Creech Agroforestry Farm, NRCS Plant Materials Center, Forrest Keeling Nursery, Forestkeepers Network, seed orchard, Malinmor Hunt Club, and Mueller Brothers Timber. We are still looking for others groups or agencies willing to help co-sponsor parts of this national meeting financially, as exhibitors, or providing volunteers.
- Center for Agroforestry – newsletter has been improved and distribution has improved. New editorial board is very functional. 14,000 on the distribution list. Outreach activities are picking back up again. One is a workshop in Laurie. Also Agroforestry Academy will be held in July in Columbia – five day intensive training. Chestnut Roast will be held again this year in October.
- Farm Bureau – this is their centennial year. All activities are centered around it. Seems like they spend a lot of our time on regulations. The new position MFB created is the Director of Regulatory Affairs and specifically deals with regulations imposed on rural Missouri and agriculture from state and local agencies and government. It is not a legislative position, they have national and state positions in those areas. Leslie Holloway is in the regulatory position and Ashley McDonald replaced Leslie as Director of State Legislative Affairs.
- Mo., Consulting Foresters Association – 47 members. Held annual meeting. Lynn is coordinate for CB4 program to provide consultant services to private

landowners. Will be reprinting the directory soon. Will conduct a business survey of members.

- SAF – Spring meeting will be with National Walnut Council meeting.

Adjourn - Next Meeting: June 3, 2015 and Missouri Farm Bureau in Jefferson City

DRAFT