



## Missouri Forest Resources Advisory Council

Missouri Farm Bureau  
701 South Country Club Dr., Jefferson City

**Wednesday, March 8, 2017**  
**9:30 a.m. – 2:00 p.m.**

9:00 Coffee and Conversation

9:30 Welcome & Introductions

*Hank Stelzer*

Lynn Barnickol, MCFA Jerry VanSambeek, USFS NRS Collin Walmsley, MDA Mike Brown, APHIS Sherri Schwenke, USFS Shelby Jones John Burk, NWTF Brian Schweiss, MDC Kurt Boeckman, MDNR Nate Goodrich, NRCS	Scott Brundage, Walnut Council, etc. Wayne Lovelace, MO Nurseryman Dusty Walter, MU Ag Experiment Station Justine Gartner, MDC Brian Brookshire, MFPA Denise Vaughn, Susan Flader, LAD Dylan Jenkins, Finite Carbon Hank Stelzer, MU Extension Carolyn Pufalt, Mo. Chapter of Sierra Club Rebecca Landewe, TNC
--	--

9:40 Review and Approve Minutes

*Lynn Barnickol*

No changes requested to minutes. Approved.

9:45 Carbon Market: Shannondale Case Study

*Dylan Jenkins*  
*VP, Portfolio Development*  
*FiniteCarbon*

Dylan Jenkins – Have Forest Carbon Markets Arrived?

Dylan is a certified forester for Finite Carbon. Prior to joining Finite Carbon, worked in Virginia for their Forest Landowner program and developed the Working Woodlands program with The Nature Conservancy. He has spent his career working with private landowners and evaluating ways to improve opportunities for private landowners to manage their forests. He discussed the many benefits of forests – wildlife habitat, forest products, clean water, and sequestering carbon. Now a market exists for emitters of CO<sub>2</sub> to pay landowners to sequester carbon. Carbon is now a marketable forest product – the same things that impact traditional forest product has an impact on carbon offsets as well.

Carbon markets have two components:

1. Voluntary offset market – corporations that voluntarily choose to reduce carbon footprint (Corporate Social Responsibility - e.g., Google, Starbucks, etc); can purchase carbon offsets; very few buyers in this market and numerous options

2. Compliance offset market – a mandatory cap at jurisdictional scale – California in 2006 passed a global warming solutions act (6<sup>th</sup> largest economy in the world) – impacts 600 facilities that are above the set limit. These facilities now have to pay for those emissions above the limit.

Discussed the Chicago Climate Exchange (CCX) and the failure. It was the introduction to the carbon market for forestry. The timing was unfortunate because it coincided with the housing crash, and as a voluntary market there was no regulatory requirement for the purchase of offsets/credits.

Finite Carbon has 2.5 million acres across the US under contract. Still in early stages as a 'niche' market though hope it continues to grow.

Initial goal in California was to meet 1990 levels by 2020. Under CA regs, approximately 85% of emissions are capped. The cap and trade program encompasses 23% of overall reduction goal. Other components are the low carbon fuel standard, energy efficiency, and renewable portfolio standards.

In 2016, CA set a new goal to get to 40% below 1990 levels by 2030. Discussed how the offset market functions. Regulated facilities have three options:

1. Improve technology to reduce emissions from the facility – current cost \$50-\$120/ton
2. For every ton emitted have to pay a fee/tax, which is sold at a quarterly auction with a floor price is \$13.57/ton
3. Carbon offset – cost approximately \$10/ton
  - a. Offsets capped at 8% of total emissions obligations for facility
  - b. There are about 15 facilities (out of 600) using offsets (e.g., Chevron, glass manufacturer)
  - c. Theoretical demand is about 180 million offsets – almost \$2 billion market at \$10/ton

Estimated demand of \$2 billion is a significant source of funding as compared to existing funded programs. The adoption of carbon offsets by private landowners is hard to predict. Offset programs include reforestation, renewable energy, and methane capture/combustion. Forestry is only one component of the offset options available, but a significant portion.

Industry jargon defined: carbon offset = credit = metric ton of carbon dioxide equivalent

Discussed one aspect of offsets and the environmental justice concerns towards allowing offsets rather than locally reducing environmental impacts from manufacturing facilities, which are typically located in low-income minority neighborhoods.

The State of CA benefits from facilities paying fee/ton whereas offsets are paid to landowners/offset program rather than paid to the state.

Showed a table of payment per acre in regions across the US, depending on productivity and growth, etc. Large upfront payment covers start-up costs and then lower annual rate thereafter.

Three factors considered for a project include:

1. Acreage
2. Stocking
3. Past and future management

Showed a map of projects across the state, which includes land trusts/non-profits, tribal land, corporate, and TIMO/REIT. There are 32 projects, 2.5 million acres, 50 million offsets, \$500 million on private forest lands. Public lands can be involved in market, but have different requirements. This presentation is focused on private land forest projects.

Shannondale - Finite Carbon is the investor and pay for the upfront costs (e.g., inventory, modeling, documentation) and are paid in offsets at the end of the project.

- Oldest tree farm in MO
- Began working on project in 2010
- 3982 acres
- ~100 permanent plots
- Evaluated stocking compared to benchmark derived from USFS FIA (CP = common practice), which is updated every 5 years for new projects being enrolled
- Baseline was approx.. 30 tons/acre above CP
- Generate about 2000 offsets/year = ~\$20,000/year
- Harvesting 60% of biological growth

Discussed scale of projects. Theoretically, landowners can be aggregated into a project to reach minimum scale (5,000 – 10,000 acres), but there are difficulties in keeping landowners bound into project for 100-year obligation. Carbon project is a 100-year covenant with property. If one landowner were to drop out, then aggregation would lose project and have to pay back credits with penalties.

Regulation and oversight of projects is responsibility of CA Air Resources Board (CARB) and third-party verifier. Annual reports are submitted by landowners attesting to condition of forest and carbon stocks. There is periodic reverification through inventory.

There is an insurance mechanism for natural events. If it is so large that it falls below initial levels, then the project is involuntarily terminated and no further obligations.

Discussed calculation of Common Practice based on USFS FIA data scaled from Ecoregion (Ozark Highlands) to Assessment Areas (lowland hardwoods, mixed upland hardwoods, oak-hickory, oak-pine) to site class. Shannondale is oak-pine and CP at the time was 52 tons/acre (has since increased up to 57 tons/acre for the region). This is used to calculate your initial year offsets.

Carbon assets include stump, bole, tops, seedlings, below ground mass, and special unmanaged lands (e.g., streamside management zones).

#### Landowner commitments

- Harvest less than annual growth
- Natural forest management
- Even-aged harvest practice capped at 40 acres max for less than 50 BA
- 100-year time frame
- Demonstrate sustainable forestry – be enrolled in certification, have management plan, or practice uneven aged management
- A Continuous Forest Inventory system in place to measure forest growth
- Audits
  - Harvest updates and desk review

- Field verify every 6 years
- Reinventory every 6 years
- Endowment to cover costs

Discussed the steps in the project development cycle – feasibility, listing, inventory, modeling/documentation, verification, registration, and sales/support. Penalties are significant for landowners that violate agreement, which includes replacing offsets with interest.

Finite Carbon has 12 people devoted to carbon offset projects, including 8 professional foresters. There are other project developers, but not as focused on forest offset projects.

11:35 Lunch – *On site purchase available at Missouri Farm Bureau Cafeteria*

12:15 Roundtable Partner Updates, Meetings, Events

- If you are unable to make the meeting, would like to provide additional update details, or have event information for inclusion in the minutes, please send information directly to Lynn Barnickol ([actuallywood@gmail.com](mailto:actuallywood@gmail.com))

Hank Stelzer – Shibu Jose is the new School of Natural Resources Director. Shibu has been officially onboard since March 1 and has already established several working committees to clarify faculty workloads, develop a strategic plan founded upon the transition plan that guided the restructuring of the School and its degree programs. Current fiscal year withholdings and proposed budget cuts by the governor has administrators at all levels of the University on edge. They say if these reductions come to pass the cuts will not be across the board, but targeted. One reality of these cuts has been the loss of two open positions: forest hydrology and environmental toxicology. The Natural Resource Science and Management, and Parks, Recreation and Sport degree programs are with the state's College Board of Higher Education and should be approved this month (March). The Environmental Sciences degree program was approved in January.

Extension programming within the School has focused on restructuring the Missouri Woodland Steward Program into smaller, more manageable modules. Each module is 2.5 hours of instructional programming. Three modules exist to date: Marketing Timber, Woodland Management, and Getting to Know Your Woodland. MDC is considering promoting Woodland Steward as a collaborative effort between Extension and Forestry. Extension will be conducting three agricultural teacher workshops this summer where upon completion, instructors can apply to receive one of seven forestry tool kits containing over \$600 of equipment for measuring trees and assessing forest stands. These toolkits and workshops were made possible through grants from the L-A-D Foundation, the Missouri Forest Products Association and the Society of American Foresters Foresters' Fund. We are also collaborating with Missouri State University in their first Forestry Institute for Southwest Missouri science teachers. It is a three-day workshop at the MSU Field Station on Lake Taneycomo. Lastly, Extension is waiting to review DESE's (Dept of Elementary and Secondary Education) new Plant Science Curriculum in which there is a forestry module. Although we had some initial input as to the standards, we did not have any input into the actual writing of the curriculum. It will be interesting to see what the draft product looks like. The schedule is for the curriculum to be piloted during the 2017/18 academic year with statewide rollout in the fall of 2018.

Rebecca Landewe – timber sale and outreach ongoing, demonstration area, coordinating with joint fire sciences program on some fall/spring outreach, Dunn Ranch, Western Ozarks – streambank, Meramec – multi-partner group working on feasibility study for water fund as well as landowner work on streambanks and SWAT model for sediment

Lynn Barnickol – MCFA – Winter meeting attracted 35 attendees including 27 members, 8 speakers, and 9 guests. MCFA has 44 members including 8 retirees. We lost 3 members in 2016 but gained 5 members.

There are 19 members involving in the Call Before You Cut program that MCFA implements for MDC. A recent comparison of CBYC Site Visit Reports data with the harvesting data reported to the Timber Price Trends indicates the following harvests have been conducted by 5 foresters assisting 18 landowners in 15 counties for the period 2014 through 2016 or 26 months:

1,447,900 BF sold; 1,650 BDFT per acre marked

\$442,514 Revenue to the landowner; \$502 per acre; \$305 per MBF

882 acres reported in the harvests

Thank you to Tom Treiman for doing the data cross-checking.

The objective of the CBYC Program is educational. It strives to put information about timber harvesting in the hands of forest owners who are considering selling some of their trees. Additionally, CBYC provides a free of charge assessment by a consulting forester to forest owners who request that service. The consultants expense is partially covered by a grant from MDC to MCFA. Based their experience, 18 forest owners had confidence in their forester to proceed with a harvest. I do know of some additional harvests that were not reported within the two-year time frame that are not included. I am encouraging the foresters to report to the Timber Price Trends.

I am attempting to obtain a record of CBYC forest owners who have signed up for cost share to do forest management plans. There is a delay in time for the forest owner to decide to sign up for a plan, getting it into the cost share schedule, and for the foresters to complete and have plans approved. Jerry VanSambeek – NRS hosting the leadership team in a couple weeks. MO Nut Growers is having grafting meeting on May 6<sup>th</sup>, south of Mt. Vernon, and are co-sponsoring MO Woodland Conference.

Colin Walmsley – MDA – currently seeking Gypsy moth and thousand canker disease (TCD) seasonal employees, in SW MO and Central MO. EAB - Doing biocontrol/parasite releases, larval stage identified in Wayne County. TCD research meeting June 13-15<sup>th</sup>, registration is on the HTIRC.org website. Lab diagnostician retired and moving through hiring process for full-time position.

Mike Brown – Plant Protection and Quarantine – coordinate gypsy moth and EAB work with MDA. Continuing to work on expanding counties where biocontrol agents can be released. Increasing populations of EAB throughout the state – mills are noticing ash trees that are heavily infested. Need help in keeping the ash standing or processed locally rather than transported. Several survey projects ongoing, similar to MDA projects.

Sherri Schwenke – USDA secretary has been nominated, but no date yet for hearing. Significant decisions are on hold until Secretary is confirmed, which impacts work. Secure Rural Schools Act not reauthorized by Congress, which significantly impacts counties where there is

USFS (e.g., one county was receiving \$250K, and only received \$50K this year). Meeting with MDC state forester on Good Neighbor Authority and potential for partnering here in MO. Evaluating integrated vegetation management across the forest. MT produces 63 million acres of board feet and 40,000 acres of burning. Region 9 Silvicultural workshop going on this week in Salem. Burned approx. 28,000 acres thus far with 10,000 more. One burn project includes 300 acres in Cedar Creek. Have had a number of wildfires with a couple caused by lightning. Healthy Forest Initiative project to treat an additional 46,000 acres for oak decline coming out for comment this month. Projected to produce 130 million bf over five years. Hired three people at the SAF collective hiring event. Hired engineering road techs at another collective hiring event. Will be able to hire fire fighters, which will help with timber marking and other programs. Mike Joyce is new Integrated Resources Staff officer (Jack Courtenay retired). Some key vacancies still exist. A marking contract will be out soon.

John Burke – NWTF – Save the Habitat, Save the Hunt initiative has been underway since 2013. Are on track to meet/surpass conserving 300,000 acres in Missouri for Save the Habitat by 2030. Have purchased equipment for private land use and partner with other organization/agencies to provide cost-share monies in several focal areas. Chad Doolen has been in place for about a year. Discussing adding two position in St. Francis and in NE MO to work with private land services in MDC and NRCS to fill forestry needs.

Brian Schweiss – Forest and Woodland Association of MO – Mike Hoffman, Executive Director. May 19-20<sup>th</sup> is annual Tree Farm conference. Developing a forestry organization resources book, which will be available at CFM Conservation Day at the Capital. Attending Earth Day festival in St. Louis.

Kurt Boeckman – MDNR – Carol Comer is new Director. Discussed cost-share incentive for riparian buffers (\$1200/acre). Another incentive is the riparian fencing (\$500/acre), which allows for flash-grazing in spring. Woodland exclusion cost-share for fencing. Two timber practices not utilized much – timber harvest plan and logging trails practices to seed erosion problems. Discussed the process of establishing available practices – Commission sets policies at state level with local level board decides which practices to offer.

Nate Goodrich – NRCS – Awaiting leadership appointments under new administration. State level – impacted by hiring freeze. Three of four Area Conservationists are vacant. National and regional foresters are also vacant within agency. Natural resources subcommittee meeting held last week. High level of interest in forestry Farm Bill programs – looking for additional ways to bring additional resources to state (e.g., RCPP and CIG). Working on planning and contract.

MoSAF – CFM Conservation Day at the Capital – decided not to participate this year.

Caroline Pufalt – Sierra Club volunteer – sits on national committee that manages Sierra Club membership in Forest Stewardship Council. Has been significant discussion of carbon offsets and incorporating those standards into FSC. Discussed the Land and Water Conservation Fund, which is funded by oil/gas taxes, and need for funding to be released.

Scott Brundage – Walnut Council – Upcoming conference at MO Farm Bureau in Jefferson City. Cosponsored by FWAM, MO Tree Farm, MO Nut Growers and MO Walnut Council. April 4<sup>th</sup> and 5<sup>th</sup>.

Wayne Lovelace - ~525 attendees at Grow Native workshop Meramec Community College. Growing interest by homeowners

Dusty Walter – promoted Walnut Council because of its ability to bring together multiple stakeholders. Walnut Council meeting in June in Lafayette, IN. April 4<sup>th</sup> – half-day white oak conference in Lexington, KY where a national initiative will be discussed. University will be flying drones soon. Dusty has certification and hope it will provide opportunities to capture images over course of growing season to identify changes in light reflection that may indicate early drought stress, or estimates of diameter based on canopy size.

Justine Gartner – MO Community Forestry Council conference being held today in Springfield, which is where a number of MoFRAC members are today. Moving forward with forest certification. Working with office of administration on initial third party audit, which hope to complete in May/June. MO Managed Woods program close to launching, with soft launch in early April through letter to MO Tree Farm program participants. Trying to address issues with salary – asking staff to complete job analysis questionnaire to compare results with state and federal agencies. Two more CWD positive finds in St. Clair County – unsure what impacts will be because these are far removed from earlier detections. MDC also discussing use of drones, trying to respond to public requests and internal needs. Current interpretation is that it is not legal. Suggested drone use as a future topic for discussion.

Denise Vaughn – working for Ozark Regional Land Trust on newsletter – gave update on upcoming volunteer projects and conservation easements. Working with Oak Woodlands and Forests Fire Consortium on interpretative tour in Current River Pinery.

Jason Green – Pioneer Forest – recent press release on feral hog hunting prohibition on Pioneer lands. Expect push-back, but hope it will reduce activity. Timber sales going well, with winter weather being favorable for harvest. Markets are fairly saturated right now and some uncertainty, with prices dipping a bit. Recent prescribed burns in virgin pine stand along Highway 19. Weather conditions and concerns about damaging residual stand prevented another burn and will cut short the spring burning season.

Susan Flader – working on trails – Current River Trail – crosses LAD/NPS/State Park lands.

1:15 Old Business *Hank Stelzer*

1:30 New Business *Hank Stelzer*

Next meeting date – currently scheduled for June 7<sup>th</sup>, which conflicts with MOSAF meeting. Group agreed to not have summer meeting and instead MoFRAC members would be invited to MOSAF meeting.

2:00 Adjourn

- **Next Meeting: No Summer Meeting (invited to MOSAF meeting instead)**
  - **Fall meeting Sept 6<sup>th</sup>.**
- Send agenda topics to Hank Stelzer ([stelzerh@missouri.edu](mailto:stelzerh@missouri.edu))