

TO: LMVJV-Forest Resource Conservation Working Group

FROM: Randy Wilson, Chair, LMVJV-FRCWG

SUBJECT: Update on Recent Activities

DATE: November 7, 2013

/s/ Randy Wilson



Since our full working group meeting earlier this year in Arkansas, the sub-working groups have been busy working to advance many of the topics and action items we discussed at Cook's Lake. This note serves to update everyone on recent activities.

Updates included in this Note:

- ✓ *Forest Management Database*
- ✓ *Collaborative Research to Address Fundamental Concerns per Implementation of Desired Forest Conditions for Wildlife*
- ✓ *Recent Development with Georgia Pacific*

FOREST MANAGEMENT DATABASE

Primary Contact: Tim Fotinos

Below is a recent article released in the GCPO-LCC Newsletter

<http://gcpolcc.org/profiles/blogs/the-upcoming-forest-characterization-database-for-the-mississippi>

The Upcoming Forest Characterization Database for the Mississippi Alluvial Valley: Seeing the Forest and the Trees

Foresters in the Mississippi Alluvial Valley will soon find it much easier to manage their timber cuts for the benefit of wildlife. With leadership, technical expertise and funding support from the Gulf Coastal Plains & Ozarks Landscape Conservation Cooperative, a Forest Characterization Database first envisioned more than a decade ago by the Lower Mississippi Valley Joint Venture ([LMVJV](#)) and the [Advanced Applications group](#) at the USGS National Wetlands Research Center is now on its way to becoming a reality.

Out of the filing cabinet and into the geospatial database

Forest management for wildlife is about to leapfrog from an age of disjunct sets of data captured inconsistently on paper and spreadsheets, then stashed in file cabinets and computers across the Mississippi Valley to a 21st century networked system of standardized data that allows managers and scientists to share information and graphically visualize the big picture.

Keith McKnight, Coordinator of the LMVJV, says, “This has been the carrot for this project all along: it will allow foresters across agencies and states to combine all their data into a single geospatial database tool online.”

Tim Fotinos of the US Fish & Wildlife Service (USFWS) Inventory & Monitoring Program, has been tasked to lead the subcommittee working to shape the database design. Tim explains, “Discussions within the LMVJV’s Forest Resources Conservation Working Group had for years centered on the need for a common forest database to track metrics important to wildlife managers.” Then in 2012 John Tirpak, the GCPO LCC Science Coordinator offered the LCC’s technical and financial support for this project because it had the hallmarks of an LCC priority project: coordinating multiple partners’ existing data collection efforts to allow a landscape-scale assessment with direct relevance to conservation delivery - in this case, improved forest management.

From timber analysis to habitat analysis

Commercial forestry software, such as TwoDog and TCruise, focuses on production forestry by crunching numbers sampled from roughly 2% of an area to be harvested or thinned. The software analyzes standard inputs (like diameter at breast height) then provides outputs designed to achieve production goals (such as amount of thinning required to open the canopy and promote maximum growth).

However, foresters who work for agencies such as the USFWS and the [Louisiana Department of Wildlife & Fisheries](#) (LDWF) have forest management goals that are driven by the needs of wildlife and recreation. “We don’t have anything that already exists straight out of a box that we can use to plug in our habitat numbers, so we’ve had to customize this information the best we can,” says Fred Hagaman, a forester/wildlife biologist for LDWF.

“With the new Forest Characterization Database, we can collect and input the biological data that is most important for wildlife, such as average overstory, midstory and understory canopy, vine component, percentage of switch cane and cavities per acre,” explains John Simpson, a USFWS forester for the [Lower Mississippi River Refuge Complex](#). The program is also being designed to conduct the kind of analysis that will recommend forest treatments that achieve [Desired Forest Conditions](#) for wildlife.



A reason for the science community to get excited

LMVJV Coordinator McKnight describes the current situation as one in which “we have huge amounts of useful information organized in non-useful formats for large scale analysis. It does not lend itself to science. This database will really help make that turn of the adaptive management cycle: land managers will collect information that scientists can use to help test assumptions and modify planning - both at the same time.”

A tool that allows something as simple as looking at specific forest habitat types on different properties will have far-reaching consequences. Researchers can ask “where are the sweetgum/Nuttall/willow oak stands?” They can find those areas and highlight them in the spatial database, rather than having to hunt down 20 different places, ask for information, and sift through data stored in different formats using different standards. The implications for landscape scale planning and research are exciting.

More and better communication between managers, landowners, and researchers

Why are forest managers excited about this database? Because to have the most impact for wildlife, they must manage on a landscape level. Hagan says, “It’s not just my decisions that affect bears and migratory birds. It’s not just a particular Wildlife Management Area in Louisiana or even the entire state, it’s also important what John Simpson is doing in similar landscapes and what’s happening on private lands.”

Simpson concurs, saying “The database will set up the ability to compare and contrast elements of management. We’ve had this data historically, but it was never where anyone could access it. The GCPO has opened the door to allow this to occur, and it’s been real helpful.”

Steps toward completion next year

Chad Fanguy is the GCPO LCC’s Advanced Applications Specialist and is the programmer working with the LMVJV’s Forest Work Group to create this tool. He explains that currently they are working on standardization of habitat measures across forests and jurisdictions in the Mississippi Alluvial Valley. An important task is ironing out which metrics should be considered optional and which are required. For example, Simpson says Spanish moss is important to him because it’s good nesting material for birds, habitat for bats, and functions like “hay in the woods” when it hits the ground. However, foresters in other parts of the Valley may not collect this data because Spanish moss doesn’t occur in their area.

“The database design will allow foresters to continue to use the handheld computers they are accustomed to in the field to collect their data in pretty much the same way,” says Fanguy. “They can then enter their data into the commercial software using the new standards and export it in a standardized format to the Database online. Any device with internet capabilities will be able to view the Database.”

Fanguy and Fotinos anticipate the project will be completed within a year. At that point, it’s up to the partners of the Forest Resources Conservation Working Group and the LCC to determine

whether and to what extent they can convert legacy data into the new standardized database format. But there's already plenty of excitement from many folks about the potential of this database and its release next year.

COLLABORATIVE RESEARCH

Primary Contact: Duck Locascio and Anne Mini

Below is an overview of the planned research. The full proposal is attached as a MS Word file. Everyone is encouraged to review the full proposal and provide comments to either Duck Locascio or Anne Mini at your earliest convenience.

Impacts of Two Hardwood Forest

Management Approaches on Timber and Wildlife Habitat Quality

PRINCIPLE INVESTIGATORS:

Steve Demarais, Bronson Strickland, James Martin, and Guiming Wang, Department of Wildlife, Fisheries and Aquaculture, Mississippi State University;

Brent Frey, James Henderson, and Andy Ezell, Department of Forestry, Mississippi State University;

Scott Edwards, Mississippi Department of Wildlife, Fisheries, and Parks;

Duck Locascio and Scott Durham, Louisiana Department of Wildlife and Fisheries; and

Ann Mini, Lower Mississippi Valley Joint Venture, and Dan Twedt, U.S. Fish and Wildlife Service.

JUSTIFICATION:

“Desired Forestry Conditions” or DFCs, have been promoted by the Lower Mississippi Valley (LMV) Joint Venture Forest Resource Conservation Working Group to create a naturally diverse canopy, as well as floristic diversity within the forest mid-story and understory (Wilson et al. 2007). This approach was designed to allow a range of desirable stand conditions that are broad enough to accommodate different management objectives while guiding management toward stand conditions beneficial to priority wildlife species within alluvial bottomland habitat, such as black bear and large woodpeckers. However, this approach has not been evaluated for its ability to produce conditions favorable to game species like white-tailed deer and turkey, which are of great interest to the majority of LMV private

landowners. And, this approach has not been compared to production-focused, even-aged hardwood management designed to produce economic returns from commercially valuable timber (i.e., recruit oak germinants into advanced regeneration). Finally, the even-aged approach has received only limited evaluation from a game habitat perspective. Results from this research will allow more fully informed management decisions in bottomland hardwoods relative to specific management priorities.

The DFC approach, in theory and practice, includes a wide variety of possible silvicultural actions to promote a desired range of habitat conditions for wildlife species. For purposes of this study, we will focus on the most widely used method: a Variable Retention Harvest, with a general target of reducing over-story canopy cover to 50-60%. Each entry into a stand potentially consists of a combination of intermediate thinning harvest and regeneration harvest (i.e., group selection to create gaps), as dictated by stand conditions. Therefore, within each experimental unit we will subsample areas of intermediate thinning and regeneration cuts. A regeneration cut in the DFC approach involves removal of all timber within a relatively small acreage. The DFC approach does not emphasize a “final harvest,” rather it attempts to perpetuate a range of habitat conditions within each stand and at the landscape level.

The Even-Aged management approach focuses on development and ultimate harvest of commercially valuable hardwood timber at the stand level. Intermediate thins are conducted to remove lower quality material and to promote growth of the remaining higher quality material. A regeneration cut is conducted to insure the future stand will have a commercially valuable composition after the final harvest. A regeneration cut in the Even-Aged approach involves a stand-level removal of the over-story (typically a one or two-cut shelterwood) and possibly a mid-story control treatment; the result should be a two-aged stand with even-aged regeneration. A range of habitat conditions are expected within stands (associated with residual structure in a shelterwood) and at the landscape level associated with differing stand developmental conditions.

GOAL:

To facilitate informed land management decisions we will quantify effects of even-aged and DFC management approaches on select wildlife and timber resources in the LMAV bottomland hardwoods ecosystem.

RESEARCH PLAN:

This will be a large-scale study that captures variation present in bottomland hardwood habitats in Arkansas, Louisiana, and Mississippi. We will use two study designs to address the varied information needs for land management in this important ecosystem. One study will evaluate wildlife habitat associations with management approach at longer time frames using a retrospective approach (Figure 1). The other study will evaluate both timber and wildlife habitat effects using a manipulative study that includes pretreatment and post-treatment sampling (Figures 2 and 3). We will logistically integrate the retrospective and manipulative studies by staggering sampling over the length of the project, which insures that treatments will have been applied and responses will have been generated under a wide range of environmental conditions (Figure 4). Most of us have seen examples of extreme weather events affecting results in our previous work. Given that annual variation can impact acorn production

and germination as well as early survival of seedlings, including more annual variation in the study will improve its applicability to future management circumstances. If we were to start the manipulation study entirely in one year and that year happened to be an oddball, then the results may not be as applicable as we would want. Staggering the start of the manipulative study over two years, with 5 blocks created each year, captures two years of weather variation. The retrospective study will include about 5 years of annual variation at each time period post-treatment. Additionally, using timber stands from across the LMV insures we have enough spatial replication.

The described hybrid study will generate high quality results but appropriate qualifications are needed. The manipulative study will generate wildlife and timber results at 1 year and 5 years post-treatment, with reference to pre-treatment conditions. Projections for timber conditions and future economic value beyond 5 years will be difficult to predict accurately, and should be compared to actual results from sampling at later years. The retrospective study will generate vegetative and wildlife habitat results at two time periods post-treatment (8-9 and 12-13 years post-harvest) and should not be extrapolated beyond these time periods.

GEORGIA-PACIFIC'S ENDANGERED FOREST AND SPECIAL AREAS POLICY

Primary Contact: Duck Locascio

http://www.gp.com/aboutus/sustainability/forestry/forest-policy/downloads/GP_Statement_Forest_Protection_Sustainable_Practice_2008.pdf

<http://www.gp.com/aboutus/sustainability/forestry/pdf/methodology.pdf>

Georgia-Pacific is in the process of unveiling their new forest protection policy in Louisiana and Mississippi. In late summer through the fall of 2013 GP has met with timber buyers, land managers, and pulpwood suppliers throughout Louisiana and Mississippi to deliver and explain a document titled: "Georgia-Pacific LLC Endangered Forest & Special Areas, Mississippi and Louisiana, Supplier Notebook". In it Georgia-Pacific explains its new policy of forest protection. A list, boundary description, and associated maps of areas designated as Endangered Forest and Special Areas complete the document. The summation of the policy is simple; GP will not source wood fiber (pulpwood) from these designated areas. Alarming, many WMAs and NWRs in Louisiana and Mississippi fall within the areas designated as Endangered and Special and the vast majority of the designated area are State and Federal lands.

Georgia-Pacific explained to suppliers that Dr. Liz Kramer, Director of Natural Resources Spatial Analysis Laboratory at the University of Georgia, a recognized expert in developing information systems to identify sensitive areas was the individual whom assisted in defining and mapping the endangered forest and special areas. No natural resource professionals from any State or

Federal agencies in Louisiana or Mississippi were contacted during this process or prior to the policy unveil.

The LMJV Forest Resource Conservation Working Group co-chair made inquiries with various suppliers whom have been introduced to Georgia-Pacific's forest protection policy. Information gathered from these inquires add to the confusion of this issue. Several pulpwood suppliers were reassured by representatives of Georgia-Pacific that this "was not a big deal" while others are now under the impression that Georgia Pacific will no longer accept pulpwood from their Refuge or Wildlife Management Area.

Tensas National Wildlife Refuge is presently in communications with Georgia-Pacific. In September they scheduled a conference call with GP's Vice President of Sustainable Forestry, along with other managers around the region. This call was directed to express the concern of limited habitat management options on the refuge without the capability of sending pulpwood to Georgia-Pacific mills. Following this conference call a field visit was scheduled to further illustrate the Refuge's management practices, identify areas depicted on GPs map, and voice the confusion of why these areas were chosen as endangered. During the visit, GP staff agreed that the management techniques used by Tensas NWR seemed necessary and focused on improving habitat conditions for a wide variety of wildlife including Louisiana Black Bear. Georgia-Pacific representatives appeared hopeful that their partners (Natural Resources Defense Council, Dogwood Alliance, and Rainforest Action Network) would agree with this concept and could work out a possible agreement to continue to source pulpwood from these areas. Tensas NWR is currently awaiting a response from Georgia-Pacific following the companies meeting in December with its partners.

The position Georgia Pacific has taken will impact the ability of resource managers to manage forestlands for wildlife throughout many regions of Louisiana and Mississippi for GP is the primary pulpwood buyer. During communications with several land managers concerning this issue it has become known that International Paper Company is implementing a similar policy on the east coast. Coincidentally, Georgia-Pacific's forest protection policy was implemented first on the east coast.
