

Comments on the Ozark-St. Francis National Forest Amendment to the 2005 revised LRM Plan Appendix F follow. (revised because it was thrown out of federal Courts twice - saved by the severance clause)

The OVM project should be done before further compromising of the remaining forest through mismanagement limits future options. Until it is done, any of these treatments should be confined to stands which were restored by the Forest Service by planting. (almost all pine) Natural stands, including natural regenerated ones, should be left alone until this project is done. Planting should be native species only - what is "desirable" to the agency today will be a target for justifying herbicide use later, as shown by Chinese Chestnut, Ailanthus, kudzu, etc. and nause. Targeted species now (red cedar, black locust, red maple, black gum) are pioneer species which make possible succession to "desirable" species (oak, hickory, walnut, basswood) possible. Other pioneer species (black cherry, plums) are "desirable" but usually eliminated by the methods described.

The 2005 Plan (LRMP) is supposed to be redone in 10 years. The Forest Service is already 5 years out of compliance and tacking on amendments to stretch it indefinitely while changing it to allow for actions already taken such as burning. (excusing after the fact). As I've said in previous comments on the district burns, the Ozarks are not a natural fire regime. Guyette himself (pine dendrochronologist - U of Mo) who found a couple hundred year + fire history at Granny gap which was expanded to cover the entire Ozark National Forest, had previously stated in Missouri that there were no natural fires of any extent in the Ozarks, they were all manmade. However, Guyette also had control of the Missouri and Arkansas Territorial records and limited access to his graduate students and collaborators. Nearing retirement, he got the contract to show the assumed fire regime and through French records dating back to the 1600s located a campsite on the trail now highway 7 where Osage, Quapaw, Chickasaw, Cherokee, Choctaw, and French had likely camped. Camps were frequently attacked using fires set upwind below and hastily abandoned camps left fires burning or smoldering. Guyette gave them what they wanted - accurate information to misinterpret - and retired. This is the "science" behind the bogus fire regime that never was. Smokey the liar!

All three of the alternatives considered but not analyzed in detail should have been and all three should have been added to the amendment if the 2005 plan is to be continued, which it shouldn't considering revision as required by law. The plan itself was thrown out of Federal court twice and saved only by a severance clause in anticipation of adverse court rulings. I had to comment and object 3 times and comments were ignored or watered down by combining with weaker arguments on the same issue, and addressing only parts easily dismissed.

Instead of revising an obviously flawed plan, it is used as justification to continue reducing the largest upland hardwood forest east of the Rockies (or North America) into an industrial pine farm doomed to fail. Weyerhaeuser was regarded as the best example of industrial forestry when they converted shortleaf pine clearcuts to loblolly (then "desireable"). Since they were cutting faster than even pulpwood could regenerate, they ran out of stands to cut and so arranged a million+ acre land trade with the Ouachita National Forest, swapping their plantations of pine seedlings for sawtimber. In 10 years they'd cut that sawtimber and abandoned that land for taxes (leaving Hot Springs bankers to form Deltaic Timber to recover whatever they could.) and pulled out of Arkansas. Then Georgia Pacific, with extensive holdings in eastern Arkansas, was taken over by Plum Creek in Oregon, who was then taken over by Weyerhaeuser — so they're back in Arkansas, but not where they were. This cynical cut-and-run attitude, with faithless promises and reassurances of regeneration that is doomed to fail, seems to be a tactic of industrial forestry everywhere.

Dismissal of the No Herbicide alternative because of difficulty of reaching desired conditions without them again doesn't explain those difficulties or consider alternatives. This dumbing-down to your comfort level means a failure to consider issues raised by the public if inconvenient and is another lame excuse to explain those "desired conditions" as excuse to prop up the old plan indefinitely, while it's clearly beyond time for revision. The real reason most important to management is the fact that herbicides are patented and thus subject to no-bid contracts. The list of approved herbicides prevents competition and gives "prescribers" power to prop up overstocked companies with declining sales by converting national forests to toxic waste dumps.

Basal area should not be used to manage mixed stands under selection. What is important is the canopy closure, to maintain a natural forest instead of a dying woodlot. Basal area at any time is a function of recent site history which understory or regeneration will factor or not (if removed).

That might work on an even-aged monoculture but it's not a forest. While you're working on your new terms, you might as well rename yourself the Ozark-St. Francis Natural Tree Farm in contempt of Teddy Roosevelt.

For single-tree selection to work, you have to have a big enough area to sustain a canopy with few, widely-spaced small openings. The "optimum" closure for Indiana bat foraging was given as 70% in your previous amendment, but that was from research done after record drought years followed by record ice storms and wind events. The forest was open to that degree then but has since recovered. I saw it before and after - healthy closure is 90% or more. Use a light meter instead of a diameter tape - measure from 10:30 am to 2:30 pm standard or 11:30 to 3:30 daylight saving time. Long light (early or late day) won't reach with a high canopy, so overhead light is what matters, and maintains vertical growth and straight grain. Keep tight as possible spacing in a single-tree gap until gap regeneration reaches the canopy to minimize lateral growth.

The best way to maintain sustainable growth and harvest would be to restore the original Buffalo Ranger District as authorized by congress along with the Bayou District, both of which are now combined into the Big Piney RD, an administrative move to accomodate budgets and salaries and to confuse the computers and novice inquiry. SOPAs still list Buffalo and Bayou as separate districts but search for the listings will be confusing at best. They should be restored to their original condition if possible, but the Bayou district has been and is being mismanaged at an accelerated rate which may make that a moot point. The Buffalo district has more potential for recovery and protection, which would be consistent with being the headwaters of Buffalo National River and parts of the Kings River, War Eagle and the east fork of the White. The Buffalo district as a whole should be careful single tree selection on a long-term sustainable basis. Restraint from overharvesting makes ongoing observation of natural forest dynamics possible - which are desirable to the public and should be

I've hunted and observed natural forests in the Ozark bioregion my whole life (70), and have seen thousands of lightning-struck trees (multiple strikes on live trees, others blasted apart and charred to the heart with one strike) and I've never seen a fire get beyond root neck of the trees struck. The Ozarks don't get dry-lightning strikes as in short grass prairies or the Rockies - rain with lightning quickly puts out fires.

Further evidence of lack of fires is the presence of red cedar old growth throughout the Ozarks. The first commercial tree in Newton county, cedar boards were rafted down the Buffalo and upper White Rivers to be loaded on steamboats decades before the Civil War. Thoreau was making pencils of Ozark cedar - New England was overcut. Over a century later, Walter Hackey's History of Newton County, Arkansas - 1951 said that cedar over 18" diameter were still common throughout the county and a buyer for the Eagle Pencil company was living in the county.

Cedar is easily killed by fires, but is a pioneer species that can reclaim bare or burnt ground, and definitely improves the soil as it ages. However, it is slow-growing and has to be grown tight to maintain form and vertical growth, so short-term liquidation (price cedar in a lumber yard) is followed by ^{taking} eradication and the loss of dependent biota. (wintering woodcocks - violating Migratory Bird Treaty Act)

While the burning should be addressed in the E.A. as well, it is a key change to the plan so I'll address it here and in the likely objections.

The key change to update and accurately reflect proper silviculture terminology does not define "desireable" as to species. What is desireable to management and what are targets to be eliminated is not defined so there is no consistency in the amendment.

This is obviously management for its own sake on the arrogant assumption that the Forest Service can do better than God or natural processes. The methodology given will not produce the results claimed, but will produce a disclimatic wasteland contributing to desertification and drastically reducing biodiversity. Compliance with the Clean Air act through large-scale burns is a cynical denial of reality. Assuming ten feet of brush sequesters the carbon of an eighty-to-hundred foot canopy and wood from old-growth or mature forest is in denial of climate change - the carbon release from burns takes centuries to replace. We can't wait that long.

The discussion on air quality does not address the impacts of burning various herbicides and their metabolites, or the chemicals used to ignite or suppress fires or their metabolites, or exhaust fumes from heavy equipment and the air show.

The discussion on soils and water quality are linked. Claiming there are no ground-disturbing activities overlooks the bulldozed miles of firebreak ground perimeters of burns on boundaries of private land, wilderness, or protected corridors. Burning leaf litter kills off soil biota as well as most invertebrates (which overwinter in leaf litter) needed for food for migratory & breeding birds and bats (some bats - silver-haired and red, likely seminoles, overwinter in leaf litter.) Exposed soil after a burn is dried out by direct sunlight, then cut by rain strike and splattered, dried again, soaked again and at each event eroded by both wind and water. The Dust Bowl is proof of wind erosion in a drought. Water usually sheet-erodes into gullies, so the surface is shaved to feed channels in an ongoing cycle of reduction.

Natural forest soils are largely organic, at least in topsoil. When clay in subsoil is exposed, the wet-dry cycle quickly forms a hardpan which increases runoff, and prevents absorbing below the surface. Arrowhead hunting is best done in valleys in plowed or disced bottomland fields right after a rain, when a fresh "crop" of arrowheads is exposed by erosion. All of this reduces water quality and reduces biodiversity, as sedimentation chokes out intolerant headwater species of fish and invertebrates.

In the Ozarks, sedimentation is also leached into groundwater where it accumulates in slack water and alters groundwater movement in karst. This is fed in the Boston Mountains through cracks in sandstone caprocks. Some sandstones are cemented with calcite which dissolves when exposed to water. Most sandstones are hard but brittle and can't support their own weight when undercut, causing slump blocks to break away from blufflines and extending cracks. Heavy equipment operation on ridge tops or upper slopes above blufflines causes compaction to reroute water and undercut blufflines and slopes below, resulting in landslides such as those still happening on the Bearcat Project, impacting the Richland Creek Wilderness on Falling Water Creek above Richland campground and covering the Ozark Highlands trail above Dry Creek.

But the living soil is lost when exposed and dried out and it takes a tight enough canopy to retain soil moisture for late successional trees to survive and be put there in the first place.

Thinning is not only bad for the leave trees form but for their health. An interwoven canopy can withstand or minimize damage from storm damage (wind, ice, hard rain strike, snow) much better than isolated widely spaced trees. Open growth or edges or wide gaps encourages lateral growth, more damage-prone. Exposure from different directions causes twisted trunks and branches from high winds. Damage to treetops or wide spacing causes epicormic branching and flared top growth. The result is a two-stage thinning drug out as leave trees gradually die (or at once from a stress event once weakened). Lateral growth devalues potential lumber - The forest service saw the problem and cynically changed measure of timber volume from board feet (quality) to cubic (mass). More wordsmithing to deceive and sell sawtimber for pulpwood prices.

Vegetation treatment applications are impractical to describe the ~~form~~ conditions and reasons for manipulating vegetative conditions, especially when they're inappropriate. They should be site-specific but should also be disclosed as such, and logic and made public for comment. Operating in secrecy with nebulous rules if any implies abuse with a lot to hide. Few if any of these applications are in response to a crisis so urgent that it can't go through the public process, and conditions on a specific site and reasons for manipulating that site are very practical to describe for comment and if it's obviously valid there should be no objections. Management declares disclosure impractical because they can't take the heat for insisting on incrementally destroying the forest to make a tree farm when all else fails.

This amendment is full of distorted logic, assumptions and assertions based on nothing but the comfort level of staff looking for contracts to let for high-tech high budget operations. An obvious assumption that's wrong is that current economic trends will continue indefinitely upwards. What happens next will be a repeat of the last century. The Roaring twenties were followed by the Dust Bowl (ecosystem breakdown) political scandal (Teapot Dome) from fossil fuel extraction on public lands, economic meltdown (Great Depression) and eventual World War. (Ukraine?) Churchill was right - those who won't learn from history are destined to repeat it. Eisenhower was right in warning America about the military-industrial complex - of which forestry is a complex industry.

Since I've been working on both the Roberts Gap Project since it was scoped (with 2 other projects on short notice in early February after the SOPA in late January failed to mention any of them. The public meeting was after dark in mid-winter in a side building of the Deer school with after-school events filling the main parking lot and keeping parents and teachers busy.) and the Bat Amendment (also short notice without disclosure of the Indiana bat maternity colony on the Roberts Gap project until it was approved), I didn't have time to deal with this Amendment, although I had discussed the UVM project with Janine Book and was assured there would be plenty of time for comment. The projects overload was deliberate considering the time Roberts Gap was on hold and the fast track after the EA came out. (The Lakes Creek Loblolly-shortleaf conversion was also on the same time schedule from scoping, to add to the confusion.) I'm still working on the bat Amendment and Roberts Gap and will get what I have to Matt Anderson and Janine as soon as I can.

Even-aged rationale is inappropriate for forest health. Stress factors such as insects, disease and drought are natural and the forest was healthy until civilization arrived. Fires and herbicides are much more stressful to both forests and the biota within them. Roads and heavy equipment extend stress to within hearing of biota and compaction kills soil biota, redirects water movement on surface and below-ground. All-aged (natural) forests will survive even if one age is stricken. Put up your tool box and let God do the work (Luke 20:25) Your imperative to constant lethal intervention is a cover for constant inappropriate contracts - valuing high-tech solutions to problems you've created (you the agency and the human tools from Atlanta) Having your wider range of tools and greater flexibility is just a cover-up if you keep repeating the same mistakes. Clearcuts were abused as the only alternative until both houses of Congress were pushing forward bills to stop clearcutting entirely - at which point, the Forest Service changed their policy to use shelterwood cuts (2-stage clearcuts) or group selections (mini-clearcuts) and use clearcuts only as a last resort. Congress dropped the bills and suddenly clearcuts were the last resort everywhere, as if the tool box was empty everywhere of any other alternatives. Single tree selection and custodial management are tools never used; except when designed to fail.

Wildlife, Plants and Ecology are mis understood. Among the Acts supposedly complied with, the endangered species act is directly being violated by the Plan itself, projects from it and the Amendment if approved because even-aged conversion and damage from burns and agri-chemicals is habitat taking. Not mentioned but equally important are violations of the migratory Bird Treaty Act—much older and international which involves the Western Hemisphere. As I have mentioned on the Bearcat Project, we've seen ^{covey} flocks of wintering woodcocks foraging under a dense cedar stand on a point in midwinter when an icestorm froze and glazed over even hardwood leaf litter so that native earthworms could only be found near the surface under those cedars.

At the University of Missouri - Columbia in December, 1969 I saw a big flock of red crossbills eating sweet gum seeds from a planted row across from the Ag. building, altho pines were strewn across campus. I told my advisor, Dr William H. Elder, who rushed to confirm it. Sweet gum eradication on a crossbill wintering site is a taking.

The Migratory Bird Treaty Act is enforced on waterfowl and the 3-shot limit on shotguns is extended to all hunting. We (USA) are constantly pressuring Canada to take better care of breeding habitat for OUR ducks and geese, while Louisiana constantly complains about Arkansas shortstopping THEIR geese. Wintering songbird habitat in Central and South America is being wasted on a huge scale, but so is a lot of breeding bird habitat in the Plan being Amended and thus perpetrated.

The wildlife habitat modifications are all toward "desireable" wildlife. in practice the openings are for Farm game species — rabbit, quail, doves, turkey, deer — which have habitat wherever farms are — everywhere outside the forest. The plan ignores fragmentation of forests into woodlots and resulting impacts to Forest biota. Again, dumbing down to comfort levels of management in awarding contracts to do the work that management won't. Old-time foresters (pre-WWII) stayed local and cared about the future. and worked with their local crews. Modern managers are professional nomads who chase the money wherever they're sent — all for the here and now

Ecological understanding is totally absent in the plan and the bats are a good example. The trivial guesswork on what makes a day roost tree or maternity colony tree overlooks why they're there — in both cases to be proximal to their food supply, breeding insects which shift to be proximal to fresh host trees, which have no chemical defenses. (active from recent grazing)

A forgotten dynamic is symbiosis — mutualism extended into stability. Competition is within a species as well as other species but co-operation is obligate with interlocking webs and mats above and below connected by mycorrhiza so they can support each other. Understory trees contribute too.

Besides showy flowers for tourists and food for wildlife, dogwoods fix calcium and redbuds fix nitrogen as legumes — without understory, canopy trees have deficiencies.

The key dynamic on plant dispersal is animal behavior. Bird and mammals are obvious, but what are usually considered wind-dispersed (maples, ashes etc) are actually two-phases — winds drift keys into piles, which are then moved and planted by mice and ants. Squirrels, flying squirrels, blue jays, etc. scatter or spread hoards of nuts, acorns, & seeds. Chipmunks, wood rats, and woodpeckers (arderhoard in piles under rocks or logs or hollow trees. Crows do both.

Quail decline is because of chicks just off the nest starving when agri-chemicals kills off their food — early instars of grasshoppers, crickets, and other insects unable to fly. Don't do spring applications of chemicals.

Another lesson not learned is succession. Henry David Thoreau wrote an essay called On the Succession of Forest Trees in the 1850s. Abandoned fields are first invaded by pioneer species (black locust, cedar, persimmon, plum, haws) and settler species (red maple, gums) which persist longer. These and stump sprouts form a low canopy to shade soil in a drought and get squirrel nests high enough to escape ground predators. When squirrels can make safe nests, they'll plant oaks and hickories. Flocks of seed-eating birds forage edges where small mammals dropped seeds of fruit tree. Part of the flock stays on the top of the tallest tree on the edge while the rest forage below. They return to the top after feeding and the first watchers go down. After a rest they drop into open space and upsweep in unison, dropping seeds as they go, planting cherries, gums and other soft mast. But the next hard winter, rabbits will girdle cherries and oaks. along with voles and mice. To get vertical growth they should be kept tight as possible; ongoing mortality will thin.

The Ozark Highlands Trail has been degraded in places which required relocation (on Cedar Creek headwaters where a prescribed burn caused a crown fire in old growth pine, lately one of the landslides on the Ozark Highlands trail on Dry Creek below the Bearcat project has covered the trail near the old chimney requiring extensive rerouting. Alternative routes should be identified and kept intact.

The urge to push the old plan to its ultimate "desired" condition with this Amendment before the OVM is putting the cart before the horse. The OVM should be the first thing done but work should start on the next long overdue Plan revision. The Ozark National Forest is long overdue for revision - a seeming problem for all southeast region forests. Blame should be put on the region for scheduling and heavy handed interdisciplinary coercion.

As I've already told Janine Bock, the Dismal Hollow is way too small to do landscape scale research (population dynamics, dispersal and provide habitat for threatened or endangered species. Expansion of the RNA should scale up to take in all of both Stepp Creek and the East Fork of the Little Buffalo. In 1973 when I was naturalist at Lost Valley, State Park, I saw maps of Dismal Hollow Botanical Area, as it was titled then, was including the point on Dog Branch across the river which is scenic on the scale of the Hawksbill. I took Lynn Neff there and his report was read by McClure of the Little Rock Nature Conservancy. He was so impressed that he had it put back, titled the McClure Addition. A few years later it was again taken off the map without notice. Further out the ridge on Arch Point I've found several rare or endangered plants including mosses identified by Dr. Paul Redfearn, world authority on mosses. I've figured out pollination and dispersal vectors for the Blue Ridge catchfly (*Silene ovata*) from direct observation day and night below the bluffline. I've found shining clubmoss and mountain silverbell on Stepp Creek, state record red hickory and Black Maple on Bear Mountain between. No degrading activities should be done on this area until the OVM project is done.

Kent Bonar Kent Bonar Naturalist
Newton County Wildlife Association