DIVISION OF NATURAL RESOURCES
Wildlife Resources Section
Elkins Operations Center
738 Ward Rd., PO Box 67
Elkins, WV 26241
Telephone 304-637-0245
Fax 304-637-0250

Stephen S. McDaniel
Director

September 10, 2020

Mr. Jay Martin
North Zone NEPA Planner
USFS, GW & Jeff National Forests
401 Oakwood Dr.
Harrisonburg, VA 22801

SUBJECT: Sandy Ridge Yellow Pine Enhancement Project Scoping Comments

Dear Mr. Martin,

The Wildlife Resources Section of the West Virginia Division of Natural Resources has reviewed the Sandy Ridge Yellow Pine Enhancement Project and offers the following comments. The project areas occur within the Cacapon River and Patterson Creek Conservation Focus Area (CFA) as identified in the 2015 State Wildlife Action Plan. Key stresses affecting habitats and priority species in this CFA include 1) forest fragmentation and lack of connectivity between habitats, 2) insufficient forest interior habitats, 3) insufficient early successional habitats, 4) lack of fire and/or fire suppression in Pine-Oak and Rocky Woodland habitats and, 5) non-native invasive plants (NNIP). Many of the proposed activities will address these stresses if performed with consideration for surrounding habitats and where possible Species of Greatest Conservation Need (SGCN).

It is our understanding that the preliminary scope and intent of this management action is to create desirable forest cover diversity for wildlife, restore a native forest component to a portion of the George Washington National Forest, and result in valuable scientific information regarding Shortleaf pine that may be regionally applicable. *Pinus echinata* is uncommon in WV, occurring mostly in the western part of the state, but also in eastern WV in areas in and near the GWNF. However, speculation that this was once a dominant species in areas of eastern WV are based on reports from Virginia (Matoon 1915), where this species is more abundant in the Piedmont and Coastal Plain. Brooks (Brooks, A. B. 1910. Forestry and Wood Industries, West Virginia. Volume 5. West Virginia Geological and Economic Survey. Acme Pub. Co., Morgantown, WV. 481 pp.) described the WV distribution of short leaf pine as sparse, although perhaps even then impacted by economic exploitation.

In order to maintain the native shortleaf genotype, it will be important to maintain the native germplasm from the local WV shortleaf pine stands. Large areas are proposed for short leaf pine

reforestation, but no mention is made of seed sources or seedling production needed for this proposal. Reforestation should utilize local seed sources as much as possible and hopefully be done in a way that avoids block planting and monoculture development. Selection and protection of WV seed trees, seed collection, and seedling production should be the first steps for reforestation. Promoting natural regeneration in or adjacent to existing stands may be a more feasible short-term approach compared to planting. We are very interested in learning more about the stated collaboration with the USFS Southern Experiment Station examining restoration and establishment techniques for yellow pine particularly in West Virginia.

Recommendations to Avoid Impacts to Federally Listed Bats

The project area partially is within buffers for Virginia big-eared bat caves and an Indiana bat hibernaculum, and within proximity to a northern long-eared bat hibernaculum. Summer use of the project area by all three of these bat species is possible but will be variable based on forest stand type and condition. Indiana bat and northern long-eared bat use of pine-dominated stands (e.g. >75% composition) is rare, and it is unlikely that harvesting and thinning activities within such stands would pose sever threats to either of these species. Moreover, no Indiana bat maternity colonies are known from the proposed project area. However, where hardwood trees >5" DBH are abundant and canopy conditions are not highly "cluttered," summer use by Indiana bats and northern long-eared bats is possible and it is recommended that harvesting and thinning activities within stands not composed almost entirely of pine be seasonally restricted to avoid the Indiana bat and northern long-eared bat maternity season.

Although within an Indiana bat hibernacula buffer, the proposed thinning activities are unlikely to have negative impacts on hibernacula or on bats preparing to hibernate. However, timing of thinning activities should take into consideration timing of the fall "swarming" period of the Indiana bat (generally late August through October), with removal of hardwood trees conducted during winter generally being preferable (though this will depend on thinning levels and specific stand conditions).

Prescribed fire is likely to be beneficial to bats via creation of diverse microhabitats and future potential roosts. However, fire can cause mortality of leaf-litter hibernating eastern red bats. Some suggestions to minimize potential impacts to bats generally are as follows:

- Time burns for when bats are not present. In maternity areas, this typically is November 15 – March 31.
- Where known roost trees and high-quality potential roost trees exist, take efforts to reduce fire related loss of these trees. A number of techniques may be used in this regard, including but not limited to: raking fuels away from the base of such trees; controlling burn intensity through ignition application technique and location; and burning under conditions favorable for low intensity fires.
- If prescribed burning must be conducted during the maternity season to achieve management needs (such as habitat restoration in fire-adapted landscapes), use only low-intensity burns, particularly under low to moderate wind speeds (< ~5 mph).
- To reduce impacts to tree-roosting bats during spring and fall, consider minimizing prescription and use of intense burns when temperatures are below 50°F and when the previous night's temperature was below 32°F. To further minimize potential impacts, conduct spring and fall burns during afternoons when temperatures are greatest.
- If higher intensity burns during spring and fall are needed to achieve management needs, consider burning under at least moderate (> ~5 mph) wind speeds, as this reduces risk of heat injury to bats that may be present in trees. To further minimize potential impacts, conduct spring and fall burns during afternoons when temperatures are greatest and take action to reduce fire related loss of known roost trees and high-quality potential roost trees.

- To reduce impacts to leaf litter-roosting bats during spring and fall, consider burning only on clear days when ambient temperatures are >40°F. To further minimize potential impacts, conduct spring and fall burns during afternoons when temperatures are greatest.
- Where practical, remove hazard trees and conduct tree removal activities on fire-lines outside the maternity season (typically November 15 to March 31) to reduce likelihood of removing occupied roost trees or disturbing maternity colonies.
- Caves, mines, and other potential or known bat hibernacula should be considered smoke-sensitive areas and burn plans should be developed to avoid or minimize smoke influences on these sites.
- Limit fire-related activities, such as fire-line construction, near cave entrances to avoid disturbing these resources.

Not all of the above BMPs for prescribed burning relative to bats will be practicable on a single site; use of the individual BMPs should follow project objectives and other resource management issues and concerns.

Additional specific recommendations regarding forest management activities are identified in the "Beneficial Forest Management Practices for WNS-affected Bats" guidance document put together by the White-nose Syndrome Response Team (which included USFS and USFWS personnel).

None of the proposed tree removal activities are likely to have negative impacts to Virginia big-eared bats; creation of early successional habitat may benefit this species.

Eastern small-footed bats may be present in exposed rocky habitats. To avoid and minimize impacts to eastern small-footed bats using rocky habitats, activities in these habitats should be restricted 1 May through 15 August during the maternity season. However, because eastern small-footed bats hibernate in rocky habitats in addition to caves, avoiding impacts to these areas to the maximum extent practicable is preferred. Setback distances used for Allegheny Woodrat will be beneficial for this species.

The project area is partially underlain by karst but the WVDNR is not aware of any caves within the project area. Principle impacts of forest management activities to karst environments are sedimentation and debris load. Some beneficial practices to avoid impact karst environments and karst species include:

- Roads should avoid karst features and drainage areas from roads should not be allowed to flow directly into closed depressions
- Skid trails should avoid karst features
- Storage areas for fuels and chemicals should not be located on karst terrains
- Prescribed burning should mimic as closely as possible natural burning frequency and intensity for the area; avoid burning on areas with thin soil cover or exposed epikarst surfaces
- Heavy equipment use and soil disturbance over karst features should be minimized

Not all of the above BMPs for karst will be practicable on a single site; use of the individual BMPs should follow project objectives and other resource management issues and concerns.

Recommendations for Federally Listed Plants

The project area includes one occurrence of northeastern bulrush (not within any specific proposed harvest units). We suggest relocating the intersection of the Pond Run and Halfmoon Run hiking trails to the north of the Pond Run northeastern bulrush location. This action will move the Pond Run trail out of the wetland, reduce impacts from hikers and horse riders at the trail intersection, and prevent continual NNIP (Japanese stiltgrass) introduction associated with foot and horse traffic. Removing the boardwalk on Pond Run hiking trail will also reduce impacts to the wetland hydrology associated with the northeastern bulrush location. Although not included in the proposed recreation improvements section, these actions will benefit the northeastern bulrush population without impacting the proposed activities or detracting from the recreational opportunities

Recommendations for Amphibian and Reptile SGCN

The Sandy Ridge Yellow Pine Enhancement project should have an overall positive impact on amphibians and reptiles within the project boundary. Areas of dry, sandy soils where pine thinning and restoration are currently planned is suitable habitat for eastern hognose snake (*Heterodon platirhinos*), a Priority 1 SGCN in West Virginia. Creation of canopy gaps and small clearings will benefit eastern hognose snakes and other reptile species occurring in this area. When possible, residual woody debris from thinning and other enhancement efforts should be left on the ground and spread evenly in the understory to provide cover and foraging habitat for eastern hognose snakes. Wetlands or vernal pools within the project area should be buffered by 300 ft and left undisturbed to provide critical water resources for amphibians and reptiles, as well as provide refugia during managed burns.

Details regarding use of prescribed fire are not provided in the scoping documents. It would be beneficial to understand the specific plans for conducting prescribed fire in these areas. Attached are PARC recommendations for use of prescribed fire to minimize impacts to amphibians and reptiles. Prescribed fires should occur between November 15 and March 31 when most amphibians and reptiles are dormant (these dates also correspond with dates for listed bats). February burns, especially burns conducted within 300 ft of wetlands, could impact salamander and wood frog migration, so care should be taken to reduce this impact if possible.

Recommendations for Lepidopteran SGCN

Overall this project will create scarce early successional habitat and renew habitat that has been lost through forest maturation and lack of fire. The spring maturing lepidopteran community of the eastern panhandle of West Virginia was heavily impacted by aerial application of insecticides for gypsy moth control in the late 1970s, 1980s and 1990s. Several species have not been documented from the region since the mid-1990s. This area of Hardy County (Baker and Wolf Gap quads) has had only very limited surveys with only 4 records of three species in our database. A 2004 Biotics record of mottled duskywing (*Erynnis martialis*) near Devils Knob should be treated with caution and may be a misidentification. However, depending on what the specific spraying history was of the project area, it could harbor several rare species including Olympia marble, columbine duskywing, mottled skipper, and grizzled skipper. Other possible species of interest include common checkered skipper, checkered white, northern crescent, northern metalmark and several hairstreaks.

Plans to open up the canopy by daylighting the forest floor will encourage growth of native herbaceous flowering plants that will benefit lepidoptera as well as pollinators in general. Although adults are generally not impacted by fire due to their ability to move away from the area, weakly flying species, larva and pupa do not have that ability. Many species overwinter in leaf litter, and larva often shelter in leaf litter when not feeding. Other pollinators can also be impacted by fire especially those using grass clumps or pithy stems as nest sites. Fire plans should include identification of refugia of similar habitat adjacent to burn areas. Frequency of burns should be infrequent, and research suggests that fire used to create habitat is more beneficial than fire used to maintain habitat (See attached documentation). When restoring open brushy habitat please consult the Wildlife Diversity Unit regarding seed mixes appropriate for this region of the state.

Recommendations for Mammal SGCN

Allegheny Woodrat (Neotoma magister) (S3):

Dry rocky forest habitat for the woodrat borders the entire length of proposed activity areas (i.e. Chestnut to Sandy Ridge tops). Reforestation (i.e. thinning) efforts mostly border this region. Ideally to secure connectivity among populations, a 200m buffer should be maintained from apparent intact rocky habitats. At minimum, 50ft should be retained at all times from rocky habitat when 200m cannot be achieved, especially on ridgetops. This buffer should also reduce significant reductions in mast which the woodrats need to survive.

Appalachian Cottontail (Sylvilagus obscurus) (S2):

One of the major threats for the species is habitat loss from historical fire suppression and lack of forest succession. As such, proposed activities to increase ESH through forest and fire management should help the species. Heath-like vegetation (e.g. *Kalmia* and *Vaccinium* sp.) maintained by periodic fire prescription would enhance food resources for the species.

Eastern Spotted Skunk (Spilogale putorius) (S2):

One of the major threats for the species is habitat loss from historical fire suppression and lack of forest succession. As such, proposed activities to increase ESH through forest and fire management should help the species. These measures should increase ground vegetative cover. However, hard edges between forested and ESH can increase predation; areas should be "feathered" to allow shrub cover from predators.

Northern Long-eared Bat (Myotis septentrionalis) (S1S2):

Recorded in Thorny Bottom cave in project area south of proposed activities, but we can assume summer use throughout project area. In the short-term, fire management can be beneficial to the species but fire intensity among other factors matter. The GWNF should consult Forest BMPs (see attachment).

Eastern Red Bat (Lasiurus borealis) (S3):

While prescribed fires are beneficial to many species, it should be noted that increased use of prescribed fires has the potential to impact red bats hibernating in leaf litter, something we don't fully know yet in WV. Adherence to forest BMPs such as those attached by the WNS Response team should help minimize any impacts. Red Bat leaf hibernation reference:
https://meridian.allenpress.com/jfwm/article/10/1/180/433015/Activity-Patterns-of-Bats-During-the-Fall-and

Recommendations for Fish SGCN

Four fish SGCN are recorded within the project area. These include Brook Trout (*Salvelinus fontinalis*) [S5,G5], Common Shiner (*Luxilus cornutus*) [S1S2,G5], Cutlip Minnow (*Exoglossum maxillingua*) [S4,G5], and Creek Chubsucker (*Erimyzon oblongus*) [S3,G5]. It is recommended that the project coordinators pay specific attention to streams such as Waites Run, Racercamp Run, Cove Run, Hawk Run, Himmelwright Run, Trout Run, Halfmoon Run, Three Springs Run, etc., watersheds that possess or could possess native Brook Trout populations. If possible, these watersheds should be left unaltered to whatever extent is possible. It is well documented that thermal impacts to soil from daylighting, even those outside of riparian defined zones, can have negative influences on cold-water fish species due to thermally impacted runoff entering the stream via intermittent, ephemeral, or other runoff channels.

These eastern cold-water streams that support native Brook Trout have added value in that they also provide donor stock for heritage strain Brook Trout reintroduction efforts in this region. Essentially, we can field spawn fish from these streams and use their hatched offspring to extend Brook Trout in streams where they have been historically extirpated.

Because large woody debris is often missing from some streams, it is recommended that woody additions to these streams that hold Brook Trout be made, particularly in areas where previous silvicultural cuts have limited canopy trees or where consistent woody debris additions are hampered by uneven aged stands. A good guideline would be to mimic the current conditions in a relatively unimpacted Racercamp Run. It has also become valuable to fish management to have access into Racercamp Run where equipment can be utilized to assess the population there, which has not been possible for some time. If there are opportunities to allow development of the forest road that used to

traverse the Wilson's Cove area and curl southward along the WV/VA border it would enhance our monitoring efforts.

Overall, these species will not likely be negatively affected by management actions proposed on the Sandy Ridge project area if the following BMPs are followed:

- Maintaining or restoring a 300' intact riparian/buffer area,
- Installing silt fence to minimize sediment while practices are ongoing,
- Installing stream bank plantings of native vegetation to improve bank stability
- Adding large woody debris to streams that hold Brook Trout particularly in areas where previous silvicultural cuts have limited canopy trees or where consistent woody debris additions are hampered by uneven aged stands.
- Aquatic SGCN will also benefit by the removal of legacy stream passage impediments such as culverts to promote gene flow between isolated populations.

Young Forest and Early Successional Habitat

Establishment and restoration of forest openings is desirable for Ruffed Grouse and Wild Turkey broods, who have experienced significant declines in nest success and poult survival. The West Virginia hen turkey study completed between 1989-1994 revealed that hen turkeys may travel long distances with young broods in search of good foraging areas. This extensive overland travel decreases survival of turkey poults and grouse chicks causing recruitment to decline. Proximity of good foraging areas and interspersion with diverse forest stand structure needed for nesting and escape cover are crucial to successful turkey and grouse brood production. These species and many others- especially young forest associated songbirds- require patchwork complexes of forest structural diversity and disturbance with good interspersion and juxtaposition to fulfill their life cycle and reproduce. Desirable plant communities including native legumes (e.g., partridge pea), warm-season bunchgrasses (e.g., little bluestem and broomsedge bluestem), and forbs (e.g., ragweed and lance-leaved coreopsis) are preferable to non-native grain and forb plantings, and if few to no non-native invasive species (NNIS) threats are known to occur near new or existing clearings, disking and natural revegetation of these areas with or without a "nurse crop" or "cover crop" planting of wheat, oats, or clover to reduce erosion is preferred for the benefit of wildlife species that inhabit the area. If slopes or erosion risks, or NNIS establishment risks, necessitate grading or seeding in conjunction with habitat management, a native seed mix or temporary annual grain cover crop (wheat, oats, etc.) is recommended. The Division of Natural Resources may be able to assist the U.S. Forest Service in developing a native seed mixture, providing some seed, and/or planting clearings in the project area as needed.

Incorporation of habitat management techniques such as cutback borders around clearing edges should increase shrubby and herbaceous cover, a desirable feature for a suite young forest species, and encourage adventitious bud clusters and epicormic branching of nearby trees that may result in increased mast production near the clearing edge. Deeper, structurally-diverse transitional edges are of far greater value for wildlife than anthropogenic "hard" edges where vegetative cover abruptly transitions from herbaceous opening to closed-canopy mature forest. or cleared of existing vegetation, clearings and cutback borders may However, proximity of non-native invasive fruit-bearing shrubs and vines such as autumn-olive, multiflora rose, Japanese barberry, mile-a-minute vine, and Oriental bittersweet should be taken into consideration before implementing cutback borders. Preferential use of edges by frugivorous songbirds may result in increased risks of NNIS establishment near clearings due to avian seed transport or seed deposition in bird droppings. Additionally, if aggressive non-native invasive plants occur nearby the area to be disturbed be overtaken by these species without treatment or if native species are not planted to "jump-start" establishment of desirable flora. Every reasonable precaution should be taken to prevent introduction and establishment of non-native invasive plants. The same precaution applies to proposed forest stand thinning: while such treatments should be beneficial to turkeys, grouse, and songbirds such as the Cerulean Warbler by reducing overstory stem density and

basal area and increasing understory cover density, results and outcomes are more difficult to anticipate in the presence of aggressive NNIS.

The letter of intent specifies an estimated five miles of temporary access roads may be developed to support implementation of the project, but the future management plan for these roads is currently under evaluation. Unless new roads will be maintained to facilitate public access to a unique recreational component of the project area, such as a high-quality wild trout stream or unique hunting opportunity that is otherwise scarce in the George Washington National Forest, the Game Management Unit advises against maintenance of these new roads for long-term system use. Such use would likely, given prolonged and regular vehicular use, increase risk of introduction of NNIS over time and would constitute a potentially disruptive fragmentary feature in interior forest. If new road mileage will not be incorporated into the system or maintained for public access, removing gravel and seeding the road grade ("put it to sleep") with annual grains and native plants being careful to exclude non-native cool season grasses i.e., orchard grass and KY-31 fescue, will create linear openings and travel corridors that increase connectivity with wildlife clearings and diverse timber stands in the project area. Such a condition is very desirable for turkeys and grouse, and would also provide benefits for bobcats, fishers, black bears, and other forest wildlife species. Roads that are "put to sleep" as described above should be, at minimum, seasonally gated to restrict public access and encourage good vegetative growth for maximum wildlife benefit.

This concludes our preliminary comments on this project area. Multiple professional staff with significant land management and species experience exist within the WVDNR that can be made available to provide site specific technical assistance moving forward. I strongly encourage you to reach out to us as project planning proceeds so that we can walk with you on this project.

Thank you for soliciting our input, we/I hope it is of value during this preliminary process.

Sincerely,

Keith D. Krantz
Norther Supervisor of Game Management and USFS Coordinator