March 31, 2022

Jon Morgan, District Ranger,
Cheat-Potomac Ranger District
2499 North Fork Highway,
Petersburg, WV 26847

Subject: Upper Cheat River Project effect on Horseshoe Run

Dear Mr. Morgan,

We have reviewed the Environmental Assessment (EA) issued at the beginning of March. We are disappointed at the Forest Service's unwillingness to extend the comment period or in some other way allow us more time to read and understand the documents provided. We believe it would have been fair to provide additional comment time given the poor phone and internet service and the fact that many people in this community are not regular computer users. In our reading of the EA it does not appear that any changes were made to the project in response to comments in 2021, except for a 4 acre change near a drinking water source that a resident identified to you last summer.

As we stated last November, we are writing because we have concern about some of the activities proposed in the Forest Service Upper Cheat River Project. The Horseshoe watershed is completely within the project boundary. We have homes and farms in the Horseshoe watershed basin (Figure 1). We are concerned that the proposed cutting of approximately 1600 acres in 55 clear-cuts and the road building in our watershed and the lack of invasive plant control will continue to have harmful effects on our homes and farms. Our hope is that the project can work toward solving some of these problems that exist rather than aggravating them or leaving them as they are. Unfortunately the EA seems to be focused almost exclusively on justifying the project as proposed in early 2021 and not changing the project to address our or anyone else's concerns.

As stated repeatedly elsewhere in this letter, the Forest project must do more to solve some of the problems created by changing weather, forest cutting and road building and introduced invasive species. Only by actively working to help solve these problems can the Forest help our community be more resilient to the changing environment.

Our concerns are primarily in the following areas.

Flooding

Horseshoe Run has a long history of flooding and damaging properties in the valley. Many thousands of dollars and hours were invested in flood control by Canaan Valley Institute and community members, yet flooding still occurs. Most recently flooding affected Leadmine in 2019 and Shafertown in 2017 and again in Leadmine in 2021 (Figures 2 & 3). As documented in the EA and elsewhere clear-cutting and road building cause more runoff and increase the potential for flooding. As also documented in the EA rainfall in this area has increased. After cutting in the watershed, we also see increased mud in the streams. By itself

the Forest Service cutting may not trigger flooding but it adds to the thousands of acres of forest removal that has recently occurred in the watershed. Most notably the clear-cutting by Western Pocahontas Properties, Forest Service clear-cutting under the Hogback project and clearing which took place with the installation of the TrAIL powerline has reduced the ability of the forest to hold back heavy rainfall.

We appreciate that in the EA the Forest Service did look at some of the other cutting that has occurred in the watershed and found that the Horseshoe watershed, with this proposed project, would have over 15% of its area clear-cut in recent years. The EA analysis does not appear to include the clear-cutting by the Trail powerline project of approximately 150 acres. According to page 43 of the EA at over 10-15% recent cutting one might expect to see measurable increase in flow in areas streams during storm events. An increase in flow during storm events is moving in the wrong direction. Additional clear-cuts and logging roads in the watershed by the Forest Service will only worsen the flooding problem in the community. There needs to be work to reduce stream flows during storm events and the Forest should work to help make that happen. Clear-cutting and road building in the Horseshoe Run watershed by the Forest Service should be reduced or eliminated as a first step in that direction. The focus of this project should be protection and enhancement of waterways and downstream communities, not losing $1,4 million on an abstract concept of changing the tree age-class distribution.

Water Supplies and Streams

We are thankful that the Forest pulled back its clear-cut #R45 by 4 acres to stay away from the domestic water source that had been previously identified by community members. As far as we can tell no other changes were made to the project proposal since early 2021. Despite our request last fall there has been no effort by the Forest to identify other residences that obtain their water from N.F. impacted watersheds. Some folks here still obtain their drinking, livestock or utility water from springs that are fed by National Forest lands. Clear-cutting, road building or chemical treatment of trees should not be conducted uphill from people's water supplies. Multiple families in this community use water coming from the Forest. The Forest Service should work with land owners to identify and protect their water supplies that are dependent on Forest lands.

The forests now produce cool clean water that is good for trout, other aquatic organisms and for use by community members. However, recent observations of algae in our streams are a great concern. In 2021 this new algae was first observed in Lime Hollow and in 2022 it has been seen in Hile Run. Clear-cutting, road construction and clearing that increases the penetration of light and the warming and muddying of streams should be reduced or eliminated in the Horseshoe watershed.

The recent finding of mud-dogs (Hellbenders) in Horseshoe Run highlights the potential for Horseshoe Run to provide cool and high quality water. That should not be compromised by Forest Service activities of clear-cutting, road building and road "daylighting" in the watershed. The Forest Service should be taking actions to <u>reduce</u> the probability of flooding and water quality degradation, not simply trying to maintain the status-quo.

Fire Hazard

The project of clear-cutting 3,463 acres of mature forest, 1600 acres in our watershed, and creating that many acres of small stem and scrub regrowth is asking for fire in our area. The forest here is currently unlikely to burn because there is no undergrowth under the mature forest. Creating additional thousands of acres of small stems, brambles and downed cut tree-tops is asking for forest fire to become established here. The EA, on page 34, presents a curious view on reducing stand density equating it to reduced fire risk. Actually while this proposal may reduce the amount of living wood per acre by clear-cutting it would dramatically increase **stem** density. Thickets of small trees, brush and cut tree tops created by clear-cuts is creating combustible fuel that was not previously present. This can be clearly seen in the photos of adjacent plots, one uncut in 80-100 years, the other clear-cut 10 years ago (Figure 4a and 4b). The project as proposed with it's clear-cuts would create fire hazards where little existed before.

The use of controlled burns to reduce stem density, reduce woody litter and possibly reduce exotic invasives is a good idea but does not cover enough acres and in the EA is focused on maintaining wildlife openings. That program should be expanded so that fire hazard can be reduced and invasive plants controlled.

Invasive weeds

We are disappointed that on page 43 of the EA the Forest takes little responsibility for introducing invasive plants (NNIS) with the words "Specific information on the introduction and spread of NNIS plants due to activities in the distant past and activities on private land is not available." Despite the Forest's inability to look into the "distant" past, many of us remember when Russian Olive (Autumn Olive) was planted for wildlife in what are now called Wildlife Openings #116 and #118 and elsewhere. Our memories are supported by language in the 1986 FEIS for the Forest when it stated that for wildlife openings "Trees and shrubs with high value for wildlife habitat (e.g. fruit trees) may be maintained by planting, release and pruning". The Russian olive was one of those shrubs planted on Forest lands. Over the last 40 years we have watched, with dismay, Russian olive spread out of those wildlife openings. Those plants have invaded farm fields and yards and even the forests on private and public property in the watershed. They have been very difficult for people to control, and Forest Service lands continue to be a source for seeds from these weeds. For example, Forest wildlife opening #118 is currently a solid stand of fruiting Russian Olive 10 feet or more tall (Figure 5). There are many other sites of Russian Olive infestation on and near the Forest. The Project proposes to "disk, replant native" in wildlife openings where the olive is particularly bad. Years of experience on the Hile and Coleman farms in attempts to control Russian Olive suggest that only complete removal of root stocks followed by repeated annual treatment has any effect on this plant invasion. The Forest must shoulder more responsibility for the problem that it helped create. The EA proposes only reactive and minimal efforts to control invasive plants on the Forest. There needs to be an aggressive and focused program of control of

existing invasives on Forest properties. The Forest Service should undertake a substantial program to research effective control methods and actually control existing invasive weeds on all Forest properties, both at wildlife openings and in the forest itself where these have spread. Creating favorable conditions for invasive weeds such as creating openings in the forest and "daylighting" Forest roads is counterproductive and only serves to promote and spread these weeds. The Forest Service must consider the mix of public and private land when planning forest activities and controlling weeds on the Forest. The adverse impact of the existing invasives that are spreading from the Forest to private lands must be considered and controlled.

Weeds such as Japanese Barberry (Berberis thunbergii) have been spreading into forested lands adjacent to clearings and old farms such as those maintained by the Forest Service in the Dorman Tract as wildlife openings. As we pointed out last fall there are also severe infestations of Barberry on Forest property along Lick Drain. Yet there is nothing in the EA that recognizes this or other sites that need particular attention. The Japanese Barberry has been documented (Williams and Ward 2010, among others) to harbor and promote the deer tick which has recently infected our community with Lyme disease. While the Forest did not actively introduce the Japanese Barberry, its lands are now a large source of seed for this difficult to control invasive. The Forest should control these harmful weeds and work on developing effective methods for eliminating them on it's property.

Thank you for considering our concerns. We are people that are directly impacted by the proposed project because we lie in the project area. Our community is generally underserved by state and federal agencies and by for-profit companies such as the phone and internet company. Decreasing flood risk, protecting drinking water and reducing the impact of invasive weeds are areas of working with an underserved community that the Forest Service has some ability to address.

Again, we hope that with consideration of community input and modification of the proposal, this project can be a step forward in solving the problems identified here. The Forest must take action to do more than maintain the current conditions, current conditions are unacceptable, but must help correct the problems of flooding and rampant exotic species. The $1.4 million that is projected to be lost on this project (EA page 38) would be better spent directly addressing the problems we identify here. We have included our contact information at the end of this letter so that the Forest can keep us informed of responses, developments, changes and meetings related to this project. Please keep us on your mail and email contact lists for this project.

Sincerely,

/Zack Wolford/ 5246 Horseshoe Run Rd. 26287
/Marina Wolford/ 5246 Horseshoe Run Rd. 26287, marinawolford@gmail.com
/Mike Wolford/ 5246 Horseshoe Run Rd. 26287, Mwol157@gmail.com
/Kylie Wolford/ 5246 Horseshoe Run Rd. 26287, kywolford@gmail.com
/Lisa Watring/ lisa@watringtc.com
/Dale Watring/ dale@watringtc.com

/Deborah Watring/	952 Hile Run Rd., 26287 oncebitten_78@hotmail.com
/Stevie Warner/	106 Warner Lane, 26287
/Jennifer Warner/	106 Warner Lane, 26287
/Mark and Norva Warner/	477 Warner Lane, 26287, Warner@email.com
/Karen Teter/	P.O. Box 148 Valley Bend, WV 26293 bbkteter@yahoo.com
/Larry Streets/	4966 Horseshoe Run Rd. 26287
/Paula Stahl/	202 Sunnyside Lane, apt 109, 26287, paulastahl59@gmail.com
/Kayla Roth/	Kaylaroth60@gmail.com
/Scott Ramsey/	952 Hile Run Rd. 26287, Turbine_Climber@hotmail.com
/Arlene Ramsey/	675 Horseshoe Run Rd, 26287, Aramsey40@hotmail.com
/Amanda Pennington/	87 Muddy Creek Way, 26287, Ampedup5670@gmail.com
/Nick Metz/	4458 Horseshoe Run Road, 26287, Metzn644@gmail.com
/Kim Metz/	4458 Horseshoe Run Road, 26287, Metzn644@gmail.com
/Donnie Huttle/	71 Flatbranch Rd. 26287
/Terry & Judith Hile/	1490 Horseshoe Run Rd., 26287
/Kathryn Knotts/	320 Hogback Rd. 26287 kathrynknotts@gmail.com
/Jeremy & Amanda Hile/	1492 Horseshoe Run Rd. 26287, Horseshoe-Enterprises@hotmail.com
/Katherine Helmick/	5505 Horseshoe Run Road, 26287
/Richard Helmick/	5505 Horseshoe Run Road, 26287
/John & Brenda Hebb/	5224 Horseshoe Run Rd. 26287 Hebb43@yahoo.com
/Joe Haddix/	3359 Horseshoe Run Rd. 26287
/Becky Haddix/	3359 Horseshoe Run Rd. 26287
/Ted Gaither/	5322 Horseshoe Run Road, 26287
/Ella Gaither/	5322 Horseshoe Run Road, 26287
/Donnie Evans/	4532 Horseshoe Run Road, 26287
/Stan Dragovich/	3324 Horseshoe Run Rd. 26287
/Hazel Dragovich/	3324 Horseshoe Run Rd. 26287
/Loman Day/	202 Sunnyside Lane, apt 109, 26287, day.loman@gmail.com
/Floyd Day/	87 Muddy Creek Way, 26287, Day_floyd07@yahoo.com
/Coleman Family/	1444 Hile Run Rd. 26287 John@HileRun.org
/Laurine Bartlett/	reenie642002@yahoo.com
/Jordan Alkire/	jordanalkire@gmail.com
/BJ Fike/	900 Hile Run Rd, 26287 BJFike@yahoo.com
/Deborah Fike/	22672 George Washington Hy 26705 keys_88_98@yahoo.com
/Mike Nestor/	
Curtis and Annette Wilfong	tuckerblair@yahoo.com

cc: Amy Albright, Monongahela National Forest, NEPA Coordinator
Gina Owens, Eastern Region, Regional Forester

Williams SC, Ward JS.2010. Effects of Japanese barberry (Ranunculales: Berberidaceae) removal and resulting microclimatic changes on Ixodes scapularis (Acari: Ixodidae) abundances in Connecticut, USA. Environ Entomol.39(6):1911-21.

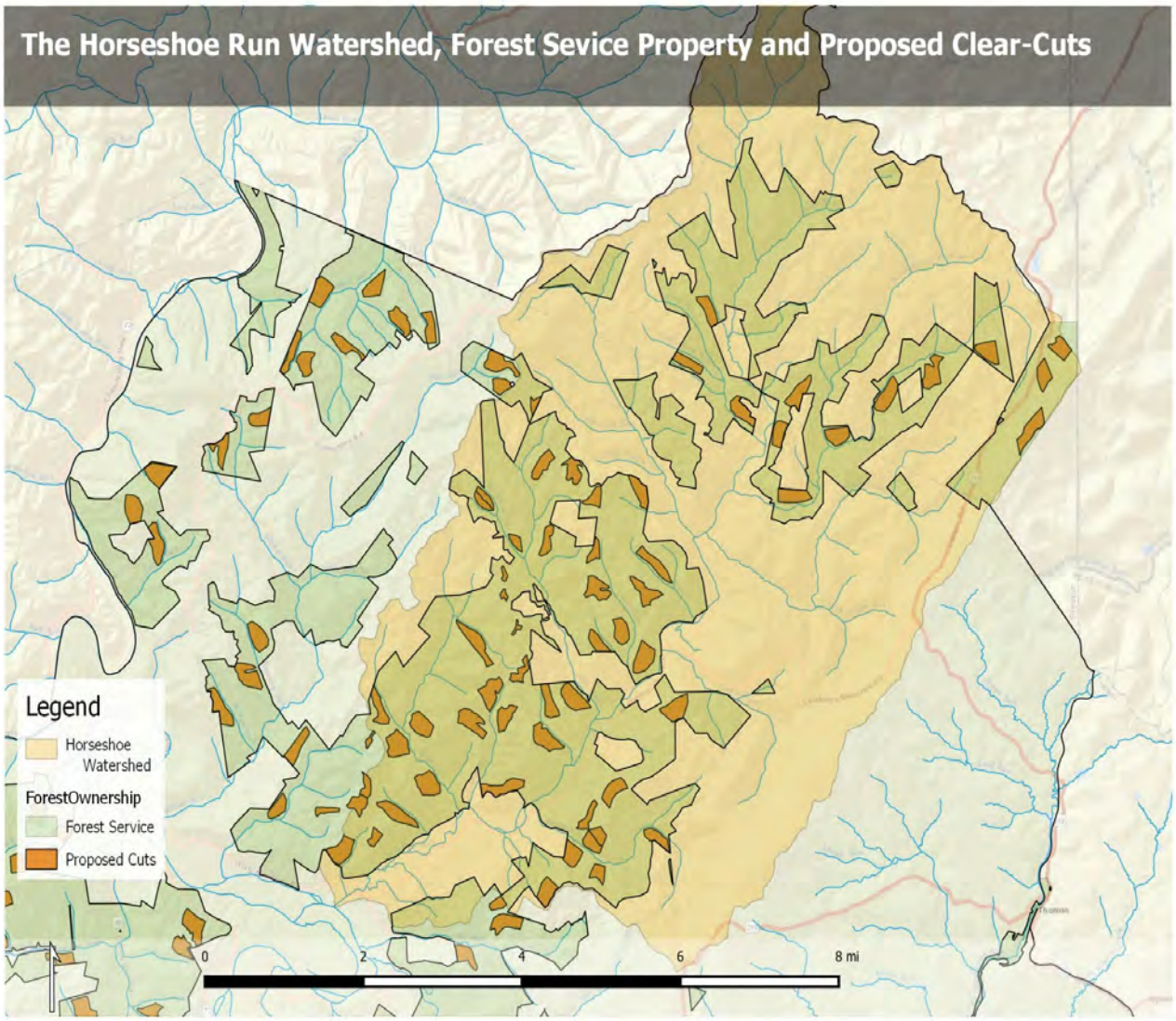

Figure 1: Horseshoe watershed and proposed clear-cuts on Forest Service lands.

Figure 2: Flooding in downtown Leadmine, 2019

Figure 3: Flooding of Horseshoe in Leadmine, 2021

Figure 4a: Older growth stand uncut for 80-100 years.

Figure 4b: Adjacent stand 50 yards distant, clear-cut about 10 years ago

Figure 5: Ten foot tall Russian Olive thickets in a "Wildlife Opening" along the Dorman Ridge

1444 Hile Run Road
Leadmine, WV 26287
304-642-7642(c)
john@HileRun.org

Jon Morgan, District Ranger,
Cheat-Potomac Ranger District
2499 North Fork Highway,
Petersburg, WV 26847

March 31, 2022

Subject: Upper Cheat Project EA, Comments

Dear Jon,

Thank you for the opportunity to comment on the Upper Cheat River Project Environmental Assessment (EA) and associated documents. The undersigned Colemans own and care for a farm along Hile Run and have done so for approximately 50 years. Deborah Watring owns and lives with her family on property next to the Hile Run farm. The Hile Run Farm has been in continuous operation since the 1850s and currently raises beef cattle. Our comments are based on our experience in and adjacent to the National Forest. Our comments elaborate on, or restate, our previous comments made during the scoping period and in the fall of 2021. We have outlined our concerns and provide examples to the extent currently possible.

16-foot circumference heritage oak next to proposed clear-cut R45. Listed in the state registry of large trees. In a group of very large oaks, many of which are proposed to be clear-cut.

Wildlife openings

From what we can tell the EA and associated documents make no changes to the spring 2021 proposal for wildlife openings. Our previous comments still stand and have been updated based on information in the EA. The project proposes to maintain and expand wildlife openings. Despite the EA claiming, page 39, "The Forest Plan indicates that roughly 3 to 8 percent of the area should be maintained or natural openings, while

only 1% is currently open." Our analysis using both the 30 meter WVaDNR West Virginia Terrestrial Habitat GIS maps and the 1 meter Chesapeake Conservancy land cover GIS data, finds that between 9% and 11% of the project areas is currently open. We are very unclear as to how the Forest came up with a statistic of 1% open area. Even a casual glance at aerial photography or land cover maps makes it clear that the 1% number can not be correct for the project area. Given the mosaic of private-public lands which contain many forest openings, Forest created or maintained wildlife openings are unneeded, are a source of invasive exotics and fragment the forest.

Invasives: In the Hile Run valley and hills we have extensive experience with the destructive impacts of exotic invasives spreading from Forest Service wildlife openings. Wildlife openings should be eliminated as much as possible and those that remain should have intensive control of exotic invasives. For example, edges of wildlife openings #116 and #118, and probably others, were planted with invasive Russian olive (*Elaeagnus angustifolia)* in the 1970s and those have since spread to the open fields of the wildlife openings, to the adjacent forest and to our farm approximately 1/2 mile away. As recently as the 1986 EIS/Land and Resource Management Plan, page 136, it was proposed that wildlife opening be planted with shrubs for wildlife habitat. Our and our neighbors personal observations are that the Forest had Russian/autumn olive planted in wildlife opening during the period of 1970-1985. It is unfortunate that in the EA, pages 41-42, the Forest does not recognize its primary role in the introduction and harboring these exotic invasives and suggests that private properties are responsible. Nor does it propose a focused, active program for control of existing invasives on its property. As is noted on the National Invasive Species Information Center web page (see link below), Russian olive/autumn olive crowds out native species. It has invaded our pastures and adjacent forest and currently requires substantial effort to prevent it from further impacting our pastures and forests. On Forest Service lands mowing and control of this aggressive invasive has been sporadic at best. Currently wildlife opening #118 is a thicket of Russian/autumn olive more than 10 feet tall.

Russina/autumn olive in Wildlife Opening #118

More recently, the exotic invasive Japanese Barberry *(Berberis thunbergii)* has been spreading into forested lands adjacent to clearings and old homesteads such as the wildlife openings maintained in the Dorman Tract. Last fall we pointed out that Forest owned land on Lick Drain has a large infestation of this species. While the Forest Service does not appear to have introduced this exotic it is an existing and growing problem in wildlife openings and adjacent forest lands. The existing invasives in the project area are a shared responsibility of the Forest and private landowners. In the last 5 years alone we as farm owners have spent hundreds of person hours to control Russian/autumn olive on our property. The Forest needs to shoulder its share of the burden of controlling existing invasives. **The Forest Service needs to commit much more resources to control of existing exotic invasives in the Forest and should eliminate wildlife openings and "daylighted" roads that promote the spread of those species.**

Forest fragmentation: The project proposes to increase roads, "daylight" roads and linear features and create many clear-cuts. These actions all fragment an already fragmented forest landscape. The forests of this area developed as relatively continuous tracts of unbroken forest. The fragmentation of the forest with roads and wildlife openings is to the detriment of those plants and wildlife that evolved adaptation to continuous canopy and mature forests. The adverse impacts of forest fragmentation to old growth forest adapted species is well documented and the introduction and maintenance of artificial wildlife openings adversely impacts those species. **Wildlife clearings should be eliminated and returned to forest. Forest roads should be minimized and those that are maintained be kept covered with continuous canopy. "Daylighting" of forest roads and other linear features is counterproductive.**

Fire hazard: Wildlife openings provide breaks in the forest where highly flammable, low growing species are maintained or invade. Whereas the mature forests in this area, with little undergrowth, are fairly resistant to the spread of fire, wildlife openings with their low herbaceous and brushy species have the potential to rapidly spread fire. Unless wildlife openings are either burned or mowed annually to remove standing grasses and other flammable material they pose a fire danger to the surrounding forest and forest residents. **Wildlife openings that harbor dense flammable vegetation should be eliminated.**

Dense, low vegetation in F.S. Wildlife Opening

Consideration of the mosaic of land ownership
It appears that the Forest has used only its own property holding, 39 % of the project area, when calculating landscape scale metrics such as stand age-class distribution or percent open area. The only area in which the Forest seems to have taken into account the 61% of the project land not owned by the Forest is in calculating the percent of clear-cut forest by watershed, EA page 43.

Given the large number of private "inholdings" in the Upper Cheat district which maintain wildlife openings and early successional plant communities, the Forest should focus on maintenance of older age classes, maintenance of continuous forest canopy and creation of habitats for mature forest dependent species. Of the 86,138 acres in project area, only 33,991 acres are in Forest ownership. Ignoring the 61% of the landscape within the project area when calculating landscape scale metrics such as percent open or percent timber in a particular age class or considering the need for wildlife habitats is **contrary to good landscape/watershed scale resource management.** All vegetation community types and age classes within the Forest project boundary must be considered. Goals for acres of timber age classes must consider the landscape, including private "inholdings". Calculating age-class distribution and amount of forest openings based solely on Forest owned properties ignores that the forest is a landscape mosaic where private "inholdings" maintain opening and younger timber age classes. For example between our farm and the Watring property we maintain approximately 50 acres of openings within the forest. In addition, Western Pocahontas Properties owns approximately 40,000 in Tucker County, much of which it has clear-cut and created multiple permanently open area landings in recent years. **Calculation of age class distributions and attainment of goals should be based on the landscape mosaic within the project boundary not just the parcels owned by the Forest Service.**

Environmental Justice

The EA mentions Environmental Justice on page 31 and dismisses the issue because the communities in the project area are approximately at the median for West Virginia income. This is a curious conclusion since West Virginia is 49th in ranking of all states for household income (https://worldpopulationreview.com/state-rankings). Being near the median in a state 2nd from the bottom does not mean that low incomes are not a problem. Furthermore, the EA section seems to only consider EO 12898 which focuses on income and race and does not mention the more recent Executive Order 14008 of January 27, 2021. That EO more broadly states that disadvantaged communities that are underserved must be considered in federal policy decisions. The EPA's EJscreen website appears to show that the project includes large areas with the following national percentiles:
Low Income: 60-80 percentile
Unemployment: 80-90 percentile
Less than High School: 70-90 percentile
Over age 64: 80-95 percentile
Sub-par Broadband service: 60-80 percentile
communities of Leadmine, Shafertown and Saint George are in the 100 year floodplain

The project area is experiencing increased flooding, documented in Leadmine and Shafertown by residents, due to increased rainfall. This area is getting hit particularly hard by changes in

weather. An increase in 1.5°C and 4.2 inches/year of precipitation between 1970 and 2020 has been documented by Friends of the Cheat in partnership with NASA DEVELOP. There is also community hardship because of invasive species spreading from Forest lands and the invasion of tick born Lyme disease, possibly due to changing temperatures or the spread of invasive Japanese Barberry. It is clear that this area is seeing the adverse impact of a changing weather and faces several disadvantages in trying to address those challenges. The Forest Service should have taken those factors into account in planning the project, and focused on reducing the adverse effects of increased runoff. Instead the EA spends a large amount of text justifying the clear-cuts as not significantly increasing runoff. Because of the increased rainfall and increased flooding, the project focus should be on decreasing runoff. The Forest has the precious opportunity to both mitigate the effects of the changing weather by slowing runoff and also the ability to affect strategies that reduce the extent of weather change by focusing on carbon storage based on current science. Finally it is unfortunate that the Forest refused to extend the EA comment period or schedule an additional EA comment period or hold a community meeting as was requested by us and other people in the community.

Water source and waterway protection

While the project proposes some activities to protect water resources those activities do not go far enough given the current threats and needs for water protection.

Drinking water: Both the Colemans and Watrings obtain our drinking water from springs fed by Forest lands. We have in the past (2007 and 2012) commented to the Forest concerning our water supply. Given that the enabling legislation for the National Forests cited water resource protection as a primary purpose for establishment of the Forests, the Forest must not neglect its obligation to protect drinking water sources. While our drinking water supply is not downgradient of any of the proposed commercial cuts it is down from proposed work on "existing linear features". We support the stabilization and reclamation of unstable and eroding "existing linear features" as proposed in the project. However, there are no unstable such feature above our water supply and no activity should be conducted in the watershed of our water supply (yellow polygon, Figure 1). **As we raised in our Hogback Project comments in 2007 and our letter of 2012 we ask that there be no activities in the 66 acres watershed that feeds our drinking water supply.** The Forest originally proposed a commercial clear-cut in the watershed of the Watring's water supply (blue polygon, Figure 1). We appreciate that the Forest has modified proposed clear-cut R45 by 4 acres to avoid the Watring water supply
We are less certain about the full extent of other neighbors use of spring water that originates on the Forest but we are aware that the Forest has not adequately documented forest subwatersheds that are used as sources of drinking water. The Forest should undertake an inventory of drinking water use originating on the Forest and avoid cuts, treatments, road building and other activities that may threaten those drinking water supplies. Given one of the National Forest's original mandates in 1891, to protect water and watersheds, this **inventory and protection of drinking water supplies should be made a priority.**

Water temperature and quality: The proposed cuts, road construction and road/linear feature "daylighting" will aggravate the trend of warming waters in area streams and rivers. As the forests in this area have matured they have provided cover and habitat for cool water dependent

fish and other aquatic organisms. On our property and in the adjacent forest there are multiple native brook trout streams and Tier 3 streams of the highest quality (blue lines, Figure 1). Cutting, road construction and clearing that increases the penetration of light to the forest floor increases stream water temperatures. **There should be no activities such as clear-cuts, road construction or "daylighting" that increase light penetration in watersheds of native brook trout or other cool water dependent species.**

The eastern hellbender used to be fairly common in Horseshoe Run near its confluence with Hile Run. After many years of not seeing this large salamander, in 2021 a juvenile was found in Horseshoe Run near the confluence with Hile Run. That threatened species depends on cool clear water. With changing weather, streams are already warming and the proposed activities of clear-cutting, road construction and "daylighting" will reduce water quality and increase water temperatures. Stabilization of roads, and a policy of no new clear-cuts or roads should be implemented in the Horseshoe Run watershed.

By planting and encouragement of trees along Hile Run and the fencing out of our cattle along the majority of Hile Run through our farm we have worked to keep this native brook trout and Tier 3 stream as cool and clean as possible. We are in the process of acquiring more saplings to further shade Hile Run as it passes through our farm. Siltation from the county road remains a problem, particularly when logging activities on the National Forest are occurring. Since the Forest Service regularly uses Hile Run Road (County Rt. 9) the Forest should work with the county to stabilize the roadbed with gravel in order to reduce the large amount of suspended clay that enters Hile Run during storms.

We have been monitoring water temperature in a deep hole in Hile Run on our property at a 1 hour interval for approximately 6 years. That hole (named GSH) has traditionally had a good number of native brook trout. The pattern of median water temperature each week over the year (Figure 2) indicates that water temperatures exceeded the preferred maximum temperature of 20 deg.C every summer. In fact the maximum temperature at this deep hole comes close to the maximum temperature tolerated by eastern brook trout of 25 deg.C. Examining data provided by the Forest last fall we see that monitoring by the Forest shows only slightly lower temperatures far upstream in Hile Run above our farm. Given that stream temperatures in this area are close to the maximum tolerated by eastern brook trout, as noted in the EA, and many of those streams are prized for their brook trout, no project activities should contribute to increased temperatures. In fact, **Project activities should focus on decreasing stream temperatures by methods such as encouragement of continuous canopy over Forest roads and maintenance of tree canopy** across logged areas through selective cutting only. Clear cuts should be reduced so that at a minimum, no subwatershed would have more than 10% of its area recently clear-cut.

Increases in flow due to clear-cutting: The EA notes (page 43) that flow may increase if cutting in a watershed is as little as 10% and has been documented to permanently change stream morphology when cutting is in the 20-25% range. Table 27 of the EA shows that the project as a whole and all sub-watershed are expected to have more than 10% of forest clearing under this project when recent other logging is considered. Horseshoe Run sub-watershed is identified as expected to have 15.7% forest cleared under this project. To those that now experience local flooding almost every year those numbers are frightening. While the increased flow due to this project may not be great, it is a step in the wrong direction. **Peak flows need to be reduced** so that the communities of Leadmine and Shafertown, both in the Horseshoe watershed and in the 100 year floodplain do not experience the flooding that has become all to

prevalent in recent years. The Forest should focus its efforts on reducing peak flows, not justifying clear-cuts, landings and roads. We support the EA comments of the Horseshoe Run community that documents those floods in greater detail. No sub-watershed should be harvested under this project to the extent that the cumulative level of recent cutting exceeds 10% of the forest cover.

Foot trail revival and maintenance

The proposal does not include maintenance or revival of the once useful foot trail system in the Forest. There is mention in the project proposal but no description of two separate recreational projects that may include trail maintenance. In any case, trail maintenance and expansion needs to be more extensive in the Upper Cheat than is likely to be achieved by those projects.

Foot trail use. Historically there was a network of foot trails and overgrown roads through the forest that provided for hunting and recreational opportunities. For example the Losh Run Trail and the Losh Run shelter were built and maintained on the Forest until they fell into disrepair over the past 30 years (see Trail Signage and Shelter link below). Despite lack of maintenance the Losh Run shelter is still used by hikers and hunters and the high-school runners use it as a way-stop during their runs. Another example is, what we call the "Honda Trail" that was a Forest Service marked and signed trail between Lick Drain near Horseshow Run and what is now Forest Road fs929. While the Losh Run shelter still exists it has not been maintained in years and the Losh Run Trail is in need of signage replacement and marking. The "Honda Trail" on the other hand has not received any attention for at least 30 years and road building in the 1980s and clear-cutting during the Hogback Project obliterated portions of the trail. These trails differ from the forest logging roads that were built in the 1980s in that they do not cause forest fragmentation and the associated adverse impacts to forest species, they maintain continuous forest canopy and they provide an in-forest experience for those using the trails. In recent years we have begun marking the old trails so that they can be used for hiking and running (attached Figure 3). There is a small running community in the area that uses those trails. The trails are also used by campers at the Horseshoe Forest Service campground and at YMCA Camp Horseshoe. Some of the trails are used by the bicycling community centered in Davis but many are now obstructed by downed trees that prevent use by bicycles. The network of foot t**rails should be restored and expanded so that low-impact recreation can be conducted and encouraged.**

Destruction of foot trails by clear-cuts. One of the stands to be clear-cut (R24) would obliterate one of the historic trails that we have re-marked. Those trails need work but are a great asset for exploring and recreating in the Forest. It runs from Lick drain to an old early settler farm site, also on Lick Drain. That trail is named "Honda" in Figure 3 and makes for a great 3 mile loop from the county road at Horseshoe Run bridge when combined with the Lick Drain Trail. Trails such as this and others that will be obliterated by clear-cutting, e.g. Losh-Run Trail by cut R52 should be protected. The loss of recreational opportunity due to these clear-cuts and lack of attention to trails is an unfortunate oversight in this proposed project.

Recontouring linear features. The project proposes to "decompact and recontour" 47 miles of existing linear features. While some of that activity is needed because of poor condition of skid roads that were inadequately put to bed, some of the "existing linear features" are original settler

roads that have reverted to narrow forest trails. Those trails should not be treated in any way other than hand clearing of downed trees to make the trails usable by the public. For example the trail that leads from our house to the top of the ridge and fs929 is the remnants of a farm road that leads from our farm to fields near fs929. Those fields were lost from this farm during the depression but the old farm road, now in the form of a 2-3' wide trail is still used by us, other members of the community and wildlife to access the forest. We have named that foot trail "Hile Farm" trail (Figure 3)

"Linear feature" identified in the EA for reclamation. Known to us as the old Hile road or Hile Farm trail and used to access the Forest on foot.

We strongly object to any activity that would make that or other historical trails/settler roads less usable for low-impact recreation. **The Forest should focus on diverse recreation. This should include maintenance and expansion of foot/bike trails, enhancement of trail infrastructure such as signage and shelters and promotion of trail use through public information at campgrounds and in Forest publications.**

Helicopter logging(yarding)

More than half the commercial clear-cuts are proposed to be conducted through helicopter logging. Helicopter logging has several disadvantages that make leaving stands on steep slopes a better option.

Recent clear-cut logging next to us under the Hogback Project was conducted through helicopter logging. We suggest that helicopter logging is a poor use of public natural and financial resources and those steep stands should be left uncut. The EA (page 38) mentions that leaving proposed helicopter cut stands uncut would result in a loss of $1.2 million in revenue but does not identify what the savings in cost would be. The alternative to leave the steep-slope stands proposed for helicopter logging uncut needs to be thoroughly analyzed. Studies (Born 1995) have shown that helicopter logging is only

economic with high value timber. A study in Alaska (Christian and Brackley, 2007) concluded "It is an excellent logging tool but helicopter logging is too expensive for operation in all but the highest-valued stands". Logging adjacent to us has resulted in the wastage of large quantities of logs as they were left to rot after being downed as part of a clear-cut under the Hogback project.

Whole trees and tree tops left after helicopter logging in 2020. and see additional video and photos at links at end of letter.

We presume that they were left because their value was not great enough to support the cost of the helicopter yarding. Helicopter logging has high costs for flight time, uses large quantities of aviation fuel and wastes timber resources by leaving less than premium logs on the ground. **The stands on steep slopes are ideal candidates for being left as mature forest. Those stands should not be harvested because of helicopter harvest inefficiency in the form of waste of timber and fossil fuel resources. While helicopter logging is sometimes proposed as a conservation measure, leaving stands on steep slopes unharvested is a better alternative.**

Need for more late successional stands

The project proposes to reduce the acres of late successional stands on the Forest. The opposite is needed. Early successional stands are unneeded because of the mosaic of private lands maintaining those age classes. More mature forest has multiple benefits that need to be considered.

> **Mature forest as carbon sink:** Mature forest is a vital component of carbon storage and carbon sequestration. A study of mature forests published in Nature found that large trees store more carbon than mid-sized and small trees (Stephenson et.al. 2014): "large, old trees do not act simply as senescent carbon reservoirs but actively fix large amounts of carbon compared to smaller trees". A 2014 report (Stecker 2014) found "A sweeping study of forests around the world finds that the older the tree, the greater its potential to store carbon and slow climate

change." and "38 researchers from 15 countries found that 97 percent of trees from more than 400 species studied grew more quickly as they aged, thus absorbing more carbon." While additional studies are still being conducted, the evidence so far indicates that mature forest is as, or more, efficient than younger forest in sequestering carbon. The cutting of our forests, particularly clear-cutting, releases the stored carbon through the slash and uncollected logs that are left to rot on the forest floor. In addition, much of the carbon in the harvested trees is released to the atmosphere when bark, sawdust and scrap is disposed of. Ultimately the carbon of the lumber produced is released to the atmosphere when the lumber is no longer in use and is disposed of. The claim in the EA, page 35, that carbon uptake and storage generally decline as forest age is contrary to current scientific literature that indicates that carbon uptake increases with age (Stephenson et.al. 2014). The one citation in the EA that seems to support the contention that older trees sequester less carbon is from a study in a rare Australia ecosystem. It's relevance is questionable. A cycle of tree growth and timber harvest is at best carbon neutral, with periodic large carbon releases at the time of harvest, whereas we are in need of increasing carbon storage particularly in the short term. That can be accomplished by leaving timber carbon tied up in mature trees and allowing large trees to continue to sequester carbon. Older growth trees contain a large carbon stock and keeping those trees is an immediately effective, low-cost approach to removing and keeping carbon dioxide from the atmosphere. The climate and biodiversity protection goals set forth in Executive Order 14008 need to be considered. Conserving older forests and the carbon tied up in those forests should be a priority. Older forests and trees store large amounts of carbon and importantly, the rate of carbon accumulation continues to increase as a tree gets older and larger (Stephenson et al 2014). Once individual trees die due to old age or a disturbance event, they continue to hold onto their accumulated carbon for long periods of time by contributing to the course woody debris that many animal species are dependent on. Therefore, some of the most significant and durable gains in carbon storage and sequestration over the next few decades can come from protecting mature and older-growth forests and trees and allowing forests to grow older **(Moomaw et. al. 2019).** While a Forest goal of a mixed age forest may have been appropriate in the last millennium it is no longer useful and is in fact harmful as we face changes due to carbon emissions. A focus on carbon sequestration and carbon storage must be a priority. **Mature timber should be left on the forest for its carbon sequestration and carbon storage benefits.**

Old growth is relatively rare: As far as we know original old growth no longer exists in our area. However, given the more than 100 years since the original cutting, the forest has grown back to what can be considered old growth. As can be seen from Forest Service analysis of stand age (Figure 4), old growth is a relatively rare forest type compared to what existed prior to the settlement and logging period. The ecological communities and resident species of this area were adapted to unbroken expanses of mature forest. While forest openings did occur due to blow-down, fire and Native American activities, the dominant type in this area was unbroken canopy of mature forest. Unfortunately the Forest is still aiming for a less mature forest than would be ecologically beneficial. That goal, set in the last Forest Plan of 2006 and before, does not consider the ecological and climate mitigation needs of today. Unfortunately the commercial cuts proposed are focused on removing mature stands that can be considered old growth. For example cut R45 and R46 are in the area of very large oaks some of which are on the West Virginia registry of large trees (Big Tree Program 2021). The Forest goals and current

conditions focus too much on promoting mid-successional age classes. **The desired age class distribution should focus on more late successional stages.**

Fire, clear-cuts and early successional stages: Currently the mature forest in our area has little to no fuel at ground level. This is the result of the mature canopy preventing growth of saplings and the intense browsing by the large deer population in the area. Cutting of these mature stands creates fuel at ground level in the form of slash and un-yarded logs and tops and creates dense stands of brush and young trees that can become fuel for fire

Approximately 10 year old clear-cut from the F.S. Hogback project showing small stems and downed timber.

Given the increased threat of forest fire due to a changing climate, creation of fire prone forest openings in the form of recent clear-cuts and wildlife openings is counter-productive. **The creation of fire hazard by clear-cutting should be eliminated.**

Heritage Sites

The project EA proposes protection of heritage sites but does not describe how those sites will be identified.

Over the past 20 years we have found and documented many settler farms in the forest surrounding our farm. We have seen foundations and the remains of farm tools and household items at those locations. To date we have documented 14 settler farms within 1.4 miles of our house (red stars, Figure 1). Most of those sites are on Forest Service land. Four of those sites, including building foundations, are fully or partially within stands proposed for commercial logging or wildlife enhancement. These farm sites reflect the rich settler heritage in the area and document the farm community that once existed here. That community included farms and

cemeteries and at least one school. On our own farm we have found artifacts dating to the Civil War period and the Battle of Corricks Ford. Our farm is between the route of the Union forces near Location and the line of retreat for the Confederate forces after that battle along Horseshoe Run. Historical sites can only be protected if they are identified. In the fall of 2021, in an effort to help the Forest to identify historical properties, we provided the Forest coordinates for 25 historical building foundations in our immediate area. The EA does not indicate that there has been any investigation of those sites or an effort to identify other historical properties in other parts of the project area. We also provide the Forest with contacts in the community; people who maintain historical knowledge of the area. As far we can tell the Forest has not contacted those people.. **Historical sites should be identified by the Forest Service prior to any ground disturbing activities. A plan for identifying historical sites needs to be described.** We can assist in that effort in our local area but not for most of the Upper Cheat Project area. That is the responsibility of the Forest.

Clear-cutting of Heritage Trees

There are heritage oaks in a stand (R45) proposed to be clear-cut. The stand of trees includes many oaks more than 12 feet in circumference (more than 4 feet in diameter at breast height). One oak, more than 16 feet in circumference at breast height, is just outside the area to be clear-cut and is on the West Virginia list of large trees (https://wvforestry.com/big-tree-program/). Multiple other oaks greater than 11 feet in circumference are within stand R45, scheduled to be clear-cut

Oak 13 feet in circumference within proposed clear-cut #R45

Cutting down these trees to reach a goal of some stand age distribution set in the last millennium is irresponsible. We have walked some of the stands that are proposed to be clear-cut in our area but most stands we are not so familiar with. Given that the Forest is targeting older trees in this cutting project it

seems likely that other stands contain heritage trees that should be preserved. These trees have been with us for more than 100 years and inspire wonder and awe. Those heritage assets should not be sacrificed to achieve an outdated stand age distribution goal.

Forest Roads
Forest roads are proposed to be reopened, expanded and "daylighted". While essential roads should be maintained and exotics controlled, roads create several harms to the forest.

Road opening: A large number of new Forest roads were built in the 1980s and 90s in this area. They break up the forest canopy and are a constant point of conflict over motorized access. The EAroject proposes to open more of those roads to vehicles on a seasonal basis to help reduce the overpopulation of deer. The creation of large areas of deer forage in the form of clear-cuts seems contrary to an effort to reduce the deer population. Controlling the deer population is a desirable goal and should not be undercut by creation of large areas of deer browse in the form of new clear-cuts. Maintenance of low impact hunting access should be encouraged. **Existing closed roads should not be opened to large vehicles and infrequently used roads should be converted to closed canopy 2-tracks for low-impact access to the Forest.**

Introduction and habitat for exotic invasives: In many cases the roads built in the 1980s and 90s in this area have turned into highways of exotic invasives. For example, large portions of fs930 is a carpet of Japanese Stiltgrass with scattered Tree of Heaven

Tree-of-heaven and stiltgrass on the shoulder of Forest road fs930

both terrible invasives in this area. They exist because of the soil disturbance of the road construction and the lack of closed canopy along the road. **Maintaining closed canopy over needed roads, aggressive invasives control and reclamation of unused roads needs to be a**

priority in order to slow the spread of invasive plants.

Alternatives analysis needed
The EA primarily examines the proposed action and a no-action alternative is occasionally discussed. Additional alternatives must be considered. For example, the Forest needs to examine an alternative that eliminates the 1,965 acres of helicopter logging on steep slopes from the proposal and only proposes the 982 acres of conventional and the 576 acres of cable logging. While such an alternative would generate less revenue it would also have fewer costs. The Forest should also evaluate an alternative that makes invasives control and stream flow reduction project priorities.

Invasive species
We have identified invasive plants in wildlife openings and along Forest roads as a problem in other section of our comments. The BMPs identified in the EA to address invasive exotics in Forest openings and clear-cuts have been painfully ineffective over many years and led to the rampant spread of invasives from and between Forest lands. An aggressive program of invasives control must be implemented. In addition to those terrestrial plants, there appears to be a new invasive aquatic algae that was first noticed in Lime Hollow in the spring of 2021 and in 2022 it was seen in Hile Run. The deer tick and associated Lyme disease has arrived in our community in the last 2 years. Prior to that, for at least 50 years in my memory, this area was tick free. Just last year several people in the Leadmine area, including a member of our family contracted Lyme disease. Control of all types of invasives needs to be a priority.

Rare species
A number of rare species occur in the project area such as two species of federally listed bats, the muddog (hellbender) and others listed in the EA. What is not listed in the EA is the Eastern Mountain snake, a rare endemic to this area that has been identified on our farm,

Although the EA acknowledges that the project may have adverse impacts on the Northern Long-Eared Bat, the EA was developed prior to the NLEB being proposed for federally endangered status. In addition there has been no consideration of the combined impact of windmills, removal of maternity roost trees and white nose syndrome, nor were those factors seriously evaluated singly in the context of this project.

Despite Horseshoe Run being classed as a High Quality State Mussel Stream no evaluation of the impacts of this project on mussels was considered.

Bald Eagles are mentioned but the Forest seems unaware that for at least the last four years adult bald eagles are regularly seen on Horseshoe Run near Leadmine. Residents have photo documentation of adult eagles in Leadmine.

Questions related to the proposed project raised during scoping that remain. Questions answered by the EA have been crossed out.

1. ~~What portion of the proposed project activities would be paid for by bids on the commercial logging that is proposed? Or if that is too speculative, what portion of road building/maintenance, "daylighting" and creation/maintenance of wildlife openings has been paid for by bid revenues for Forest projects in the past 10 years?~~ The economic information in

the EA, pages 38 & 39 makes it clear that this project does not cover costs but creates a loss of $1.4 million.

2. ~~What portion of the bids that are awarded are to local companies, i.e. companies based within the county or county adjacent to the cutting?~~ The EA, page 38 points out that most of the logging will not be conducted by in-state loggers. However, the revenue and cost numbers presented in the top half of page 38 appear different than those presented elsewhere. Which are correct?
3. What activities beyond those already proposed could effectively address the warming of local streams? The EA does not appear to suggest any activities beyond those already proposed in the scoping document of 2021.
4. ~~Do historical farm sites fall under Section 106 of NHPA and how will they be identified and protected prior to project activities?~~
5. ~~Given the changes that have occurred in the last 20 years, what process is available to revise the goals of the 2006 Forest Plan to better align Forest targets with the needs for carbon sequestration, maintenance of forest integrity and protection of the unique biodiversity of the region?~~ To re-phrase, the Forest plan from 2006 is outdated given the changes in weather that have occurred and the needs of society to address carbon emissions and storage. What mechanisms are there to update the plan?
6. ~~What ecologically sound spatial boundaries could be set, that account for the mosaic of age classes and forest openings created by the mix of private and public ownership, when calculating landscape scale goals for age distributions and other metrics?~~ To re-phrase, why is the Forest not calculating landscape scale goals on a landscape scale but only calculating numbers on the 39% of the project area owned by the Forest Service.

Need for an Environmental Impact Statement

Social and environmental conditions have changed significantly since the last Forest Plan was developed in 2006. With the rapidly changing weather, the need for carbon storage, and the spread of invasive species in our forests, fields and streams a project of this scale should not proceed without a reevaluation of Forest goals and how those can be achieved. The proposed listing of the Northern Long-Eared Bat as endangered and the lack of the combined effects analysis of the changing climate, electric windmills, white nose syndrome and maternity roost tree cutting means that a more complete evaluation needs to be done. The small communities within the project area are experiencing frequent flooding because of documented increased rainfall and larger storm events. Executive Order 14008 must be considered when evaluating the impact of this project on those communities.

The Upper Cheat River project must be redesigned with the goal of developing community, forest and aquatic resiliency to the changing conditions. Only with a full project EIS or a new project developed within a new Forest Plan can those goals be achieved.

We appreciate your consideration of our EA comments. We have provided here, in scoping comments and in communications over the past 9 months information from our area on such topics as locations of invasives, high flow occurrences and older trees. We expect that the forest will use its much greater resources to look at those same topics in the broader project area. While these comments may come across as lopsided in their desire to, for example, promote older aged stands, you should know they are coming from the perspective of land owners with long experience in the Forest and with training and experience in forestry and wildlife management. We have also suffered the consequences of poor past decision by the Forest in terms of introduction and poor control of exotic invasives at wildlife openings

and roads, poor maintenance of wildlife openings and roads, and clear-cutting on steep slopes. We approach this proposal, not from the angle of "do nothing" but from a desire for the forest to realign its priorities with the ecological and climate change needs of today. These needs are for mature forest species conservation, support for ecological integrity so that plant and animal communities native to mature mid-Appalachian forest can survive, and activities that address the weather changes we are currently experiencing. Unfortunately the Upper Cheat Project as currently proposed misses those priorities by focusing on outdated mid-successional goals set in the Forest plan of 2006. There needs to be a refocusing and analysis of alternatives that take into account the communities impacted and weather changes that have occur and will continue to occur in the near future.

If you have questions or if you wish to discuss our comments or possible cooperation, please contact John Coleman at number or email listed above.

Sincerely,
/John Coleman/ John Coleman
/Stephen Coleman/ Stephen Coleman
/Daniel Coleman/ Daniel Coleman
/Thomas Coleman/ Thomas Coleman
/Deborah Watring/ Deborah Watring

Links to Images and Video

National Invasive Species Information Center
https://www.invasivespeciesinfo.gov/terrestrial/plants/russian-olive

Trail Signage and Shelter
https://app.box.com/s/kbvsktuj4b8ipbjy6y2x5y8e86v4hqpw

Helicopter Logged Stand26-Unit707
https://app.box.com/s/idvuvjjfval7wn17kbsg7l8fm4on8agb

Literature Cited

Big Tree Program, 2021. West Virginia Division of Forestry,
https://wvforestry.com/big-tree-program/

Born 1995. Production and Cost Analysis of a Helicopter Thinning Operation in the Oregon Coast Range and Comparison to HELIPACE Production Estimates. Department of Forest Engineering

College of Forestry Oregon State University

Christian, L.and Brackley, A. 2007. Helicopter logging productivity on harvesting operations in southeast Alaska, using ecologically based silvicultural prescriptions. Western Journal of Applied Forestry. 22(2): 142-147 https://www.fs.usda.gov/treesearch/pubs/29657

Moomaw WR et. al. 2019. Intact Forests in the United States: Proforestation Mitigates Climate Change and Serves the Greatest Good. Front. For. Glob. Change 2:27. doi: 10.3389/ffgc.2019.00027

Stecker, T. 2014. Old trees store more carbon, more quickly, than younger trees. ClimateWire.

Stephenson, N.L. et. al. 2014. Rate of tree carbon accumulation increases continuously with tree size. Nature 2014, 507:90-93

Figures

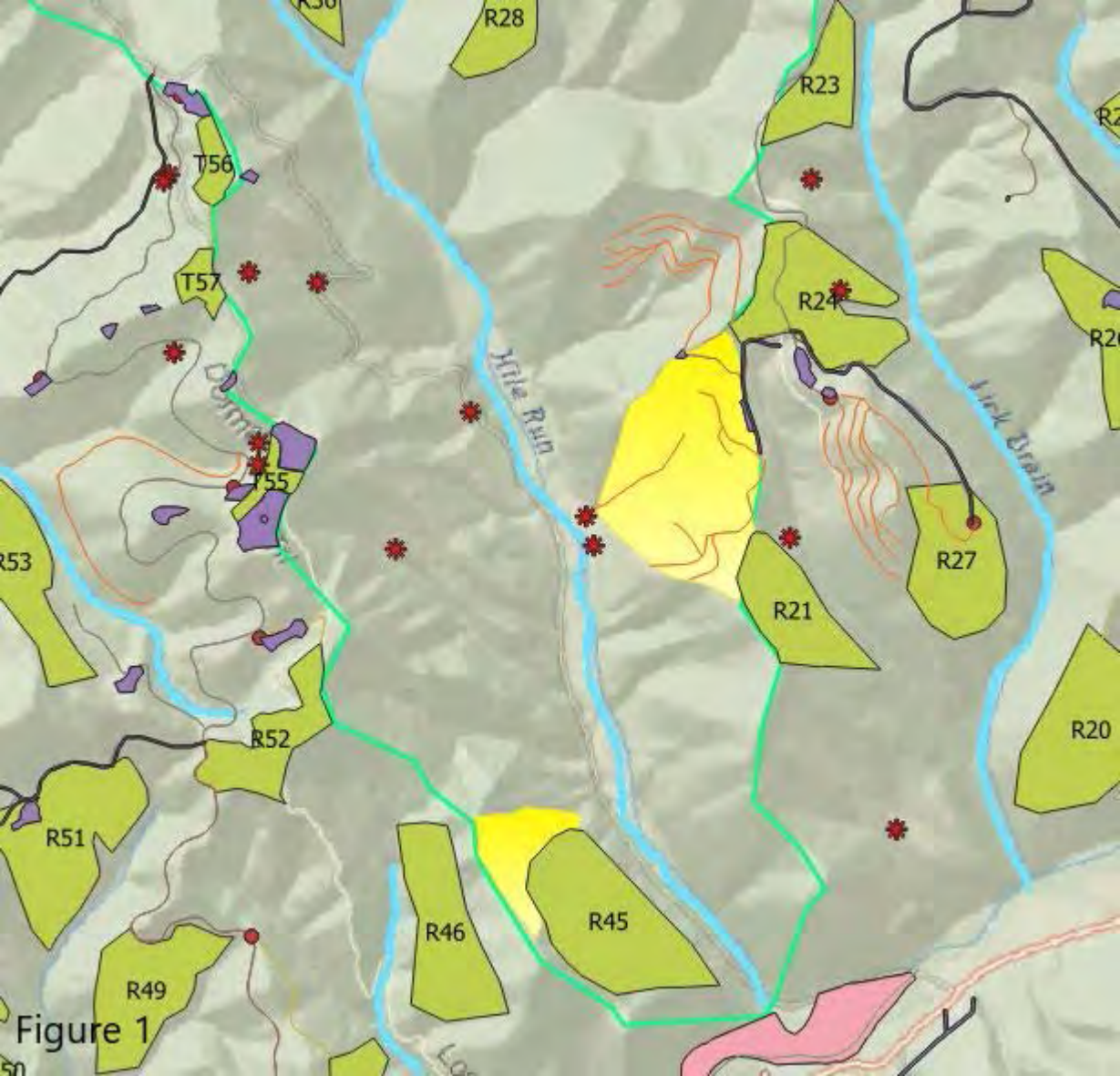
R28
R23
T56
T57
R24
Mile Run
T55
R27
R21
R53
R52
R20
R51
R46
R45
R49

Figure 1

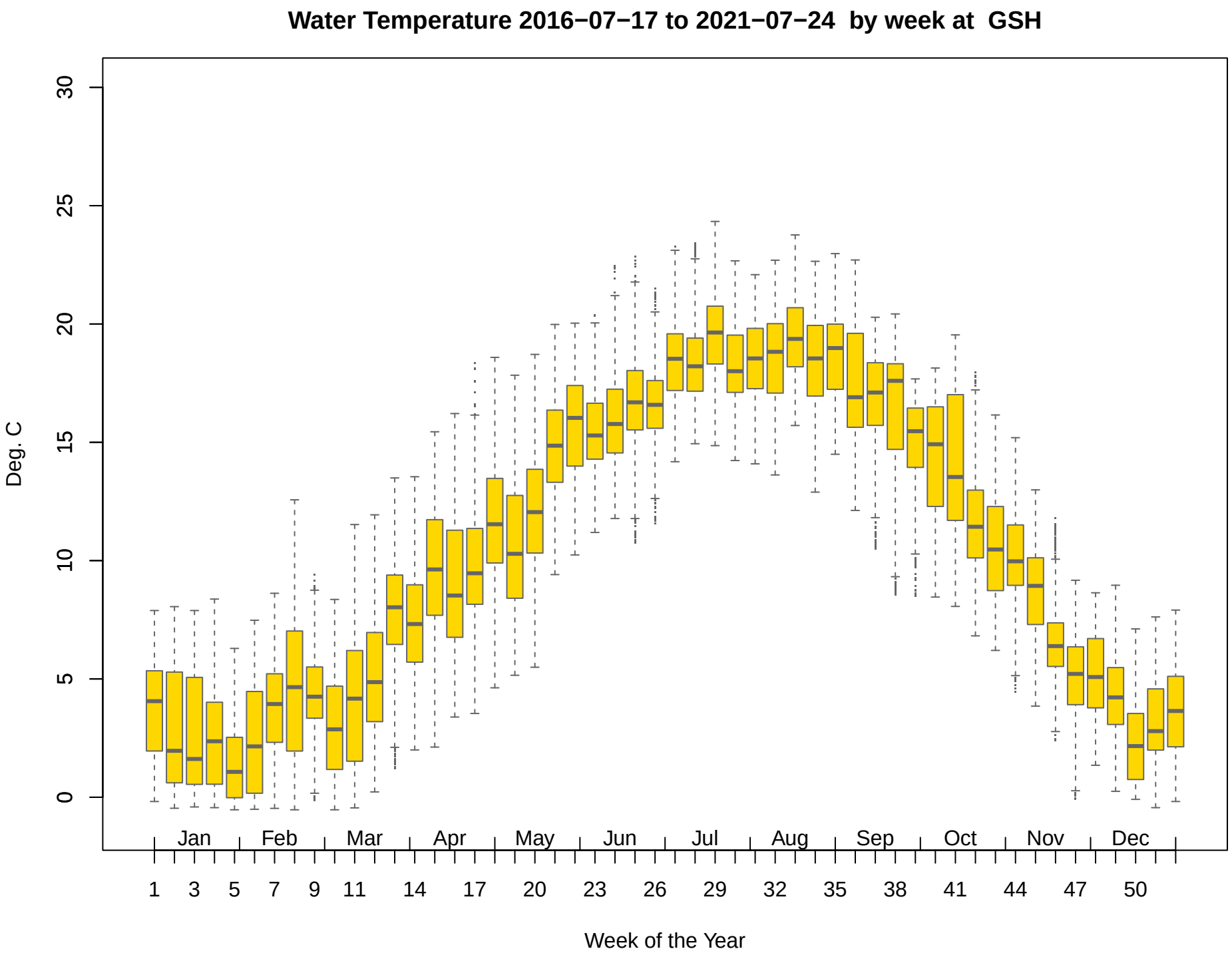

Figure 2

GSH_2016−07−17_2021−07−24_combo.csv w/ Onset−group_29.R 2021−07−25

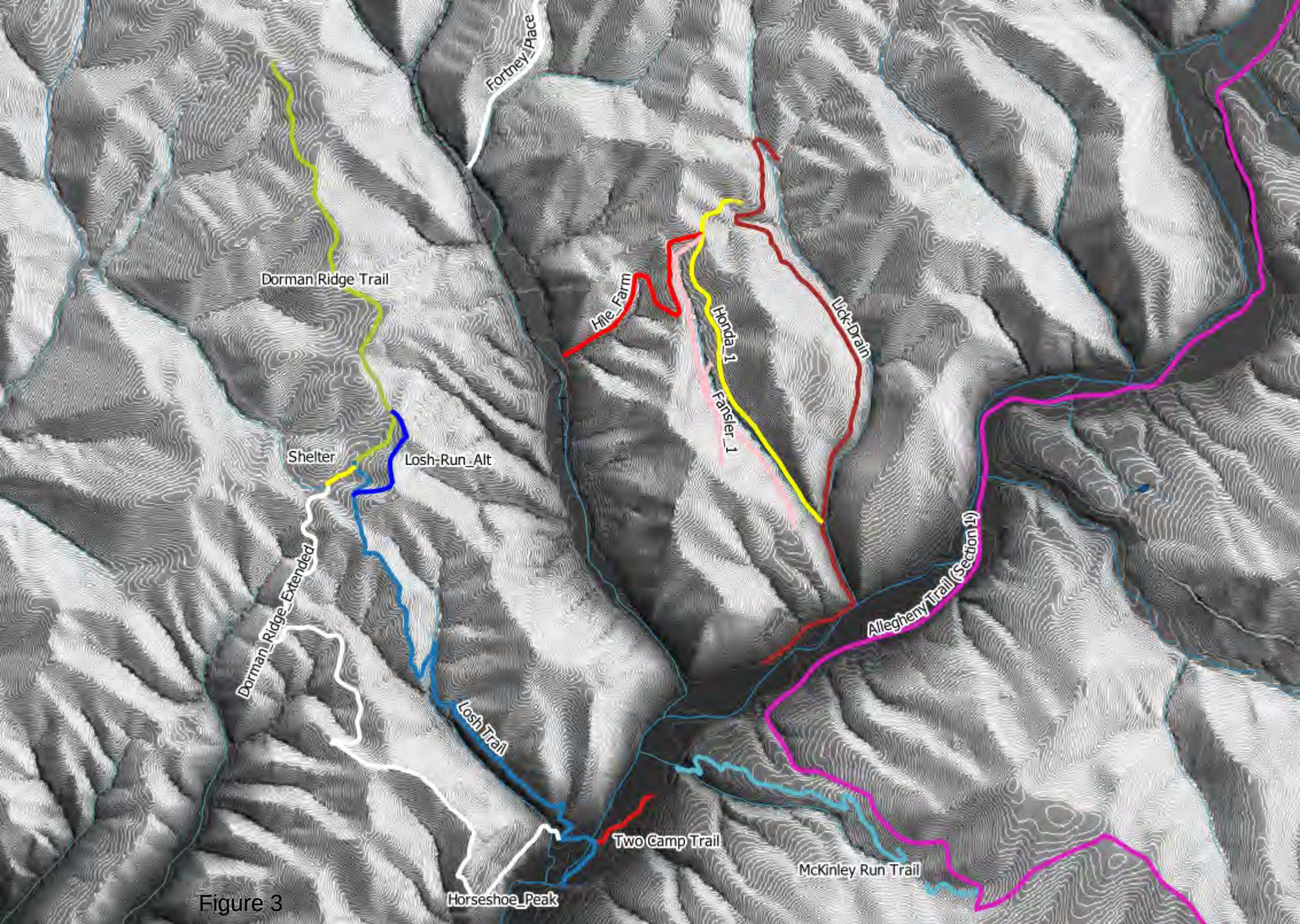
Fortney_Pace
Dorman Ridge Trail
Hile_Farm
Honda_1
Fansler_1
Luck-Drain
Shelter
Losh-Run_Alt
Dorman_Ridge_Extended
Losh Trail
Allegheny Trail (Section 1)
Two Camp Trail
McKinley Run Trail
Horseshoe_Peak

Figure 3

Existing and Desired Conditions

Age class distribution for project area

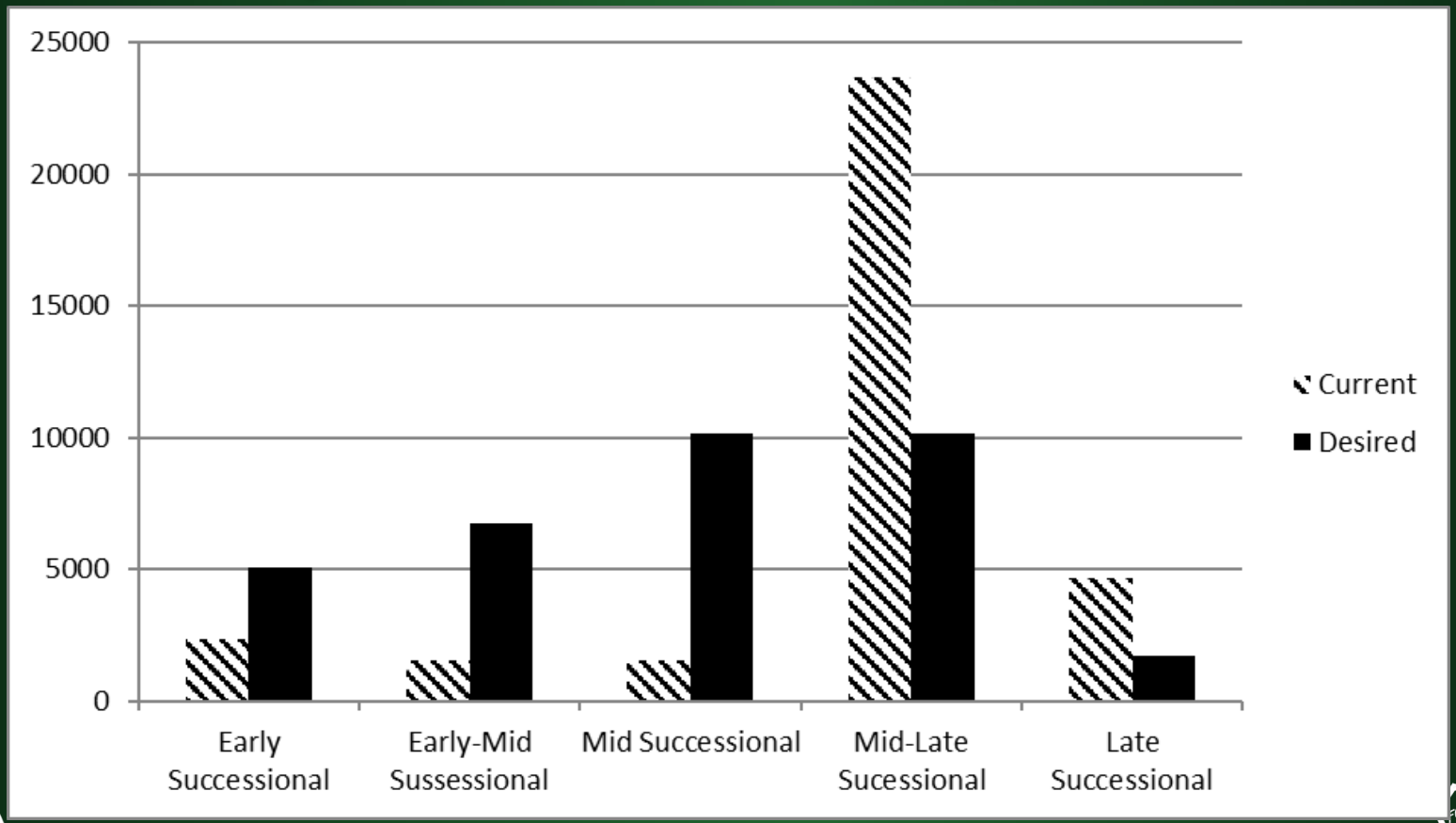

Figure 4