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Comments: 1."ACRES BY AGE CLASS" TABLES (Dept. Agriculture Letter dated 20 October 2022)
Accuracy of timber acreage projections: Given that the present "Acres by Age Class - Existing" are correct, then the projected "Acres by Age Class" without proposed actions implemented have been calculated inaccurately; and these inaccuracies will therefore result in the projected "Acres by Age Class" after the proposed actions have been implemented also being inaccurate.

Grouping of all timber species: The "Acres by Age Class" tables presented do not identify what / which tree species they represent and therefore imply that all values presented consider ALL tree species. In this case the noted "mature" tree class (81- 130 years) would appear to be inappropriate as many tree species (for example. poplars) often have a smaller life span whereas the lives for the oaks / hickories species are about 200 years.

Selection of priority tree species for planning: It is assumed that the "design" tree species for planning the project would be "oaks / hickories) but it has not been made clear.

2.CONCERNS FOR PROPOSED CLEARCUT AND SHELTERWOOD TIMBER HARVESTS
The following comments regarding "clearcutting" are based in part on experience gained on our registered tree farm, but particularly on my interpretation of an extensive internet search I carried out of "clearcutting logging practices". In summary, it appears there have been variable results using "clearcutting" with their success / failure dependent primarily on actual local conditions.

. Cost: The advantages stated by some for clearcutting are reduced logging cost and time. However, this has been disputed by some Contractors because of the additional cutting required of the smaller trees, etc. for which they get no logs. Moreover, there will be additional ongoing costs after project completion due to increased annual maintenance costs for all new roads and extensions. There are possible other costs due to resolving future project related environmental issues and damage to private properties.

. Achieving Project purpose: It is understood that the primary project purpose is to carry out silvicultural treatments to create a more balanced age and structure distribution for the forest. Details are presented in the following sections below that outline reasons there is concern in achieving project success for proposed clearcut sections due to actual local conditions for the Jellico area:

. Erosion and landslide potential: Clear cutting increases erosion of logging sites as well as the roads used for accessing the logging sites. This is particularly critical for the Jellico area as many of the surface soils are classified as prone to erosion. This can be appreciated by looking at cut-slopes and embankment slopes for existing roads in the area. In addition, a significant number of landslides have occurred in / near the project area.

. Erosion negatively impacts runoff, water quality and quantity: The increased soil erosion results in increased frequency and magnitude of surface runoff (flooding) with increased sedimentation and soil nutrients washing into creeks resulting in siltation in rivers and reservoirs downstream.
. Existing Undesirable timber species: Clearcutting promotes the growth and spread of invasive species (ex: Tree of Heaven (Ailanthus altissima) and Autumn Olive (Elaeagnus umbellata) as they prefer cleared / disturbed sites to grow. Encouraging the proliferation of tree of heaven is particularly bad as this species is the preferred host of another invasive species, the spotted lantern fly (Lycorma delicatula), which is poised to become a serious threat in our region. Clearcutting also promotes the regrowth of Red Maples (noted by you as "undesirable") as their regeneration is significantly faster and more vigorous than that of oaks and therefore acts as a canopy to the slower growing oaks. They are also crowding out oaks and other hardwood species due to the large number of

seeds produced and, because of their winged shape, the large area the seeds are spread. Red Maples were traditionally kept in check from controlled burning of cleared areas which may prove a better alternative than herbicide spraying. Planting seedlings of oak following a treatment should help their regeneration.

. Biodiversity concerns: "Experts"' opinions differ. It would appear that clearcutting provides for some new species in the logging sites, but at the expense of eliminating existing habitat and the associated existing wild animals, insects and plants. In addition, biodiversity is being lost for tree species from Red Maple takeover which adds importance to them being eliminated / controlled by the project.

. Environmental degradation: Clearcutting creates a number of negative impacts including increased erosion and flooding, and negatively impacting fauna habitat and water and soil quality. There is also much concern for additional "environmental degradation" for affected nearby residents due to excessive noise / smoke / herbicide spray during implementation, due to decreased quality of the scenery, and possible decreased value of their property.

3.CONTRACT / SCOPE OF WORKS CONSIDERATIONS
Present level of forest deficiencies: Although the Jellico forest stand clearly needs treatment to obtain improvements to meet future requirements, it is surprising that such a large area of the existing forest stand requires treatment (i.e. forest areas that cannot be assessed as "good enough"). Any reduction in areas that require treatment would reduce project cost as well as future maintenance costs of logging sites and access roads.

Limitation of Clearcut treatment areas: Due to the high erosion potential of Jellico forest soils anticipated, and other issues (see 2. above), consideration should be given to specifying "selective cutting" rather than "clearcut" treatments presently scheduled. It is suggested that these changes be made before letting of the contract(s) in order to avoid increased project costs and delays in implementation associated with issuing Change / Variation Orders.

Scheduling of Timber Harvest Works: Consider prioritizing the early removal of areas with significant invasive species (Tree of Heaven and Autumn Olive) and "undesirable" Red Maple due to their rapid spreading potential.

Selective harvesting by mule teams: Provide within the logging contracts the use of mule teams, as warranted, to minimize the need for new access roads by using mules to move logs to existing road site, This should prove to be particularly appropriate for terrain having steep slopes and / or a lack of existing roads.

Provide "restricted works" buffer zones: Prohibit the use of clearcut and two-aged shelterwood treatments within a prescribed distance from privately owned properties. This action would reduce friction (possible public outrage / legal actions) with land owners from project damage (ex:. stream sedimentation), reduced property value, etc.