Data Submitted (UTC 11): 8/30/2022 4:00:00 AM
First name: Jim
Last name: Scheff
Organization: Kentucky Heartwood
Title: Staff Ecologist
Comments: Comments from Kentucky Heartwood are attached to this submission.

RE: Request for information on federal old growth and mature forests (Executive Order 14072)

August 30, 2022

To Whom it May Concern,
The following comments are being submitted on behalf of Kentucky Heartwood, a public lands advocacy organization based in Berea, Kentucky. Kentucky Heartwood was founded in 1992 and seeks to protect and restore the integrity, stability, and beauty of Kentucky's native forests and biotic communities through research, education, advocacy, and community engagement. These comments are authored by Jim Scheff, who obtained his M.S. in Biology with an emphasis in Applied Ecology from Eastern Kentucky University in 2012. His graduate research was focused on evaluating the development of old-growth characteristics in secondary forests in the Daniel Boone National Forest.These comments focus on issues pertaining to inventories of mature and old-growth forests, emphasizing characteristics of forests in the Daniel Boone National Forest of eastern Kentucky. We look forward to submitting comments relating to conservation and management of mature and old-growth forests at a future date.We regret that these comments are necessarily brief and may be in need of further editing and details. Unironically, we have needed to spend most of our time during this comment period addressing the thousands of acres of logging of mature and old-growth forests in the Daniel Boone National Forest approved under the South Red Bird Wildlife Enhancement Project. Most of the logging in the South Red Bird project will be even-aged regeneration harvests. Notably,while the Forest Service refers to these cuts as "shelterwood harvests," the actual basal area targets (10 to 20 ft2/ac) are half of a typical shelterwood in our region and thus more appropriately considered as "clearcut with reserves."To date, in the South Red Bird project area, Kentucky Heartwood has inventoried more than 400 acres of old-growth forests with trees well over 200 years old where Daniel Boone National Forest resource staff have steadfastly argued that no old-growth forests exist. Agency staff have refused to give any demonstrable consideration to the data we have submitted. At least 160 acres of these old-growth forests are approved for logging.Mature ForestsConsiderations and inventories for "mature" forests are generally much simpler than for oldgrowth forests. Some have suggested an age threshold of 80 years for mature forests in southeastern U.S. forests (Forest Service Region 8). We largely agree. Accepting variance for site and community type, forests of around 70 to 90 years of age in this region have typically transitioned from the "stem exclusion" stage of stand development, driven by density-dependent competition, to the "understory reinitiation" or "demographic transition" stage. Basal areas tend to approach maximum values, though diameter distributions and canopy heights remain relatively uniform and lack the structural complexity more typical of old-growth.An inventory of these stands using the Forest Service's FSVeg database should be a fairly straightforward and reasonably accurate method for quantifying and locating forests exceeding this age threshold.Old-Growth ForestsOld-growth forests are much more complex and difficult to inventory and assess. The complexity and variety of old-growth communities in the Daniel Boone National Forest leads to significant problems for setting simplistic standards of determining old-growth status. Tree heights and diameters, past a certain age of maturity, reflect more about site type than they do stand age or old-growth status. Structural complexity is a better indicator, but difficult to quantify oroperationalize at scale. For example, basal area and canopy height may be similar for a 110 year old and a 250 year-old stand of the same community type, but these forests may differ substantially in diameter distribution, canopy structure (i.e., gaps, layering), presence of den trees and down wood debris, etc. The consideration of "stand age" is also complex, given that most old-growth forests in the east are characterized by a multi-age condition that may present variously at different scales. Old-growth structure is derived from the interaction of tree growth and small- to medium-scale disturbance events, leading to within-stand pulses of regeneration that are necessarily patchy and heterogeneous.The Forest

Service's June 1997 Guidance for Conserving and Restoring Old-Growth Forest Communities on National Forests in the Southern Region (R8 Old-Growth Guidance) remains a reasonably good and streamlined approach for considering old-growth characteristics of the various southeastern forest types. While the Guidance needs updating and some revision, it does a good job at setting various structural and age thresholds for when a forest ought to beconsidered "old-growth." The minimum age criteria comport with this author's findings of when secondary forests begin to exhibit old-growth structural characteristics, and therefore encompass both secondary and primary old-growth forests.1Utilizing the minimum age thresholds in the R8 Old-Growth Guidance could be useful and allow the Forest Service to inventory for old-growth based on stand age queries from the FSVeg database if those age data were reliable. However, stand age assessments in the FSVeg database for the Daniel Boone National Forest are extremely problematic for forests over 100 years old. We have found significant errors made by the Forest Service in assessing old-growth and mature forests resulting in erroneous age classifications well below the age thresholds in the R8 Old-Growth Guidance and Daniel Boone National Forest LRMP. We have found many examples where old-growth forests dominated by canopy trees over 200 years-old (confirmed with qualified dendrochronological sampling) have been determined by the Forest Service to be much younger - as young as 65 years. At the same time, staff on the Daniel Boone National Foresthave been unwilling to accept or consider data we've submitted that contradicts their determinations - determinations often made by coring a single tree in a stand.These errors stem from a suite of issues, including poorly executed field procedures, insufficient data collection, an astounding ignorance of representative old-growth communities, and anti-oldgrowth bias on the part of Forest Service staff, among other issues.Due to time constraints, we are including as Appendix A a detailed discussion of these issues as they pertain to the aforementioned South Red Bird Wildlife Enhancement Project. The language is taken from a supplemental information letter submitted by Kentucky Heartwood to Redbird District Ranger Robert Claybrook on February 21, 2022. The full letter will also be included as an attachment to this submission.Again, we wish that we had more time to provide a detailed discussion of specific old-growth communities, quantitative assessment approaches, and submissions of our own data. An inventory system that relies on bad data or erroneous assumptions about complex old-growth communities could just as easily result in harm as it does tools for conservation. However, at this time, trying to stop the Forest Service from cutting mature and old-growth forests is our priorityas an organization. We hope that the forthcoming inventory process will provide useful information. But if that information is not used to better conserve mature and old-growth forests then this process will just result in a tremendous waste of time and resources.Sincerely,Jim Scheff, Staff EcologistKentucky HeartwoodP.O. Box 1482Berea, KY 40403jim@kyheartwood.orgATTACHMENT: Appendix A - detailed discussion of these issues as they pertain to the aforementioned South Red Bird Wildlife Enhancement Project.ATTACHMENT: Development of old-growth_Scheff2012.pdfATTACHMENT: 20220218 FINAL Supplemental Information Letter.pdf - Letter to Robert Claybrook, Redbird District Ranger, Daniel Boone National Forest, advising that Kentucky Heartwood has retained the counsel of Environmental and Animal DefenseFOOTNOTE: 1 The Development of Old-Growth Structural Characteristics in Second-Growth Forests of the Cumberland Plateau, Kentucky, USA. Robert James Scheff (2012), Master's thesis, Eastern Kentucky University