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Comments: Please see attached comment letter

Dear Travis Moseley: Thank you for providing me the opportunity to review and comment on the preliminary draft of the Lincoln National Forest Land and Resource Management Plan. The Lincoln National Forest is well known for its incredible plant diversity and number of endemic plant species, including many federally and state listed endangered and threatened plants and species of Conservation Concern. Unfortunately, the draft Plan largely fails to provide meaningful management guidelines for at-risk plant species. Plants largely need a different management approach from animals. Therefore, it would be of benefit if management guideline for at-risk plants would be clearly separated from at-risk animals. At a minimum federally listed plant species and those at-risk plant species with documented management conflicts should be afforded direct management actions to provide for their continued existence on the Forest. For example: -Considering documented declining population trends of *Cirsium vinaceum*, exclosures need to be reinstated and maintained. -Livestock grazing needs to be excluded from all existing *Cirsium vinaceum* populations. -Closely monitor impacts of insect predators on *Cirsium vinaceum* population trends. -Surveys need to be conducted before any ground disturbing project in the habitat of at-risk plant species to ensure avoidance or needed mitigation to minimize impacts. -Population trend monitoring is needed to inform appropriate management action. Therefore, monitoring of at-risk species is essential, especially for species documented to be in decline and especially due to documented impacts of climate change on at-risk species throughout New Mexico. -Baseline information on current abundance, distribution, and threats is needed for all at-risk species to guide management action, document population trends, and analyze wildfire impacts. -Seed collections for ex-situ conservation purposes or population augmentation is needed for all at-risk species. -Considering documented declining population trends of *Allium gooddingii* on the Lincoln National Forest and the sensitivity of the species' remaining habitat, the Forest Service should consider species-specific management actions to reverse the trend, including habitat restoration, monitoring, seed collection and storage, possible population augmentation, additional inventories, and specific guidance for the management and maintenance of Ski Apache. Additional comments as follows: EIS Vol 1, Chapter 3, page 220: The habitat of *Allium gooddingii* on the Lincoln National Forest is high elevation slopes and drainages in climax conifer forests above 9,000 ft. It has not been documented from mountain meadows, other than those created by the construction of Ski Apache and the removal of trees. EIS Vol 1, Chapter 3, page 221. Why is *Viola calicicola* not on this list? It is endemic to the Guadalupe Mountains from where it is known from maybe 4 locations. This is a riparian species sympatric with *Aquilegia chaplinei*, clearly threatened by drought/climate change and possibly livestock grazing. EIS Vol 1, Chapter 3, p. 226. Vegetation treatments can have a significant long-term impact on at-risk plants, especially considering the small population sizes of some species. Herbicide leaching, drift and overspray, sterilized soils caused by pile burning, and the spread of invasive species can all impact at-risk plant species over the long term. It should not be assumed that large scale vegetation treatment projects will improve habitat conditions for at-risk plant species. EIS Vol 1, Chapter 3, p. 235. What about mitigating impacts of livestock grazing on *Cirsium vinaceum*? Is the FS following guidance from the USFWS? Grazing impacts on this extremely rare species are significant and need to be addressed. EIS Vol 2, Appendix A, p. A-14. *Cirsium vinaceum* is also threatened by climate change/drought, pesticides/herbicides, as well as vegetation treatments. EIS Vol 2, Appendix A, p. A-17. Wildfire tends to increase the competition with other native herbaceous and woody species, hence posing a threat to *Hedeoma todosenii*. Impacts of prolonged drought/climate change may also pose a threat to this species. EIS Vol 2, Appendix A, p. A-19. *Echinocereus fendleri* var. *kuenzleri* is also threatened by climate change/drought, pesticides/herbicides. EIS Vol 2, Appendix A, p. A-20. *Cirsium wrightii* is obviously also threatened by drought/climate change and pesticides/herbicides. EIS Vol 2, Appendix A, p. A-24. Wildfire is not just a potential threat to *Allium gooddingii*, but a documented threat to the species rangewide, including the Lincoln NF (Roth 2020). In fact, wildfire is currently considered the largest threat to the species. Post-fire restoration activities have been documented as a significant threat on the Lincoln NF. Also, infrastructure development and maintenance associated with recreational developments (Ski Apache). EIS Vol 2, Appendix A,

p. A-26. *Lilium philadelphicum* is also threatened by climate change/drought, pesticides/herbicides, and vegetation treatments. EIS Vol 2, Appendix A, p. A-34. Wildfire is a threat to *Geranium dodecatheoides*. One population burned in the 2021 Three Rivers Fire. Long term survival is unknown. EIS Vol 2, Appendix A, p. A-35. *Phacelia cloudcroftensis* also occurs along the Trestle trail. Hence trail maintenance and construction are also threats. EIS Vol 2, Appendix A, p. A-37. *Aquilegia chaplinei* is also threatened by drought/climate change and pesticides/herbicides. EIS Vol 2, Appendix A, p. A-39. *Potentilla sierrae-blancae* only occurs in very limited habitat at the highest elevations of the Lincoln NF and is therefore extremely vulnerable to climate change/drought. Please let me know if you have any questions or if I can be of additional help. Sincerely, Daniela Roth

Botany Program Coordinator

Reference cited: Roth, D. 2020. Status report Goodding's onion (*Allium gooddingii*), Gila and Lincoln National Forest, New Mexico. Technical report prepared by the EMNRD-Forestry Division, Santa Fe, NM, for the USFWS, R2, Albuquerque, NM.