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Dear Columbine Ranger District

PO Box 439

367 S. Pearl Street

Bayfield, CO 81122

RE: J-FIRM Project Scoping

According to the San Juan Forest Plan, ecological restoration and best available science should guide all actions. Please implement these requirements under the Forest Plan. Ecological restoration is also very appropriate for heavy-use recreational areas near Durango.

Please dispense with group selection and improvement cutting, which do not restore historical forest structure, and instead use well-established ecological restoration methods (e.g., Allen et al. 2002). Ecological restoration should guide vegetation thinning for the 1,500 acres of mechanical thinning and the 3,000 acres of hand thinning in this project, but also all prescribed burning.

Ecological restoration generally means restoring: (1) the historical spatial pattern of ponderosa pine and dry mixed conifer forests, which included a mixture of isolated trees, clumps of trees, and openings (ICO; Churchill et al. 2013), (2) historical tree-density levels, including historical variability (Allen et al. 2002, Baker 2020 Table 6), while (3) retaining all larger trees that were depleted in past logging (Allen et al. 2002, Baker 2021). I strongly suggest retaining all trees in ponderosa pine forests ≥ 16 " dbh (diameter at breast height), which is the regional standard for ecological restoration in these forests (Allen et al. 2002). This will also identify and protect almost all historical (pre-1880) trees now about 140 years old in ponderosa pine forests on the San Juan NF (Baker 2020 p. 4090). In dry mixed conifer, it is essential to retain all trees ≥ 14 " (Baker 2020 p. 4090) to keep all historical trees (pre-1880).

Please do not waste money hand thinning and using helicopters in the Colorado Roadless Area-this is an excellent place to simply prescribe burn; no pre-burn thinning is necessary. I am happy to see prescribed fire across the whole area and appreciate limiting mastication to minimal fuel breaks along roads.

Sincerely,

Dr. William L. Baker

Emeritus Professor

Program in Ecology,

University of Wyoming

References cited were also sent as pdfs:

Allen, C. D., M. Savage, D. A. Falk. K. F. Suckling, T. W. Swetnam, T. Schulke, P. B. Stacey, P. Morgan, M. Hoffman, and J. T. Klingel. 2002. Ecological restoration of southwestern ponderosa pine ecosystems: a broad perspective. *Ecological Applications* 12:1418-1433.

Baker, W. L. 2020. Variable forest structure and fire reconstructed across historical ponderosa pine and mixed conifer landscapes of the San Juan Mountains, Colorado. *Land* 9:3.

Baker, W. L. 2021. Restoration of forest resilience to fire from old trees is possible across a large Colorado dry-forest landscape by 2060, but only under the Paris 1.5°C goal. *Global Change Biology* 27:4074-4095.

Churchill, D. J., A. J. Larson, M. C. Dahlgreen, J. F. Franklin, P. F. Hessburg, and J. A. Lutz. 2013. Restoring forest resilience: From reference spatial patterns to silvicultural prescriptions and monitoring. *Forest Ecology and Management* 291:442-457.