### FOB Scoping Comments Regarding the proposed Forest Plan Amendment for Elk, Old Growth, Coarse Woody Debris, and Snag Forest Plan Components

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Submitted on August 11, 2022, via email to: <a href="https://cara.fs2c.usda.gov/Public//CommentInput?Project=57302">https://cara.fs2c.usda.gov/Public//CommentInput?Project=57302</a>

Mr. Anderson,

Friends of the Bitterroot (FOB) submit the following comments in response to the scoping letter dated July 13, 2022, and fully incorporate our comments dated February 10, 2020, which were in response to the original scoping letter dated December 18, 2019.

- 1. For decades, Friends of the Bitterroot (FOB) claimed the Bitterroot National Forest (BNF) ignored the best, most recent, available science during project planning and implementation.
- 2. We applaud the Agency for declaring a desire to amend the Forest Plan (FP) to align with the best, most recent, available science.
- 3. However, we stipulate that the Forest Service's proposed amendment must follow the best, most recent, available scientific research.
- 4. It is improper to continue relying on the outdated studies which support management goals while pretending BNF decisions are based on the best science.
- 5. Although amendments to the Forest Plan—based on the best, most recent, available science—are admirable, the Forest Service (FS) should probably be directing its efforts toward updating the entire FP as is required by law.
- 6. Nevertheless, FOB could support FP amendments if, and only if, the amendments are based entirely on the best, most recent, available scientific research.

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### Overview

- Site-specific amendments related to elk habitat effectiveness, thermal cover, old growth, coarse woody debris, and/or snags have been used at least 14 times for projects since 2000. (see Table 1)
- 8. Each of those projects included substantial amounts of logging, much of it commercial.
- 9. The Scoping documents do not mention or divulge there are currently three large timber sales on the BNF for which final decisions are pending, all of which rely on project-specific amendments similar to those being proposed in the scoping documentation.
- 10. Therefore, it is logical to assume this current set of Forest Plan amendments is intended to allow for a greater number of trees to be extracted from the acreage included in future projects.
- 11. For more than two decades, the FS repeatedly claimed amendments of this sort were sitespecific and therefore not "a significant change to the [forest] plan for purposes of the NFMA." (Gold Butterfly Draft SEIS ROD, Appendix B, p. 1) (Mud Creek EA. Decision Notice and FONSI, Appendix C, p. 24).
- 12. Because this set of FP amendments will apply to the entire Bitterroot National Forest (BNF) the Agency cannot honestly claim these are no significant changes without contradicting "no significant change" statements included in previous project documents.

Project	Acres	Site-specific Amendments	District	Year
Burned Area Recovery Project	unknown	Snag Retention, EHE in Laird Creek, Thermal Cover in Skalkaho Rye	Darby, Sula, West Fork	2001
Slate/Hughes Watershed Restoration and Travel Management	unknown	EHE	West Fork	2002
Middle East Fork Hazardous Fuels Project	25,800	CWD, Snag Retention, Thermal Cover, Unsuitable Lands	Sula	2006
Hackey Claremont Fuels Reduction	3,131	EHE CWD	Stevensville	2008
Trapper Bunkhouse Land Stewardship Project	23,140	EHE CWD Thermal Cover	Darby	2008
Lower West Fork Project	38,400	EHE CWD Thermal Cover	West Fork	2010
Larry Bass Project	1,200	Thermal Cover CWD	Stevensville	2012
Three Saddle Vegetation Management	6,300	EHE CWD	Stevensville	2013
Darby Lumber Lands Watershed Improvement Travel Management Project	28,758	EHE	Darby	2015
Meadow Vapor	11,090	EHE CWD Thermal Cover	Sula	2017
Darby Lumber Lands Phase 2	27,453	EHE Thermal Cover	Darby	2018
Gold Butterfly	55,147	EHE Thermal Cover OG	Steven <i>s</i> ville	2018 2022
Westside Vegetation Treatment	5,700	EHE CWD Visual Quality	Darby	2018
Mud Creek	48,486	EHE CWD Elk Thermal cover and road density OG	West Fork	2021 2022

Table 1 - List of past BNF Projects that Include Site-Specific FP Amendments

- 13. Consequently, these FP amendments require an <u>environmental Impact statement</u> and a 90day comment period.
- 14. On this project's website, the FS initially (26mar22) provided a copy of Hillis 1991 which was missing the important page 42.

- 15. After being advised by a member of the public, the Agency posted the complete version of (Hillis, 1991) on 23may22.
- 16. The FS initially posted and emailed a copy of the second Scoping Letter (13jul22) which was missing page 2, the page covering most of the text related to the proposed old-growth amendment.
- 17. After being informed by a member of the public, the FS posted the complete (second) Scoping Letter on 14jul22.
- 18. Both of those instances indicate the Agency may not be paying close attention to the details of the amendment process.
- **19**. There are several interrelated regulations the Forest Service must follow to amend a Forest Plan.
- 20. Adhering to the directives of the 2012 Planning Rule (36 CFR 219) is essential.
- 21. A portion of the language included in the Multi-Use Section (<u>§ 219.10</u>) is repeated immediately below. Incorporated are links to regulations and legal definitions contained within this document's Appendices.

#### 36 CFR § 219.10 Multiple use

While meeting the requirements of §§ 219.8 and 219.9, a plan developed or revised under this part must provide for ecosystem services and multiple uses, including outdoor recreation, range, timber, watershed, wildlife, and fish, within Forest Service authority and the inherent capability of the plan area as follows:

- (a) Integrated resource management for multiple use. The plan must include plan components, including standards and guidelines, for <u>integrated resource</u> <u>management</u> to provide for <u>ecosystem services</u> and <u>multiple uses</u> in the plan area. When developing plan components for integrated resource management, to the extent relevant to the plan area and the public <u>participation</u> process and the requirements of §§ <u>219.7</u>, <u>219.8</u>, <u>219.9</u>, and <u>219.11</u>,, the responsible official shall consider:
  - (1) Aesthetic values, air quality, cultural and heritage resources, <u>ecosystem services</u>, fish and wildlife species, forage, geologic features, grazing and rangelands, habitat and habitat <u>connectivity</u>, <u>recreation settings</u> and opportunities, <u>riparian areas</u>, scenery, soil, surface and subsurface water quality, timber, trails, vegetation, viewsheds, <u>wilderness</u>, and other relevant resources and uses.
  - ...
  - (5) Habitat conditions, subject to the requirements of § <u>219.9</u>, for wildlife, fish, and plants commonly enjoyed and used by the public; for hunting, fishing, trapping, gathering, observing, subsistence, and other activities ..."
  - ...
  - (7) Reasonably foreseeable <u>risks</u> to ecological, social, and <u>economic sustainability</u>.
  - (8) System drivers, including dominant ecological processes, <u>disturbance</u> regimes, and <u>stressors</u>, such as natural succession, wildland fire, invasive species, and

climate change; and the ability of the terrestrial and aquatic <u>ecosystems</u> on the plan area to adapt to change ( $\frac{§ 219.8}{2}$ ).

- (9) Public water supplies and associated water quality.
- 22. It is not enough for the Forest Service to offer generalities when proposing a Forest Plan amendment. The Agency must:
  - A. establish an interdisciplinary team or teams to prepare <u>assessments</u> for plan amendments and plan <u>monitoring</u> programs (<u>§ 219.5(b)</u>)
  - B. provide specific plan components, including standards and guidelines. (§ 219.10(a))
  - C. ensure the amendment will <u>maintain</u> or <u>restore</u> the <u>ecological integrity</u> of terrestrial and/or aquatic ecosystems of the area covered by the plan. (§ 219.8) (§ 219.9)
  - D. guarantee the amendment will not initiate or cause the degradation of ecological <u>sustainability</u> within the plan area. (i.e., shrink wildlife habitat, lower water quality, reduce air quality, diminish soil productivity, decrease <u>connectivity</u>, downgrade <u>ecosystem</u> ability to contend with climate change, cope with <u>disturbance</u> regimes, etc.) (§ 219.8)
  - E. use the best science to support its reason for proposing an amendment. (§ 219.3)
  - F. identify and consider relevant existing information in governmental or nongovernmental <u>assessments</u>, plans, <u>monitoring reports</u>, studies, and other sources of relevant information (<u>§ 219.6</u>) (<u>§ 219.13(b)(1)</u>)
  - G. develop a monitoring program to measure and record the aftereffects of the amendment(s) for the plan area ( $\frac{§ 219.12}{9}$ )
  - H. guarantee that monitoring is continuous and provides feedback to test the assumptions of the amendment ( $\frac{9219.5(a)(3)}{2}$ )
  - I. a plan amendment must be consistent with Forest Service NEPA procedures (<u>§</u> <u>219.13(b)(3)</u>)
  - J. ensure that the determination to amend the plan be based on the effects (beneficial or adverse) of the amendment, and informed by the best available scientific information, scoping, effects analysis, monitoring data or other rationale. (§ 219.13(b)(5)(i))
  - K. determine whether or not the required plan components provide the <u>ecological</u> <u>conditions</u> necessary to: contribute to the <u>recovery</u> of federally listed threatened and endangered species, <u>conserve</u> proposed and <u>candidate species</u>, and <u>maintain</u> a <u>viable population</u> of each species of <u>conservation</u> concern within the <u>plan</u> <u>area</u>. (§ 219.9(b)(1))
  - L. provide for <u>ecosystem services</u> and <u>multiple uses</u> (§§ <u>219.8</u>, <u>219.9</u>, <u>219.10</u>)
  - M. ecosystem services include:
    - (1) provisioning services, such as clean air and fresh water, energy, fuel, forage, fiber, and minerals;
    - (2) regulating services, such as long-term storage of carbon; climate regulation; water filtration, purification, and storage; soil stabilization; flood control; and disease regulation;
    - (3) supporting services, such as pollination, seed dispersal, soil formation, and nutrient cycling; and

(4) cultural services, such as educational, aesthetic, spiritual and cultural heritage values, recreational experiences, and tourism opportunities.

### **Proposed Elk Amendment**

22. Our previous scoping comments regarding elk are hereby incorporated (copy attached).23. The "initial" Scoping Letter (18dec19) for this project states the following (p. 1):

Current forest-wide standards for Elk Habitat Objectives (Forest Plan pp. II-21, F.1.e.(14)) direct forest managers to "manage roads through the Travel Plan process to attain or maintain 50 percent or higher elk habitat effectiveness (Lyon et al. 1983) in currently roaded third order drainages. Drainages where more than 25 percent of roads are in place are considered roaded. Maintain 60 percent or higher elk habitat effectiveness in drainages where less than 25 percent of the roads have been built." Guidance in Lyon et al. (1983) indicates the elk habitat effectiveness criteria should be applied to areas greater than 3,000 acres. The Bitterroot Forest Plan applies the criteria in Lyon et al. to the third order drainage scale, regardless of size. Only 75 of 385 third order drainages on the Bitterroot National Forest are greater than 3,000 acres in size. This discrepancy between the guidance provided by Lyon et al. and the Forest Plan has created a situation where the existing condition of many third order drainages are not in compliance with the Forest Plan standard. The Forest is considering alternative metrics for elk standards because more recent scientific literature indicates that additional factors including: forage abundance, distribution, availability, and quality; distance from open roads during hunting seasons; and hunting pressure, may affect elk use patterns and distribution across the landscape. Additionally, Montana Fish Wildlife and Parks has recently concluded several research projects on elk distribution and seasonal movements within the Bitterroot Valley. The evaluation of current forest plan standards for elk is an opportune time to incorporate these research results.

The Forest Plan Record of Decision states, "Winter range will be managed to provide diversity of forage and hiding cover with at least 25 percent of the area in thermal cover at all times." Forest Plan standard F.1.e.(12) provides guidance by stating, "Big game cover/forage relationships, as described in Guides for Elk Habitat Objectives (USDA, 1978) will be a consideration in planning timber management activities." Thermal cover is difficult to accurately measure on a landscape scale and subsequent research indicates thermal cover is not a necessary requirement for elk (Cook et al. 1998).

Hiding cover is also difficult to measure at a landscape scale. Specific to Management Area 2, the Forest Plan defines hiding cover as, "Vegetation, primarily trees, capable of hiding 90 percent of an elk seen from a distance of 200 feet or less." The degree to which hiding cover may influence seasonal elk occupancy of Forest Service lands is unknown. However, the elk population in most units of the Bitterroot Valley has continued to grow since the Forest Plan was signed and is over population objective. There is a need to amend Forest Plan elk habitat management direction using scientific information that is measurable and applicable to the geography, landscape, and biology of the Bitterroot National Forest.

- 24. Although the second Scoping Letter (13jul22 & 14jul22) did not include a reference to elk, an proposed amendment to standards which effect elk is part of this amendment process.
- 25. Therefore, we are including comments related to the proposed changes to standards which will have an effect on elk.
- 26. The Agency claim of the supposed "discrepancy" between the current FP and (Lyons, 1983), is misleading.
- 27. The size and number of third order drainages has not changed since the 1987 FP was created.
- 28. Therefore, an explanation of why these proposed changes (which will impact elk) are now required should be provided to the public.
- 29. (Lyons, 1983) states that, "An evaluation area should be at least 3,000 acres; ..." (p. 595) and the FP refers to third order drainages.
- 30. However, that does not preclude combining adjacent third order drainages to qualify for (Lyons, 1983) 3,000-acre requirement.
- 31. Therefore, claiming that "the Forest Plan has created a situation where the existing condition of many third order drainages are not in compliance with the Forest Plan standard" is not valid.
- 32. The Mud Creek Draft EA states, "The small size of 3<sup>rd</sup> order drainages in the project area limits the amount of roads that can be present on the ground. In order to meet the standards, the mileage of roads needed to be closed would limit forest management access and conflict with other forest plan management objectives to provide roaded, dispersed recreation." (Mud Creek Draft EA, pp. 34-35)
- 33. Although not stated in the scoping documents for the proposed FP amendments, it appears one of reasons to eliminate (Lyons, 1983) acre requirement is to allow the Agency to keep more open roads on the forest.
- 34. The question then is, even if forage is increased from treatments, something which has never been demonstrated, a large percentage of this forage will be unavailable to elk due to displacement from new and/or open roads in the summer, and displacement of elk from the forest to private lands in the fall hunting season.
- 35. Given the vast amount of peer-reviewed research conducted into the negative effect of roads on elk, it seems the FS is more interested in roads than the wellbeing of elk.
- 36. This proposed change to FP (road) standard is in spite of the fact that the Agency does not have the ability to provide timely maintenance on the existing road system.
- 37. The "initial" Scoping Letter (18dec19) states, "Montana Fish Wildlife and Parks has recently concluded several research projects on elk distribution and seasonal movements within the Bitterroot Valley. The evaluation of current forest plan standards for elk is an opportune time to incorporate these research results."
- 38. Those documents are not available on the FS website for this project, thereby restricting the public's access to pertinent information.
- 39. The "initial" Scoping Letter (18dec19) states, "The degree to which hiding cover may influence seasonal elk occupancy of Forest Service lands is unknown."

- 40. That admission suggests there is limited or no on-the-ground research to support any change to the current Forest Plan hiding-cover requirements.
- 41. The suggestion that "The degree to which hiding cover may influence seasonal elk occupancy of Forest Service lands is unknown" seems implausible given the vast amount of research that has been conducted on the subject.

Elk responses to human hunters were stronger in the day than at night and were generally more pronounced during the elk hunts than during deer hunts. During hunts, elk shifted their diurnal behavior to avoid forage and intensified their avoidance of roads and trails. The combination of these changes in behavior led to a predicted pattern of distribution during the hunt that differed substantially from the distribution prior to the hunt. Lactating females that more strongly avoided roads entered winter in poorer nutritional condition, suggesting that the changes in resource selection we describe carry corresponding nutritional costs that have the potential to impact subsequent population performance. (Spitz, 2019)

We found that during the archery season, in order of decreasing strength of selection, elk selected for areas that restricted access to public hunters, had greater time-integrated normalized difference vegetation index values, had higher canopy cover, were farther from motorized routes, and had lower hunter effort. During the rifle season, in order of decreasing strength of selection, elk selected for areas that restricted access to public hunters, were farther from motorized routes, had higher canopy cover, and had higher hunter effort. ... Further, cross-population analyses revealed increased elk avoidance of motorized routes with increasing hunter effort during both the archery and rifle hunting seasons. (Ranglack, 2017)

Elk avoided the trails during recreation treatments, shifting distribution farther out of view and to areas farthest from trails. Elk shifted distribution back toward trails during control periods of no human activity. Elk avoided recreationists in real time, ... Distances between elk and recreationists were highest during ATV riding, lowest and similar during hiking and horseback riding, and intermediate during mountain biking. (Wisdom, 2018)

- Elk avoided people and trails associated with all-terrain vehicle (ATV) use, mountain biking, hiking, and horseback riding. Avoidance was strongest in response to ATV use, followed by mountain biking, and was less strong in response to hiking and horseback riding.
- In response to these recreation activities, elk moved to areas where they were less likely to encounter recreationists. Increased movement and flight added energetic costs and decreased foraging times, which can affect animal health and diminish their ability to reproduce.
- Elk stayed hidden from human view as part of avoidance. Extensive forest thinning increased the field of view and, therefore, the distances that elk maintained from recreationists. (Kantor, 2019)

Collectively, the published scientific reports on the influence of roads and traffic on elk is not a small body of literature. To the contrary, extensive research over decades has demonstrated that high road densities and traffic negatively affect elk use, and—in

hunted populations—elk vulnerability to excessive mortality. These results have been consistently demonstrated across a broad geographic range, to include Washington, Oregon, Idaho, Montana, Wyoming, Colorado, Arizona, South Dakota, Wisconsin, Kansas, and western Canada. The results have also been consistent for both Roosevelt (C. e. roosevelti) and Rocky Mountain elk (C. e. nelsoni) subspecies, further suggesting the results generalize well. (McCorquodale, 2013)

The scientific evidence is compelling that disturbance associated with traffic on open roads can strongly affect elk distribution and limit use of even highly preferred habitat near roads. (McCorquodale, 2013)

... the meta-analysis of the most recent data again demonstrated empirically that elk distribution and habitat use are strongly influenced by road effects; high road densities and traffic levels predictably reduce elk use. (McCorquodale, 2013)

- 42. The Agency claims that "Thermal cover is difficult to accurately measure on a landscape scale and subsequent research indicates thermal cover is not a necessary requirement for elk (Cook et al. 1998)."
- 43. The claim that "thermal cover is not a necessary requirement for elk" has been repeatedly refuted by other researchers which rightly expose that (Cook, 1998) was research performed with partially domesticated, captive elk.

In south-central Wyoming, USA, (Lamont, 2019) reported that during summer female elk avoided pine beetle-infested forests during nearly all parts of the day and selected for intact coniferous forests during daytime. The selection for intact forests during daytime in summer highlights the need for thermal refuge, which may be compromised in pine beetle-infested forests (Lamont, 2019). (Lowrey, 2020)

It is advantageous for an animal to conserve any energy that it acquires. Mammals and birds that maintain a constant body temperature expend a large amount of energy to maintain that temperature. Cover provides a mechanism for conserving energy. The thermal neutral zone is the range of ambient temperatures in which an animal has to expend the least amount of energy maintaining a constant body temperature. Thermal cover places the animal closer to the thermal neutral zone. Energy expenditures to maintain body temperature are minimized in an animal's thermal neutral zone... (McComb, 2007)

Any departure from the thermal neutral zone results in increased expenditure of energy, and so animals often select a habitat that reduces climatic extremes. There are upper and lower critical temperatures beyond which exposure for a prolonged period would be lethal. Cover from overheating is especially important to large animals with a low surfacearea-to-body-mass ratio because they may find it particularly difficult to release excess heat unless water is available to aid in evaporative cooling. Cover from severe cold is especially important to a species with a high surface-area-to-bodymass ratio (e.g., small birds and mammals). Cover that allows an animal to stay within an acceptable range of temperatures (particularly those that approach the thermal neutral zone) is important for maintaining a positive balance of net energy and hence influences animal fitness. (McComb, 2007)

- 44. Rigorous science is difficult. Claiming that, "Thermal cover is difficult to accurately measure on a landscape scale ..." revels that the Forest Service is either not capable of, or is not interested in, performing rigorous, scientific measurements.
- 45. The Forest Service provides no definition of "landscape scale" so the public is unable to understand exactly what is being discussed.
- 46. <u>Please explain the meaning of "Drainages where more than 25 percent of roads are in place</u> <u>are considered roaded</u>. <u>Maintain 60 percent or higher elk habitat effectiveness in drainages</u> <u>where less than 25 percent of the roads have been built.</u>
- 47. <u>The Forest Service must explain why it does not combine adjacent third order drainages to</u> <u>eliminate the "purported" discrepancy between the Forest Plan and (Lyons, 1983).</u>
- 48. <u>Given the vast amount of research into the subject, the Forest Service must provide</u> <u>scientific evidence which supports its claim that "The degree to which hiding cover may</u> <u>influence seasonal elk occupancy of Forest Service lands is unknown."</u>
- 49. <u>The Agency must make the Montana Fish Wildlife and Parks document available to the public.</u>
- 50. <u>The Forest Service must explain why it ignores peer-reviewed research which refutes the claims of (Cook, 1998).</u>
- 51. <u>A definition of "landscape scale" must be provided.</u>
- 52. <u>Fully disclose and analyze how the amendments will comply with "Guides for Elk Habitat</u> <u>Objectives"</u>
- 53. <u>To ensure the use of the best, most recent, available scientific research, please have an</u> <u>independent review conducted (requested in previous scoping comments for EHE, thermal</u> <u>and hiding cover.</u>

### **Proposed Old Growth Amendment**

54. The Scoping Letter (13jul22 - corrected 14jul22) states the following (pp. 2, 3):

The 1987 Forest Plan includes a forestwide standard for old growth (USDA Forest Service 1987, pp. II-20) stating: Stand conditions that qualify as old growth will vary by habitat type and landform. Current plan criteria to consider for identifying old growth include:

- large trees, generally 15 per acre greater than 20 inches diameter at breast height (dbh) for species other than lodgepole pine and 6 inches DBH for lodgepole pine; canopy closure at 75 percent of site potential;
- stand structure usually uneven-aged or multistoried;
- snags, generally 1.5 per acre greater than 6 inches DBH and 0.5 per acre greater than 20 inches;
- more than 25 tons of per acre of downed material greater than 6 inches diameter;
- heart rot and broken tops in large trees are common; and
- mosses and lichens are present.

This definition (based on Franklin et al. 1981) was the best information the Forest had for describing old growth characteristics when the plan was developed in the 1980s. However, this definition has several limitations. These criteria were developed for the Cascade Mountains Douglas-fir forest type, which is not representative of conditions or the fire return intervals found on the Bitterroot NF. Additionally, it does not address the variability in old growth conditions across various biophysical settings (habitat type groups) or variability of species diameter as it relates to age. Many of the attributes in this definition cannot be accurately measured in the field nor are part of standard data collection protocols so they cannot be assessed at a forest-wide scale to determine if plan goals and objectives are being achieved. Since the plan was approved, the Northern Region developed ecological descriptions for old growth forests by specific forest type and biophysical settings in the Northern Rocky Mountains as described in (Green et al. errata corrected 2011). Green et al. includes quantitative and qualitative criteria that are measured in the field by the National Forest Inventory and Analysis (FIA) data collection program and site-specific stand exams and walk-through exams.

Unlike the criteria in the Forest Plan, Green et al. (2011) provides measurable criteria for designating old growth based on forest types and habitat types in Montana and Idaho:

- Criteria for live trees: minimum age (by species) of large trees, number of trees (trees per acre) by diameter at breast height (equal to or greater than a given dbh level and age) and basal area;
- associated characteristics such as pieces per acre of down woody material that is at least 9 inches in diameter on the large end, number of canopy layers, presence of trees with broken/missing tops, trees with decay, and number of snags greater than 9 inches diameter at breast height.

There is a need to modify the forestwide standard and glossary definitions in the 1987 Forest Plan to those described in Green et al. (2011) to provide consistent, measurable criteria for monitoring old growth at the project scale and when evaluating whether project activities are maintaining and promoting old growth characteristics associated with the varying forest types and habitat type groups (biophysical settings) across the Bitterroot National Forest. The amendment would align the Bitterroot Plan with the definition used in Region One and what is being used for the national inventory effort (FIA).

Modification of standards in Management Areas 1, 2, 3a, and 3c is also needed to delineate old growth by stand as identified in Forest Service Handbook 2409.17. Old growth would be delineated at the stand level based on forest composition and structure as defined by Green et al. (2011) during project area planning. Stands smaller than 40 acres, if meeting criteria, would be maintained or promoted as old growth during project implementation. Five acres is considered the minimum size for stand designation and even stands of this size are valuable as a key characteristic of ecosystem diversity. Due to the dynamic nature of stand progression, a forest-wide stand delineation of old growth will not be provided. Old growth is not a static state; natural disturbances such as

windstorms, wildfire, insects, and diseases can move a stand from one successional stage to another (Oliver and Larson 1996).

This amendment will also comport with Executive Order 14072, which provides agencywide direction for an inventory of old growth and mature forest. The amendment will allow for consistent and reliable project-level identification and a statistically valid Forestwide inventory of old growth acres by applying Green et al. (2011).

- 55. A comparison of the Plan definition to that of (Green, 1992) gives the impression that the reason the BNF wishes to adopt (Green, 1992) as the standard is because Green et al. allows the removal of more trees per acre than the current Forest Plan while retaining the status of old growth.
- 56. For example, in the ponderosa pine, Douglas-fir, and western larch forest types, the Forest Plan states that a forest stand with 15 trees per acre greater than 20" DBH may be old growth. (Green, 1992) states that 8 trees per acre 21" DBH may be old growth. (pp. 23, 24)
- 57. Therefore, it is logically possible for a stand to "retain old-growth status" with only 8 (21") trees per acre instead of the 15 (20") trees required by the current Forest Plan.
- 58. Another example is, in the lodgepole pine forest type, the Plan proclaims that a forest stand with 15 trees per acre greater than 6" DBH may be old growth. (Green, 1992) states that 10 trees per acre 13" DBH (moderately cool to cool, dry to wet environments p. 25) or 30 trees per acre 9" DBH (cold, moderately dry environments p. 29) may be old growth.
- 59. Again, it is logically possible for a stand to "retain old-growth status" with only 10 (13") trees per acre instead of the 15 (6") trees required by the current Forest Plan.
- 60. Not only does (Green, 1992) allow for the removal of more trees per acre while allowing the Agency to retain old-growth status for a stand, but (Green, 1992) requires that to qualify for old-growth status, lodgepole pine stands must have larger (13" vs. 6") trees or more (30 vs. 15) trees than required under the current plan.
- 61. Both of those factors will limit the number of acres (of lodgepole pine) available to retain old-growth status.
- 62. Although the Agency appears to disregard the fact, (Green, 1992) was establishing "minimums," not advocating that old-growth stands should be reduced to that minimum. (p. 12)

"... old growth is valuable for a whole host of resource reasons such as habitat for certain animal and plants, for aesthetics, for spiritual reasons, for environmental protection, for research purposes, for production of unique resources such as very large trees. Unusual natural communities, etc., the resource values associated with potential old growth stands need to be considered in making allocations."

At the same time, there may be some stands with trees so large or so old that they are unique. We should always maintain a good representation of these very old unique and outstanding stands, because they are irreplaceable within human life spans. Remember to value the truly unique and outstanding, wherever it may be."

63. Many scientists have provided management recommendations for old growth. It is generally accepted that all or nearly all old, large trees should be retained. (Hessburg, 2015) (Fiedler, Managing for Old Growth in Frequent-Fire Landscapes, 2007a) (Fiedler, Monitoring

old growth in frequent-fire landscapes, 2007b) (Wales, 2006) (Rapp, 2003) (Yanishevsky, 1994)

- 64. Large, old trees store greater amounts of carbon because carbon storage increases significantly with size. (Mildrexler, 2020) (Stephens, 2014)
- 65. Other than (Green, 1992), no other old-growth research is offered in the Scoping Letter (13jul22). That omission is likely to indicate the proposed amendment will be used to cut, rather than preserve, more old growth.
- 66. For example, the Mud Creek ROD (p. B-22) states: "while (Green, 1992) and the Forest Plan provide minimum criteria for identifying old growth, that does not mean all stands will be treated and harvested to the minimum criteria numbers." That wording from the Mud Creek project (which incorporates the Green et al. amendment) indicates that some oldgrowth stands in the Mud Creek project area will be cut to the (Green, 1992) minimum.
- 67. During a field trip for the Bitterroot Front Project (22jul22), an Agency silviculturist, Cheri Hartless asked the attendees, "Wouldn't you like to have more old growth on the forest?"
- 68. She provided that as a reason to adopt (Green, 1992).
- 69. Hartless' question was based upon a false equivalency.
- 70. As opposed to FP designations, (Green, 1992) definitions qualify more trees as old growth.
- 71. A change of definition for old-growth trees and a subsequent assertion by the Forest Service that the percentage of trees on the forest is greater than before is disingenuous.
- 72. The definition will have changed but nothing will have changed on the ground.
- 73. A change of definition may portent the Forest Service being able to remove the largest and/or oldest trees (the most valuable timber) during a project while claiming the particular forest stand from which the largest/oldest trees have been cut retains old growth characteristics.
- 74. During the field trip for Bitterroot Front Project (22jul22), Steve Brown stated that, "the historic fire rotation in much of the Bitterroot Forest, specifically ponderosa pine stands, was five to seven years."
- 75. That claim is obviously false.
- 76. If the historic fire rotation was that often, no trees would have been able to grow past their seventh year, thus eliminating the possibility for old-growth stands to ever develop.
- 77. DellaSala and Baker, two respected Ph. Ds, declare that "... the Forest Service proposes controversial measures that are not scientifically founded. The agency omits the vast majority of the scientific literature that supports large-tree protections in regions where large tree populations remain at greatly reduced numbers ..." (DellaSala, 2020)
- 78. A recent study (Bartowitz, 2022) of carbon emission sources in western states found:

Climate change has intensified the scale of global wildfire impacts in recent decades. In order to reduce fire impacts, management policies are being proposed in the western United States to lower fire risk that focus on harvesting trees, including large-diameter trees. Many policies already do not include diameter limits and some recent policies have proposed diameter increases in fuel reduction strategies. While the primary goal is fire risk reduction, these policies have been interpreted as strategies that can be used to save trees from being killed by fire, thus preventing carbon emissions and feedbacks to climate warming. This interpretation has already resulted in cutting down trees that likely would have survived fire, resulting in forest carbon losses that are greater than if a wildfire had occurred.

While wildfire occurrence and area burned have increased over the last three decades, per area fire emissions for extreme fire events are relatively constant. In contrast, harvest of mature trees releases a higher density of carbon emissions (e.g., per unit area) relative to wildfire (150–800%) because harvest causes a higher rate of tree mortality than wildfire. Our results show that increasing harvest of mature trees to save them from fire increases emissions rather than preventing them. Shown in context, our results demonstrate that reducing FFEs will do more for climate mitigation potential (and subsequent reduction of fire) than increasing extractive harvest to prevent fire emissions.

We found that for all states a 50–100% harvest would have led to greater carbon losses than fire for those burned areas, and even a 30% harvest led to greater carbon losses than fire for all but four of the western United States. Hypothetical harvest carbon losses continue to outpace fire carbon losses on a per unit area basis for most scenarios (Figure 4).



The most effective forest management strategy to protect forest carbon stocks on public lands is to preserve forests through decreased harvest and thinning, lengthened harvest rotations, ..., reduced harvest ..., and working toward afforestation and reforestation (Hudiburg, 2013); (Law, Land use strategies to mitigate climate change in carbon dense temperate forests, 2018); (Buotte, 2020).

In practice, large-scale extractive forest management efforts will hamper climate mitigation and may be futile for decreasing fire risk. To be most effective, policy will need to focus on fire-wise adaptations for homes and property and disentangle ecologically-good fire from destructive fires (Kolden, 2020)Protecting forests with ecologically sound principles, rather than increasing extractive management, may be the best scenario for the mitigation of climate change (Law et al., 2018), and protecting humans, biodiversity, and forests (Walsh, 2019); (Buotte, 2020); (Law, Strategic Forest Reserves can protect biodivesity in the western United States and mitigate climate change, 2021)

- 79. <u>Please explain how old-growth stands were able to develop if the historic fire rotation was</u> <u>typically no greater than five to seven years.</u>
- 80. <u>The Agency must include in the old-growth amendment language which acknowledges old-growth stands include a significant number of snags, downed logs, diseased and insect damaged trees, large amounts of coarse woody debris, and are a complex, interrelated organization of wildlife, organisms, plants, fungi, and ecosystems, not simply a group of large, old trees.</u>
- 81. <u>Using the most recent scientific research, please provide justification for performing any</u> <u>management activities in old growth.</u>
- 82. <u>The proposed old-growth amendment must include wording which clearly specifies that,</u> <u>even if the number of old-growth trees in a stand exceeds the Green et al. minimums, all</u> <u>large and/or old tress will be retained.</u>
- 83. <u>The proposed old-growth amendment must include wording which clearly indicates the</u> <u>intent of the amendment is to increase the number of large and/or old trees on the forest</u> <u>using a single set of definitions (Green, 1992).</u>
- 84. <u>The proposed old-growth amendment must clearly indicate the BNF will protect old growth</u> <u>AND recruit and expand existing old-growth stands.</u>
- 85. <u>Please provide the detailed method which will be used to determine old-growth status on</u> <u>the forest.</u>
- 86. <u>Please explain the impact of the old-growth amendment on wildlife (cutthroat trout, bull</u> <u>trout, grizzly bear, lynx, fisher, elk, multiple migratory bird species, cavity-nesting birds,</u> <u>flammulated owls, bats, raptors, red squirrels, wolverine, marten, etc.).</u>
- 87. <u>A current, thorough inventory of old-growth trees using the definitions provided by (Green, 1992) must be completed before implementation of a new standard so it is possible for the public to gauge future changes to the percentage of old growth on the forest.</u>
- 88. <u>Any changes to old-growth standards must include provisions for the preservation of soil in</u> <u>old-growth stands and for the wildlife species that depend on the continued existence of</u> <u>old growth.</u>
- 89. <u>Any changes to old-growth standards must include the preservation of a scientifically</u> <u>supported number of snags, diseased trees, insect damaged trees, and fallen trees.</u>
- 90. <u>The proposed amendment to old-growth standards must reveal how and to what extent</u> <u>changing to (Green, 1992) will affect carbon sequestration on the BNF.</u>

### **Proposed Coarse Woody Amendment**

91. The Scoping Letter (13jul22 - corrected 14jul22) states the following (p. 3):

The purpose of the 1987 Forest Plan coarse woody debris requirements is to maintain soil productivity, design fire management programs consistent with other resource goals and to provide for non-game habitat. Since the Forest Plan was developed, scientific information became available regarding the amount of coarse woody debris present in different habitat type groups (Fischer, 1987), (Graham, 1994), (Brown, 2000). This information provides more refined measures to guide project implementation to contribute to achieving Forest Plan goals and objectives. Current management area direction for coarse woody debris retention does not recognize the differences in the natural variation of coarse woody debris among different forest and habitat types, as supported by the best available scientific information. Additionally, Management Area 2 includes two contradictory standards requiring both 10 to 15 tons/acre and 25 tons/acre to be left after harvest activities. Lastly, the tons/acre amounts of coarse woody debris prescribed in the 1987 Forest Plan exceed what current scientific information recommends is needed to maintain soil productivity and manage fuel loadings.

There is a need to amend coarse woody debris plan standards in Management Areas 1, 2, 3a, 3b, and 3c to resolve the contradictory direction within the existing standards and ensure the amount of coarse woody debris to be left on the ground aligns with the current scientific information.

92. Much of the recent scientific research indicates that CWD is important to forest ecosystems and that insufficient amounts decrease biodiversity and productivity.

Within the Forest Inventory and Analysis program in the USA, deadwood is an indicator of forest structural diversity, carbon sources and fuel loadings. (Woodall, 2005)

The large quantity of CWD that encompassed a wide range of variation in tree species, decay class, position type, and size creates a diversity of CWD habitats for saproxylic organisms and ensures functional resilience in boreal forest ecosystems. Our results stress that mean annual temperatures and natural site-specific disturbance regimes should be taken into account when setting targets for CWD volumes and dead:live wood volume ratios for management and restoration of CWD in boreal forests. (Shorohova, 2015)

High CWD volumes and large living tree densities in old-growth forests influence the provision of habitat for ecologically important saproxylic organisms, thus supporting high levels of late-successional biodiversity. (Persina, 2015)

In terms of forest management, the significant positive correlations we observed suggest that any forest practices enhancing deadwood increment at the local scale would benefit saproxylic biodiversity (notably in boreal forests). (Lassauce, 2011)

Our study showed that, compared with conventional stem-only harvest, removing the stem plus the harvesting residues generally increases nutrient outputs thereby leading to

reduced amounts of total and available nutrients in soils and soil acidification, particularly when foliage is harvested along with the branches. (Achat, 2015)

Soil fertility losses were shown to have consequences for the subsequent forest ecosystem: tree growth was reduced by 3–7% in the short or medium term (up to 33 years after harvest) in the most intensive harvests (e.g., when branches are exported with foliage). Combining all the results showed that, overall, whole-tree harvesting has negative impacts on soil properties and trees that may have an impact on the functioning of forest ecosystems. (Achat, 2015)

- 93. It is important that the Agency use the best and most recent scientific research to support any changes to coarse woody debris (CWD) standards.
- 94. <u>Because the only CWD references provided in the Scoping Letter (13jul22) assess the effects</u> of CWD on soil and wildfire fuels, an explanation of the impact of CWD amounts on wildlife, <u>mycorrhizal networks</u>, water retention, and microorganisms must be provided.
- 95. <u>Please explain how the Forest Service can honestly claim that only minimum amounts of</u> <u>CWD should be left (asserting that increased amounts are a fire hazard) while ignoring its</u> <u>importance to soil and biodiversity.</u>

### **Proposed Snags Amendment**

96. The Scoping Letter (13jul22 – corrected 14jul22) states the following (p. 3):

The 1987 Forest Plan includes a forest-wide wildlife standard for snags that states "All snags that do not present an unacceptable safety risk will be retained" (USDA Forest Service 1987, page II-20). A snag is defined in the Forest Plan as a standing dead tree usually greater than 5 feet in height and 6 inches dbh.

The Forest Plan considers and permits salvage of dead or dying trees (FP Record of Decision 1987). Fuel treatment is discussed in several areas of the Forest Plan (pages II-7, II-8, II-28, III-7, III-13, III-20, III-28, III-34, III-38, III-63). The Forest Plan FEIS even specifically discussed the concern of stand-replacing fires following mortality from insect epidemics and due to fire suppression (Volume I, pages III-33, IV-22). Salvage is also discussed in multiple areas of the Forest Plan and Record of Decision, further supporting that the removal of snags, beyond what is necessary for safety, was programmed (FP pages II-20, II-20, II-22, III-8, III-14, III-21, III-29, III-35).

There is a need to amend this forest-wide plan wildlife standard for snags (USDA Forest Service 1987, page II-20) to resolve the contradictory direction providing sufficient snag habitat for wildlife while also allowing for the removal of excess snags where necessary to address fuel loading or to meet restoration objectives through sanitation treatments, salvage, and reforestation.

97. The failure of the Bitterroot National Forest to update the 1987 Forest Plan to implement a valid conservation strategy for 25 species of western cavity-nesting forest birds is a violation of the NEPA and the NFMA.

- 98. Conservation of these species required the retention of vast areas of natural undisturbed forests, including those that have natural levels of insects, disease, and mistletoe.
- 99. There is currently a disturbing conflict in the Forest Plan between timber management and the wildlife management of cavity-nesting birds.
- 100. Snag forest habitat is one of the most ecologically important and biodiverse forest habitat types in western U.S. conifer forests. (Lindenmayer, 2002), (Hutto, Toward Meaningful Snag-Management Guidelines for Postfire Salvage Logging in North American Conifer Forests, 2006) (Noss, 2006), (Hutto, The Ecological Importance of Severe Wildfires: Some Like It Hot, 2008)." (Hanson, 2010)
- 101. Given the amount of recent research on this subject, the Forest Service must acknowledge that, in most situations, even extreme wind-driven wildfire, snags are unlikely to provide fuel for the fire.
- 102. Live trees (needles and small branches), grasses, forbs, and shrubs are the overwhelmingly significant source of fuels.
- 103. One on-the-ground example is the currently burning Hog Trough Fire which was discovered on 17jul22.
- 104. According to the Agency, this lightning-caused fire is burning in an old fire scar from the fires of 2000 with heavy fuels, dead standing trees (snags), and downed timber. (Location updated on August 1, 2022, to within the perimeter of the Signal Rock Fire of 2005.)
- 105. The fire is being slowly driven eastward by high daytime winds and temperatures.
- 106. Following is a picture (Figure 1) of the fire posted on Facebook by the Forest Service.
- 107. It shows that, after an area has burned, what remains are standing dead trees and downed timber.
- 108. What burned were parts of live trees (small branches and needles), grasses, forbs, and shrubs.
- 109. That picture contradicts the Agency claim that dead standing trees and downed timber contribute to a fuel load.
- 110. Satellite pictures of the fire confirm that the most significant fuel sources are grasses, forbs, and shrubs, not downed timber and/or snags.
- 111. This is but one of many examples from recent northern rocky mountain wildfires showing similar results.
- 112. <u>The Bitterroot National Forest must amend the 1987 Forest Plan to implement a valid</u> <u>conservation strategy for 25 species of western forest birds so that the FP is no longer in</u> <u>violation of the NEPA and the NFMA.</u>
- 113. <u>The proposed snag amendment must acknowledge that recent multiple on-the-ground</u> wildfire results and recent scientific research contradict what has been claimed for years.
- 114. <u>Any change to snag standards must support the fact that many wildlife species depend</u> <u>upon snags for their existence.</u>
- 115. <u>Any change to snag standards must acknowledge that snags seldom contribute</u> <u>significant amounts of fuel to wildfire.</u>
- 116. <u>An inventory of mature snag forests on the BNF must be prepared.</u>
- 117. Any changes in the standard should preserve BNF's forests for their ecological value.



Figure 1 - Agency Picture of the Hog Trough Fire - posted 19jul22

### **Ancillary Topics**

- 117. This set of amendments requires an Environmental Impact Statement (EIS).
- 118. The correct NEPA process look like the flow chart in Figure 2. Clearly, use of the proper NEPA process is supposed to be decided AFTER scoping is completed, not before.

[continued on next page]



Figure 2 - The correct NEPA process<sup>1</sup>

- 119. After-project monitoring of previous Forest Service projects is missing or inadequate.
- 120. Although these proposed amendments have been implemented for more than two decades as "project-specific amendments," the Agency offers no proof the suggested amendments are needed.
- 121. There have been ample opportunities for the FS to monitor the results of past projects.
- 122. Unfortunately, the Agency has a history of not completing the monitoring it promised as part of those projects.
- 123. The lack of project monitoring that could prove the worth of these proposed amendments, makes their need highly suspect.
- 124. The proposed amendments do not Include adequate protection for old-growth stands.
- 125. The scoping documentation provides no information about how the BNF's old growth will be impacted by the proposed old-growth amendment nor does it indicate how old growth or the diverse ecosystems and species that depend on that increasingly rare habitat will be protected. (Juel, 2021)
- 126. On April 22, 2022, President Biden signed an Executive Order to strengthen American forests, boost wildfire resilience, and combat global deforestation.
- 127. That order incorporates a commitment to safeguards mature and old-growth forests on federal lands.<sup>2</sup>
- 128. The proposed amendments do not include adequate protection for soil or water.

<sup>&</sup>lt;sup>1</sup> A Citizen's Guide to NEPA 2021 - <u>https://ceq.doe.gov/docs/get-involved/citizens-guide-to-nepa-2021.pdf</u>

<sup>&</sup>lt;sup>2</sup> President Biden signed an Executive Order to strengthen American forests, boost wildfire resilience, and combat global deforestation - <u>https://www.whitehouse.gov/briefing-room/statements-releases/2022/04/22/fact-sheet-president-biden-signs-executive-order-to-strengthen-americas-forests-boost-wildfire-resilience-and-combat-global-deforestation/</u>

- 129. Most management activities, especially road construction and use, cause the degradation and compaction of forest soils and worsen the quality of surface water.
- 130. During the second phase of the Darby Lumber Lands project the Agency was found to be in violation of Montana's regulations for roads near streams.
- 131. The Forest Service is knowingly ignoring global warming and carbon sequestration
- 132. Most management activities associated with Agency projects contribute to the increasing accumulation of Greenhouse Gases (GHG) in the atmosphere.
- 133. For example, logging, thinning, prescribed fire, pile burning, travel to and from project sites, etc. all release GHG into the atmosphere.
- 134. Issued on August 1, 2016, this directive from Executive Office of the President, Council on Environmental Quality has been reimplemented as national direction. [*See* 86 Fed Reg. 10252 (Feb. 19, 2021).]
- 135. The 2016 CEQ guidance acknowledges, "changes in our climate caused by elevated concentrations of greenhouse gases in the atmosphere are reasonably anticipated to endanger the public health and public welfare of current and future generations."
- 136. It directs federal agencies to consider the extent to which proposals would contribute to climate change.
- 137. It rejects as inappropriate any notion that any proposal is of too small a scale for such consideration:

"Climate change results from the incremental addition of GHG emissions from millions of individual sources, which collectively have a large impact on a global scale. CEQ recognizes that the totality of climate change impacts is not attributable to any single action, but is exacerbated by a series of actions including actions taken pursuant to decisions of the Federal Government. Therefore, a statement that emissions from a proposed Federal action represent only a small fraction of global emissions is essentially a statement about the nature of the climate change challenge, and is not an appropriate basis for deciding whether or to what extent to consider climate change impacts under NEPA. Moreover, these comparisons are also not an appropriate method for characterizing the potential impacts associated with a proposed action and its alternatives and mitigations because this approach does not reveal anything beyond the nature of the climate change individual sources of emissions each make a relatively small addition to global atmospheric GHG concentrations that collectively have a large impact." <sup>3</sup>

- 138. The FS must quantify GHG emissions.
- 139. The agency can only use a qualitative method if tools, methodologies, or data inputs are not reasonably available, and if that is the case, there needs to be rationale as to why a quantitative analysis is not warranted.
- 140. Quantitative tools are available, so the FS must comply.<sup>4</sup>
- 141. Judging by its actions, the Agency is a huge global-warming denier.

<sup>&</sup>lt;sup>3</sup> Fed Reg. 10252 (Feb. 19, 2021) - <u>https://www.govinfo.gov/content/pkg/FR-2021-02-19/pdf/2021-03355.pdf</u>

<sup>&</sup>lt;sup>4</sup> Greenhouse Gas (GHG) Accounting Tools - <u>https://ceq.doe.gov/guidance/ghg-accounting-tools.html</u>

- 142. The scoping documentation for these amendments includes absolutely no analysis of climate change.
- 143. That omission is unacceptable.
- 144. These amendments lack adequate protection for wildlife and wildlife habitat.
- 145. According to the scoping letters, most if not all of the current Forest Plan standards will be suspended or replaced under the proposed programmatic amendments to the FP.
- 146. This will detrimentally affect wildlife, fish, and their respective habitats.
- 147. The FS hired a group of experts, headed by Martin Nie, to research who had the ultimate responsibility for managing and protecting wildlife—the states or the federal government—on federally managed lands.
- 148. Through research of U.S legal documents and case law, the group unequivocally established that, federal agencies have the ultimate responsibility for managing and protecting wildlife. (Nie, 2017)
- 149. <u>A thorough analysis must evaluate and fully disclose the following:</u>
  - What are the direct, indirect, and cumulative effects of these amendment on wildlife and biodiversity?
  - How do these amendments support Executive Order 14072 to preserve biodiversity and mature and old growth forests?
  - What are the direct, indirect, and cumulative effects of the amendments on indicator species, Pileated woodpeckers, Pine marten, Westslope cutthroat trout, and elk?
  - <u>What are the direct, indirect, and cumulative effects of the amendments on old</u> <u>growth dependent species and mature forest dependent species?</u>
  - What the direct, indirect, and cumulative effects of the amendments on migratory birds and eagles?
- 150. The Migratory Bird Act (1918) prohibits the "taking" of migratory birds.
- 151. Several listed species are known to nest in the BNF.
- 152. Courts have determined that "taking" does not have to be intentional.
- 153. Therefore, destruction of migratory bird habitat, though unintended, is illegal.
- 154. <u>What are the direct, indirect, and cumulative effects of the amendments on sensitive</u> species including Boreal toads, flammulated owls, grey wolves, Coeur d' Alene salamanders, bats, and numerous other Sensitive Species that are known to live and breed in the project area?
- 155. <u>Please share all monitoring that has been conducted especially in areas where these</u> <u>amendments have been used on a site-specific basis in the past. (Include baseline data,</u> <u>monitoring data, and an explanation of conclusions.)</u>
- 156. <u>What are the direct, indirect, and cumulative effects of these amendments on Executive</u> Order 13443 protecting hunter opportunity?
- 157. These proposed amendments will affect Endangered and Proposed Species.
- 158. When a listed or proposed species may be present in the action area, the agency must prepare a biological assessment to determine whether the species or their critical habitat may be affected by the action
- 159. If the agency determines that the proposed action may affect any listed species or critical habitat, it must engage in formal consultation with FWS. 50 C.F.R. § 402.14.

- 160. For all listed and proposed species, known to occur within the project area, or with secondary or critical habitat on the forest, Section 7 of the Endangered Species Act (ESA) imposes a duty to conserve those listed and proposed listed species and to act to achieve survival and recovery of the species (*Sierra Club v. Glickman*, 156 F3d 606 (5<sup>th</sup> Cir 1998)).
- 161. Despite any recent ESA rule changes, the requirement to contribute to recovery is core to the ESA statute and necessary to achieve its stated goal of conserving species and the ecosystems upon which they depend.
- 162. Agencies are required to "use the best scientific and commercial data available" in assessing impacts to protected species during the consultation process. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(d).
- 163. Therefore, we encourage the Forest Service to be transparent about the consultation process and affirmatively post all consultation documents, including any Forest Service Biological Evaluations or Assessments, any letters seeking concurrence, and any responses or Biological Opinions from the FWS.
- 164. What are the direct, indirect, and cumulative effects of the amendments to the recovery of endangered species and proposed endangered species that reside or may be present or are present near the BNF including but not limited to lynx, fisher, grizzly bears, white bark pine, and wolverine?
- 165. <u>What are the direct, indirect, and cumulative effects of the amendments on critical</u> <u>habitat, secondary habitat, and linkage zones for proposed and listed species? (Habitat is</u> <u>essential to the recovery of these species especially considering the changing climate.)</u>
- 166. <u>Please explain how the proposed amendments will comply with the travel plan and</u> <u>baseline conditions for all conservation strategies concerning the BNF including grizzly bears</u> <u>and wolverine.</u>
- 167. These proposed amendments will increase road mileage on the Bitterroot National Forest.
- 168. The best available science shows that roads cause significant adverse impacts to National Forest resources.
- 169. WildEarth Guardians issued a report (Guadians, 2020) that provides a scientific literature review including the Forest Service's General Technical Report synthesizing the scientific information on forest roads (Gucinski, 2001) on a wide range of road-related impacts to ecosystem processes and integrity on National Forest lands.
- 170. Erosion, compaction, and other alterations in forest geomorphology and hydrology associated with roads seriously impair water quality and aquatic species viability.
- 171. Roads disturb and fragment wildlife habitat, altering species distribution, interfering with critical life functions such as feeding, breeding, and nesting, and resulting in loss of biodiversity.
- 172. Roads facilitate increased human intrusion into sensitive areas, resulting in poaching of rare plants and animals, human-ignited wildfires, introduction of exotic species, and damage to archaeological resources.
- 173. <u>Here, the Forest Service must consider how the proposed amendments may cause</u> <u>direct, indirect, and further exacerbate cumulative impacts within the BNF as it relates to</u> <u>road maintenance, reconstruction and use, particularly unauthorized and closed roads.</u>
- 174. These proposed amendments will impact Bitterroot National Forest soil.

- 175. The forest is a natural regenerating system.
- 176. The damage done from over 100 years of logging which removed trees that would have eventually become healthy soil.
- 177. The amendments will allow for the increase in ground disturbing management activities, thus exacerbating already depleted soils.
- 178. <u>The Agency must provide an independent, current, and complete soil assessment for</u> <u>the BNF which includes analysis for all BNF soil types in both disturbed (natural and</u> <u>otherwise) and undisturbed soils at multiple elevations.</u>
- 179. Mycorrhizal networks play important roles in mitigating the impacts of climate disruption to forest ecosystems.
- 180. They facilitate regeneration of migrant species that are better adapted to warmer climates and primed for resistance against insect attacks. (Song, 2015)
- 181. <u>To achieve these benefits all the parts and processes of highly interconnected forest</u> ecosystems must be preserved and protected.
- 182. <u>Please disclose and analyze all effects of increased ground disturbance and greater road</u> <u>densities allowed by the amendments to Mycorrhizal networks and soils?</u>
- 183. <u>Please provide an accounting of the Equivalent Clearcut Areas (ECA) of all drainages in</u> the BNF?
- 184. How will the amendments affect ECAs in the future?
- 185. <u>How will the amendments add to the accumulating hydrologic impacts as well as overall</u> <u>forest productivity?</u>
- 186. <u>Please disclose the total acreage of all existing roads, of whatever nomenclature, within</u> the BNF so we can assess total soil compaction.
- 187. <u>As soils are essential to a healthy ecosystem, we propose an independent scientific</u> panel to analyze the soil monitoring and soil conditions on the BNF to establish baseline conditions and future monitoring to adequately assess soil conditions.
- 188. These proposed amendments will impact rare plans and invasives on the BNF.
- 189. Most on-the-ground management activities have been shown to spread invasive plants and weeds into previously uninfected areas. (Dodson, 2006)
- 190. <u>What are the direct, indirect, and cumulative effects of these amendments on rare and sensitive plant species?</u>
- 191. <u>An analysis should provide an inventory and maps of these species across the forest.</u>
- 192. <u>While considering effects of the on rare and sensitive plants, please list the measures</u> that will be used to eliminate the spread of invasive plants and weeds from the proposed <u>amendments.</u>
- 193. <u>Please also include which of those measures have been substantiated, using verified</u> <u>post-project monitoring, as successful in the past.</u>
- 194. <u>Please disclose results of monitoring weed control after past projects have been</u> <u>completed.</u> (After every timber and road building project weeds follow and proliferate, <u>essentially reducing forest productivity in perpetuity, contrary to NFMA.)</u>

### Summary

- 195. The Agency continues to view forests as little more than trees.
- 196. Ignored is the fact that trees are only a small part of the uncountable, interconnected ecosystems which comprise forests.
- 197. The Forest Service has a long history of sacrificing the overall ecological balance of forests to harvest the maximum number of trees.
- 198. During this period of rapidly advancing global warming, such an approach to forest management is not viable and certainly not in the interest of the public who own the forests.
- 199. Rather, forests must be managed to ensure biological diversity, provide habitat for the countless species of flora and fauna that live in forests, and to increase the ability of forests to sequester carbon.
- 200. Despite its long history of treating trees as a crop, the Agency must stop viewing forests as simply trees to be managed for harvest (extraction).
- 201. Forests, of all ages, are dynamic combinations of interrelated ecosystems that support the existence of uncountable organisms, including humanity.
- 202. Continuing the pretense that public forests can be multi-use with a management concentration on timber extraction is intentionally misleading and dishonest.
- 203. Unfortunately, this proposed set of Forest Plan amendments appear to be intended to remove and/or minimize many existing protections for wildlife, ecosystems, and most importantly, to reduce the overall health of the forest.
- 204. These proposed amendments accomplish little other than support the Agency in its attempts to freeze natural forest succession at an arbitrary, management-defined "desirable condition," an undertaking which will not allow the Bitterroot National Forest to naturally adapt to a rapidly changing climate.
- 205. Forests must be allowed to adapt to future conditions by permitting them to naturally evolve without interference from Agency management actions.
- 206. In the words of Thomas Sowell, '... it turns out that many of today's problems are a result of yesterday's solutions."
- 207. The Forest Service readily admits that past management actions contributed to the current state of collapse of our public forests.
- 208. Yet, Agency management, irrationally believes that "this time will be different."
- 209. The proposed amendments to the Forest Plan (1987) should be approached with humility while questioning whether "today's solutions will be the cause of future problems."
- 210. Neither scoping letter (18dec19 or 13jul22) provide much information pertinent to the proposed amendments.
- 211. The letter dated July 13, 2022, states, "I am inviting feedback on these additional proposed changes to the 1987 Forest Plan, and to identify relevant scientific information and potential issues for the interdisciplinary team to consider."
- 212. Following is a list of references which are applicable and provide significant relevant scientific information to be carefully considered during the scoping process for these proposed Forest Plan amendments.

- 213. Some of our listed sources have been referred to by previous BNF project documents so should already be available to the interdisciplinary team.
- 214. Most are readily accessible including those residing on Forest Service websites.
- 215. If you are unable to obtain any of our references, please contact Friends of the Bitterroot at <a href="mailto:news@friendsofthebitterroot.net">news@friendsofthebitterroot.net</a>, and we will provide copies.
- 216. We expect systematic, exhaustive explanations of how each of these relevant references were used during the analysis and production of the draft amendment documents required by NEPA.

Sincerely,

/s/

Jim Miller, President Friends of the Bitterroot PO Box 442 Hamilton, MT 59840 406-370-3147

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## Appendix A

#### 36 CFR § 219.2 Levels of planning and responsible officials

Forest Service planning occurs at different organizational levels and geographic scales. Planning occurs at three levels - national strategic planning, NFS unit planning, and <u>project</u> or activity planning.

(a) *National strategic planning.* The Chief of the Forest Service is responsible for national planning, such as preparation of the Forest Service strategic plan required under the Government Performance and Results Modernization Act of 2010 (5 U.S.C. 306; 31 U.S.C. 1115-1125; 31 U.S.C. 9703-9704), which is integrated with the requirements of the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by the NFMA. The strategic plan establishes goals, objectives, performance measures, and strategies for management of the NFS, as well as the other Forest Service mission areas: Research and Development, State and Private Forestry, and International Programs.

#### (b) National Forest System unit planning.

(1) NFS unit planning results in the development, amendment, or revision of a land management plan. A land management plan provides a framework for <u>integrated resource</u> <u>management</u> and for guiding project and activity decision-making on a national forest, grassland, prairie, or other administrative unit. A plan reflects the unit's expected distinctive roles and contributions to the local area, region, and Nation, and the roles for which the <u>plan</u> <u>area</u> is best suited, considering the Agency's mission, the unit's unique capabilities, and the resources and management of other lands in the vicinity. Through the adaptive planning cycle set forth in this subpart, a plan can be changed to reflect new information and changing conditions.

(2) A plan does not authorize projects or activities or commit the Forest Service to take action. A plan may constrain the Agency from authorizing or carrying out projects and activities, or the manner in which they may occur. Projects and activities must be consistent with the plan (§ 219.15). A plan does not regulate uses by the public, but a project or activity decision that regulates a use by the public under 36 CFR Part 261, Subpart B, may be made contemporaneously with the approval of a plan, plan amendment, or plan revision. Plans should not repeat laws, regulations, or program management policies, practices, and procedures that are in the Forest Service Directive System.

(3) The supervisor of the national forest, grassland, prairie, or other comparable administrative unit is the responsible official for development and approval of a plan, plan amendment, or plan revision for lands under the responsibility of the supervisor, unless a regional forester; the Chief; the Under Secretary, Natural Resources and Environment; or the Secretary acts as the responsible official. Two or more responsible officials may undertake joint planning over lands under their respective jurisdictions.

(4) A plan for a unit that contains an experimental area may not be approved without the concurrence of the appropriate research station director with respect to the direction

applicable to that area, and a plan amendment applicable to an experimental area may not be approved without the concurrence of the appropriate research station director.

(5) The Chief is responsible for leadership and direction for carrying out the NFS land management planning program under this part. The Chief shall:

(i) Establish planning procedures for this part in the Forest Service Directive System in Forest Service Manual 1920 - Land Management Planning and in Forest Service Handbook 1909.12 - Land Management Planning Handbook.

(ii) Establish and administer a national oversight process for accountability and consistency of NFS land management planning under this part.

(iii) Establish procedures in the Forest Service Directive System for obtaining inventory data on the various renewable resources, and soil and water.

(c) *Project and activity planning.* The supervisor or district ranger is the responsible official for project and activity decisions, unless a higher-level official acts as the responsible official. Requirements for project or activity planning are established in the Forest Service Directive System. Except as provided in the plan consistency requirements in § 219.15, none of the requirements of this part apply to projects or activities.

### **Appendix B**

#### 36 CFR § 219.3 Role of science in planning

The responsible official shall use the best available scientific information to inform the planning process required by this subpart for <u>assessment</u>; developing, amending, or revising a plan; and <u>monitoring</u>. In doing so, the responsible official shall determine what information is the most accurate, reliable, and relevant to the issues being considered. The responsible official shall document how the best available scientific information was used to inform the assessment, the plan or amendment decision, and the monitoring program as required in §§ <u>219.6(a)(3)</u> and <u>219.14(a)(3)</u>. Such documentation must: Identify what information was determined to be the best available scientific information, explain the basis for that determination, and explain how the information was applied to the issues considered.

### Appendix C

36 CFR § 219.4 Requirements for public participation.

(a) *Providing opportunities for participation.* The responsible official shall provide opportunities to the public for <u>participating</u> in the <u>assessment</u> process; developing a plan proposal, including the <u>monitoring</u> program; commenting on the proposal and the disclosure of its environmental impacts in accompanying National Environmental Policy Act (NEPA) documents; and reviewing the results of monitoring information. When developing opportunities for public participation, the responsible official shall take into account the discrete and diverse roles, jurisdictions, responsibilities, and skills of interested and affected parties; the accessibility of the process, opportunities, and information; and the cost, time, and available staffing. The responsible official should be proactive and use contemporary tools, such as the Internet, to engage the public, and should share information in an open way with interested parties. Subject to the notification requirements in § 219.16, the responsible official has the discretion to determine the scope, methods, forum, and timing of those opportunities. The Forest Service retains decision-making authority and responsibility for all decisions throughout the process.

(1) *Outreach.* The responsible official shall engage the public - including Tribes and Alaska Native Corporations, other Federal agencies, State and local governments, individuals, and public and private organizations or entities - early and throughout the planning process as required by this part, using collaborative processes where feasible and appropriate. In providing opportunities for engagement, the responsible official shall encourage participation by:

(i) Interested individuals and entities, including those interested at the local, regional, and national levels.

(ii) Youth, low-income populations, and minority populations.

(iii) Private landowners whose lands are in, adjacent to, or otherwise affected by, or whose actions may impact, future management actions in the plan area.

(iv) Federal agencies, States, counties, and local governments, including State fish and wildlife agencies, State foresters and other relevant State agencies. Where appropriate, the responsible official shall encourage States, counties, and other local governments to seek cooperating agency status in the NEPA process for development, amendment, or revision of a plan. The responsible official may participate in planning efforts of States, counties, local governments, and other Federal agencies, where practicable and appropriate.

(v) Interested or affected federally recognized Indian Tribes or Alaska Native Corporations. Where appropriate, the responsible official shall encourage federally recognized Tribes to seek cooperating agency status in the NEPA process for development, amendment, or revision of a plan. The responsible official may participate in planning efforts of federally recognized Indian Tribes and Alaska Native Corporations, where practicable and appropriate.

#### (2) Consultation with federally recognized Indian Tribes and Alaska Native

**Corporations.** The Department recognizes the Federal Government has certain trust responsibilities and a unique legal relationship with federally recognized Indian Tribes. The responsible official shall honor the government-to-government relationship between federally recognized Indian Tribes and the Federal Government. The responsible official shall provide to federally recognized Indian Tribes and Alaska Native Corporations the opportunity to undertake consultation consistent with Executive Order 13175 of November 6, 2000, and 25 U.S.C. 450 note.

(3) Native knowledge, indigenous ecological knowledge, and land ethics. As part of tribal participation and consultation as set forth in paragraphs (a)(1)(v) and (a)(2) of this section, the responsible official shall request information about native knowledge, land ethics, cultural issues, and sacred and culturally significant sites.

(b) Coordination with other public planning efforts.

(1) The responsible official shall coordinate land management planning with the equivalent and related planning efforts of federally recognized Indian Tribes, Alaska Native Corporations, other Federal agencies, and State and local governments.

(2) For plan development or revision, the responsible official shall review the planning and land use policies of federally recognized Indian Tribes (43 U.S.C. 1712(b)), Alaska Native Corporations, other Federal agencies, and State and local governments, where relevant to the plan area. The results of this review shall be displayed in the environmental impact statement (EIS) for the plan (40 CFR 1502.16(c), 1506.2). The review shall include consideration of:

(i) The objectives of federally recognized Indian Tribes, Alaska Native Corporations, other Federal agencies, and State and local governments, as expressed in their plans and policies;

(ii) The compatibility and interrelated impacts of these plans and policies;

(iii) Opportunities for the plan to address the impacts identified or to contribute to joint objectives; and

(iv) Opportunities to resolve or reduce conflicts, within the context of developing the plan's desired conditions or objectives.

(3) Nothing in this section should be read to indicate that the responsible official will seek to direct or control management of lands outside of the plan area, nor will the responsible official conform management to meet non-Forest Service objectives or policies.

### Appendix D

#### 36 CFR § 219.5 Planning framework

(a) Planning for a national forest, grassland, prairie, or other comparable administrative unit of the NFS is an iterative process that includes assessment (§ 219.6); developing, amending, or revising a plan (§§ 219.7 and 219.13); and monitoring (§ 219.12). These three phases of the framework are complementary and may overlap. The intent of this framework is to create a responsive planning process that informs integrated resource management and allows the Forest Service to adapt to changing conditions, including climate change, and improve management based on new information and monitoring.

(1) Assessment. <u>Assessments</u> rapidly evaluate existing information about relevant ecological, economic, and social conditions, trends, and <u>sustainability</u> and their relationship to the land management plan within the context of the broader <u>landscape</u>. The responsible official shall consider and evaluate existing and possible future conditions and trends of the <u>plan area</u>, and assess the sustainability of social, economic, and <u>ecological systems</u> within the plan area, in the context of the broader [<u>§ 219.6</u>].

(2) Plan development, plan amendment, or plan revision.

(i) The process for developing or revising a plan includes: Assessment, preliminary identification of the need to change the plan based on the assessment, development of a proposed plan, consideration of the environmental effects of the proposal, providing an opportunity to comment on the proposed plan, providing an opportunity to object before the proposal is approved, and, finally, approval of the plan or plan revision. A new plan or plan revision requires preparation of an environmental impact statement.

(ii) The process for amending a plan includes: Preliminary identification of the need to change the plan, development of a proposed amendment, consideration of the environmental effects of the proposal, providing an opportunity to comment on the proposed amendment, providing an opportunity to object before the proposal is approved, and, finally, approval of the plan amendment. The appropriate NEPA documentation for an amendment may be an environmental impact statement, an environmental assessment, or a categorical exclusion, depending upon the scope and scale of the amendment and its likely effects.

(3) *Monitoring*. <u>Monitoring</u> is continuous and provides feedback for the planning cycle by testing relevant assumptions, tracking relevant conditions over time, and measuring management effectiveness (§ 219.12). The monitoring program includes plan-level and broader-scale monitoring. The plan-level monitoring program is informed by the assessment phase; developed during plan development, plan amendment, or plan revision; and implemented after plan decision. The regional forester develops broader-scale monitoring strategies. Biennial monitoring evaluation reports document whether a change to the plan or change to the monitoring program is warranted based on new information, whether a new assessment may be needed, or whether there is no need for change at that time.

(b) *Interdisciplinary team(s)*. The responsible official shall establish an interdisciplinary team or teams to prepare assessments; new plans, plan amendments, and plan revisions; and plan monitoring programs.

### Appendix E

#### 36 CFR § 219.6 Assessment

The responsible official has the discretion to determine the scope, scale, and timing of an <u>assessment</u> described in  $\frac{§ 219.5(a)(1)}{5}$ , subject to the requirements of this section.

(a) *Process for plan development or revision assessments.* An assessment must be completed for the development of a new plan or for a plan revision. The responsible official shall:

(1) Identify and consider relevant existing information in governmental or nongovernmental assessments, plans, <u>monitoring</u> reports, studies, and other sources of relevant information. Such sources of information may include State forest assessments and strategies, the Resources Planning Act assessment, ecoregional assessments, nongovernmental reports, State comprehensive outdoor recreation plans, community wildfire protection plans, public transportation plans, State wildlife data and action plans, and relevant Agency or interagency reports, resource plans or assessments. Relevant private information, including relevant land management plans and local knowledge, will be considered if publicly available or voluntarily provided.

(2) Coordinate with or provide opportunities for the regional forester, agency staff from State and Private Forestry and Research and Development, federally recognized Indian Tribes and Alaska Native Corporations, other governmental and non-governmental parties, and the public to provide existing information for the assessment.

(3) Document the assessment in a report available to the public. The report should document information needs relevant to the topics of paragraph (b) of this section. Document in the report how the best available scientific information was used to inform the assessment ( $\frac{5}{219.3}$ ). Include the report in the planning record ( $\frac{5}{219.14}$ ).

**(b)** *Content of the assessment for plan development or revision.* In the assessment for plan development or revision, the responsible official shall identify and evaluate existing information relevant to the <u>plan area</u> for the following:

(1) Terrestrial ecosystems, aquatic ecosystems, and watersheds;

(2) Air, soil, and water resources and quality;

(3) System drivers, including dominant ecological processes, <u>disturbance</u> regimes, and <u>stressors</u>, such as natural succession, wildland fire, invasive species, and climate change; and the ability of terrestrial and aquatic <u>ecosystems</u> on the plan area to adapt to change;

(4) Baseline assessment of carbon stocks;

**(5)** Threatened, endangered, proposed and <u>candidate species</u>, and potential species of <u>conservation</u> concern present in the plan area;

(6) Social, cultural, and economic conditions;

(7) Benefits people obtain from the NFS planning area (ecosystem services);

- (8) <u>Multiple uses</u> and their contributions to local, regional, and national economies;
- (9) Recreation settings, opportunities and access, and scenic character;
- (10) Renewable and nonrenewable energy and mineral resources;
- (11) Infrastructure, such as recreational facilities and transportation and utility corridors;
- (12) Areas of tribal importance;
- (13) Cultural and historic resources and uses;
- (14) Land status and ownership, use, and access patterns; and

**(15)** Existing designated areas located in the plan area including <u>wilderness</u> and <u>wild and</u> <u>scenic rivers</u> and potential need and opportunity for additional designated areas.

(c) *Plan amendment assessments.* Where the responsible official determines that a new assessment is needed to inform an amendment, the responsible official has the discretion to determine the scope, scale, process, and content for the assessment depending on the topic or topics to be addressed.

### **Appendix F**

36 CFR § 219.7 New plan development or plan revision

(a) *Plan revisions.* A plan revision creates a new plan for the entire <u>plan area</u>, whether the plan revision differs from the prior plan to a small or large extent. A plan must be revised at least every 15 years. But, the responsible official has the discretion to determine at any time that conditions on a plan area have changed significantly such that a plan must be revised (16 U.S.C. 1604(f)(5)).

**(b)** *New plan development.* New plan development is required for new NFS units. The process for developing a new plan is the same as the process for plan revision.

(c) Process for plan development or revision.

(1) The process for developing or revising a plan includes: Public notification and participation (§§ 219.4 and 219.16), assessment (§§ 219.5 and 219.6), developing a proposed plan, considering the environmental effects of the proposal, providing an opportunity to comment on the proposed plan, providing an opportunity to object before the proposal is approved (subpart B), and, finally, approving the plan or plan revision. A new plan or plan revision requires preparation of an environmental impact statement.

(2) In developing a proposed new plan or proposed plan revision, the responsible official shall:

(i) Review relevant information from the <u>assessment</u> and <u>monitoring</u> to identify a preliminary need to change the existing plan and to inform the development of plan components and other plan content.

(ii) Consider the goals and objectives of the Forest Service strategic plan (§ 219.2(a)).

(iii) Identify the presence and consider the importance of various physical, biological, social, cultural, and historic resources on the plan area ( $\frac{219.6}{1000}$ ), with respect to the requirements for plan components of §§ 219.8 through 219.11.

(iv) Consider conditions, trends, and <u>stressors (§ 219.6</u>), with respect to the requirements for plan components of §§ 219.8 through 219.11.

(v) Identify and evaluate lands that may be suitable for inclusion in the National Wilderness Preservation System and determine whether to recommend any such lands for <u>wilderness</u> designation.

(vi) Identify the eligibility of rivers for inclusion in the National <u>Wild and Scenic Rivers</u> System, unless a systematic inventory has been previously completed and documented and there are no changed circumstances that warrant additional review.

(vii) Identify existing designated areas other than the areas identified in paragraphs (c)(2)(v) and (c)(2)(vi) of this section, and determine whether to recommend any additional areas for designation. If the responsible official has the delegated authority to designate a

new area or modify an existing area, then the responsible official may designate such area when approving the plan, plan amendment, or plan revision.

(viii) Identify the suitability of areas for the appropriate integration of resource management and uses, with respect to the requirements for plan components of §§ 219.8 through 219.11, including identifying lands that are not suitable for timber production (§ 219.11).

(ix) Identify the maximum quantity of timber that may be removed from the plan area ( $\frac{5}{219.11(d)(6)}$ ).

(x) Identify questions and indicators for the plan monitoring program (§ 219.12).

(xi) Identify potential other content in the plan (paragraph (f) of this section).

(3) The regional forester shall identify the species of <u>conservation</u> concern for the plan area in coordination with the responsible official.

(d) *Management areas or geographic areas.* Every plan must have <u>management areas</u> or <u>geographic areas</u> or both. The plan may identify designated or recommended designated areas as management areas or geographic areas.

(e) *Plan components.* Plan components guide future <u>project</u> and activity decision-making. The plan must indicate whether specific plan components apply to the entire plan area, to specific management areas or geographic areas, or to other areas as identified in the plan.

(1) *Required plan components.* Every plan must include the following plan components:

(i) *Desired conditions.* A desired condition is a description of specific social, economic, and/or ecological characteristics of the plan area, or a portion of the plan area, toward which management of the land and resources should be directed. Desired conditions must be described in terms that are specific enough to allow progress toward their achievement to be determined, but do not include completion dates.

(ii) *Objectives.* An objective is a concise, measurable, and time-specific statement of a desired rate of progress toward a desired condition or conditions. Objectives should be based on reasonably foreseeable budgets.

(iii) *Standards.* A standard is a mandatory constraint on project and activity decisionmaking, established to help achieve or <u>maintain</u> the desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.

(iv) *Guidelines.* A guideline is a constraint on project and activity decision-making that allows for departure from its terms, so long as the purpose of the guideline is met. ( $\frac{1}{2}$  219.15(d)(3)). Guidelines are established to help achieve or maintain a desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.

(v) *Suitability of lands.* Specific lands within a plan area will be identified as suitable for various <u>multiple uses</u> or activities based on the desired conditions applicable to those lands. The plan will also identify lands within the plan area as not suitable for uses that are

not compatible with desired conditions for those lands. The suitability of lands need not be identified for every use or activity. Suitability identifications may be made after consideration of historic uses and of issues that have arisen in the planning process. Every plan must identify those lands that are not suitable for <u>timber production (§ 219.11</u>).

(2) *Optional plan component: goals.* A plan may include goals as plan components. Goals are broad statements of intent, other than desired conditions, usually related to process or interaction with the public. Goals are expressed in broad, general terms, but do not include completion dates.

(3) *Requirements for the set of plan components.* The set of plan components must meet the requirements set forth in this part for <u>sustainability ( $\S$  219.8)</u>, plant and animal diversity ( $\S$  219.9), <u>multiple use ( $\S$  219.10</u>), and timber ( $\S$  219.11).

#### (f) Other content in the plan.

(1) Other required content in the plan. Every plan must:

(i) Identify watershed(s) that are a priority for maintenance or restoration;

(ii) Describe the plan area's distinctive roles and contributions within the broader <u>landscape</u>;

(iii) Include the monitoring program required by § 219.12; and

(iv) Contain information reflecting proposed and possible actions that may occur on the plan area during the life of the plan, including: the planned timber sale program; timber harvesting levels; and the proportion of probable methods of forest vegetation management practices expected to be used (16 U.S.C. 1604(e)(2) and (f)(2)). Such information is not a commitment to take any action and is not a "proposal" as defined by the Council on Environmental Quality regulations for implementing NEPA (40 CFR 1508.23, 42 U.S.C. 4322(2)(C)).

(2) *Optional content in the plan.* A plan may include additional content, such as potential management approaches or strategies and partnership opportunities or coordination activities.

### Appendix G

#### 36 CFR § 219.8 - Sustainability

A plan developed or revised under this part must provide for social, economic, and <u>ecological</u> <u>sustainability</u> within Forest Service authority and consistent with the inherent capability of the plan area, as follows:

#### (a) Ecological sustainability.

- (1) Ecosystem Integrity. The plan must include plan components, including standards or guidelines, to <u>maintain</u> or <u>restore</u> the <u>ecological integrity</u> of terrestrial and aquatic <u>ecosystems</u> and <u>watersheds</u> in the plan area, including plan components to maintain or restore structure, function, composition, and <u>connectivity</u>, taking into account:
  - (i) Interdependence of terrestrial and aquatic ecosystems in the plan area.
  - (ii) Contributions of the plan area to <u>ecological conditions</u> within the broader <u>landscape</u> influenced by the plan area.
  - (iii) Conditions in the broader landscape that may influence the sustainability of resources and ecosystems within the plan area.
  - (iv) System drivers, including dominant ecological processes, <u>disturbance</u> regimes, and <u>stressors</u>, such as natural succession, wildland fire, invasive species, and climate change; and the ability of terrestrial and aquatic ecosystems on the plan area to adapt to change.
  - (v) Wildland fire and opportunities to <u>restore</u> fire-adapted ecosystems.
  - (vi) Opportunities for landscape scale restoration.
- (2) *Air, soil, and water.* The plan must include plan components, including standards or guidelines, to maintain or restore:
  - (i) Air quality.
  - (ii) Soils and soil <u>productivity</u>, including guidance to reduce soil erosion and sedimentation.
  - (iii) Water quality.
  - (iv) Water resources in the plan area, including lakes, streams, and wetlands; ground water; public water supplies; sole source aquifers; <u>source water protection areas</u>; and other sources of drinking water (including guidance to prevent or mitigate detrimental changes in quantity, quality, and availability).
- (3) Riparian areas.
  - (i) The plan must include plan components, including standards or guidelines, to <u>maintain</u> or <u>restore</u> the <u>ecological integrity</u> of <u>riparian areas</u> in the plan area, including plan components to maintain or restore structure, function, composition, and <u>connectivity</u>, taking into account:
    - (A) Water temperature and chemical composition;
    - (B) Blockages (uncharacteristic and characteristic) of water courses;

- (C) Deposits of sediment;
- (D) Aquatic and terrestrial habitats;
- (E) Ecological <u>connectivity</u>;
- (F) <u>Restoration</u> needs; and
- (G) Floodplain values and <u>risk</u> of flood loss.
- (ii) Plans must establish width(s) for <u>riparian management zones</u> around all lakes, perennial and intermittent streams, and open water wetlands, within which the plan components required by paragraph (a)(3)(i) of this section will apply, giving special attention to land and vegetation for approximately 100 feet from the edges of all perennial streams and lakes.
  - (A) <u>Riparian management zone</u> width(s) may vary based on ecological or geomorphic factors or type of water body; and will apply unless replaced by a site-specific delineation of the <u>riparian area</u>.
  - (B) Plan components must ensure that no management practices causing detrimental changes in water temperature or chemical composition, blockages of water courses, or deposits of sediment that seriously and adversely affect water conditions or fish habitat shall be permitted within the riparian management zones or the site-specific delineated riparian areas.
- (4) *Best management practices for water quality.* The Chief shall establish requirements for national best management practices for water quality in the Forest Service Directive System. Plan components must ensure implementation of these practices.
- (b) Social and economic sustainability. The plan must include plan components, including standards or guidelines, to guide the plan area's contribution to social and <u>economic</u> <u>sustainability</u>, taking into account:
  - (1) Social, cultural, and economic conditions relevant to the area influenced by the plan;
  - (2) <u>Sustainable recreation</u>; including <u>recreation</u> settings, opportunities, and access; and <u>scenic character</u>;
  - (3) <u>Multiple uses</u> that contribute to local, regional, and national economies in a sustainable manner;
  - (4) Ecosystem services;
  - (5) Cultural and historic resources and uses; and
  - (6) Opportunities to connect people with nature.

### **Appendix H**

36 CFR § 219.9 - Diversity of plant and animal communities.

This section adopts a complementary <u>ecosystem</u> and species-specific approach to <u>maintaining</u> the diversity of plant and animal communities and the persistence of <u>native species</u> in the plan area. Compliance with the ecosystem requirements of paragraph (a) of this section is intended to provide the <u>ecological conditions</u> to both maintain the diversity of plant and animal communities and support the persistence of most native species in the plan area. Compliance with the requirements of paragraph (b) of this section is intended to provide for additional ecological conditions not otherwise provided by compliance with paragraph (a) of this section for individual species as set forth in paragraph (b) of this section. A plan developed or revised under this part must provide for the diversity of plant and animal communities, within Forest Service authority and consistent with the inherent capability of the plan area, as follows:

#### (a) Ecosystem plan components.

- (1) Ecosystem integrity. As required by <u>§ 219.8(a)</u>, the plan must include plan components, including standards or guidelines, to maintain or restore the <u>ecological integrity</u> of terrestrial and aquatic <u>ecosystems</u> and <u>watersheds</u> in the <u>plan area</u>, including plan components to <u>maintain</u> or <u>restore</u> their structure, function, composition, and <u>connectivity</u>.
- (2) *Ecosystem diversity.* The plan must include plan components, including standards or guidelines, to <u>maintain</u> or <u>restore</u> the diversity of ecosystems and habitat types throughout the plan area. In doing so, the plan must include plan components to maintain or restore:
  - (ii) Key characteristics associated with terrestrial and aquatic ecosystem types;
  - (iii) Rare aquatic and terrestrial plant and animal communities; and
  - (iv) The diversity of native tree species similar to that existing in the plan area.

#### (b) Additional, species-specific plan components.

- (1) The responsible official shall determine whether or not the plan components required by paragraph (a) of this section provide the <u>ecological conditions</u> necessary to: contribute to the <u>recovery</u> of federally listed threatened and endangered species, <u>conserve</u> proposed and <u>candidate species</u>, and <u>maintain</u> a <u>viable population</u> of each species of <u>conservation</u> concern within the plan area. If the responsible official determines that the plan components required in paragraph (a) are insufficient to provide such ecological conditions, then additional, species-specific plan components, including standards or guidelines, must be included in the plan to provide such ecological conditions in the plan area.
- (2) If the responsible official determines that it is beyond the authority of the Forest Service or not within the inherent capability of the plan area to maintain or restore the

ecological conditions to maintain a viable population of a species of conservation concern in the plan area, then the responsible official shall:

(i) Document the basis for that determination (§ 219.14(a)); and

- (ii) Include plan components, including standards or guidelines, to maintain or restore ecological conditions within the plan area to contribute to maintaining a viable population of the species within its range. In providing such plan components, the responsible official shall coordinate to the extent practicable with other Federal, State, Tribal, and private land managers having management authority over lands relevant to that population.
- (c) *Species of conservation concern.* For purposes of this subpart, a species of conservation concern is a species, other than federally recognized threatened, endangered, proposed, or candidate species, that is known to occur in the plan area and for which the regional forester has determined that the best available scientific information indicates substantial concern about the species' capability to persist over the long-term in the plan area.

## Appendix I

#### 36 CFR § 219.10 Multiple use

While meeting the requirements of §§ <u>219.8</u> and <u>219.9</u>, a plan developed or revised under this part must provide for <u>ecosystem services</u> and <u>multiple uses</u>, including outdoor <u>recreation</u>, range, timber, <u>watershed</u>, wildlife, and fish, within Forest Service authority and the inherent capability of the <u>plan area</u> as follows:

(a) Integrated resource management for multiple use. The plan must include plan components, including standards or guidelines, for integrated resource management to provide for ecosystem services and multiple uses in the plan area. When developing plan components for integrated resource management, to the extent relevant to the plan area and the public participation process and the requirements of §§ 219.7, 219.8, 219.9, and 219.11, the responsible official shall consider:

(1) Aesthetic values, air quality, cultural and heritage resources, ecosystem services, fish and wildlife species, forage, geologic features, grazing and rangelands, habitat and habitat <u>connectivity</u>, <u>recreation settings</u> and opportunities, <u>riparian areas</u>, scenery, soil, surface and subsurface water quality, timber, trails, vegetation, viewsheds, <u>wilderness</u>, and other relevant resources and uses.

(2) Renewable and nonrenewable energy and mineral resources.

(3) Appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors.

(4) Opportunities to coordinate with neighboring landowners to link open spaces and take into account joint management objectives where feasible and appropriate.

**(5)** Habitat conditions, subject to the requirements of <u>§ 219.9</u>, for wildlife, fish, and plants commonly enjoyed and used by the public; for hunting, fishing, trapping, gathering, observing, subsistence, and other activities (in collaboration with federally recognized Tribes, Alaska Native Corporations, other Federal agencies, and State and local governments).

(6) Land status and ownership, use, and access patterns relevant to the plan area.

(7) Reasonably foreseeable <u>risks</u> to ecological, social, and <u>economic sustainability</u>.

(8) System drivers, including dominant ecological processes, <u>disturbance</u> regimes, and <u>stressors</u>, such as natural succession, wildland fire, invasive species, and climate change; and the ability of the terrestrial and aquatic ecosystems on the plan area to adapt to change (§ 219.8);

(9) Public water supplies and associated water quality.

(10) Opportunities to connect people with nature.

(b) Requirements for plan components for a new plan or plan revision.

(1) The plan must include plan components, including standards or guidelines, to provide for:

(i) <u>Sustainable recreation</u>; including <u>recreation settings</u>, opportunities, and access; and <u>scenic character</u>. <u>Recreation</u> opportunities may include non-motorized, motorized, developed, and dispersed recreation on land, water, and in the air.

(ii) Protection of cultural and historic resources.

(iii) Management of areas of tribal importance.

(iv) Protection of congressionally designated <u>wilderness</u> areas as well as management of areas recommended for wilderness designation to protect and maintain the ecological and social characteristics that provide the basis for their suitability for wilderness designation.

(v) Protection of designated <u>wild and scenic rivers</u> as well as management of rivers found eligible or determined suitable for the National Wild and Scenic River system to protect the values that provide the basis for their suitability for inclusion in the system.

(vi) Appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas.

(2) Other plan components for <u>integrated resource management</u> to provide for <u>multiple</u> <u>use</u> as necessary.

## Appendix J

#### 36 CFR § 219.11 Timber requirements based on the NFMA

While meeting the requirements of §§ 219.8 through 219.10, a plan developed or revised under this part must include plan components, including standards or guidelines, and other plan content regarding timber management within Forest Service authority and the inherent capability of the plan area, as follows:

#### (a) Lands not suited for timber production.

(1) The responsible official shall identify lands within the plan area as not suited for <u>timber</u> <u>production</u> if any one of the following factors applies:

(i) Statute, Executive order, or regulation prohibits timber production on the land;

(ii) The Secretary of Agriculture or the Chief has withdrawn the land from timber production;

(iii) Timber production would not be compatible with the achievement of desired conditions and objectives established by the plan for those lands;

(iv) The technology is not currently available for conducting <u>timber harvest</u> without causing irreversible damage to soil, slope, or other <u>watershed</u> conditions;

(v) There is no reasonable assurance that such lands can be adequately restocked within 5 years after final regeneration harvest; or

(vi) The land is not forest land.

(2) The responsible official shall review lands identified in the plan as not suited for timber production at least once every 10 years, or as otherwise prescribed by law, to determine whether conditions have changed so that they have become suitable for timber production. As a result of this 10-year review, the plan may be amended to identify any such lands as suitable for timber production, if warranted by changed conditions.

**(b)** *Timber harvest for purposes of timber production.* A plan that identifies lands as suitable for timber production must include plan components, including standards or guidelines, to guide <u>timber harvest</u> for <u>timber production</u> or for other <u>multiple use</u> purposes on such lands.

(c) *Timber harvest for purposes other than timber production.* Except as provided in paragraph (d) of this section, the plan may include plan components to allow for timber harvest for purposes other than timber production throughout the plan area, or portions of the plan area, as a tool to assist in achieving or maintaining one or more applicable desired conditions or objectives of the plan in order to protect other multiple-use values, and for salvage, sanitation, or public health or safety. Examples of using timber harvest to protect other multiple use values may include improving wildlife or fish habitat, thinning to reduce fire risk, or restoring meadow or savanna ecosystems where trees have invaded.

(d) *Limitations on timber harvest.* Whether <u>timber harvest</u> would be for the purposes of <u>timber production</u> or other purposes, plan components, including standards or guidelines, must ensure the following:

(1) No timber harvest for the purposes of timber production may occur on lands not suited for timber production.

(2) Timber harvest would occur only where soil, slope, or other watershed conditions would not be irreversibly damaged;

(3) Timber harvest would be carried out in a manner consistent with the protection of soil, watershed, fish, wildlife, recreation, and aesthetic resources.

(4) Where plan components will allow clearcutting, seed tree cutting, shelterwood cutting, or other cuts designed to regenerate an <u>even-aged stand</u> of timber, the plan must include standards limiting the maximum size for openings that may be cut in one harvest operation, according to geographic areas, forest types, or other suitable classifications. Except as provided in paragraphs (d)(4)(i) through (iii) of this section, this limit may not exceed 60 acres for the Douglas-fir forest type of California, Oregon, and Washington; 80 acres for the southern yellow pine types of Alabama, Arkansas, Georgia, Florida, Louisiana, Mississippi, North Carolina, South Carolina, Oklahoma, and Texas; 100 acres for the hemlock-Sitka spruce forest type of coastal Alaska; and 40 acres for all other forest types.

(i) Plan standards may allow for openings larger than those specified in paragraph (d)(4) of this section to be cut in one harvest operation where the responsible official determines that larger harvest openings are necessary to help achieve desired <u>ecological conditions</u> in the plan area. If so, standards for exceptions shall include the particular conditions under which the larger size is permitted and must set a maximum size permitted under those conditions.

(ii) Plan components may allow for size limits exceeding those established in paragraphs
(d)(4) introductory text and (d)(4)(i) of this section on an individual timber sale basis after
60 days public notice and review by the regional forester.

(iii) The plan maximum size for openings to be cut in one harvest operation shall not apply to the size of openings harvested as a result of natural catastrophic conditions such as fire, insect and disease attack, or windstorm (16 U.S.C. 1604(g)(3)(F)(iv)).

(5) Timber will be harvested from NFS lands only where such harvest would comply with the resource protections set out in sections 6(g)(3)(E) and (F) of the NFMA (16 U.S.C. 1604(g)(3)(E) and (F)). Some of these requirements are listed in paragraphs (d)(2) to (d)(4) of this section.

(6) The quantity of timber that may be sold from the national forest is limited to an amount equal to or less than that which can be removed from such forest annually in perpetuity on a sustained-yield basis. This limit may be measured on a decadal basis.

(i) The plan may provide for departures from this limit as provided by the NFMA when departure would be consistent with the plan's desired conditions and objectives.

Exceptions for departure from this limit on the quantity sold may be made only after a public review and comment period of at least 90 days.

(ii) This limit may be based upon increases in harvest levels based on intensified management practices, such as reforestation, thinning, and tree improvement if such practices justify increasing the harvests in accordance with the Multiple-Use Sustained-Yield Act of 1960. The plan must require that such harvest levels be decreased at the end of each planning period if such practices cannot be successfully implemented or funds are not received to permit such practices to continue substantially as planned.

(iii) The Chief must include in the Forest Service Directive System procedures for estimating the quantity of timber that can be removed annually in perpetuity on a sustained-yield basis, and exceptions, consistent with 16 U.S.C. 1611.

(7) The regeneration harvest of <u>even-aged stands</u> of trees is limited to stands that generally have reached the <u>culmination of mean annual increment of growth</u>. This requirement would apply only to regeneration harvest of even-aged stands on lands identified as suitable for timber production and where timber production is the primary purpose for the harvest. Plan components may allow for exceptions, set out in 16 U.S.C. 1604(m), only if such harvest is consistent with the other plan components of the land management plan.

### Appendix K

#### 36 CFR § 219.12 Monitoring

#### (a) Plan monitoring program.

(1) The responsible official shall develop a <u>monitoring</u> program for the plan area and include it in the plan. Monitoring information should enable the responsible official to determine if a change in plan components or other plan content that guide management of resources on the <u>plan area</u> may be needed. The development of the plan monitoring program must be coordinated with the regional forester and Forest Service State and Private Forestry and Research and Development. Responsible officials for two or more administrative units may jointly develop their plan monitoring programs.

(2) The plan monitoring program sets out the plan monitoring questions and associated indicators. Monitoring questions and associated indicators must be designed to inform the management of resources on the plan area, including by testing relevant assumptions, tracking relevant changes, and measuring management effectiveness and progress toward achieving or <u>maintaining</u> the plan's desired conditions or objectives. Questions and indicators should be based on one or more desired conditions, objectives, or other plan components in the plan, but not every plan component needs to have a corresponding monitoring question.

(3) The plan monitoring program should be coordinated and integrated with relevant broader-scale monitoring strategies (paragraph (b) of this section) to ensure that monitoring is complementary and efficient, and that information is gathered at scales appropriate to the monitoring questions.

(4) Subject to the requirements of paragraph (a)(5) of this section, the responsible official has the discretion to set the scope and scale of the plan monitoring program, after considering:

(i) Information needs identified through the planning process as most critical for informed management of resources on the plan area; and

(ii) The financial and technical capabilities of the Agency.

(5) Each plan monitoring program must contain one or more monitoring questions and associated indicators addressing each of the following:

(i) The status of select watershed conditions.

(ii) The status of select <u>ecological conditions</u> including key characteristics of terrestrial and aquatic ecosystems.

(iii) The status of <u>focal species</u> to assess the ecological conditions required under <u>§ 219.9</u>.

(iv) The status of a select set of the ecological conditions required under § 219.9 to contribute to the <u>recovery</u> of federally listed threatened and endangered species, conserve proposed and <u>candidate species</u>, and <u>maintain</u> a <u>viable population</u> of each species of <u>conservation</u> concern.

(v) The status of visitor use, visitor satisfaction, and progress toward meeting <u>recreation</u> objectives.

(vi) Measurable changes on the plan area related to climate change and other stressors that may be affecting the plan area.

(vii) Progress toward meeting the desired conditions and objectives in the plan, including for providing <u>multiple use</u> opportunities.

(viii) The effects of each management system to determine that they do not substantially and permanently impair the productivity of the land (16 U.S.C. 1604(g)(3)(C)).

(6) A range of monitoring techniques may be used to carry out the monitoring requirements in paragraph (a)(5) of this section.

(7) This section does not apply to projects or activities. Project and activity monitoring may be used to gather information for the plan monitoring program, and information gathered through plan monitoring may be used to inform development of projects or activities. But, the monitoring requirements of this section are not a prerequisite for making a decision to carry out a <u>project</u> or activity.

#### (b) Broader-scale monitoring strategies.

(1) The regional forester shall develop a broader-scale monitoring strategy for plan monitoring questions that can best be answered at a geographic scale broader than one plan area.

(2) When developing a monitoring strategy, the regional forester shall coordinate with the relevant responsible officials, Forest Service State and Private Forestry and Research and Development, partners, and the public. Two or more regional foresters may jointly develop broader-scale monitoring strategies.

(3) Each regional forester shall ensure that the broader-scale monitoring strategy is within the financial and technical capabilities of the region and complements other ongoing monitoring efforts.

(4) Projects and activities may be carried out under plans developed, amended, or revised under this part before the regional forester has developed a broader-scale monitoring strategy.

# (c) Timing and process for developing the plan monitoring program and broader-scale strategies.

(1) The responsible official shall develop the plan monitoring program as part of the planning process for a new plan development or plan revision. Where a plan's monitoring program has been developed under the provisions of a prior planning regulation and the unit has not initiated plan revision under this part, the responsible official shall modify the plan monitoring program within 4 years of the effective date of this part, or as soon as practicable, to meet the requirements of this section.

(2) The regional forester shall develop a broader-scale monitoring strategy as soon as practicable.

(3) To the extent practicable, appropriate, and relevant to the monitoring questions in the plan monitoring program, plan monitoring programs and broader-scale strategies must be designed to take into account:

(i) Existing national and regional inventory, monitoring, and research programs of the Agency, including from the NFS, State and Private Forestry, and Research and Development, and of other governmental and non-governmental entities;

(ii) Opportunities to design and carry out multi-party monitoring with other Forest Service units, Federal, State or local government agencies, scientists, partners, and members of the public; and

(iii) Opportunities to design and carry out monitoring with federally recognized Indian Tribes and Alaska Native Corporations.

#### (d) Biennial evaluation of the monitoring information.

(1) The responsible official shall conduct a biennial evaluation of new information gathered through the plan monitoring program and relevant information from the broader-scale strategy, and shall issue a written report of the evaluation and make it available to the public.

(i) The first monitoring evaluation for a plan or plan revision developed in accordance with this subpart must be completed no later than 2 years from the effective date of plan decision.

(ii) Where the monitoring program developed under the provisions of a prior planning regulation has been modified to meet the requirements of paragraph (c)(1) of this section, the first monitoring evaluation must be completed no later than 2 years from the date the change takes effect.

(iii) The monitoring evaluation report may be postponed for 1 year in case of exigencies, but notice of the postponement must be provided to the public prior to the date the report is due for that year (§ 219.16(c)(6)).

(2) The monitoring evaluation report must indicate whether or not a change to the plan, management activities, or the monitoring program, or a new assessment, may be warranted based on the new information. The monitoring evaluation report must be used to inform adaptive management of the plan area.

(3) The monitoring evaluation report may be incorporated into other planning documents if the responsible official has initiated a plan revision or relevant amendment.

(4) The monitoring evaluation report is not a decision document representing final Agency action, and is not subject to the objection provisions of subpart B.

## Appendix L

#### 36 CFR § 219.13 Plan amendment and administrative changes

(a) *Plan amendment.* A plan may be amended at any time. Plan amendments may be broad or narrow, depending on the need for change, and should be used to keep plans current and help units adapt to new information or changing conditions. The responsible official has the discretion to determine whether and how to amend the plan and to determine the scope and scale of any amendment. Except as provided by paragraph (c) of this section, a plan amendment is required to add, modify, or remove one or more plan components, or to change how or where one or more plan components apply to all or part of the plan area (including management areas or geographic areas).

(b) Amendment requirements. For every plan amendment, the responsible official shall:

(1) Base an amendment on a preliminary identification of the need to change the plan. The preliminary identification of the need to change the plan may be based on a new <u>assessment</u>; a <u>monitoring</u> report; or other documentation of new information, changed conditions, or changed circumstances. When a plan amendment is made together with, and only applies to, a <u>project</u> or activity decision, the analysis prepared for the project or activity may serve as the documentation for the preliminary identification of the need to change the plan.

(2) Provide opportunities for public participation as required in § 219.4 and public notification as required in § 219.16. The responsible official may combine processes and associated public notifications where appropriate, considering the scope and scale of the need to change the plan. The responsible official must include information in the initial notice for the amendment (§ 219.16(a)(1)) about which substantive requirements of §§ 219.8 through 219.11 are likely to be directly related to the amendment (§ 219.13(b)(5)).

(3) Amend the plan consistent with Forest Service NEPA procedures. The appropriate NEPA documentation for an amendment may be an environmental impact statement, an environmental assessment, or a categorical exclusion, depending upon the scope and scale of the amendment and its likely effects. Except for an amendment that applies only to one project or activity, a proposed amendment that may create a significant environmental effect and thus requires preparation of an environmental impact statement is considered a significant change in the plan for the purposes of the NFMA and therefore requires a 90-day comment period for the proposed plan and draft environmental impact statement ( $\frac{9}{219.16(a)(2)}$ ), in addition to meeting the requirements of this section.

(4) Follow the applicable format for plan components set out at § 219.7(e) for the plan direction added or modified by the amendment, except that where an amendment to a plan developed or revised under a prior planning regulation would simply modify the area to which existing direction applies, the responsible official may retain the existing formatting for that direction.

(5) Determine which specific substantive requirement(s) within §§ 219.8 through 219.11 are directly related to the plan direction being added, modified, or removed by the amendment and apply such requirement(s) within the scope and scale of the amendment.

The responsible official is not required to apply any substantive requirements within  $\frac{219.8}{1000}$  through  $\frac{219.11}{1000}$  that are not directly related to the amendment.

(i) The responsible official's determination must be based on the purpose for the amendment and the effects (beneficial or adverse) of the amendment, and informed by the best available scientific information, scoping, effects analysis, <u>monitoring</u> data or other rationale.

(ii) When basing the determination on adverse effects:

(A) The responsible official must determine that a specific substantive requirement is directly related to the amendment when scoping or NEPA effects analysis for the proposed amendment reveals substantial adverse effects associated with that requirement, or when the proposed amendment would substantially lessen protections for a specific resource or use.

**(B)** If the appropriate NEPA documentation for an amendment is a categorical exclusion or an environmental assessment accompanied by a finding of no significant impact ( $\frac{§}{219.13(b)(3)}$ ), there is a rebuttable presumption that the amendment will not have substantial adverse effects.

(6) For an amendment to a plan developed or revised under a prior planning regulation, if species of <u>conservation</u> concern (SCC) have not been identified for the plan area and if scoping or NEPA effects analysis for the proposed amendment reveals substantial adverse impacts to a specific species, or if the proposed amendment would substantially lessen protections for a specific species, the responsible official must determine whether such species is a potential SCC, and if so, apply section  $\frac{§ 219.9(b)}{5}$  with respect to that species as if it were an SCC.

(c) Administrative changes. An administrative change is any change to a plan that is not a plan amendment or plan revision. Administrative changes include corrections of clerical errors to any part of the plan, conformance of the plan to new statutory or regulatory requirements, or changes to other content in the plan ( $\frac{219.7(f)}{10}$ ).

(1) A substantive change to the monitoring program made outside of the process for plan revision or amendment may be made only after notice to the public of the intended change and consideration of public comment ( $\frac{§ 219.16(c)(6)}{9}$ ).

(2) All other administrative changes may be made following public notice (§ 219.16(c)(6)).

## Appendix M

36 CFR § 219.14 Decision document and planning records

(a) *Decision document approving a new plan, plan amendment, or revision.* The responsible official shall record approval of a new plan, plan amendment, or revision in a decision document prepared according to Forest Service NEPA procedures (36 CFR part 220). The decision document must include:

(1) The rationale for approval;

(2) A statement of how the plan, plan amendment, or plan revision applies to approved <u>projects</u> and activities (§ 219.15);

(3) The documentation of how the best available scientific information was used to inform planning, the plan components, and other plan content, including the plan monitoring program ( $\S$  219.3);

(4) The concurrence by the appropriate research station director with any part of the plan applicable to any experimental forests or experimental ranges ( $\frac{§ 219.2(b)(4)}{5}$ ; and

(5) The effective date of the plan, amendment, or revision.

(b) Decision document for a new plan or plan revision. In addition to meeting the requirements of paragraph (a) of this section, the decision document must include an explanation of how the plan components meet the <u>sustainability</u> requirements of § 219.8, the diversity requirements of § 219.9, the <u>multiple use</u> requirements of § 219.10, and the timber requirements of § 219.11.

(c) *Decision document for a plan amendment.* In addition to meeting the requirements of paragraph (a) of this section, the decision document must explain how the responsible official determined:

(1) The scope and scale of the plan amendment; and

(2) Which specific requirements within  $\frac{219.8}{219.8}$  through  $\frac{219.11}{219.11}$  apply to the amendment and how they were applied.

#### (d) Planning records.

(1) The responsible official shall keep the following documents readily accessible to the public by posting them online and through other means: <u>assessment</u> reports ( $\frac{5}{219.6}$ ); the plan, including the <u>monitoring</u> program; the proposed plan, plan amendment, or plan revision; public notices and environmental documents associated with a plan; plan decision documents; and monitoring evaluation reports ( $\frac{5}{219.12}$ ).

(2) The planning record includes documents that support analytical conclusions made and alternatives considered throughout the planning process. The responsible official shall make the planning record available at the office where the plan, plan amendment, or plan revision was developed.

## Appendix N

#### 36 CFR § 219.15 Project and activity consistency with the plan

(a) Application to existing authorizations and approved projects or activities. Every decision document approving a plan, plan amendment, or plan revision must state whether authorizations of occupancy and use made before the decision document may proceed unchanged. If a plan decision document does not expressly allow such occupancy and use, the permit, contract, and other authorizing instrument for the use and occupancy must be made consistent with the plan, plan amendment, or plan revision as soon as practicable, as provided in paragraph (d) of this section, subject to valid existing rights.

(b) Application to projects or activities authorized after plan decision. <u>Projects</u> and activities authorized after approval of a plan, plan amendment, or plan revision must be consistent with the plan as provided in paragraph (d) of this section.

(c) *Resolving inconsistency.* When a proposed project or activity would not be consistent with the applicable plan components, the responsible official shall take one of the following steps, subject to valid existing rights:

(1) Modify the proposed project or activity to make it consistent with the applicable plan components;

(2) Reject the proposal or terminate the project or activity;

(3) Amend the plan so that the project or activity will be consistent with the plan as amended; or

(4) Amend the plan contemporaneously with the approval of the project or activity so that the project or activity will be consistent with the plan as amended. This amendment may be limited to apply only to the project or activity.

(d) *Determining consistency.* Every project and activity must be consistent with the applicable plan components. A project or activity approval document must describe how the project or activity is consistent with applicable plan components developed or revised in conformance with this part by meeting the following criteria:

(1) *Goals, desired conditions, and objectives.* The project or activity contributes to the maintenance or attainment of one or more goals, desired conditions, or objectives, or does not foreclose the opportunity to <u>maintain</u> or achieve any goals, desired conditions, or objectives, over the long term.

(2) Standards. The project or activity complies with applicable standards.

(3) Guidelines. The project or activity:

(i) Complies with applicable guidelines as set out in the plan; or

(ii) Is designed in a way that is as effective in achieving the purpose of the applicable guidelines (  $\frac{§ 219.7(e)(1)(iv)}{219.7(e)(1)(iv)}$ ).

(4) *Suitability.* A project or activity would occur in an area:

(i) That the plan identifies as suitable for that type of project or activity; or

(ii) For which the plan is silent with respect to its suitability for that type of project or activity.

#### (e) Consistency of resource plans within the planning area with the land management

**plan.** Any resource plans (for example, travel management plans) developed by the Forest Service that apply to the resources or land areas within the planning area must be consistent with the plan components. Resource plans developed prior to plan decision must be evaluated for consistency with the plan and amended if necessary.

## Appendix N

#### 36 CFR § 219.16 Public notifications

The following public notification requirements apply to plan development, amendment, or revision. Notifications may be combined where appropriate.

(a) *When formal public notification is required.* Public notification must be provided as follows:

(1) To initiate the development of a proposed plan, plan amendment, or plan revision;

(2) To invite comments on a proposed plan, plan amendment, or plan revision, and associated environmental analysis. For a new plan, plan amendment, or a plan revision for which a draft <u>environmental impact statement (EIS)</u> is prepared, the comment period is at least 90 days, except for an amendment that applies only to one project or activity. For an amendment that applies only to one project or activity for which a draft <u>EIS</u> is prepared, the comment period is at least 45 days unless a different time period is required by law or regulation or authorized pursuant to 40 CFR 1506.10(d). For an amendment for which a draft EIS is not prepared, the comment period is at least 30 days;

(3) To begin the objection period for a plan, plan amendment, or plan revision before approval (§ 219.52);

(4) To approve a final plan, plan amendment, or plan revision; or

(5) To announce whenever a plan, plan amendment, or plan revision process initiated under the provisions of a previous planning regulation will be conformed to meet the provisions of this part (§ 219.17(b)(3)).

**(b)** *Project or activity plan amendments.* When a plan amendment is approved in a decision document approving a project or activity and the amendment applies only to the project or activity, the notification requirements of 36 CFR part 215 or part 218, subpart A, applies instead of this section.

(c) *How public notice is provided.* The responsible official should use contemporary tools to provide notice to the public. At a minimum, all public notifications required by this part must be posted online, and:

(1) When the Chief, the Under Secretary, or the Secretary is the responsible official, notice must be published in the FEDERAL REGISTER.

(2) For a new plan or plan revision, when an official other than the Chief, the Under Secretary, or the Secretary is the responsible official, notice must be published in the FEDERAL REGISTER and the applicable newspaper(s) of record.

(3) When the notice is for the purpose of inviting comments on a proposed plan, plan amendment, or plan revision for which a draft EIS is prepared, the Environmental Protection Agency (EPA) FEDERAL REGISTER notice of availability of a draft EIS shall serve as the required FEDERAL REGISTER notice. (4) For a plan amendment when an official other than the Chief, the Under Secretary, or the Secretary is the responsible official, and for which a draft EIS is not prepared, notices must be published in the newspaper(s) of record.

(5) If a plan, plan amendment, or plan revision applies to two or more units, notices must be published in the FEDERAL REGISTER and the newspaper(s) of record for the applicable units.

(6) Additional public notice of administrative changes, changes to the monitoring program, opportunities to provide information for <u>assessments</u>, assessment reports, <u>monitoring</u> evaluation reports, or other notices not listed in paragraph (a) of this section may be made in any way the responsible official deems appropriate.

(d) *Content of public notices.* Public notices required by this section except for notices applicable to paragraph (c)(3) of this section, must clearly describe the action subject to notice and the nature and scope of the decisions to be made; identify the responsible official; describe when, where, and how the responsible official will provide opportunities for the public to participate in the planning process; and explain how to obtain additional information.

## Appendix O

#### **Important Definitions**

<u>Assessment</u>—For the purposes of this subpart, an assessment is the identification and evaluation of existing information to support land management planning. Assessments are not decision-making documents, but provide current information on select topics relevant to the plan area, in the context of the broader landscape.

<u>Candidate species</u>—A species for which the U.S. Fish and Wildlife Service possesses sufficient information on vulnerability and threats to support a proposal to list as endangered or threatened, but for which no proposed rule has yet been published by the U.S. Fish and Wildlife Service.

<u>Connectivity</u>—Ecological conditions which exist at several spatial and temporal scales that provide landscape linkages that permit the exchange of flow, sediments, and nutrients; the daily and seasonal movements of animals within home ranges; the dispersal and genetic interchange between populations; and the long-distance range shifts of species, such as in response to climate change.

<u>Conservation</u>—The protection, preservation, management, or restoration of natural environments, ecological communities, and species.

<u>Conserve</u>—For purposes of 219.9, to protect, preserve, manage, or restore natural environments and ecological communities to potentially avoid federally listing of proposed and candidate species.

<u>Disturbance</u>—Any relatively discrete event in time that disrupts ecosystem, watershed, community, or species population structure and/or function and changes resources, substrate availability, or the physical environment.

<u>Ecological conditions</u>—The biological and physical environment that can affect the diversity of plant and animal communities, the persistence of native species, and the productive capacity of ecological systems. Ecological conditions include habitat and other influences on species and the environment. Examples of ecological conditions include the abundance and distribution of aquatic and terrestrial habitats, connectivity, roads and other structural developments, human uses, and invasive species.

<u>Ecological integrity</u>—The quality or condition of an ecosystem when its dominant ecological characteristics (for example, composition, structure, function, connectivity, and species composition and diversity) occur within the natural range of variation and can withstand and recover from most perturbations imposed by natural environmental dynamics or human influence.

<u>Ecosystem</u>—A spatially explicit, relatively homogeneous unit of the Earth that includes all interacting organisms and elements of the abiotic environment within its boundaries. An ecosystem is commonly described in terms of its:

(1) Composition. The biological elements within the different levels of biological organization, from genes and species to communities and ecosystems.

- (2) Structure. The organization and physical arrangement of biological elements such as, snags and down woody debris, vertical and horizontal distribution of vegetation, stream habitat complexity, landscape pattern, and connectivity.
- (3) Function. Ecological processes that sustain composition and structure, such as energy flow, nutrient cycling and retention, soil development and retention, predation and herbivory, and natural disturbances such as wind, fire, and floods.
- (4) Connectivity. (see connectivity above).

Ecosystem services—Benefits people obtain from ecosystems, including:

- (1) Provisioning services, such as clean air and fresh water, energy, fuel, forage, fiber, and minerals;
- (2) Regulating services, such as long-term storage of carbon; climate regulation; water filtration, purification, and storage; soil stabilization; flood control; and disease regulation;
- (3) Supporting services, such as pollination, seed dispersal, soil formation, and nutrient cycling; and
- (4) Cultural services, such as educational, aesthetic, spiritual and cultural heritage values, recreational experiences, and tourism opportunities.

<u>Environmental assessment (EA)</u>—A public document that provides sufficient evidence and analysis for determining whether to prepare an <u>EIS</u> or a finding of no significant impact, aids an agency's compliance with the National Environmental Policy Act (NEPA) when no <u>EIS</u> is necessary, and facilitates preparation of a statement when one is necessary (<u>40 CFR 1508.9</u>; FSH 1909.15, Chapter 40).

Environmental impact statement (EIS)—A detailed written statement as required by section 102(2)(C) of the National Environmental Policy Act (NEPA) of 1969 (<u>40 CFR 1508.11</u>; <u>36</u> CFR 220).

<u>Even-aged stand</u>—A stand of trees composed of a single age class.

<u>Focal species</u>—A small subset of species whose status permits inference to the integrity of the larger <u>ecological system</u> to which it belongs and provides meaningful information regarding the effectiveness of the plan in <u>maintaining</u> or restoring the <u>ecological conditions</u> to <u>maintain</u> the diversity of plant and animal communities in the <u>plan area</u>. <u>Focal species</u> would be commonly selected on the basis of their functional role in ecosystems.

<u>Forest land</u>—Land at least 10 percent occupied by forest trees of any size or formerly having had such tree cover and not currently developed for non-forest uses. <u>Lands</u> developed for non-forest use include areas for crops, improved pasture, residential or administrative areas, improved roads of any width and adjoining road clearing, and power line clearings of any width.

<u>Geographic area</u>—A spatially contiguous land area identified within the planning area. A geographic area may overlap with a management area.

<u>Integrated resource management</u>—Multiple use management that recognizes the interdependence of ecological resources and is based on the need for integrated consideration of ecological, social, and economic factors.

<u>Landscape</u>—A defined area irrespective of ownership or other artificial boundaries, such as a spatial mosaic of terrestrial and aquatic ecosystems, landforms, and plant communities, repeated in similar form throughout such a defined area.

<u>Maintain</u>—In reference to an ecological condition: To keep in existence or continuance of the desired ecological condition in terms of its desired composition, structure, and processes. Depending upon the circumstance, ecological conditions may be maintained by active or passive management or both.

<u>Management area</u>—A land area identified within the planning area that has the same set of applicable plan components. A <u>management area</u> does not have to be spatially contiguous.

<u>Mean annual increment of growth and culmination of mean annual increment of growth</u>— Mean annual increment of growth is the total increment of increase of volume of a stand (standing crop plus thinnings) up to a given age divided by that age. <u>Culmination of mean</u> <u>annual increment of growth</u> is the age in the growth cycle of an <u>even-aged stand</u> at which the average annual rate of increase of volume is at a maximum. In land management plans, mean annual increment is expressed in cubic measure and is based on the expected growth of stands, according to intensities and utilization guidelines in the plan.

<u>Monitoring</u>—A systematic process of collecting information to evaluate effects of actions or changes in conditions or relationships.

<u>Multiple use</u>—The management of all the various renewable surface resources of the NFS so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some land will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output, consistent with the Multiple-Use Sustained-Yield Act of 1960 (16 U.S. Code 528-531).

<u>Native species</u>—An organism that was historically or is present in a particular <u>ecosystem</u> as a result of natural migratory or evolutionary processes; and not as a result of an accidental or deliberate introduction into that <u>ecosystem</u>. An organism's presence and evolution (adaptation) in an area are determined by climate, soil, and other biotic and abiotic factors.

<u>Objection</u>—The written document filed with a <u>reviewing officer</u> by an individual or entity seeking pre-decisional administrative review of a plan, plan amendment, or plan revision.

<u>Objection period</u>—The allotted filing period following publication of a public notice in the applicable newspaper of record (or the FEDERAL REGISTER, if the <u>responsible official</u> is the Chief) of the availability of the appropriate environmental documents and draft decision document, including a plan, plan amendment, or plan revision during which an <u>objection</u> may be filed with the <u>reviewing officer</u>.

<u>Objection process</u>—Those procedures established for pre-decisional administrative review of a plan, plan amendment, or plan revision.

<u>Objector</u>—An individual or entity who meets the requirements of  $\frac{§ 219.53}{$}$ , and files an <u>objection</u> that meets the requirements of  $\frac{§ § 219.54}{$}$  and 219.56.

<u>Online</u>—Refers to the appropriate Forest Service Web site or future electronic equivalent.

<u>Participation</u>—Activities that include a wide range of public involvement tools and processes, such as collaboration, public meetings, open houses, workshops, and comment periods.

<u>Plan area</u>—The NFS lands covered by a plan.

<u>Productivity</u>—The capacity of NFS <u>lands</u> and their <u>ecological systems</u> to provide the various renewable resources in certain amounts in perpetuity. For the purposes of this subpart, <u>productivity</u> is an ecological term, not an economic term.

<u>Project</u>—An organized effort to achieve an outcome on NFS <u>lands</u> identified by location, tasks, outputs, effects, times, and responsibilities for execution.

<u>Recovery</u>—For the purposes of this subpart, and with respect to threatened or endangered species: The improvement in the status of a listed species to the point at which listing as federally endangered or threatened is no longer appropriate.

<u>Recreation (Sustainable)</u>—The set of recreation settings and opportunities on the National Forest System that is ecologically, economically, and socially sustainable for present and future generations.

<u>Recreation setting</u>—The social, managerial, and physical attributes of a place that, when combined, provide a distinct set of recreation opportunities. The Forest Service uses the recreation opportunity spectrum to define recreation settings and categorize them into six distinct classes: primitive, semi-primitive non-motorized, semi-primitive motorized, roaded natural, rural, and urban.

<u>Restoration</u>—The process of assisting the <u>recovery</u> of an <u>ecosystem</u> that has been degraded, damaged, or destroyed. Ecological <u>restoration</u> focuses on reestablishing the composition, structure, pattern, and ecological processes necessary to facilitate terrestrial and aquatic <u>ecosystems sustainability</u>, resilience, and health under current and future conditions.

<u>Restore</u>—To renew by the process of restoration (see restoration).

<u>Riparian Areas</u>—Three-dimensional ecotones of interaction that include terrestrial and aquatic ecosystems that extend down into the groundwater, up above the canopy, outward across the floodplain, up the near-slopes that drain to the water, laterally into the terrestrial ecosystem, and along the water course at variable widths.

<u>Riparian management zone</u>—Portions of a watershed where riparian-dependent resources receive primary emphasis, and for which plans include plan components to maintain or restore riparian functions and ecological functions.

<u>Risk</u>—A combination of the likelihood that a negative outcome will occur and the severity of the subsequent negative consequences.

<u>Scenic character</u>—A combination of the physical, biological, and cultural images that gives an area its scenic identity and contributes to its sense of place. Scenic character provides a frame of reference from which to determine scenic attractiveness and to measure scenic integrity.

<u>Source water protection areas</u>—The area delineated by a State or Tribe for a public water system (PWS) or including numerous PWSs, whether the source is ground water or surface water or both, as part of a State or tribal source water assessment and protection program (SWAP) approved by the Environmental Protection Agency under section 1453 of the Safe Drinking Water Act (42 U.S.C. 300h-3).

<u>Stressors</u>—For the purposes of this subpart: Factors that may directly or indirectly degrade or impair ecosystem composition, structure or ecological process in a manner that may impair its ecological integrity, such as an invasive species, loss of connectivity, or the disruption of a natural disturbance regime.

<u>Sustainability</u>—The capability to meet the needs of the present generation without compromising the ability of future generations to meet their needs. For purposes of this part, ecological sustainability refers to the capability of ecosystems to maintain ecological integrity; economic sustainability refers to the capability of society to produce and consume or otherwise benefit from goods and services including contributions to jobs and market and nonmarket benefits; and social sustainability refers to the capability of society to support the network of relationships, traditions, culture, and activities that connect people to the land and to one another, and support vibrant communities. (see also 16 U.S. Code § 531, "Sustained yield of the several products and services" means the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the national forests without impairment of the productivity of the land.)

<u>Sustainable recreation</u>—The set of recreation settings and opportunities on the National Forest System that is ecologically, economically, and socially sustainable for present and future generations.

<u>Timber harvest</u>—The removal of trees for wood fiber use and other multiple-use purposes.

<u>Timber production</u>—The purposeful growing, tending, harvesting, and regeneration of regulated crops of trees to be cut into logs, bolts, or other round sections for industrial or consumer use.

<u>Watershed</u>—A region or land area drained by a single stream, river, or drainage network; a drainage basin.

<u>Wild and scenic river</u>—A river designated by Congress as part of the National Wild and Scenic Rivers System that was established in the Wild and Scenic Rivers Act of 1968 (16 U.S.C. 1271 (note), 1271-1287).

<u>Wilderness</u>—Any area of land designated by Congress as part of the National Wilderness Preservation System that was established in the Wilderness Act of 1964 (16 U.S.C. 1131-1136).

<u>Viable population</u>—A population of a species that continues to persist over the long term with sufficient distribution to be resilient and adaptable to stressors and likely future environments.