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**Bitterroot Forest Collaborative scoping comments on BNF Forest Plan amendments**

Bitterroot Forest Collaborative (BFC) respectfully submits the following comments on the proposed Bitterroot National Forest Plan (FP) amendments for old growth, coarse woody debris, and snags. Comments below are largely excerpts from BFC’s Position Statement Handbook, which can be viewed in full on the Montana Forest Collaborative website: <https://montanaforestcollaboration.org/app/home/committees/bitterroot/>. Comments and questions specific to the proposed FP amendments are underlined.

**Old Growth**

Providing sufficient and quality old growth habitat remains a contentious issue on the BNF and therefore merits significant discussion. Old growth forests are ecosystems distinguished by old trees and related structural attributes such as snags, down woody material, and multiple canopy layers. According to Principle 6 in Hessburg et al. (2015): “Widely distributed large, old trees provide a critical backbone to dry pine and dry to mesic mixed-conifer forest landscapes.”

Large, old trees store disproportionate amounts of carbon, as carbon storage dramatically increases with size (dbh) (Mildrexler et al., 2020; Stephenson et al., 2014). With future climate crises probable, retaining large, old trees will not only help mitigate or buffer climate change, but will benefit ecosystems in other ways through their biodiversity and resilience to fire, disease, and drought.

For the BNF the exact amount of old growth habitat historically on the forest is unknown. However, Lesica (1996) estimated that “old growth occupied 20-50% of the pre-settlement forest landscape in low and many moderate elevation habitats, and between 18 and 37% in mid to upper elevation habitats.”

Past timber harvest activities have reduced the amount and distribution of old-growth forest on the BNF creating a situation where the Forest fails to meet Forest Plan Standards in some areas. For example, in the Gold Butterfly DEIS, the current “Percent Old Growth” estimate Forest-wide is 12.8%, MA1: 14.4%, MA2: 6.0%, MA3a: 8.0%, and MA5: 16.7%. The Sapphire Geographic Area was estimated at 10.0%. These figures display a significant disparity in current conditions compared to pre-settlement estimates.

Many areas of the forest have recently lost significant amounts of old-growth to wildfires. The increased frequency, size and intensity of the wildfires have resulted to a great degree from anthropogenic changes in forest conditions that did not occur prior to European settlement. To counteract this loss of old-growth, specific management actions may be necessary to protect remaining old-growth or recruit and expand existing old-growth stands. This is particularly appropriate on the more arid, low elevation ponderosa pine sites. How will the proposed Forest Plan old growth amendment protect remaining old growth and recruit and expand existing old growth stands?

For our region Green et al. (1992) has helped define minimum screening criteria of different tree species for old growth. The principal quantitative, measurable criteria are age, size (dbh), and the number of qualifying trees/acre. Green et al. identify other important old growth characteristics, such as snags, down woody material, dead tops and decay, and multistoried and uneven aged structure, but give no measurable minimum criteria. The Forest Plan amendment scoping letter recommends that old growth identification be based on Green et al.’s criteria. The scoping states that using these new standards will “*provide consistent, measurable criteria for monitoring in old growth”* and “*allow for consistent and reliable project-level identification and a statistically valid Forestwide inventory of old growth acres”*. It would be helpful to include a reference or link to the detailed experimental design that BNF will use to determine old growth status and extent. A statistically sound design is necessary to evaluate stand conditions, especially with widely spaced components such as old trees, woody debris, snags, etc. It’s worth noting that despite using Green et al.’s criteria on the Westside project, stand exams, FIA data, and walk-through surveys failed to identify 20 acres of ponderosa pine-Doug fir old growth, which was subsequently logged and taken out of old growth status.

Although Green et al. (1992) provide detailed criteria for identifying old growth, they provide little management direction. However, many other scientists (e.g Yanishevsky; 1994; Hessburg et al., 2015; Fielder et al., 2007a,b; Wales et al., 2007; Rapp, 2003) have provided old growth management recommendations, and all recommend retaining all or nearly all old/large trees. Similarly, in western Montana, Green et al. examined 4,847 old growth plots of ponderosa pine, Douglas fir, and western larch and found an average of 17 trees per acre that met old growth criteria, more than double their minimum criteria. Fiedler et al. (2007b) state that “old-growth functions increase as numbers of large trees, snags, and downed logs increase”, again suggesting more is better. Therefore, BFC recommends that BNF: 1) retain all or nearly all old/large trees; 2) justify the rationale for entering any old-growth habitat; 3) use definitions for old-growth in Green et al. only when recruiting stands to meet minimum old-growth acreage requirements and not to cut old growth down to their minimum. How will the proposed amendment affect your management of old growth BNF projects, including what treatments will be allowed in old growth, how many old/large trees will be retained per acre, and the minimum post-treatment basal area for old growth? Please show how you will be managing old growth under the Green et al standards, the differences in management between using the Forest Plan standards and the Green et al standards, and how that management will incorporate the old growth management references cited above.

Certain species on the BNF are associated with mature forest habitats or old growth. These animals require habitat with structural components such as snags, down logs, and large, old trees for cover, denning, food, or nesting. Examples include fisher, flammulated owls, pileated woodpeckers, and pine marten, the latter two being old growth management indicator species (MIS). BFC recommends that management actions in old-growth strive towards preserving secondary old-growth structural components such as snags and down logs, characteristics that crucially add to the complexity and functionality of old-growth and for which many old-growth-associated animals rely on for denning, nesting, or cover. How will the amendment affect wildlife, including cutthroat trout, bull trout, grizzly bear, lynx, fisher, elk, multiple migratory bird species, cavity-nesting birds (snag habitat), flammulated owls, bats, raptors, red squirrels, wolverine, marten, etc?

**Coarse Woody Debris (CWD)**

BFC’s position statements on CWD emphasize preservation of wildlife habitat, stating: 1) the amount, condition, and distribution of special habitat elements such as snags and down wood should meet or exceed Forest Plan Standards at the local scale; 2) to the extent possible, retain all or nearly all old/large trees; retain and expand on existing relict trees, old forests, and post-disturbance large snags and down logs in these types; 3) management actions in old-growth should strive towards preserving secondary old-growth structural components such as snags and down logs, characteristics that crucially add to the complexity and functionality of old-growth and for which many old-growth-associated animals rely on for denning, nesting, or cover. The scoping document indicates Forest Plan standards for CWD be reduced by an undisclosed amount because “*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*” (supported by posted references Fischer and Bradley, 1987, Graham et al., 1994, Brown and Smith, 2000). These references only examine CWD’s effects on soil biota and fire fuels, without discussing relationships between CWD and wildlife. How will the amendment of CWD standards affect wildlife? It would also be helpful to know what specific standards are proposed in the amendment.

**Snags**

BFC’s position statements concerning snags emphasize preservation of wildlife habitat, stating: 1) The amount, condition and distribution of special habitat elements such as snags and down wood should meet or exceed Forest Plan Standards at the local scale. 2) To the extent possible, retain all or nearly all old/large trees. Retain and expand on existing relict trees, old forests, and post-disturbance large snags and down logs in these types. 3) Forest management practices such as post-fire salvage logging can have a severe impact on cavity-nesting birds (Hutto, 2006). 4) Management actions in old-growth should strive towards preserving secondary old-growth structural components such as snags and down logs, characteristics that crucially add to the complexity and functionality of old-growth and for which many old-growth-associated animals rely on for denning, nesting, or cover. The scoping document states “*there is a need to amend this forest-wide plan wildlife standard for snags 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”.* This statement appears to conflict with BFC’s position statements above that emphasize wildlife habitat preservation. What effects will the proposed amendment have on wildlife? It would be helpful if you will provide supporting references showing the need to remove excess snags in order to address fuel loading or meet restoration objectives through sanitation treatments, salvage, and reforestation.

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