

**Appendix B for the Objection filed against the Lost  
Creek Boulder Creek 2019 draft ROD by NEC, AWR  
and ISC on August 5, 2019**

Appendix B contains a Declaration by Dr. Sara Johnson on how the proposed project will impact wildlife species associated with old growth forests.

## **Declaration of Dr. Sara Johnson**

Pursuant to 28 U.S.C. Section 1746, I, Sara Johnson, declarer under penalty of perjury that the following is true and correct:

1. I reside in Three Forks, Montana. I've been a wildlife biologist since graduating from Montana State University in 1974. As graduate research projects for my masters and Ph.D. degree, I had a focus on nongame species, as I studied screech owls in South Dakota and red-tailed hawks in Montana. I spent 14 years working as a wildlife biologist for the U.S. Forest Service, during which time I completed 2 songbird inventories in the Big Hole and Medicine Lodge planning areas on the Targhee National Forest in Idaho, and a one summer inventory of birds associated with old growth habitat in the Bridger Mountains on the Gallatin National Forest of Montana.

2. Since I left the Forest Service's employ in 1988, I have worked largely as a volunteer providing comments on Forest Service logging and prescribed burning projects for environmental groups, including for Native Ecosystems Council (NEC), where I am the Director.

3. In 2014, as Director of NEC, I wrote an objection against the draft Record of Decision (ROD) for the Lost Creek Boulder Creek Landscape Restoration Project (hereafter "LCBC Project") on the Payette National

Forest. At that time, I also reviewed the DEIS for the Payette National Forest's Forest Plan Amendments Proposed to Facilitate Implementation of the 2011 Plan-Scale Wildlife Conservation Strategy (hereafter "Wildlife Conservation Strategy Amendments"). Although no ROD was ever completed for these Forest Plan amendments, the Wildlife Conservation Strategy (WCS) outlined in these amendments is being implemented in the LCBC Project.

4. The WCS being implemented in the LCBC Project will have severe impacts on wildlife species associated with older forests that are either currently functioning as old growth, or are progressing into old growth. There is really no clear distinction between these degrees of old growth forest. For example, there can be "early phase old growth," (Hamilton 1993), which is created when mountain pine beetle epidemics attack mature stands of lodgepole pine. Although trees in these stands may not reach the minimum age identified for old growth, the huge increase in snags provides "functional old growth" to wildlife. Of the 31 wildlife species identified in a comprehensive summary of old growth-associated wildlife in Table 3-87 (USDA 2018) for the Flathead National Forest, 14 of these require snags as nesting habitat (Table 3-88). A large increase in snag habitat created by insect infestations has been increasingly recognized as important to wildlife

because as few as only 4% of snags may actually be suitable for cavity construction (Vizcarra 2017).

5. I have over the years used three reference documents and/or reports which were developed to define old growth forest habitats in the Northern Region of the Forest Service (Green et al. 1991), in the Intermountain Region of the Forest Service, (Hamilton 1993), and in the Rocky Mountain Region of the Forest Service (Mehl 1992). All of these documents use a similar methodology to define old growth, although Region 1 identified more types of old growth forests than were classified in the other 2 regions of the Forest Service. I believe all of these reports provide valid descriptions for old growth forests within each geographic area.

6. The old growth descriptions for the Intermountain Region include 12 different types of old growth forests (Hamilton 1993). These descriptions were developed by a broad cross-section of people, including Forest Service personnel, university professors, State wildlife officials and privately employed professionals from a variety of backgrounds. Forest Service personnel included employees of the Payette National Forest.

7. The old growth descriptions for Region 1 of the Forest Service include 29 different types of old growth forests. These descriptions were developed for each geographic zone of the Region, where a committee was

selected that included members from National Forest Systems, Forest Service Research, Universities, and the public; the Region 1 Ecology group provided coordination and leadership throughout the process and developed the computer analysis tools, and conducted a preliminary analysis to develop the draft definitions presented in the report.

8. The old growth descriptions for the Rocky Mountain Region of the Forest Service summarized by Mehl (1992) include 8 types of old growth forests. These descriptions of old growth were presented at a Forest Service-sponsored conference titled "Old-growth forests in the Southwest and Rocky Mountain Regions" and published in the Proceedings of a Workshop, in Portal, Arizona in 1992.

9. The WCS did not use the Intermountain Region descriptions of old growth (Hamilton 1993). Instead, the Payette National Forest created new criteria for "old forest habitat" (Table E-2 at E-25, Volume 1 of the DEIS). These new criteria are not similar to existing descriptions of old growth habitat for the Northern, Intermountain and Rocky Mountain Regions of the Forest Service. For all 9 types of forest stands categorized in the WCS, old forest habitat is defined as a minimum 30% canopy cover of trees over 20 inches in diameter at breast height (d.b.h.), called large trees, along with 1-2 snags. The number of large trees required for a minimum 30% canopy is

never identified. These large trees could meet all requirements for old forest habitat in 3 of the 9 forest types, while the other 6 forest types require at least another 20% canopy cover in other tree sizes, although these additional trees may just be seedlings that have a 0.1 inches d.b.h. These small trees would not contribute any structure to the old forest habitat.

10. The 2019 draft ROD for the LCBC Project was based on the 2014 FEIS released for the project. This FEIS, as well as a new errata added in 2019 (pages 401-417), state that there are no old forest habitats in the LCBC Project Area that meet the WCS criteria. For example the 2019 errata at page 411 states “currently, no stands have been identified in the project area that meet all attributes that characterize old forest habitat as defined in proposed Forest Plan Amendments.” This means that all existing older forest stands in the 80,000 acre project area have too many large trees and too much canopy cover of all trees to qualify as the WCS Amendment definition of old forest habitat. Based on existing references describing old growth forests in the Northern, Intermountain and Rocky Mountain regions of the Forest Service, it is implausible that an older forest stands could have “too many large old trees” or a too-dense canopy to qualify as old growth habitat.

11. It is clear that the WCS Amendments were proposed to allow the Payette National Forest to log all existing older forest habitat, which will

destroy most, if not all existing values as older forest habitat for wildlife. In addition, this logging and burning will postpone the ripening of these old forest stands into true old growth over time through natural forest succession processes. Even if some larger old trees, referred to as “legacy trees” are retained in these former old forest stands, the habitat values for at least 26 wildlife species associated with old growth will be largely destroyed.

12. A list of wildlife associated with old forest habitats that was recently developed in Region 1 of the Forest Service, on the Flathead National Forest (USDA 2019), would include most of the old growth-associated wildlife that also exists on the Payette National Forest. This document defines wildlife associated with old growth as any species that uses old growth as important habitat during some phase of their life. These include 5 sensitive species on the Payette National Forest, the northern goshawk, flammulated owl, boreal owl, northern three-toed woodpecker, and fisher. The threatened Canada lynx also occurs on the Payette National Forest. Old growth-associated wildlife on the Payette National Forest also include a Management Indicator Species, the pileated woodpecker.

13. When 8 additional bird and mammal species that use dense old growth forests (USDA 2018, Table 3-87), 6 additional species that require snags for nesting (USDA 2018, Table 3-88), and 4 additional species that are

known to be sensitive to logging (Hutto 1995) are added to old growth-associated species that would be harmed by logging, this comes to a total of 24 species.

14. Finally, I would also add 2 additional wildlife species to this tally, bringing it to 26. The northern flying squirrel is an old growth species (USDA 2018, Table 3-87) that has also been shown to decline when forest stands are logged (Holloway and Malcolm 2006). And the great gray owl nests on top of broken snags in dense, decadent old growth stands. This allows flightless juvenile owls to escape ground predators when they first leave the nest because they can scramble up high using jack-strawed and leaning trees (Bull et al. 1988). For both young and adult great gray owls, opening old forests up will increase the summer temperatures for a species that is very sensitive to heat (Koshmrl 2013, and these effects will increase with climate change.

15. There are usually multiple reasons why wildlife associated with old growth forest would be harmed by forest thinning, or fuels reduction activities as slashing and burning smaller understory trees, as is planned in the LCBC Project. For example, a number of the old growth species identified in Table 3-87 (USDA 2018) as being associated with dense old growth forests also depend upon snags for nesting habitat. Table 3-88

(USDA 2019) identified 42 species of birds and mammals on the Flathead National Forest that are dependent upon snags and dead trees in some manner. Overall, wildlife species dependent upon snags averages about 25% of the total bird species in a Rocky Mountain forest (Bull et al. 1997). So while the flammulated owl used edge forests that quite open, logging will reduce the snags they need for nesting by over 50% (Holloway and Malcolm 2006). And many of the bird species identified by Hutto (1995) that require relatively undisturbed forests as habitat, including the pileated woodpecker, chestnut-backed chickadee, mountain chickadee, red-breasted nuthatch, and winter wren, also depend upon snags for habitat.

16. The pine marten, identified in Table 3-88 (USDA 2018) as being associated with closed old growth forests, is also highly dependent upon large amounts of jack-strawed logs as winter habitat (Sherburne and Bissonette 1994). These jack-strawed logs allow marten to gain access under the snow in the winter, both to capture prey and to escape the cold.

17. The northern goshawk, identified in Table 3-87 (USDA 2018) as associated with closed old growth forests, is actually highly sensitive to logging because it reduces 2 key prey species, the red squirrel (Holloway and Malcolm 2006) and snowshoe hare (Lewis et al. 2011; Holbrook et al. 2016). Opening forests also creates habitat for a competitor of the northern

goshawk, the red-tailed hawk. Research has noted that logging may convert goshawk to red-tailed hawk habitat (La Sorte et al. 2004).

18. The Canada lynx is heavily dependent upon snowshoe hares as a key prey species, especially in the winter (Squires et al. 2010). The snowshoe hare is also heavily dependent upon dense ground-level cover for survival (Id., Lewis et al. 2011; Holbrook et al. 2016). So logging, along with slashing and burning of dense understory vegetation, will directly reduce snowshoe hare habitat, as well as indirectly reduce hare populations through habitat fragmentation (Lewis et al. 2011).

19. The Payette Forest Plan “indicated” that 20% old forest habitat is needed for associated species (USDA 2003 at III-26). This amount of old growth has been recommended for the northern goshawk (Reynolds et al. 1992). From 20-25% old growth has also been recommended for various forest songbirds (Montana Partners in Flight 2000), and the pileated woodpecker (Bull and Holthausen 1993). This amount of old forest habitat is most likely minimal for viability of old growth-associated wildlife, however. A group of lynx experts defined what was likely historical levels of older forest habitat available for the lynx, which they noted should be replicated for management purposes (McKelvey et al, 1999). Table 15.1 at 429 of this report shows that based on fire cycles, cycles of 100 years would have 36%

of the forests over 100 years in age. Stands this age would provide “early phase” lodgepole pine old growth due to pine beetle infestations (Hamilton 1993). In forests with a fire cycle of 150 years, 51% of the forests would be at least 100 years in age. In forests with a fire cycles of 200 years, at least 60% of the forests would be 100 years or older. And in forests with a fire cycle of 300 years, 71% of the stands would be at least 100 years in age.

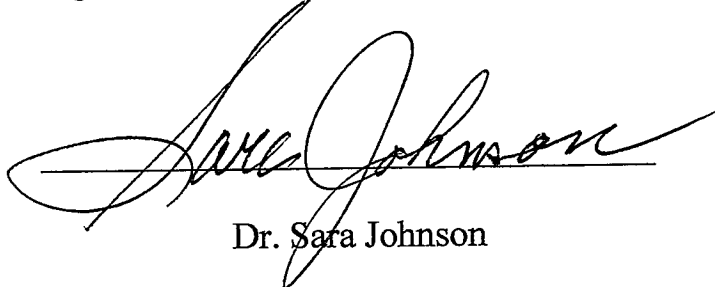
20. Lessica (1996) also estimated amounts of older forest habitat in the Rocky Mountains based on fire cycles, and estimated old growth comprised from 20-50% of the forests. These 2 analyses are actually quite similar, since Lessica was measuring actual old growth rather than younger forests that were vulnerable to insect mortality which would create “early phase old growth.”

21. The Payette Forest Plan did not estimate historical levels of old growth forests. However, an estimate of historical levels for the forest was done in the WCS Amendment DEIS. Table 3-1 in Volume 1 of the DEIS at page 74 identified the old growth levels of 11 vegetation types on the Forest. These range from “0 %” to “26 %,” with an average for all vegetation types of 5.1%. There are 3 vegetation types that are reported to have never had old growth. The citation for this table is a single 2001 unpublished report from 2 individuals associated with the University of Idaho. This one unpublished

article was used to justify the proposed strategy in the WCS Amendment to have no actual standard for old growth habitat. There is no discussion associated with this table to compare these estimates with other estimates of old growth. Science is defined as "the body of evidence," which means that a single unpublished paper, without any peer review, does not qualify as science. In addition, there was no inventory of old forest habitats on the Payette National Forest provided in the WCS Amendment DEIS to verify that almost no old growth actually exists.

22. In conclusion, I believe that the proposed logging of old forest habitat in the LCBC Project will have severe impacts on wildlife associated with older forest habitat. These impacts will be relatively long-term, as it will take decades, if not hundreds of years for logged stands to develop or redevelop the old growth characteristics defined by current definitions (e.g., Green et al. 1992, Hamilton 1993, and Mehl 1992). These are basically irretrievable impacts for wildlife, especially when climate change impacts are considered.

Signed this 5<sup>th</sup> day of August, 2019



Dr. Sara Johnson