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Re: Center for Biological Diversity and John Muir Project Petition to List the Black-Backed Woodpecker

Dear California Department of Fish and Game and California Fish and Game Commission,

As a professional ecologist, expert on the Black-backed Woodpecker, and petitioner (Petition to list the Black-backed Woodpecker under CESA), I am writing to briefly respond to several clear errors and significant inaccuracies occurring in a few statements made at the Commission's meeting in Folsom on April 6, 2011. Full citations for scientific sources or studies are already included in the Petition and, therefore, are not included again in this memo, unless otherwise noted. I offer the following in the hope of facilitating greater scientific accuracy and integrity in the assessment of threats to the California population of the Black-backed Woodpecker, and would be happy to discuss any of the following with the Department.

Moonlight/Wheeler Fire Area

At the April 6, 2011, Commission meeting, a statement was made that the Petition identifies the Moonlight/Wheeler fire complex as being the largest area of existing suitable Black-backed Woodpecker habitat, and the commenter claimed that post-fire logging amounted to only 7% of the Black-backed Woodpecker habitat in this important fire area. This is highly inaccurate. The Forest Service's EIS for their post-fire logging in Moonlight/Wheeler states that 38% of the suitable Black-backed Woodpecker habitat would be logged on national forest lands (USDA 2009a). Much of this has already occurred, and it is still ongoing. The Moonlight/Wheeler EIS also stated that, *prior* to this 2009 EIS, an additional 7,525 acres was logged in this fire area on national forest lands through several smaller projects, or about 11% of the fire area. The bottom line is that, on national forest lands (on which most of the suitable Black-backed Woodpecker habitat existed after the fire), *nearly half* of the suitable Black-backed Woodpecker habitat was logged, or is being logged, in the Moonlight/Wheeler fire area. In addition, the 2009 EIS states that 11,454 acres were logged on private lands within the Moonlight/Wheeler fire area (USDA 2009a), representing essentially 100% loss of suitable Black-backed Woodpecker habitat on the private lands portion. Attached as Exhibit A are five pictures which depict the damage wrought by post-fire salvage logging on private lands, as well as two pictures showing unlogged post-fire areas on public land.

Freds Fire

On April 6, 2011, a representation was made by one commenter that, even though the Freds Fire of 2004 (Eldorado National Forest, just north of Kyburz) was mostly salvage-logged, Black-backed Woodpeckers were found in the Freds Fire in 2009 by the Forest Service's Management Indicator Species (MIS) survey effort. Again, this is flatly incorrect. The Forest Service's MIS survey effort is being conducted by the Point Reyes Bird Observatory, and the results for each species in each year can be found at <http://data.prbo.org/partners/usfs/snmis/> (go to "explore project results," and select the year and BBWO [Black-backed Woodpecker]; or go to "get study locations," and select the Eldorado National Forest, the year, and BBWO). You will see that there were no Black-backed Woodpecker detections in the Freds Fire area in either 2009 or 2010 (the only two years in which the MIS monitoring effort has occurred). Moreover, Siegel et al. (2010) surveyed for the Black-backed Woodpecker at 20 locations in the Freds Fire in 2009, and there were zero detections (Siegel et al. 2010 [Table 3]).

Point Counts Versus the "Callback" Method

At the Commission meeting, a commenter claimed that studies using point counts are not informative because point counts do not necessarily detect every bird within the survey radius. The commenter stated that only the "callback" method is useful (callback plays a loud recording of the bird's call, and draws the bird to the observer). This statement was based upon a fundamental misunderstanding of the uses and applications of both methods. The callback method has a considerably higher probability of detection than point counts at unlimited distances from the observer, for the obvious reason that callback draws the birds to the observer from hundreds of meters away—well beyond the visual limits of an observer conducting point counts (Siegel et al. 2010). This is irrelevant, however, because wildlife biologists only report point count detections within 50 meters, and all assessments of differences in abundance between various habitat conditions is based upon the 50-meter distance (Hanson and North 2008, Hutto 2008). Detection is high within a 50 meter radius for point counts.

Also, point counts very effectively and accurately determine the differences in relative abundance of a species in various habitat conditions (Hanson and North 2008, Hutto 2008). Therefore, for the Black-backed Woodpecker, if nest density is known in burned forest (see nest density data summarized in the Petition), then not only can the total number of pairs in burned forest be effectively estimated (see estimates in the Petition), but the total number of pairs in unburned forest can also be estimated using the point count data on the relative abundance between burned and unburned forest. To use a simple example, if we know that a species is 50 times rarer in Habitat B than in Habitat A, and we know from nest density studies that there is an average of about one pair per 300 acres in Habitat A, then we can estimate that there is one pair per 15,000 acres in Habitat B. You can then estimate the total number of pairs using the total known acreages of Habitat A and Habitat B. In the Petition (main Petition, and Revised Appendix F), both point count and callback data were used to derive the Black-backed Woodpecker population estimates, using some of the most massive and spatially-extensive, and therefore most accurate, data sets ever assembled.

The callback method has a higher probability of detection than the point count method (Hutto 2008), but it is not as effective in determining habitat selection at the stand scale. This is so because the callback method artificially draws birds to the observer—as much as several hundred meters from where the birds were actually foraging (Siegel et al. 2010). On the other hand, because the callback method has a very high probability of detection, it is an excellent method for determining whether the species in question is present anywhere in the broader landscape. It is a less precise tool than point counts, but the callback method is useful for determining rough-scale occupancy of fires areas.

Green, Unburned Forest

A commenter acknowledged that the data indicates that Black-backed Woodpeckers are about 100 times rarer in unburned forest than in burned forest, but then claimed that there is 100 times more unburned forest than burned forest in the Sierra Nevada. This is incorrect. As the Petition shows (based on U.S. Forest Service data), a little over 400,000 acres have experienced wildland fire in the Sierra Nevada over the past decade (though, as the Petition discusses, much of this is in clearcuts and shrubfields, and is not Black-backed Woodpecker habitat); but there are about 12,000,000 acres of forest in the Sierra Nevada region. This means that there is about 25 times more unburned forest than recently burned forest, not 100 times more.

Population Trend

A commenter claimed that the population trend of the Black-backed Woodpecker is unknown in California. This is misleading. The Breeding Bird Survey (BBS) data for the most recent time period in the Sierra Nevada shows a declining population (see BBS website, and select by region). However, *so few Black-backed Woodpeckers were detected* during the entire time period that it was not possible to determine whether there was any statistically significant trend due to insufficient data. That fact, in and of itself, is alarming.

Moreover, as the DFG Report acknowledges, suitable Black-backed Woodpecker habitat, created by higher-intensity fire, has declined since the 19th century due to fire suppression alone (i.e., not even including the exacerbating effect of post-fire logging on the decline of quality Black-backed Woodpecker habitat). The DFG Report (p. 22) concludes: “The Petitioners indicate, and the Department agrees, that high quality BBWO habitat (i.e., conifer forests burned at high intensity) is being created at greatly reduced levels compared to historic levels due to modern fire suppression.” All existing data agree that, whether the point count method or the callback method is used, Black-backed Woodpeckers are much rarer in lower quality habitat than they are in high quality habitat—i.e, density is lower in lower quality habitat or non-habitat (Russell et al. 2007, Saab et al. 2007, Hanson and North 2008, Hutto 2008). Thus, it is necessarily true that a decline in high quality habitat over time results in a decline in population. No other reasonable conclusion can be drawn from the data.

Further, as I noted in my testimony before the Commission on April 6, 2011, population trend is not the main issue here. The primary issue is the extremely low population numbers of Black-backed Woodpeckers in California relative to the minimum population levels recommended to avoid a significant risk of extinction, in combination with the severe lack of protections for

Black-backed Woodpecker habitat. Petitioners estimate about 500 to 600 pairs of Black-backed Woodpeckers in California currently, including burned and unburned forest combined. Yet the scientific literature indicates that, when levels get below about 4,000 or 5,000 individuals (equivalent to about 2,000 to 2,500 pairs), a significant risk of extinction is created (Traill et al. 2007, Traill et al. 2009). Therefore, even if our estimates of 500-600 pairs are somewhat low—even if the true numbers are twice our estimates—there is still a significant risk of extinction more than sufficient to compel a finding that listing may be warranted.

High-intensity Fire Areas Versus Clearcuts

There seemed to be some confusion by some commenters about the distinction between natural early-successional forest habitat, or “snag forest habitat,” versus clearcuts in either green forest or burned forest. The difference between these two conditions is very well documented for Black-backed Woodpeckers, indicating near-total, or total, extirpation from such logging (Hutto 1995, Hutto and Gallo 2006, Hanson and North 2008, Hutto 2008). A recent article by Swanson et al. (2011) provides an excellent description of the differences, and also provides numerous data sources concluding that natural early-successional forest habitat (a.k.a., “snag forest habitat”) resulting from high-intensity fire is one of the most highly biodiverse and ecologically important forest habitat types in western U.S. conifer forests, as well as one of the rarest and least protected.

“Incompleteness”

On April 6, one commenter claimed that DFG found the Petition to be “incomplete” with regard to the issue of Black-backed Woodpeckers in unburned green forest. This is a clear misstatement of the facts. Nowhere in the DFG Report does it find that the Petition is incomplete. The DFG Report merely stated that additional data would be useful on Black-backed Woodpecker presence in green forest—not that Petitioners had failed to provide a complete Petition. Indeed, as I mentioned in my testimony at the April 6, 2011 meeting of the Commission, and as discussed in great detail in my letter, dated March 24, 2011, to DFG and the Commission, the data that we provided in the Petition and appendices regarding the extremely low numbers of Black-backed Woodpeckers in green forest were from several massive data sets and tens of thousands of survey locations—among the largest avian survey efforts ever undertaken in California or the U.S.

Please feel free to contact me if you have any questions.

Sincerely,

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Additional References Not Cited in the Petition

Swanson, M.E., J.F. Franklin, R.L. Beschta, C.M. Crisafulli, D.A. DellaSala, R.L. Hutto, D.B. Lindenmayer, and F.J. Swanson. 2011. The forgotten stage of forest succession: early-successional ecosystems on forest sites. *Frontiers in Ecology and Environment* 9: 117-125.

EXHIBIT A



Moonlight Fire, Photo 1: Private lands post-fire logging



Moonlight Fire, Photo 2: Private lands post-fire logging



Moonlight Fire, Photo 3: Private lands post-fire logging



Moonlight Fire, Photo 4: Private lands post-fire logging



Moonlight Fire, Photo 5: Private lands post-fire logging adjacent to unlogged national forest lands at two years post-fire



Moonlight Fire, Photo 6: Unlogged national forest lands, two years post-fire



Moonlight Fire, Photo 7: Unlogged national forest lands, two years post-fire