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October 7, 2016

Ms. Hannah Anderson
Washington Department of Fish and Wildlife, Wildlife Program
600 Capitol Way North, Olympia, Washington 98501-1091
(via electronic mail to T&Epubliccom@dfw.wa.gov)

Re: Draft Periodic Status Review for the Marbled Murrelet in Washington

Dear Ms. Anderson,

On behalf of the Northwest Watershed Institute, Conservation Northwest, Environmental Protection Information Center, Olympic Peninsula Audubon Society, WildEarth Guardians, Seattle Audubon Society, Umpqua Watersheds, Inc., Earthjustice, Western Environmental Law Center, Northcoast Environmental Center, Cascadia Wildlands, The Lands Council, North Cascades Conservation Council, Willapa Hills Audubon Society, Audubon Washington, Black Hills Audubon, National Parks Conservation Association, Pilchuck Audubon Society, Olympic Forest Coalition, Whidbey Audubon Society, American Bird Conservancy, Port Townsend Marine Science Center, Sierra Club, and Defenders of Wildlife ("Conservation Groups"), I submit the following comments and concerns regarding the July 2016 Draft Periodic Status Review for the Marbled Murrelet in Washington (Desimone 2016). Overall, the Conservation Groups support the Washington Department of Fish and Wildlife's ("WDFW") recommendation to uplist the marbled murrelet from state threatened to state endangered because the species is now "seriously threatened with extinction throughout all or a significant portion of its range within the state" (WAC 232-12-297). As outlined in the draft status review, uplisting the murrelet at this time is warranted for a wide range of reasons. Briefly, these factors include:

1. the extent and duration of the ongoing population decline (a loss of 44% of the population size over the past 15 years alone),

2. the extent and duration of past nesting habitat loss (an overall loss of 82% of old-growth forests statewide (Booth 1991), plus a net loss of 13% of habitat statewide over the past 20 years alone),

3. future loss of nesting habitat due to natural disturbances such as fire, windthrow, and disease (likely to be exacerbated by more extreme climatic conditions),

4. ongoing, widespread fragmentation effects within remaining nesting habitat (higher nest predation rates, shifts in microclimatic conditions, and windthrow),

5. a shift in prey base timing and availability and foraging trophic level associated with forage fish depletion, higher water temperature and acidity (associated with lower reproductive success),

6. continued human disturbance, mortality, and pollution on marine waters (commercial vessel traffic, oil and chemical pollution, commercial fishing bycatch, shoreline alteration, military exercises),

7. wind turbine energy facilities (mortality due to collision), and

8. inhibited genetic flow (loss of genetic variability and adaptability).

In addition to the numerous threats listed above, the Conservation Groups are especially concerned about the inadequacy of nonfederal (state and private) regulatory mechanisms for conserving the marbled murrelet. Roughly *30%* of murrelet nesting habitat on Washington's nonfederal lands has been harvested over the past 20 years, a pattern that could persist in the future at the species' demise: "*Conservation of the threatened murrelet is not possible if such losses continue at this rate into the future*" (Raphael et al. 2016, emphasis added). Below we emphasize and elaborate upon these regulatory inadequacies and uncertainty (which were described only briefly in WDFW's draft status review) because of their potential to increase the probability that marbled murrelets will become functionally extirpated from Washington State. Uplisting the marbled murrelet to state endangered should provide the impetus to strengthen nonfederal regulatory mechanisms and help push the species towards recovery.

I. Inadequacy of the Forest Practices Rules to Protect Marbled Murrelets on Private Forest Lands in Washington

Because of the importance of marbled murrelet habitat on private forest lands, we describe some of the inadequacies in the forest practices regulations affecting this habitat that require revision to better support Washington's marbled murrelet population.

A. Rule exemptions lead to the permanent loss of murrelet habitat

The primary mechanisms for protecting marbled murrelet nest sites from timber harvest on private lands in Washington are the State Environmental Policy Act ("SEPA") and the Forest Practices Rules ("rules"). When forest practices are proposed within critical

habitat (state) of marbled murrelets, the application is designated as Class IV-Special (WAC 222-16-080(1)(j)). This designation triggers SEPA review of the application for significant adverse environmental impacts with *two* important exceptions:

1. where the landowner owns less than 500 acres of forest land within 50 miles of saltwater and the land does not contain an occupied marbled murrelet site, or

2. where a protocol survey has been conducted and no murrelets were detected, without any further surveys required.

The first exemption is problematic because it permits the gradual, cumulative loss of nesting habitat on small forest landownerships, which constitute roughly *half* of the private forest lands in the state. The second exemption allows habitat to be harvested if it was "unoccupied" by nesting murrelets during at least three years of protocol surveys. In contrast, the current survey protocol indicates that survey results older than five years old are not reliable to demonstrate a lack of occupancy in any given area (Evans Mack et al., 2003). In combination, these two rule exemptions result in the permanent loss of habitat because timber harvest rotations (as short as 40 years) are far shorter than the time required for habitat conditions to be restored (100-200 years), and no incentives currently exist for landowners to voluntarily restore murrelet habitat on their lands.

B. Inadequate buffers around occupied nesting sites

To minimize the negative effects of fragmentation on sites occupied by nesting murrelets, the rules require a 300 foot (on average) forested buffer to be maintained around them. Unfortunately, these buffers can be "managed" or thinned down to a residual density of trees of various sizes, essentially weakening their ability to mediate edge effects, especially where they are also limited to the minimum 200 foot width. To be effective at protecting nest sites from the effects of windthrow, microclimatic shifts, and nest predation, buffers must not be overly thinned or narrow, but it is unproven that the current rule requirements for such buffers are adequate to accomplish this.

C. Inadequate timing restrictions on forest practices during the nesting season

Another potential problem in the Forest Practices Rules for marbled murrelets is in the timing restrictions intended to minimize the disturbance of nest sites. In general, activities such as road construction, heavy equipment operation, blasting, felling, bucking, cable or helicopter yarding, slash disposal and prescribed burning are not permitted within 0.25 mile of an occupied marbled murrelet nest site during the daily peak activity periods within the critical nesting season (WAC 222-24-030 and WAC 222-30). The problems with these provisions are twofold. First, the potential to disturb nesting murrelets is not limited to the daily peak activity period, defined as "one hour before official sunrise to two hours after official sunrise and one hour before official sunset to one hour after official sunset" (WAC 222-16-010). In fact, murrelets are likely most susceptible to human disturbances during the nestling period when both parents

make multiple trips to and from the nest to feed the nestling all day long. Furthermore, the full nesting season extends beyond the "critical nesting season" from April 1 to August 31. The current protocol survey states the murrelet breeding season in Washington ends on September 15 (Evans Mack et al. 2003), meaning the latest-nesting birds are subjected to disturbance from forest practices any time of day, including the daily peak activity periods.

D. Unattainable regulatory habitat criteria

According to Maxent habitat modeling (Raphael et al. 2016), as of 2012 roughly 15% of all murrelet habitat in the state (~203,000 acres) occurred on private lands. Of this area, only about 74,000 acres of modeled habitat (36%) are located within the regulatory "marbled murrelet detection areas" which have a *lower* threshold for meeting the regulatory habitat definition (minimum platform density of **2-5** per acre; WAC 222-10-042). The remaining 64% of modeled habitat on private lands (~129,000 acres) occurs outside of the regulatory "marbled murrelet detection areas" and has a *higher* threshold for meeting the regulatory habitat definition (minimum platform density of **7** per acre) making it more vulnerable to harvest. To prevent the unintended harvest of existing murrelet habitat prior to conducting protocol surveys, the *lower* threshold for meeting the regulatory habitat definition should be applied whether or not it is located within a marbled murrelet detection area.

Additionally, the rules allow the harvest of lower quality habitat that does not meet the regulatory definition of habitat without being surveyed for murrelets. For example, habitat is partially defined by the density of nesting platforms within a given forest stand depending on its location and history of murrelet detections (WAC 222-10-042). Some platforms that meet the best available scientific definition ("a relatively flat surface at least 10 cm **(4 in) in diameter** and 10 m **(33 ft) high** in the live crown of a coniferous tree"; Evans Mack et al. 2003; emphasis added) do not meet the more stringent regulatory definition ("any horizontal tree structure such as a limb, an area where a limb branches, a surface created by multiple leaders, a deformity, or a debris/moss platform or stick nest equal to or greater than **7 inches in diameter** including associated moss if present, that is **50 feet or more above the ground** in trees **32 inches dbh and greater** (generally over 90 years of age) and is capable of supporting nesting by marbled murrelets" (WAC 222-16-010); emphasis added).

To address these inadequacies, the Conservation Groups strongly urge WDFW to assess and the Forest Practices Board to revise the Forest Practices Rules for marbled murrelets consistent with the best available science. Ideally, the rule revision process would be concurrent with the state uplisting process to minimize further habitat loss on private lands before it becomes impossible for private lands to contribute to murrelet recovery.

II. Uncertainty of DNR's Long-Term Conservation Strategy for Marbled Murrelets

The management of marbled murrelet habitat on Washington Department of Natural Resources ("DNR")-managed state lands is dictated by DNR's Habitat Conservation Plan ("HCP"). Since HCP implementation in 1997, DNR has managed murrelet habitat under an interim conservation strategy. DNR is currently analyzing the effects of alternative management scenarios on marbled murrelet populations, one of which will be adopted as the Long-Term Conservation Strategy ("LTCS") for the next 50 years as an HCP amendment. All six LTCS alternatives currently under consideration allow the harvest of some amount of existing murrelet nesting habitat ranging from 25,440 acres (Alternative F) to 49,431 acres (Alternative B).

A. The importance of state-owned forest lands

At this point in time, marbled murrelet habitat on DNR-managed lands is disproportionately important among landownerships within Washington. For example, relative to federal lands, DNR-managed lands are a) generally closer in proximity to marine waters, thus necessitating less energy expenditure by adult murrelets to deliver food to the nest; b) generally lower elevation forest, which tends to produce large trees more quickly than higher elevation forests, and c) generally higher site class land with greater and faster forest growth. DNR-managed lands contain ~15% (~213,000 acres) of all existing Maxent modeled murrelet habitat (Raphael et al. 2016) in the state, and this habitat is needed to serve as a temporal "bridge" in habitat to support the population over the next 30-50 years while it is most vulnerable to extirpation. During this timeframe, large areas of federal forest are projected to return to a habitat condition under the Northwest Forest Plan, assuming the Plan continues to be implemented as it has been for the past 20 years, which is uncertain. "Given declining murrelet population trends as well as habitat losses, in many areas, it is uncertain whether their populations will persist to benefit from potential future increases in habitat suitability. This underscores the need to arrest the loss of suitable habitat on all lands, *especially on nonfederal lands and in the relatively near term (3-5 decades)*" (Raphael et al. 2016, emphasis added).

B. The importance of adopting a science-based Long-Term Conservation Strategy

It is imperative at this time to adopt a robust, science-based LTCS on DNR-managed lands that maintains sufficient nesting habitat for murrelets to persist. Alternatively, further losses of nesting habitat may push the species past the point of no return. The USFWS recently determined no changes to the federal critical habitat designation for the marbled murrelet were warranted on either a biological or economic basis (81 FR 51348 - 51370), including an exemption of 427,000 acres of DNR-managed lands from the designation due to its HCP. In that determination, the USFWS confirmed that marbled murrelets face a pressing threat from continued habitat destruction and that marbled murrelet populations remain imperiled. The USFWS specifically recognized that preserving marbled murrelets on DNR-managed lands in southwest Washington is critical to the species' survival and recovery.

III. Extirpation or Recovery?

Under the status quo policies and population trajectory, the marbled murrelet is facing functional extirpation from Washington State. Washington's murrelet population is **44%** smaller than it was only 15 years ago and is 4.4% smaller every year (Lance & Pearson 2016, Fig. 1). This decline continues despite 20 years of implementation of the Northwest Forest Plan, the DNR HCP, and the Forest Practices Rules. Absolute extirpation of murrelets from Washington is unlikely unless the immigration of birds from Oregon and British Columbia discontinues. If murrelets become functionally extirpated from Washington, the lack of genetic flow and genetic variability will become a more significant threat to the persistence of the species at the range-wide scale.

A. Modeling demonstrates that Washington's murrelet population will continue to decline without significant regulatory intervention

In 1997, the U.S. Fish and Wildlife Service ("USFWS") wrote a federal Recovery Plan for the marbled murrelet with the primary objective to stabilize murrelet populations at or near their listing date levels (USFWS 1997). The population size at the time of listing is unknown, but the earliest robust estimate of the population size in Washington is from at-sea surveys in 2001 (N = 10,453 birds). The all-time low of 4,998 birds occurred in 2014 (Lance & Pearson 2015), and the most recent (2015) population estimate for Washington is 7,494 birds (Lance & Pearson 2016). Despite annual fluctuations around the mean population size, the 15-year decline remains statistically significant at the statewide scale ($p = 0.0021$; Lance & Pearson 2016). Recent population viability modeling performed by Dr. Zach Peery for the DNR LTCS shows that, absent significant regulatory shifts, Washington's marbled murrelet population will continue to steeply decline and risk extirpation for the coming decades. These trends demonstrate that the marbled murrelet now meets the definition of state endangered: "any wildlife species native to the state of Washington that is seriously threatened with extinction throughout all or a significant portion of its range within the state" (WAC 232-12-297).

With the exception of the Northwest Forest Plan implementation on federal lands, the major threats to murrelets have not yet been addressed well enough to stabilize the broader state population (Falxa et al. 2016). The 1997 Recovery Plan emphasis on conservation and recovery of nesting habitat was expected to maintain or increase productivity and remove or minimize threats to survivorship (USFWS 1997), but it is now clear that recovery of the species depends on greater conservation efforts on nonfederal lands in the near term. "If the amount of higher suitability habitat for murrelets is to be maintained at its current level, and given that almost half of the higher suitability habitat is on nonfederal lands, *accomplishing this goal will require significant contributions from nonfederal lands*" (Raphael et al. 2016, emphasis added).

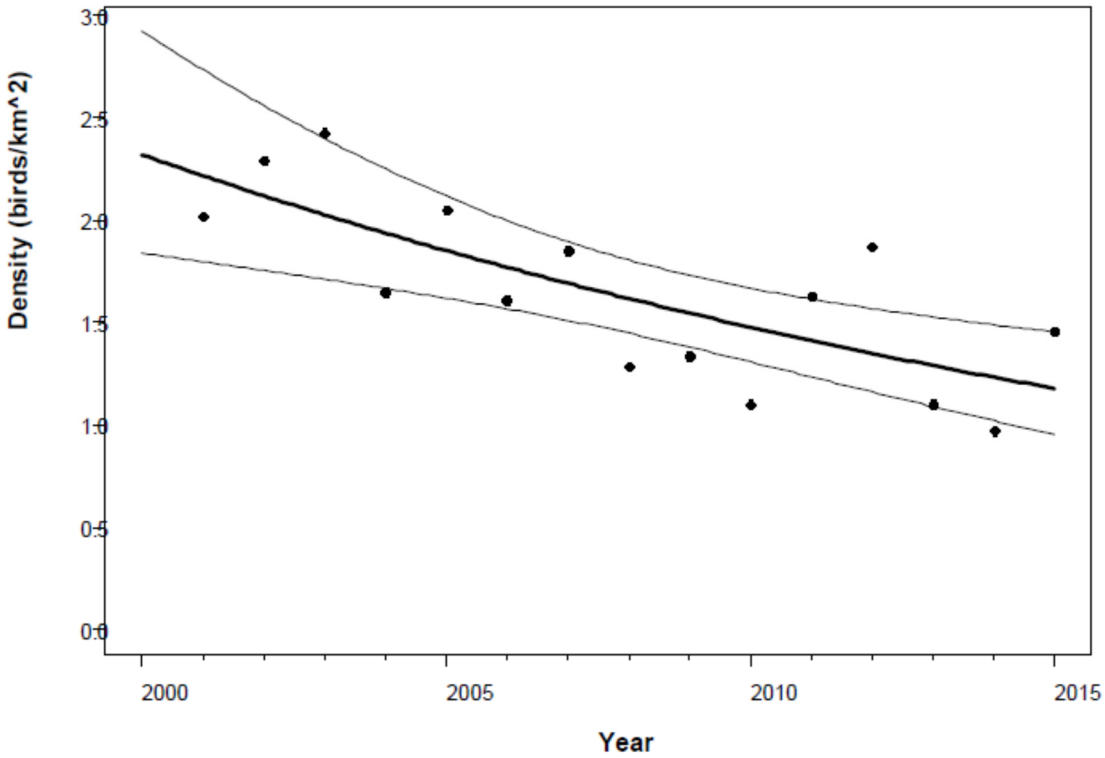

Fig. 1. Washington marbled murrelet population density trend for 2001-2015 with 95% confidence intervals for Zones 1 and 2 combined (all marine waters of Washington State; linear trend in the log of density; Lance & Pearson 2016).

B. Need for a state marbled murrelet recovery plan

As outlined above, the Forest Practices Rules and DNR HCP interim conservation strategy have been inadequate to support murrelet recovery for the past 20 years. Unfortunately, the 1997 Recovery Plan is insufficiently detailed to help guide the revision of policies governing the management of murrelet habitat on nonfederal lands, and is in need of revision itself. This process would benefit greatly from a state recovery plan for murrelets which shall include *target population objectives, criteria for reclassification, and an implementation plan for reaching population objectives* (WAC 232-12-297(11.1)). For example, the 1995 state recovery plan for the snowy plover, a state endangered and federally threatened species, includes an explicit recovery goal, discrete recovery objectives that indicate when state downlisting should be considered, and the scientific rationale behind the population objective determination (WDFW 1995). For instance, the recovery objectives indicate the minimum 4-year average number of breeding pairs, the average production of fledged young per breeding pair, and the minimum number of secure, active breeding areas. An estimate of annual fecundity required to maintain a stable population was incorporated into these objectives. Recovery strategies and tasks include population monitoring, nest protection and habitat management measures, enforcement of restrictions, information management, public

education, future research, agency and landowner coordination, and preparation for captive rearing and breeding. These explicit recovery and implementation guidelines, specific to the Washington snowy plover population and breeding areas, provide valuable, measurable criteria for assessing progress toward or away from recovery (WDFW 1995).

Similar up-to-date guidance specific to the current status of the murrelet population and its habitat in Washington is needed to ensure nonfederal lands are making enough of a contribution to the statewide population to support its recovery. In fact, forthcoming decisions on the LTCS on DNR-managed lands could *preclude* murrelet recovery if the adopted alternative does not preserve enough existing habitat. Having a state recovery plan for marbled murrelets with discrete measurable criteria for evaluating progress toward or away from recovery would greatly enhance our ability to prevent the extirpation of the species in Washington. The Conservation Groups request that WDFW write and adopt a state recovery plan for the marbled murrelet with explicit recovery goals, habitat and population recovery objectives, and recovery strategies and tasks based on the best available science (consistent with WAC 232-12-297(11.1)).

Conclusion

In conclusion, the Conservation Groups strongly support uplisting the marbled murrelet from state threatened to state endangered for all of the reasons outlined above. We agree with the conclusion of the Northwest Forest Plan effectiveness monitoring team: "that the magnitude of the [marbled murrelet population] decline observed for Washington State…is sufficient to cause concern, and may merit a review of potential management implications and responses" and "our findings underscore the importance of the short-term goal to maintain existing nesting habitat" (Falxa et al. 2016). This process should include a *review and revision of the Forest Practices Rules, the adoption of a recovery-oriented LTCS on DNR-managed lands, as well as the development of a state recovery plan, all consistent with the best available science.* We believe uplisting the marbled murrelet to state endangered can help accomplish these goals and help push the species towards recovery at this crucial point in time. Thank you for carefully considering our concerns and requests.

Sincerely,

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