July 5, 2022

Via certified mail

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Re: 60-day Notice of Intent to Sue for Violations of the Endangered Species Act

Dear Secretary Haaland, Director Williams, Director Stone-Manning, Regional Director Thorson, Director Bushue, Field Supervisor Thrailkill, and District Manager Burghard:

This office represents Klamath-Siskiyou Wildlands Center ("KS Wild"), Cascadia Wildlands, Oregon Wild, and the Center for Biological Diversity (collectively, the "Conservation Groups"), non-profit organizations dedicated to protecting and restoring Oregon's natural places.

This letter serves as notice under Section 11(g) of the Endangered Species Act ("ESA"), 16 U.S.C. § 1540(g)(2)(A)(i) that, if the U.S. Fish and Wildlife Service ("USFWS") does not withdraw the Programmatic Biological Opinion for Southwest Oregon Dry Forest Resilient Lands Activities ("Programmatic BiOp") within sixty (60) days from the date of this letter, the Conservation Groups intend to pursue litigation. This suit will allege claims for ESA violations related to the Bureau of Land Management's ("BLM") approval of the Integrated Vegetation Management for Resilient Lands Programmatic Environmental Assessment ("IVM-RL EA") and for the USFWS's approval of the Programmatic Biological Opinion for Southwest Dry Forest Resilient Lands Activities ("Programmatic BiOp"). The Conservation Groups intend to sue the

agencies over multiple alleged violations of the ESA arising from the agencies' inadequate and arbitrary jeopardy, critical habitat, and incidental take analyses.

Specifically, Conservation Groups challenge the finding that the take of 15 Coastal Martens is not likely to result in jeopardy to the coastal marten. Further, Conservation Groups challenge the USFWS's assumption that the BLM's proposed commercial logging is not likely to adversely affect marbled murrelets. This finding conflicts with the best available science and is arbitrary and capricious. This flawed assumption undermines the marbled murrelet jeopardy, critical habitat, and incidental take determinations.

I. ENDANGERED SPECIES ACT LEGAL FRAMEWORK

Section 7 of the ESA imposes both procedural and substantive duties on federal agencies. Procedurally, federal agencies ("action agencies") must engage in consultation with USFWS (the "consulting agency") if a proposed action may affect listed species or critical habitat. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(a). Substantively, both the action agency and the consulting agency must ensure that the action is "not likely to jeopardize the continued existence of any [listed] species or result in the destruction or adverse modification of [critical habitat]." 16 U.S.C § 1536(a)(2).

Section 7 first requires an action agency to inquire with the consulting agency to determine whether any listed species "may be present" in the area of the proposed action. 16 U.S.C. § 1536(c)(1). If listed species "may be present in the area," the action agency must then conduct a biological assessment to identify any listed species that may be affected by the proposed action. *Id.*; *All. For the Wild Rockies v. U.S. Forest Serv.*, 504 F.Supp.3d 1162, 1184 (E.D. Wash. 2020). An agency must engage in consultation with the USFWS or National Marine Fisheries Service ("NFMS") if a federal action "may affect" a listed species or critical habitat. 50 C.F.R. §§ 402.02, 402.14(a); *Karuk Tribe of Cal. v. U.S. Forest Serv.*, 681 F.3d 1006, 1020 (9th Cir. 2012) (citing *Turtle Island Restoration Network v. NMFS*, 340 F.3d 969, 974 (9th Cir. 2003)).

After formal consultation, the USFWS or NFMS must issue a written Biological Opinion ("BiOp"). *Ctr. for Biological Diversity v. Bernhardt*, 982 F.3d 723, 741 (9th Cir. 2020) (citing 16 U.S.C. § 1536(b)(3)(A)). The consulting agency, in formulating its BiOp, must determine whether the action and its cumulative effects are likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. 50 C.F.R. § 402.14(g)(4); *Ctr. for Biological Diversity v. U.S. BLM*, 698 F.3d 1101, 1107 (9th Cir. 2012). The ESA requires an agency to use "the best scientific and commercial data available" when formulating a BiOp. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(g)(8). An agency's failure to do so violates the APA. See 5 U.S.C. § 706(2)(A); *Pac. Coast Fed'n v. Gutierrez*, 606 F.Supp.2d 1195, 1245 (E.D. Cal. 2008).

If the USFWS concludes in its BiOp that no jeopardy or adverse modification is likely but finds that the project results in "incidental take" of listed species, then the USFWS must provide an incidental take statement ("ITS"). 50 C.F.R. § 402.14(i); *Ctr. for Biological Diversity*, 698 F.3d at 1107–08. Incidental take statements must "(1) specify the impact [i.e., the amount or

extent] of the incidental taking on the species; (2) specify the 'reasonable and prudent measures' that the [consulting agency] considers necessary or appropriate to minimize such impact; [and] (3) set forth 'terms and conditions' with which the action agency must comply to implement the reasonable and prudent measures[.]" *Or. Natural. Res. Council v. Allen*, 476 F.3d 1031, 1034 (2007) (quoting 16 U.S.C. § 1536(b)(4) and 50 C.F.R. § 402.14(i)). An agency must immediately reinitiate consultation with the USFWS if it exceeds the amount or extent of incidental take. *Id.* at 1034–35 (citing 50 C.F.R. §§ 402.14(i)(4), 402.16(a)).

In a jeopardy analysis, the consulting agency must evaluate the current status of the listed species or critical habitat, the effects of the action, and cumulative effects. *Nat'l Wildlife Fed'n v. NMFS*, 422 F.3d 782, 790 (9th Cir. 2005) (citing 50 C.F.R. § 402.14(g)(2)–(3)); *Ctr. for Biological Diversity*, 698 F.3d at 1113. "Effects of the action" include both direct and indirect effects of an action that are added to the "environmental baseline." *Nat'l Wildlife Fed'n*, 422 F.3d at 790 (citing 50 C.F.R. § 402.02); *see also Ctr. for Biological Diversity*, 698 F.3d at 1113 ("'[E]ffects of the proposed action' encompass the effects of 'interrelated actions' which are 'part of [the] larger action and depend on the larger action for their justification.'"). In contrast, "cumulative effects" are "those effects of future State or private activities, *not involving Federal activities*, that are reasonably certain to occur within the action area of the Federal action subject to consultation." *Ctr. for Biological Diversity*, 698 F.3d at 1113 (emphasis in original). The environmental baseline includes, but is not limited to, "the past and present impacts of all Federal, State or private actions and other human activities in the action area" and "the anticipated impacts of proposed Federal projects in the action area that have already undergone formal or early section 7 consultation." *Nat'l Wildlife Fed'n*, 422 F.3d at 790. A proper baseline analysis determines "what jeopardy might result from the agency's proposed actions in the present and future human and natural contexts." *Pac. Coast Fed'n of Fishermen's Ass'ns v. U.S. Bureau of Reclamation*, 426 F.3d 1082, 1093 (9th Cir. 2005).

A jeopardy determination requires the consideration of both species' survival and recovery. *See Nat'l Wildlife Fed'n v. NMFS*, 481 F.3d 1224, 1237–38 (9th Cir. 2007). A BiOp that fails to adequately take into account the recovery of a species, and only looks at the survival of the species, is legally deficient. *See id.* at 1237 ("[W]e conclude that the jeopardy regulation requires NMFS to consider both recovery and survival impact . . . Specifically, we held [in *Gifford Pinchot Task Force v. USFWS*, 378 F.3d 1059 (9th Cir. 2004)] . . . that the regulation's 'singular focus' on survival violated the ESA.").

If the BiOp concludes that: (1) jeopardy is not likely, (2) there will not be adverse modification of critical habitat or there is a "reasonable and prudent alternative" to the agency action that avoids jeopardy and adverse modification, and (3) the incidental taking of endangered or threatened species will not violate Section 7(a)(2), the consulting agency must issue an ITS attached to the BiOp. *Nat'l Wildlife Fed'n*, 422 F.3d at 790; *Forest Serv. Emps. for Envt'l Ethics v. U.S. Forest Serv.*, 726 F.Supp.2d 1195, 1219 (D. Mont. 2010) (citing 16 U.S.C. § 1536(b)(4)); 50 C.F.R. § 402.14(i)(1)).

The ITS lays out the predicted impact to the listed species, the reasonable and prudent measures necessary to minimize take, and the terms and conditions for the implementation of those measures. 50 C.F.R. § 402.14(i); *Ctr. for Biological Diversity v. Salazar*, 695 F.3d. 893,

909 (9th Cir. 2012). If the Service complies with both the reasonable and prudent measures and terms and conditions in the ITS, the take is exempted from Section 9's take prohibition. *Salazar*, 695 F.3d at 909.

II. IVM-RL EA AND PROGRAMMATIC BIOP BACKGROUND

a. Programmatic BiOp General Background

The Programmatic BiOp addresses the impacts of the BLM's Dry Forest Resilient Lands program on northern spotted owl, marbled murrelet, coastal marten, and Franklin's bumblebee. BiOp at 9. This Programmatic BiOp covers forest management actions within the Medford District of the BLM and the South River Field Office of the Roseburg District of the BLM for a span of 10 fiscal years. BiOp at 21. It covers activities on Late Successional Reserve ("LSR"), Harvest Land Base ("HLB"), and Riparian Reserves. BiOp 21–2.

While there is some overlap in its coverage of IVM-RL EA proposed activities, the BiOp covers a larger area and more projects than the IVM-RL EA. *Compare* IVM-RL EA at 1 ("The 'Planning Area' for this EA is the Medford District boundaries, including the small southeastern portion of the Coos Bay District managed by Medford District . . . the 'Treatment Area', which for purposes of this EA includes any BLM-administered lands in the Planning Area within the Harvest Land Base, Riparian Reserve, Late Successional Reserve, and certain portions of the District Designated Reserve Land Use Allocations.") *with* BiOp at 21 (stating actions take place in the Medford and Roseburg BLM Districts). Ultimately, neither the NEPA documents for the IVM nor the BiOp provide any site-specific analysis for impacts to listed species.

The Programmatic BiOp made several unsupported findings, discussed in detail below, with respect to coastal marten and marbled murrelet. For coastal marten, the Programmatic BiOp found that the proposed action is not likely to jeopardize the continued existence of the species. BiOp at 130–31. However, the Service states up to 15 marten can be taken; 13 of those marten will ostensibly be taken due to 4(d) excepted activities and are thus excepted from Section 9 take provisions. BiOp at 142–43.

The Programmatic BiOp likewise found that the action, as proposed "is not likely to jeopardize the continued existence of the marbled murrelet or to destroy or adversely modify murrelet critical habitat," and that incidental take was limited to two pairs unrelated to the proposed logging activities within the Late-Successional Reserves. BiOp at 139, 120, 142. However, all of these findings hinged on the agency's assumption that the BLM's proposed commercial thinning will not adversely modify murrelet habitat and allow these areas to "maintain habitat function." This conclusion conflicts with the scientific information presented in the BiOp, conflicts with the murrelet critical habitat rule, and conflicts with the best available scientific information. The USFWS's reliance on this assumption is arbitrary and capricious.

b. IVM-RL EA and Decision Record General Background

As set forth above, this Programmatic BiOp covers the activities proposed under the Integrated Vegetation Management ("IVM") Programmatic Environmental Assessment ("EA").

The IVM is a program of BLM activities that could take place over ten years or more. EA at 2. The IVM EA does not analyze specific, discretely identified projects and does not provide any site-specific analysis. *See* FONSI at 1. Site-specific evaluation will purportedly take place at a later time, before the BLM issues site-specific decisions, through individual Documentation of NEPA Adequacy review(s). *Id.* at 10; *see also* Decision Record ("DR") at 2 ("Following this Decision, the BLM would implement future site-specific projects based on this DR. When designing subsequent site-specific projects, the BLM would evaluate each project to determine if the project is adequately analyzed by the EA and the 2016 Proposed Resource Management Plan/Final Environmental Impact Statement for Western Oregon (PRMP/FEIS) (USDI BLM 2016a), and whether the project conforms to this programmatic Decision for this EA.").

Within the 684,185-acre IVM Treatment Area[1] the IVM EA proposes a combination of activities, including "silvicultural or other vegetation treatments, fire and fuels management activities, harvest methods, and restoration activities." Public Scoping Notice at 2. Specifically, the approved IVM activities include commercial and pre-commercial thinning, small diameter and non-conifer treatments, prescribed fire (low to moderate severity; handpile burning and underburning), barrier placement, boardwalk construction, rehabilitation of ground disturbance for sensitive plant species, and construction or renovation of temporary roads and landings. EA at 10; Public Scoping Notice at 2. The projects are intended to "promote and develop safe and effective wildfire management opportunities, for resilient lands and fire resilient stands, and habitat for special status species [] on certain portions of Medford District [BLM] lands." FONSI at 1.

The selected alternative, Alternative C, authorizes the most commercial logging over the IVM-RL's ten-year period compared to other alternatives. Alternative C includes the following actions: (1) thinning of commercial trees (commercial thinning and selection harvest) down to an average relative stand density between 20 and 45 percent after harvest within in all LUAs in the Treatment Are *except* for HLB, District Designated Reserve ("DDR-")-Non-Suitable Withdrawn Timber Production Capability Classification ("TPCC"), and DDR-Area of Critical Environmental Concern ("ACEC"); (2) annual maximum commercial logging of 4,000 acres and the ten-year maximum commercial harvest of 20,000 acres (with 17,000 acres in LSR); (3) annual maximum small-diameter thinning on 6,500 acres, not to exceed the ten-year maximum for small-diameter thinning on 60,000 acres; and (4) annual prescribed fire on 7,500 acres, not to exceed the ten-year maximum acreage of 70,000 acres. DR. at 3–4. It also authorizes up to 90 miles of temporary road construction and does not authorize any permanent road construction. *Id.* at 2–3. Under the IVM Decision Record, BLM can cut and remove trees up to 36" in diameter and up to 171 years old. EA at 81, 108.

III. AFFECTED SPECIES AND LEGAL VIOLATIONS OF THE ENDANGERED SPECIES ACT

a. *Coastal Marten*

[1] The entire EA treatment area is within the Late-Successional Reserve (LSR) land use allocation on Medford District BLM lands, encompassing about 234,104 acres. EA at 2.

i. General Species Background

The coastal marten (also called the "Pacific marten" or "Humboldt marten") is a medium-sized carnivore with a long, narrow body typical of the mustelid family (e.g., weasels, minks, otters, and fishers), and brown fur with coloration on their throats and chests that ranges from orange, yellow, and cream. *See* Species Status Assessment for the Coastal Marten (*Martes caurina*) (July 2018) ("2018 Marten Status Assessment") at 23. Coastal marten have large, distinctly triangle-shaped ears and bushy tails that are proportionally equivalent to 75% of its head and body length. *Id.* This species lives in coastal old-growth forests and dense coastal shrubs; they prefer late-seral coniferous and mixed evergreen forests that are characterized by closed canopies, large trees, snags, logs, and abundant standing and downed woody material. *See* Humboldt Marten Oregon Listing Petition at 13. Coastal marten require high-quality late-successional forest habitat for year-round needs, including but not limited to supporting prey and denning structures, resting, foraging, and protection from predators. *Id*. Their primary prey species are associated with habitat structures in mature and late-successional forests as well as ericaceous shrub habitats in coastal Oregon. BiOp at 55.

Martens have a limited reproductive capacity. Females do not reach sexual maturity until two years of age and they typically produce small liters of only two to three kits. Martin et al. (2021) at 2. They may not reproduce every year and the species has a relatively short life span of typically five years. *Id*. Research has shown that female mortality increases when pregnant or lactating *Id*. at 10.

Historically, coastal martens ranged throughout coastal Oregon and northern coastal California, but currently the species only exists in four populations in Oregon and California. BiOp at 54. This species is extremely vulnerable to impacts from habitat loss, habitat fragmentation, forest fragmentation, and degradation. Landscape loss and fragmentation of mature forests, and the resulting changes from fragmenting activities, severely restrains species' movement and threatens genetic diversity. Coastal marten are strongly associated with closed-canopy, old-growth forests making them highly susceptible to ongoing threats such as clear-cut logging, unsustainable fire suppression tactics and vegetation management practices. Humboldt Marten Oregon Listing Petition at 13. Further, vehicle collision fatalities, trapping, and poisoning from farming practices have pushed the species to the brink of extinction. *Id*. at 16. Today, coastal martens have been extirpated from 95% of their historic range and fewer than 400 remain in highly isolated fragments of the species' historic habitat. *Id*. at 7; EA at 190. Current research shows that just 2 or 3 human-caused deaths could wipe out the coastal marten population in Oregon. Linnell et al. (2018) at 1. Climate change will likely further reduce the extent and quality of viable habitat in the near future. Shirk et al. (2021) at 18.

On October 8, 2020, the USFWS finalized its rule listing the coastal marten as a threatened species. Endangered and Threatened Wildlife and Plants; Threatened Species Status for Coastal Distinct Population Segment of the Pacific Marten with a Section 4(d) Rule, 85 Fed. Reg. 63806, 63827 (Oct. 8, 2020) ("Coastal Marten Listing") (codified in 50 C.F.R. § 17.70(s)). To date, critical habitat has not been designated for this species; however, the USFWS proposed a rule to designate coastal marten critical habitat on October 25, 2021. *See generally* Endangered

and Threatened Wildlife and Plants; Designation of Critical Habitat for the Coastal Distinct Population Segment of Pacific Marten, 86 Fed. Reg. 58,831 (Oct. 25, 2021).

ii. Coastal Marten 4(d) Rule

The 4(d) rule refers to protective regulations for threatened species under ESA Section 4(d). Under Section 4(d), the Secretary "shall issue such regulations as [they deem] necessary and advisable to provide for the conservation" of the threatened species. 16 U.S.C. § 1533(d). Further, the Secretary "may by regulation prohibit with respect to any threatened species any act prohibited under section 9(a)(1) in the case of fish or wildlife[.]" 16 U.S.C. § 1533(d)*; see Salazar*, 695 F.3d at 910 ("For threatened species . . . Section 4(d) provides that the Service or NMFS shall promulgate regulations that they deem 'necessary and advisable to provide for the conservation of the species,' including, possibly, applying some or all of the Section 9 prohibitions to the threatened species."); *In re Polar Bear Endangered Species Act Listing*, 818 F.Supp.2d 214, 220 (D.D.C. 2011); *see also* 16 U.S.C. § 1538(a)(1)(G) (stating that it is unlawful for any person to violate regulations promulgated under Section 4(d)).

Section 4(d) rules work in conjunction with consultation and jeopardy requirements. This rule does not change any of the Section 7 requirements for consultation nor the ability of the Service to enter into partnerships for the management and protection of the coastal marten. Coastal Marten Listing at 63829.

For the coastal marten, there are six defined exception activities where the protective regulations under section 4(d) do not apply. These excepted activities include: (1) activities conducted in accordance with a permit used by the Service under 50 C.F.R. § 17.32; (2) forests management activities for the purposes of reducing the risk and severity of wildfire; (3) forestry management activities included in a plan or agreement for lands covered by a Natural Communities Conservation Plan or State Safe Harbor Agreement that addresses and authorizes State take of coastal marten as a covered species and is approved by the California Department of Fish and Wildlife under the authority of the California Endangered Species Act; (4) forestry management activities, approved by the Service, under finalized conservation plans or strategies, that are consistent with the conservation needs of the coastal marten; (5) activities to remove toxicants and other chemicals consistent with conservation strategies for coastal marten; and (6) activities conducted by any qualified employee or agent of a State conservation agency which is a party to a cooperative agreement with the Service in accordance with section 6(c) of the Act. *Id*. (listing all the excepted activities in detail).

iii. ESA Violation

Currently, the coastal marten is restricted to approximately 7.3% of its known historical range, including two Oregon and two California populations. 2018 Marten Status Assessment at 98. The two populations affected by the IVM project are the Southern Coastal Oregon ("SCO") population and the California-Oregon Border ("CA-OR") population. The SCO population is perilously small, with an estimated population between 12 to <100 individuals. *Id*. at 85 ("However, given recent survey results it is unlikely that there are >100 animals in this population (Slauson 2018, personal communication; Moriarty 2018, pers. comm.) and there were

fewer individuals documented than expected given survey efforts (Moriarty et al. 2016b, pg. 77)"), 101. The CA-OR population is the same, with an estimated population between 12–<100 individuals. *Id.* at 86 ("While current surveys have detected at least 12 individuals[,] there is no current population estimate. The occupied area is small and supports <100 animals (Slauson 2018, personal communication)"), 101. The SCO population's current condition is "low" resiliency, and the CA-OR population's current condition is "low-moderate" resiliency. *Id.* at 101.[2] The small size of these two populations, combined with its low reproductive capacity and its restricted habitat requirements, make the species highly susceptible to extinction.

This point is highlighted by a recent population viability analysis ("PVA") of the Central Oregon Coast ("COC") population, which is outside the IVM, but similar to the two affected populations in that it has an estimated 2018 population size of just 71, is the only coastal marten population that has undergone any population viability analysis ("PVA"). *Id.* at 96 (citing Linnell, et al. (2018)), 101. Thus, any SCO or CA-OR population PVA ties to the limited, available COC data. The Linnell study found that the probability of coastal marten extirpation within 30 years increased dramatically when two or more human-induced marten mortalities in declining population sizes were assumed. *See* Linnell, et al. (2018) at 13 ("Based on the small number of individuals in these subpopulations, our projections suggest that even a small amount of human-caused mortalities will strongly increase the likelihood of extirpation over the next 30 years. Further, our analysis is likely an optimistic scenario for marten population viability because we assumed that marten populations would exhibit very high survival and fecundity at low population densities, which may not be the case. Despite these favorable assumptions, **marten population viability was low given modest mortality estimates averaging 2–3 individuals annually**, even when assuming higher than observed carrying capacities and assuming later onset of density dependence") (emphasis added); *see also* 2018 Marten Status Assessment at 96. Another study on the COC supports the Linnell PVA's finding. This research stated that for the COC population, **"[i]f two or three Humboldt marten die per year . . . the probability of that subpopulation's extinction within 30 years is 32 to 99 percent, respectively."** Moriarty (2019) at 2 (emphasis added).

The BiOp admits that the proposed actions could cause negative effects to populations of less than 100 individuals, and that those effects could be influential to the overall conservation of the species. BiOp at 130. Based on take of 15 total martens averaged annually, over the IVM's ten-year span, the proposed actions could take 1.5 to 2 marten annually in populations ranging from 12–<100 individuals. Cumulatively, with existing mortality of 1-2 marten per year from other "take" (*see* BiOp at 132 describing estimated "take" from roadkill and other activities and

[2] Population resiliency is defined as "the ability of populations to withstand stochastic disturbance." 2018 Marten Status Assessment at 17. It is positively related to a species' population size and growth rate and influenced by connectivity between populations. *Id.* For coastal marten, populations with >300 animals are considered "highly resilient." *Id.* at 96. Further, high resiliency populations are "those with >70 percent of the landscape that was unaffected by fire or vegetation management in the past 30 years[.]" *Id.* at 97. Coastal martens typically only exhibit higher predation or lowered survival rates in landscapes fragmented below 70 percent. *Id.* "Moderately resilient" populations are those with 100-300 individuals and "low resiliency" populations are those with <100 individuals. *Id.* at 96.

Linnell (2018) at 13), and based on the PVAs described above, a cumulative take of this amount could have dire consequences and would likely lead to extirpation of subpopulations. Yet the BiOp arbitrarily concludes that there is no likelihood of jeopardy. This conclusion is scientifically flawed and unsupported, and it fails to account for the Service's duty to consider recovery as part of its jeopardy analysis.

Notably, the agencies propose that 13 of the 15 total martens that will be taken will be "exempted" by the 4(d) rule. BiOp at 142–43. First, the 4(d) status of certain activities has no bearing on the jeopardy analysis. 85 Fed. Reg at 63829 ("[W]e clarify that all Federal agencies (including the Service) that fund, permit, or carry out the activities described above will still need to ensure, in consultation with the Service (including intra-Service consultation when appropriate), that the activities are not likely to jeopardize the continued existence of the species."). And second, the Conservation Groups question whether the activities proposed fall under the 4(d) exemption. The BiOp identifies two exceptions that are "related": forestry management activities for the purpose of reducing the risk or severity of wildfire; and forestry management activities which are consistent with the conservation needs of the coastal marten and with approved conservation plans and strategies. BiOp at 127. As to the "wildfire risk" category, the coastal marten 4(d) rule provides that for the purposes of that category of exemption, "fuels reduction projects" include "forest management practices such as those that treat vertical and horizontal (ladder) fuels in an effort to reduce continuity between understory and overstory vegetation and the potential for crown fires." Coastal Marten Listing at 63828-29. Treatments proposed by IVM go beyond this definition, as they will be cutting much more than fuels and will be targeting stand density down to 30% RDI and implementing "gaps" that will comprise up to 25% of the treated stand. Further, although the BiOp describes "forest resiliency and habitat improvement" as the general objectives of the treatments covered, *see* BiOp at 21-22, there is no discussion of how, where the primary objective of a vegetation treatment is *not* reducing wildfire risk or severity, the activity will be consistent with marten conservation plans and strategies. The problem with this approach (of broadly categorizing a wide range of activities as falling under a 4(d) exception) is that the exception ultimately swallows the rule. The intent of the 4(d) rule exceptions, and specifically the coastal marten 4(d) rule is not to exempt essentially *all* logging activities from Section 7, but that is exactly what is happening here.

The Service should revisit its coastal marten jeopardy analysis to adequately address the exemptions to the 4(d) rule, and evaluate the effect that a take of this size would have on two populations with under 100 individuals, for both survival and recovery of this extremely vulnerable and newly listed species.

b. *Marbled Murrelet*

i. Species Background

The murrelet is a small diving seabird that nests mainly in coniferous forests and forages in near-shore marine habitats. BiOp Appx. J at 297. The protected Distinct Population Segment of the marbled murrelet range extends from Washington, through Oregon, into northern California. *Id.* The most recent status review of the species "noted that a change in listing status could be warranted if continued trends of manmade and natural threats continue at current or

increased levels (USDI FWS 2019)." *Id*. The primary anthropogenic threat to the marbled murrelet is "habitat destruction and modification in the terrestrial environment from timber harvest and human development," which has caused a severe reduction in the amount of nesting habitat. *Id.* at 318. Logging has also created forest fragmentation, canopy openings, and unnatural habitat edges that have led to unnaturally high levels of predation of murrelet nests from corvids. *Id.* at 119. One of the primary focuses is on improving murrelet "fecundity by increasing the number of breeding adults" and "improving murrelet nest success (due to low nestling survival and low fledging rates)" which is reduced dramatically by predation and increased predator presence. *Id*. at 320.

The Western Oregon RMP ("RMP") was designed to protect all existing documented murrelet nest sites and all "future sites discovered outside of LSRs in inland zone 1 and future sites discovered within Riparian Reserves within inland zone 2." BiOp at 323. The RMP requires the BLM to update Land Use Allocations to LSR to protect any occupied stands. *Id.* The BiOp states that "[f]uture activities are expected to impact murrelet nest sites in zone 2 (35- 50 miles from the coast) within the harvest land base and the district designated reserve LUAs (all of which will be subject to their own, future consultation)." *Id.*

The BiOp states that occupied murrelet habitat and unsurveyed suitable murrelet habitat will be protected as recommended by the murrelet recovery plan by the imposition of a 300-600 foot buffer around the entire forest stand from any logging activity. *Id.* at 323-324. Thinning of murrelet habitat and buffer habitat can negatively affect that habitat by increasing risk of windthrow, changing forest microclimate, and most importantly, increase the presence and usage of that forest area by nest predators." BiOP at 324.

i. ESA Violation(s)

The fundamental problem with the BiOp is the conclusion/assumption that the BLM's proposed commercial thinning will not adversely modify murrelet habitat and allow these areas to "maintain habitat function." This conclusion conflicts with the scientific information presented in the BiOp, conflicts with the murrelet critical habitat rule, conflicts with the best available scientific information, and is arbitrary and capricious. The BiOp's marbled murrelet no jeopardy determination, critical habitat determinations and incidental take determinations all hinge on this arbitrary assumption.

The BiOp is considering treatment of 11,320 acres of murrelet nesting habitat and 24,220 acres of recruitment habitat. 12,205 acres of this treatment is within marbled murrelet critical habitat. *See* BiOp at 123, Table 16.

While some of this treatment is limited to non-controversial understory burning and small diameter thinning, approximately 7,800 acres of this treatment is commercial logging that will directly remove or modify habitat. BiOp at 116. FWS concludes that the understory burning and small diameter thinning components of the project will "maintain habitat function because murrelet nesting structure would not be affected and the overstory canopy cover is not expected to change." BiOp at 118. However, the effects from commercial thinning are different. The BLM's "proposed commercial thinning activities could reduce the canopy cover below 40

percent in some treatment areas" and the FWS concludes that this logging will "remove habitat features important to murrelet nesting including horizontal and vertical structure and canopy cover." BiOp at 118. The FWS elaborates:

> Stand-level canopy cover could be reduced below 40 percent; murrelet occupancy and nest site locations are positively correlated with high amounts of canopy cover (Falxa and Raphael 2016, Raphael et al. 2015, Hagar et al. 2014, pp. 10-11). Thinning with lower relative density index retention post-treatment would remove nesting or recruitment habitat, and therefore will be downgraded to capable habitat because it will no longer contain sufficient habitat elements and conditions required for murrelet nesting.
>
> Falxa and Raphael (2016, p. 111) suggest that the amount and pattern of high-quality nesting habitat may establish the carrying capacity for murrelet abundance. The abundance of marbled murrelets at-sea is positively correlated with the amount of higher-suitability nesting habitat available on adjacent inland areas and high cohesion of that nesting habitat (a measure of connectivity related to the geometry of patches of habitat—essentially larger patch size) (Falxa and Raphael 2016, p. 111). Where nesting habitat is removed, the effects to murrelets may be disproportionately greater than the acreage of removal would indicate (e.g., a relatively small amount of removal may reduce the amount of interior habitat).
>
> Commercial thinning at any intensity (Near-Term Spotted Owl, Long-Term Spotted Owl, Fuels Emphasis, Ecosystem Resilience-Open, Ecosystem Resilience-Intermediate, and Ecosystem-Resilience Closed prescriptions) that impacts the overstory (USDI BLM 2016a, pp. 118-121 and USDI BLM 2016a, p. 98-100) would remove important elements of nesting and recruitment habitat (e.g., high amounts of canopy cover, multi-layer canopy, and some large remnant trees, including those that contain suitable nest structures and adjacent trees with branches that interlock the branches of any tree with nesting structure), and may affect and is likely to adversely affect marbled murrelets.

BiOp at 118-19. Despite these stark admissions concerning the impacts of the proposed logging, the BiOp states the BLM will eliminate these adverse effects through "nest structure protection":

> However, proposed thinning with nest structure protection may affect and is not likely to adversely affect marbled murrelets (RMP/ROD Options 2, 3, or 4). This type of project design would modify nesting and recruitment habitat by reducing canopy cover at the stand scale, but would protect nesting structure, and the climate around the nesting structure, through no harvest buffers (Assessment, p. 40).

BiOp at 119. The FWS's conclusion/assumption that thinning with nest structure protection is not likely to adversely impact murrelets relies entirely on the BLM's Biological Assessment. *Id.* (citing "Assessment, p.40"). Both the Biological Opinion and the Biological Assessment provide no evidence or support for this conclusion/assumption. While the protection of trees with nesting structure is undoubtedly important for the species, this nest structure assumption neglects to take into consideration that murrelets rely heavily on canopy cover around nest sites to insulate the

nest and protect it from predators. *See* BiOp at 119 ("This Opinion nonetheless assumes a high percentage of murrelet recruitment habitat removal because canopy cover would be reduced").

Best Available Science

The conclusion/assumption that "nest structure protection" will prevent adverse impacts to murrelets is arbitrary and capricious because it (1) has no supporting science in the BiOp; (2) conflicts with the science presented in the BiOp and the murrelet critical habitat rule; and (3) conflicts with the best available science as demonstrated through the attached U.S. Fish and Wildlife Service's "Recovery Plan for the Marbled Murrelet;" the Pacific Seabird Group's Survey Protocol or "Methods for Surveying Marbled Murrelets in Forests: A Revised Protocol for Land Management and Research"); the Oregon Department of Fish and Wildlife's "Status Review of the Marbled Murrelet (*Brachyramphus marmoratus*) in Oregon and Evaluation of Criteria to Reclassify the Species from Threatened to Endangered under the Oregon Endangered Species Act;" and several marbled murrelet expert reports.

Commercial thinning within occupied murrelet habitat, even if designed to protect nesting structure, will adversely affect murrelets. There is simply no science in the BiOp or the BLM's Biological Assessment that suggests otherwise. However, there is ample science in the BiOp and Biological Assessment that establish that commercial thinning within murrelet habitat will adversely impact the species.

The BiOp cites the recovery plan for the marbled murrelet and states that to prevent adverse effects to murrelets, the entire forest stand *and* a 300-600 foot buffer around that stand must be insulated from "any logging activity," which would include commercial thinning. BiOp at 323-24. Insulation from "any logging activity" is considered critical for the next 50 years to protect murrelets and increase levels of breeding success because breeding success "is directly influenced by nest predation rates." BA at 284. Nest predation rates increase with levels of habitat fragmentation from logging. *Id.* at 293. The "LSRs were designed to respond to the problems of fragmentation of suitable murrelet habitat," by providing large, contiguous blocks of late-successional forest that are to be managed for the conservation and development of the older forest features required by the murrelet. *Id*.

The BiOp explicitly states that even commercial thinning within the buffer around occupied habitat would negatively impact "the buffering habitat's ability to provide for windthrow during storms, provide a microclimate that supports moss growth, and/or provides a stands with low usage by murrelet nest predators." BiOp at 324. The BiOp states that "murrelet occupancy and nest site locations are positively correlated with high amounts of canopy cover (Falxa and Raphael 2016, Raphael et al. 2015, Hagar et al. 2014, pp. 10-11)." *Id*. at 118. Here, the BLM is proposing to reduce canopy cover to levels below 40%. *Id*. The BiOp clearly states these canopy cover reductions would result in "a high percentage of murrelet recruitment habitat removal because canopy cover would be reduced and potential nesting structure would be lost." *Id.* at 119.

The protection of forests surrounding potential murrelet nest sites is also required by the Murrelet Critical Habitat Rule, which calls for a .5 mile buffer around nesting structures that

prohibits any canopy removal. The FWS murrelet critical habitat rules includes PBFs or "physical or biological features essential to the conservation of the species and which may require special management considerations or protection." Endangered and Threatened Wildlife and Plants; Revised Critical Habitat for the Marbled Murrelet, 76 Fed. Reg. 61599, 61606 (Oct. 5, 2011) (codified 50 C.F.R. pt. 17) ("2011 Murrelet Critical Habitat Rule").

> The physical or biological features associated with marbled murrelet critical habitat focused on individual trees with potential nesting platforms, and forested areas within 0.8 kilometers (0.5 miles) of individual trees with potential nesting platforms that had a canopy height of at least one-half the site potential tree height (SPTH) (the average maximum height for trees given local growing conditions). We determined that these features were essential because they provided suitable nesting habitat for successful reproduction.

2011 Murrelet Critical Habitat Rule at 61607. *See also* BiOp at 123 (Murrelet critical habitat consists of both PBF1 (a tree with nesting structure) and PBF 2 (trees without nesting structure but at least a half-site-potential tree height and within a 0.5 mile of a PBF1 tree)).

The Murrelet Critical Habitat Rule states that any tree removal that impacts forest canopy within .5 miles of potential nesting trees, even trees that are not currently suitable for nesting, can jeopardize the structure and integrity of the potential nest area:

> Removal or degradation of forested areas with a canopy height of at least one-half the site-potential tree height and, regardless of contiguity, within 0.8 km (0.5 mi) of individual trees containing potential nest platforms. This includes removal or degradation of trees currently unsuitable for nesting that contribute to the structure/integrity of the potential nest area (i.e., trees that contribute to the canopy of the forested area). These trees provide the canopy, stand conditions, and protection from predators important for marbled murrelet nesting.
>
> 2011 Murrelet Critical Habitat Rule at 61609.

In brief summary, protecting the forest around nest sites, in addition to providing buffers around the entire occupied stand are important for murrelet nesting success. Protecting the forest around a nest site requires maintaining the contiguous structure in a stand itself, and additionally a buffer is required around that habitat, otherwise predators will concentrate on the edge of the occupied stand and penetrate towards its interior. The protected stand and its buffer also protect the occupied site from blowdown and microclimate effects into the future. The FWS in the critical habitat rule found that protecting both the stand itself and a buffer are essential to the conservation of the species.

The BiOp acknowledges these core murrelet conservation principles, acknowledging that the BLM's proposed logging will dramatically reduce the forest stands' canopy cover levels to below 40%, which "will no longer contain sufficient habitat elements and conditions required for murrelet nesting." BiOp at 118 (citing Falxa and Raphael (2016)). The BiOp suggests that protecting potential nesting structure within the occupied stand itself will prevent adverse effects,

BiOp at 119, but within a forest stand, both the platform trees and the trees without platforms are important to murrelets and murrelet nesting success; murrelet habitat is characterized as stands with multiple canopy layers and substantial structural complexity (Burger 2002, Waterhouse et al. 2002, Hamer et al. 2008, Hagar et al. 2014). Open stands with no cover allow for increased risk of predation; for example, Masselink (1999) found the greatest number of jays along clearcut edges, and numbers were higher at all edges compared with interior forest. A combination of protection at the nest-tree level by providing horizontal and vertical foliage cover and protection at the stand level by providing high densities of large trees and numerous canopy layers will provide for the best protection from nest predation (Nelson et al. 2006). BLM's proposed logging prescriptions call for complete tree removal in up to 25% of the logged stands, the exact conditions that would be ideal for murrelet nest predators. EA at 31("The proposed action would have larger variable sized openings (or gaps) typically 2 acres or less. Gaps up to 4 acres could occur in limited conditions in up to 25 percent of a stand"); *Id*. at 58 ("no more than 25 percent of the stand would be in group selection openings"). The FWS's proposed mitigation of simply protecting nest trees will not protect "the canopy, stand conditions, and protection from predators important for marbled murrelet nesting" in the .5 mile buffer around these nest trees. Murrelet Critical Habitat Rule at 61609.

The USFWS has previously recognized this explicitly. USFWS made these statements in a draft Biological Opinion for Washington Department of Natural Resources Habitat Conservation Plan in 2001:

> In addition to direct habitat removal, forest management practices can fragment murrelet habitat; this reduces the amount and heterogeneous nature of the habitat, reduces the forest patch sizes, reduces the amount of interior or core habitat, increases the amount of forest edge, isolates remaining habitat patches, and creates "sink" habitats (McShane et al. 2004).
>
> Nest failure increases with habitat fragmentation and an increase in the ratio of forest edge to interior habitat (Nelson and Hamer 1995b; McShane et al. 2004). For example, Nelson and Hamer (1995b) found successful nests were farther from edges (greater than 55 meters) and were better concealed than unsuccessful nests.
>
> Once an occupied marbled murrelet site is documented, the suitable habitat in the occupied site is protected from timber harvest. Occupied murrelet sites are further protected with a 300-foot managed buffer zone adjacent to the occupied site. This rule protects occupied sites by prohibiting clearcut timber harvest within 300 feet of the occupied stand (WAC 222-16-080 (j)(v)).

Furthermore, the proposed mitigation to just protect potential nesting trees will compromise the nesting structure itself. There is a lengthy discussion in Raphael et al. 2018 that elaborates upon the fact that logging around suitable nesting, platform trees will dry out and kill the moss originally present on those trees which provides the critical nesting platforms for murrelet nests. Even though the Northwest Forest Plan has emphasized commercial thinning in reserves to accelerate larger tree growth, the 25 year monitoring report found that most of the remaining murrelet habitat is "edge" habitat, meaning that the logging that has been occurring within or between murrelet habitat is creating openings that compromise the integrity of murrelet

habitat. Lorenz et al. 2021. This is largely because the land management agencies have largely assumed that what is good for spotted owls must be good for murrelets as well. *See* BiOp at 115 ("as murrelet nesting habitat and spotted owl nesting-roosting habitat generally overlap, management direction protections for spotted owl nesting-roosting habitat also protect murrelet nesting habitat"). This assumption is false.

Attached to this notice are also several more scientific sources, some cited and relied upon by the FWS and BLM, which clearly articulate how logging, even selective logging or thinning, within occupied murrelet habitat adversely affects the species. A recent summary of the best available science on marbled murrelets by the Oregon Department of Fish and Wildlife ("2018 ODFW Murrelet Status Review") concluded that even thinning **adjacent** to murrelet habitat negatively impacts that habitat:

> It is not only the quantity of habitat available that may affect Marbled Murrelet breeding success or survival, but also the distribution and quality of this habitat which are important. Remaining habitat is highly fragmented in Oregon, and most of it persists on public lands. Raphael et al. (2016a) classified nearly 90% of potential habitat on nonfederal lands as "edge", whereas federal lands had lower (>70-80%) but still high proportions of edge. Edge effects can degrade otherwise suitable forest remnants through changes in abiotic or biotic conditions. Lack of buffers and heavy thinning adjacent to murrelet habitat can also contribute to habitat loss and degradation (Raphael et al. 2016b). Examples of adverse edge effects that could result from recent clearcuts (and logging/thinning adjacent to occupied sites) include elevated predator densities and predation levels, greater windthrow damage, and reduced epiphyte abundance needed for nesting substrate relative to forest interiors (Nelson and Hamer 1995b, McShane et al. 2004, van Rooyen et al. 2011).
>
> Raphael et al. (2016a) noted that the large amount of younger, "lower-suitability" forest lands currently in reserved (protected) areas holds potential to offset habitat losses and reduce fragmentation in the future if it is allowed to grow and mature over time.
>
> As discussed in Chapter 2, corvid and other generalist predator populations continue to increase as a result of human activities and land use changes. Forest fragmentation and "edge effects" may contribute to elevated predation rates by increasing predator densities, allowing them easier access into stands and/or influencing predator foraging behavior along edges.

ODFW 2018 Murrelet Status Review at 50, 54. Kim Nelson with Oregon State University, one of the premier murrelet experts, specifically noted in the development of this ODFW report "logging/thinning adjacent to occupied sites could also result in adverse edge effects." Summary of Peer Reviewer Comments on ODFW Marbled Murrelet Status Review, page 11. "The USFS (BLM?) is thinning heavily in the LSRs and other areas (some sales impacting entire watersheds, e.g., >5,000 acres thinned) with the objective of making younger forest become old-growth quicker. But the short-term impacts of this thinning include potential significant impacts to adjacent occupied and suitable habitat." *Id*.

The FWS's Recovery Plan for the marbled murrelet lays it out clearly:

> Activities that adversely impact marbled murrelet habitat include the clearing or partial removal of forest . . . for timber harvest.
>
> Impacts due to timber harvest may include a complete loss of habitat (clearcut), a degradation of habitat (some selective harvest), or harvest of unsuitable habitat adjacent to and contiguous with suitable habitat. Impacts from timber harvest can also occur in unsuitable habitat that is not contiguous with suitable habitat, but is in the vicinity (within 0.8 kilometers (0.5 miles)).
>
> In most cases timber harvest and other serious modifications result in the elimination of suitable habitat.

Recovery Plan at 116–17. The best available science concerning marbled murrelets clearly indicates that logging potential murrelet nesting habitat will adversely affect the species.

Again, the BiOp here ignores the fact that protecting forest stands and forested buffers around these nesting stands is essential to the conservation of the species. The FWS and the BLM are entirely neglecting this vitally important component of marbled murrelet biology with their "nest structure protection" assumption, and in doing so, "entirely failed to consider an important aspect of the problem." *Motor Vehicle Mfrs. Ass'n v. State Farm Mutual Auto. Ins. Co.*, 463 U.S. 29, 43 (1983). While the FWS might claim that it is simply relying upon information provided to it by the BLM, (*see* BiOp at 199 citation to Assessment at p. 40), FWS is not permitted to rely upon scientifically incorrect assumptions provided to it by the BLM. This is irrational and illegal.

The assumption or conclusion that commercial thinning (to levels below 40% canopy cover), even while protecting some potential nesting structure in the retention areas, will not adversely affect murrelets is contradicted by the scientific material in the BiOp, and thus "runs counter to the evidence before the agency." *Motor Vehicle Mfrs. Ass'n v. State Farm Mutual Auto. Ins. Co.*, 463 U.S. 29, 43 (1983). There is no rational basis for the FWS's conclusion, which is therefore arbitrary and capricious. *Nat. Res. Def. Council v. U.S. Dep't of the Interior*, 113 F.3d 1121, 1124 (9th Cir. 1997) (quoting *Resources, Ltd. v. Robertson*, 35 F.3d 1300, 1304 (9th Cir. 1993) (courts must ask "whether the agency 'considered the relevant factors and articulated a rational connection between the facts found and the choice made.'").

FWS's Reliance on Nest Structure Protection Assumption is Pervasive

The assumption that just protecting nest trees will prevent adverse impacts to murrelets, influences every major murrelet determination in the BiOp.

In calculating incidental take, the BiOp states that "[a]pproximately 1,100 acres of murrelet nesting habitat is proposed for removal and 2,440 acres of nesting habitat are proposed for modification (maintain function) from commercial thinning, riparian treatment, or road construction (Table 15)." BiOp at 120. The FWS concludes that there will be some limited

murrelet site loss and take from the logging of 70 acres in the Harvest Land Base, *see* BiOP at 120, and says this logging could result in the take of two nest sites. *Id.* at 142. The BiOp however does not factor in the thousands of acres of commercial thinning into the take calculation because it assumes that the proposed thinning with nest structure protection will "maintain function." *See* BiOp at 120 ("no murrelet site loss is expected from the proposed thinning treatments in the LSR in the action area,"); ("treatments in the Reserve LUAs are not expected to affect current murrelet occupancy").

Thus, the incidental take statement is dramatically undercounting the amount of potential murrelet take that will occur from commercially thinning murrelet nesting habitat within designated reserves under the RMP. This is significant because murrelet take was only modeled and predicted by the BLM in the Harvest Land Base allocation. *See* BiOp at 117.

The critical habitat section also relies on the nest structure assumption: "Commercial thinning described below would also modify, but maintain habitat function when nest structure protections are incorporated into the prescriptions (RMP/ROD Options 2, 3, or 4)." Thus, "the physical or biological features would not be modified at the landscape scale to an extent that would appreciably reduce the conservation value of critical habitat for the marbled murrelet." BiOP at 122. It is also significant to note that the BiOp's critical habitat discussion does not analyze PBF 2 or the protection of canopy trees within .5 miles of potential nesting trees.

BLM's Proposed Mitigation

The BiOp argues that certain project design criteria will prevent the adverse effects associated with logging murrelet habitat and justify the agency's no jeopardy determination, incidental take determination, and critical habitat adverse modification determination. BiOp at 143-44 ("The project design criteria negotiated in cooperation with the Service, and included as part of the proposed action constitute all of the reasonable and prudent measures necessary to minimize the impacts incidental take including monitoring and reporting requirements."); *see also* BiOp at 122 (In concluding critical habitat would not be adversely modified, FWS states "[c]ommercial thinning described below would also modify, but maintain habitat function when nest structure protections are incorporated into the prescriptions (RMP/ROD Options 2, 3, or 4).").

The BiOp cites the BLM's Biological Assessment ("BA") for the project design criteria that will prevent the otherwise adverse effects:

> However, proposed thinning with nest structure protection may affect and is not likely to adversely affect marbled murrelets (RMP/ROD Options 2, 3, or 4). This type of project design would modify nesting and recruitment habitat by reducing canopy cover at the stand scale, but would protect nesting structure, and the climate around the nesting structure, through no harvest buffers.

BiOp at 119 (citing BA, p. 40). The guidance to protect nesting structure is provided in the BLM's Biological Assessment and contains two specific project designs:

• No known marbled murrelet nest trees would be removed.
• As described in the RMP Compliance Section, the Districts would follow RMP management directions, which offer a range of protections for potential nesting structures and the microsite climate around these trees, within treatment units depending on habitat assessments and survey results.

BA at 40; *see also* BiOp at 120 (saying that occupied murrelet sites in reserves will be "protected"). These provisions will not prevent the admittedly adverse impacts associated with commercial thinning that the BLM is contemplating. First and most importantly, there are and will be no known marbled murrelet nest trees, because marbled murrelet surveys only identify entire forest stands that the bird inhabits and not individual nest trees.[3] The BiOp admits as much: "we usually do not know the nest location within occupied stands," BiOp at 142, and says there will be "no nest location" to inform management. *Id.* Thus, even with surveys, the BLM would never identify known nest trees, and thus, these mitigating provisions are meaningless.

Second, the Biological Assessment's RMP Compliance section, referenced in the second project design bullet point, states that the agency will follow the "Marbled Murrelet Situational Management Project Design Criteria." BA at 38. This section specifies that the agency will "[s]urvey all land-use allocations within 35 miles of the Pacific Ocean prior to implementing actions that either (a) modify or remove nesting habitat or (b) would cause disruption within unsurveyed nesting habitat. BA at 176. Newly discovered occupied marbled murrelet sites (established after Aug. 5. 2016) would be delineated as per management direction in the NCO RMP (pp. 97-100) and SWO RMP (pp. 118-121) for "occupied stands".[4] *Id.* The RMP broadly allows logging activities within occupied stands as long as the activities are designed to enhance or protect the health of the forest stands, as these logging prescriptions purportedly are. RMP at 119. Further, the RMP broadly permits any logging activity within murrelet sites as long as there is concurrence from the FWS that the project will not adversely affect the murrelet, which BLM has secured through this BiOp.

Thus, even if the BLM conducts surveys and gets positive results, the BLM here is proposing to protect nest trees "within treatment units," meaning that even forest stands with occupied survey results would be logged. BA at 40; *see also* BiOp at 120 (saying that occupied murrelet sites in reserves will be "protected" under the RMP). The commercial logging prescriptions contemplated in the BiOp, even those that maintain 60% canopy cover, "would

[3] "A marbled murrelet occupied stand refers to all forest stands, regardless of age or structure, within 0.25 miles (1,320 feet) of the location of marbled murrelet behavior indicating occupancy and not separated from the location of marbled murrelet behavior indicating occupancy by more than 328 feet of non-forest (USDI BLM 2016 ab)." BiOp at 19. "An occupied site is where murrelets have been observed exhibiting sub-canopy behaviors, which are behaviors that occur at or below the forest canopy and that strongly indicate that the site has some importance for breeding (Mack et al., 2003)." *Id.* "Absent surveys, unsurveyed suitable habitat is assumed to be occupied." *Id; see also* Pacific Seabird Group Protocol (2003) (details on surveys and delineating occupied stands).

[4] Ominously, the Situational Management Project Design Criteria omits designation of occupied stands in response to positive murrelet surveys further than 35 miles from the coast. BA 176-77.

remove habitat features important to murrelet nesting including horizontal and vertical structure and canopy cover." BiOp at 118. These are admittedly adverse impacts that are disregarded by the BiOp.

FWS admits that this is a programmatic consultation that does not use site specific information or survey results, but

> Because this is a programmatic Opinion, pre-project monitoring by BLM will occur at the time of each Decision or contract for each project that may adversely affect marbled murrelets to ensure the projects are in compliance with this consultation and that incidental take above what is already covered in this Opinion is not exceeded. Projects not consistent with this Opinion or in need of incidental take coverage can be consulted on separately and tiered to this consultation.

BiOp at 122-23. This monitoring provision does not address the concerns raised. Given that the FWS has already determined that the proposed commercially thinning prescriptions will not adversely impact murrelets, regardless of survey results, the commercial logging the BLM is proposing will be "in compliance with this consultation." Thus while BLM "can" permissively consult separately with the FWS on future site-specific details, it never will be obligated to because FWS already determined BLM's proposed commercial thinning will not adversely impact the species. BLM admits it will not be revisiting murrelet issues in future consultations unless they are in the HLB. BA at 177.

This is illegal. Conservation mitigating measures within a Biological Opinion "must be subject to deadlines or otherwise-enforceable obligations; and most important, they must address the threats to the species in a way that satisfies the jeopardy and adverse modification standards." *Ctr. For Biological Diversity v. Rumsfeld*, 198 F.Supp.2d 1139, 1152 (D. Ariz. 2002). Any measures a BiOp relies on in determining an action is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat must constitute a "clear, definite commitment of resources," and be "under agency control or otherwise reasonably certain to occur." *Bernhardt*, 982 F.3d at 743 (quoting *Nat'l Wildlife Fed'n v. NMFS*, 524 F.3d 917, 936 & n.17 (9th Cir. 2008)). Here, the mitigating provisions are entirely without substance, and therefore are not reasonably certain to occur and do not constitute a clear, definite commitment of resources.

Furthermore, even if the BLM were to protect trees with nesting structure within logging units, as defined in the RMP at 119, fn. 33, which is unclear if this is really being committed to by the BLM, protecting individual potential nest trees and/or the trees immediately surrounding that nest does not address the threat to marbled murrelet nesting success from logging the remaining areas in that stand. This is plainly stated in the 2015 Murrelet Critical Habitat Rule:

> The conversion of large tracts of native forest to small, isolated forest patches with large edge can create changes in microclimate, vegetation species, and predator-prey dynamics—such changes are often collectively referred to as 'edge effects.' Unfragmented, older-aged forests have lower temperatures and solar radiation and higher humidity compared to clearcuts and other open areas (*e.g.*, Chen *et al.* 1993, p. 219; Chen

> *et al.* 1995, p. 74). Edge habitat is also exposed to increased temperatures and light, high evaporative heat loss, increased wind, and decreased moisture. Fundamental changes in the microclimate of a stand have been recorded at least as far as 787 ft (240 m) from the forest edge (Chen *et al.* 1995, p. 74). The changes in microclimate regimes with forest fragmentation can stress an old-growth associate species, especially a cold-water adapted seabird such as the marbled murrelet (Meyer and Miller 2002, p. 764), and can affect the distribution of epiphytes that marbled murrelets use for nesting.

Endangered and Threatened Wildlife; Determination of Critical Habitat for the Marbled Murrelet, 80 Fed. Reg. 51506, 51512 (Aug. 25, 2015) (codified at 50 C.F.R. pt. 17) ("2015 Murrelet Critical Habitat Rule"). Thus, the proposed mitigation of just protecting small patches of potential nesting trees, fragments the existing suitable habitat, and "[m]arbled murrelets no longer occur in areas without suitable forested habitat, and they appear to abandon highly fragmented areas over time (areas highly fragmented before the late 1980s generally did not support marbled murrelets by the early 1990s) (Meyer *et al.* 2002, p. 103)." *Id*. at 51512; *see also Id*. at 51513 ("Marbled murrelet productivity is lowest in fragmented landscapes").

Another known biological fact about murrelets is that while the murrelet exhibits high nest site fidelity, meaning that it will nest in the same stand year after year, a pair of murrelets does not nest in the same tree every year. They move around the stand and nest in different trees, returning to the original tree every so often, so protection throughout a stand is important. Additionally, more than one murrelet pair generally nest in a stand, so habitat must be provided for these other pairs too. (Hamer and Cummins 1990, p. 14; Hamer *et al.* 1994, entire); 2015 Murrelet Critical Habitat Rule at 51511 ("unused habitat in the vicinity of known nesting habitat may be more important for recovering the species than suitable habitat isolated from known nesting habitat (USFWS 1995; USFWS 1997, p. 20)").

In short, the USFWS proposed mitigation measure of protecting isolated nesting structure is simply not geared towards murrelet conservation or recovery. *See Bernhardt*, 982 F.3d at 743 (9th Cir. 2020) (quoting *Rumsfeld*, 198 F.Supp.2d at 1152 (D. Ariz. 2002) (to comply with the ESA, measures relied on in a BiOp "must be subject to deadlines or otherwise-enforceable obligations; and most important, they must address the threats to the species in a way that satisfies the jeopardy and adverse modification standards."). Isolating potential nest trees within an otherwise logged stand creates fragmented edge habitat that will be abandoned by murrelets for all the reasons stated above. Further, these areas will take a long time to recover: "Northwestern forests and trees typically require 200 to 250 years to attain the attributes necessary to support marbled murrelet nesting." The 2015 Murrelet Critical Habitat Rule clearly states that all trees that contribute to canopy cover within .5 miles of any nesting structure are essential because they provide suitable nesting habitat for successful reproduction. 80 Fed. Reg. at 51514. The USFWS's failure to address these core murrelet conservation principles through its purported mitigation is arbitrary and capricious.

Again, the murrelet critical habitat rule and a large body of established murrelet science unanimously establishes that large, intact blocks of interior forest are necessary to adequately protect murrelet nesting efforts. BiOp at 321. Logging around nesting structures will unquestionably adversely affect murrelet habitat and nesting success by fragmenting the existing

habitat and creating edges. *See* BiOp at 73 ("Federal lands within the action area are intended to provide for breeding murrelets by conserving habitat blocks to maintain and recover the murrelet.") and ODFW Status Review at 43 ("habitat fragmentation has been linked to greater nest predation risk for Marbled Murrelets. Nesting in marginal habitat, higher predator densities, and/or preferential predator foraging along edges in fragmented forests are among mechanisms that could result in heavier predation pressure (Marzluff and Restani 1999, Raphael et al. 2002, Marzluff et al. 2004). Corvids, in particular, have increased in many areas, benefitting from changes to the landscape, such as clearing that creates shrublands rich in berries and insects (Marzluff et al. 2004), and anthropogenic food sources (Marzluff et al. 2001, Marzluff and Neatherlin 2006)"). "Forested areas within 0.8 kilometers (0.5 miles) of individual trees with potential nesting platforms that had a canopy height of at least one-half the site potential tree height . . . are essential because they provided suitable nesting habitat for successful reproduction." 2011 Murrelet Critical Habitat Rule at 61607.

Finally, to the extent that the BiOp finds that the IVM project will not adversely modify murrelet habitat and critical habitat based on site-specific protection of nesting trees, that conclusion is arbitrary and capricious because the BiOp admits that there will not be nest trees identified: "Service anticipates incidental take of murrelets will be difficult to detect for the following reason(s): we usually do not know the nest location within occupied stands due to the small size and cryptic behavior of the species within large forested areas[.]" BiOp at 142. It says there will be "no nest location." *Id.* This BiOp's entire murrelet analysis and determination of no adverse effect hinges on the protection of potential nest trees, which runs counter to all known marbled murrelet biological and conservation knowledge. This is a startling example of arbitrary and capricious agency decision-making.

IV. CONCLUSION

If FWS does not withdraw this Biological Opinion, the Conservation Groups intend to pursue litigation in Federal Court for these ESA violations and will seek injunctive, declaratory, and other relief, including an award of attorneys' fees, expert witness fees, and other expenses incurred in investigating and prosecuting this action. If you have any questions, wish to discuss this matter further, or believe this notice is in error, please feel free to contact me. Thank you for your prompt attention to this matter.

Sincerely,

/s/ Nick Cady
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