

Via Electronic Mail: BoardofForestry@oregon.gov

BEFORE THE OREGON BOARD OF FORESTRY

Petition to Initiate Rulemaking and Identify Resource Sites to Establish an Inventory and Protect Existing Marbled Murrelet Sites

I. PETITIONERS

Cascadia Wildlands is a non-profit, public interest environmental organization headquartered in Eugene, Oregon. Cascadia Wildlands educates, agitates, and inspires a movement to protect and restore Cascadia's wild ecosystems, including the species therein. We envision vast old-growth forests, rivers full of wild salmon, wolves howling in the backcountry, and vibrant communities sustained by the unique landscapes of the Cascadia bioregion. We have worked for over a decade on marbled murrelet issues in the Pacific Northwest.

The **Center for Biological Diversity** is a non-profit conservation organization with more than 1 million members and supporters dedicated to the conservation of endangered species and wild places, including members throughout the Pacific Northwest. The Center has been working to protect the marbled murrelet and its habitat for more than a decade.

Coast Range Forest Watch is a volunteer-run conservation group based in Coos Bay, Oregon. They perform citizen science surveys for the endangered marbled murrelet and advocate for the protection of ecologically sensitive areas in Oregon's Coast Range.

Oregon Wild is a non-profit, public interest conservation organization. For more than four decades, Oregon Wild has worked to protect and restore old-growth forests in Oregon, as well as the fish and wildlife that depend on them, including marbled murrelet. Oregon Wild has worked extensively to protect remaining habitat, and restore degraded habitat in the Siuslaw

National Forest and on BLM lands, however, that work is being undercut by the lack of adequate protections on state and private lands in Oregon.

The **Audubon Society of Portland** is a non-profit environmental organization dedicated to wildlife conservancy in Portland, Oregon, U.S. Founded in 1902 and incorporated in 1909, it is one of the oldest such organizations in the world. The Audubon Society of Portland has been a loud and consistent voice advocating for the conservation of marbled murrelets and its habitat.

The **Oregon Chapter of the Sierra Club** represents the organization's 20,000 members in Oregon and has worked to protect Oregon's environment and natural resources since 1978. Today, the Sierra Club employs eight staff in Oregon who work with volunteer leaders to advance the chapter's conservation priorities, including a priority on the protection of the mature and old-growth forests relied upon by the marbled murrelet.

II. INTRODUCTION

The marbled murrelet, *Brachyramphus marmoratus*, is a member of the alcid family. The marbled murrelet was protected as "threatened" under the federal Endangered Species Act (ESA) in 1992 and under the Oregon Endangered Species Act in 1987. While the marbled murrelet spends most of the year foraging in coastal waters, it is the only alcid in the Pacific Northwest that flies inland to nest and rear its young. From April to September, marbled murrelets fly up to 85 km inland to nest on large branches in the canopies of late-successional and old-growth coastal forests. Due to the high rate of timber harvest in Oregon over the past 150 years, only a small percentage of coastal late-successional and old-growth forests remain. Oregon's state forests contain over 23,000 acres of known occupied murrelet habitat, as well as extensive additional unsurveyed suitable habitat that is critical for the murrelet's persistence. Around sixty percent of Oregon's coastal forests are privately owned, and ten percent of these forests are over

60 years in age and potentially contain marbled murrelet nesting habitat and sites. Surveys and protections are critical in these areas to prevent further decline of the species.

There is no ongoing effort or plan to recover marbled murrelets or their habitat on state or private forestlands in Oregon. While the federal ESA prohibits take of the species on these lands, surveys are not required on private lands, survey efforts for murrelets in general are not reliable in predicting an absence of the species, and standing rulings and a systemic lack of oversight and enforcement of the federal ESA on non-federal lands leaves a regulatory void that threatens the survival and recovery of the murrelet.

The amount of nesting habitat within State forests continues to decrease as logging projects are routinely authorized in late-successional stands. The Oregon Department of Forestry (ODF) and Department of State Lands (DSL) formerly operated under a Habitat Conservation Plan (HCP) on the Elliott State Forest that provided a 50-year plan for recovery and maintenance of nesting habitat for the murrelet. The state has abandoned that plan, opting instead to initiate planning for logging in formerly reserved areas while only conducting surveys to avoid direct take of existing nests. The most urgent conservation measure required for the persistence of the species is the conservation of suitable habitat, especially habitat on state and private lands. The recently released twenty year monitoring report for the marbled murrelet cited the urgent need to “arrest the loss of suitable habitat on all lands, especially on non-federal lands in the relatively near term.” (Falxa & Raphael 2016). However, Oregon is currently working towards disposing the 93,000-acre Elliott State Forest and aggressively logging and removing habitat on the north coast state forests.

Rules or a comprehensive plan are thus needed on state and private lands in Oregon to ensure the persistence of the species. There have been substantial declines in marbled murrelet

populations associated with continuing habitat loss, increased rates of predation due to habitat fragmentation, and decreased marine prey sources. There is also an alarming lack of juveniles, raising concerns about the species' reproductive success. Regional extirpations of marbled murrelets in Oregon are likely without greater regulatory protections.

III. LEGAL GROUNDS FOR PETITION

Pursuant to ORS 183.390, “[a]n interested person may petition an agency requesting the promulgation, amendment or repeal of a rule. The Attorney General shall prescribe by rule the form for such petitions and the procedure for their submission, consideration and disposition. Not later than 90 days after the date of submission of a petition, the agency either shall deny the petition in writing or shall initiate rulemaking proceedings in accordance with ORS 183.335 (Notice).” Pursuant to Attorney General rule:

The petition shall be legible, signed by or on behalf of the petitioner, and shall contain a detailed statement of:

- (a) The rule petitioner requests the agency to adopt, amend, or repeal. When a new rule is proposed, the petition shall set forth the proposed language in full. When an amendment of an existing rule is proposed, the rule shall be set forth in the petition in full with matter proposed to be deleted and proposed additions shown by a method that clearly indicates proposed deletions and additions;
- (b) Facts or arguments in sufficient detail to show the reasons for and effects of adoption, amendment, or repeal of the rule;
- (c) All propositions of law to be asserted by petitioner.

OAR 137-001-0070.

Under Oregon's laws pertaining to the Board of Forestry (Board) and forest regulations, the Board is required to promulgate rules to provide for the maintenance of fish and wildlife resources. ORS 527.710(2)(d). Specifically, the Board is required to “collect and analyze the

best available information and establish inventories of resource sites of either federally listed or state listed endangered or threatened wildlife species.” ORS 527.710(3)(A). The marbled murrelet was listed as threatened under the federal Endangered Species Act (ESA) in 1992 and under the Oregon Endangered Species Act in 1987. Therefore, the Board is required to collect and analyze the best available information on marbled murrelets, and conduct a resource site inventory. *Id.* If the Board determines that forest practices would conflict with resource sites in the inventory, the Board shall adopt rules to protect resource sites after considering the consequences and appropriate levels of protection. ORS 527.710(3)(b), (c).

While the Board has developed protections and identified sites for the northern spotted owl and bald eagle, the Board has not taken action regarding the marbled murrelet. The Board is over two decades past due in its responsibilities towards this species.

IV. MARBLED MURRELET

A. *Biology and Ecology*

The marbled murrelet (*Brachyramphus marmoratus*) is a small alcid that is dove-sized with a long, slender bill. Its non-breeding plumage is counter shaded with white feathers ventrally and black feathers dorsally, and its breeding plumage is a cryptic mottled (“marbled”) brown pattern (National Geographic Society 1987).

Marbled murrelets are unique among seabirds in flying long distances inland to nest in old-growth forest (Lank et al. 2003). The nesting of marbled murrelets (hereafter murrelets) was an ornithological mystery until 1974 when the first nest was found by an arborist in central California. Marbled murrelets lay a single egg per breeding season (Nelson & Hamer 1995) on a mossy limb in the forest canopy. Breeding lasts from March until September, during which murrelets make daily trips from their nests in old-growth trees to the ocean to forage on small

fish and invertebrates (Marshall 1988). Repeated nest site surveys suggest high site fidelity, similar to other alcids (Evans-Mack et al. 2003, Gaston & Jones 1998, Nettleship & Birkhead 1985).

Murrelets nest primarily in late successional coastal forests usually within 30 miles of the coast, but can nest as far inland as 55 miles (Nelson & Hamer 1995, McShane et al. 2004).

Grenier & Nelson (1995) found that occupied murrelet sites in Oregon were characterized as older forests containing large and tall dominant trees. Murrelet habitat use during the breeding season is positively associated with the presence and abundance of mature and old-growth forests, large core areas of old-growth, low amounts of edge habitat, reduced habitat fragmentation, proximity to the marine environment, and forests that are increasing in stand age and height (USFWS 2009). Additionally, studies have shown that murrelet nest trees are larger in diameter and taller than non-nest trees (Hamer & Meekins 1999, Nelson & Wilson 2002).

Suitable marbled murrelet nesting platforms are branches at least 4 inches in diameter and 33 feet above the forest floor. The presence of nesting platforms is the most important factor in murrelet nesting habitat choice (Burger 2002, McShane et al. 2004). Preferred murrelet nesting habitat also contains a high density of large trees with mossy platforms (Nelson & Hamer 1995, Manley 1999, Nelson & Wilson 2002). Although marbled murrelets generally nest in old-growth, they also nest in younger forests (60-80 years old) that include remnant trees with platforms or mistletoe platforms in the Sitka spruce/western hemlock forest type (Nelson & Wilson 2002).

Murrelets are generally year-round residents in marine waters adjacent to inland nesting habitat (Nelson 1997). Additionally, their abundance at sea is highly correlated with the presence of large, unfragmented old-growth forests adjacent to at-sea foraging habitat regardless of marine

conditions (Miller et al. 2002, Raphael et al. 2015). Raphael et al. (2002) found that the number of murrelets entering a watershed is strongly correlated with the amount of unfragmented late-successional forest in the watershed. Raphael et al. (2015) looked at the relationship between at-sea factors (e.g., sea surface temperatures) and inland nesting habitat on murrelet abundance. They found that murrelet populations decline when the amount and cohesiveness of inland suitable habitat declines and that near-shore abundance was correlated with the amount of higher-suitability nesting habitat in the adjacent terrestrial environment. This correlation was not observed for at-sea factors (Raphael et al. 2015). Conservation of nesting habitat is therefore critical to the survival of the marbled murrelet.

B. Population Status

The Washington, Oregon, and California population of marbled murrelets is a Distinct Population Segment (DPS), and was protected as a threatened species under the federal Endangered Species Act (ESA) on October 1, 1992. Historical data on murrelet populations are limited and anecdotal or qualitative in nature, but suggest a general decline in population numbers and range over time (Carter & Erickson 1992, Ralph et al. 1995, USFWS 1997). The historical and presently known distribution of murrelets within the DPS stretches from the central California coast north to the 49th parallel along the international border with Canada.

Numerous studies show localized population decreases and high rates of nest failure in response to ongoing anthropogenic factors such as habitat loss and fragmentation (Burger 2002, Burger & Waterhouse 2009, Piatt et al. 2007, Raphael et al. 2015, Peery et al. 2009, Nelson & Hamer 1995, Hamer & Meekins 1999, Manley 1999, Manley & Nelson 1999, Bradley 2002, Hébert & Golightly 2007, Nelson & Wilson 2002, Manley 2003, Peery et al. 2004). The Northwest Forest Plan (NWFP) divided the DPS into six Conservation Zones spanning the three

states: Puget Sound (Zone 1), Western Washington Coast Range (Zone 2), Oregon Coast Range (Zone 3), Siskiyou Coast Range (Zone 4), Mendocino (Zone 5), and Santa Cruz Mountains (Zone 6) (Figure 1). The plan also established an effectiveness monitoring program which includes annual at-sea population surveys for murrelets during the breeding season (Huff 2006, Miller et al. 2006, Raphael et al. 2007). The latest NWFP murrelet population monitoring shows a non-significant trend in Oregon's waters (Falxa et al. 2014), which include all of Conservation Zones 3 and the northern portion of Conservation Zone 4. However, steep declines are reported for the Washington population (Figure 2), underlining the need for greater conservation measures in Oregon to sustain the overall population in the Washington, Oregon, and California DPS.

The most troubling indicator of extinction risk in marbled murrelet populations is a steep decline in breeding productivity. Peery et al. (2007) determined that the ratio of adults to juveniles detected at sea may be an effective way of determining breeding productivity in murrelet populations. Since 2004, data on nesting success from radio telemetry studies and adult to juvenile ratios confirm that breeding success is too low to sustain murrelet populations (Becker et al. 2007, Norris et al. 2007, Ronconi & Burger 2008, Crescent Coastal Research 2008). Low nest success is also thought to be a contributing factor to population declines, with nest success rates far too low to sustain the population (Beissinger & Nur 1997, Cam et al. 2003, Peery et al. 2004). In addition to figures on breeding success, there is evidence that the marbled murrelet population's genetic structure is weakening enough to compromise the long-term conservation of the species (Piatt et al. 2007). Piatt et al.(2007) concluded:

[M]urrelets appear to comprise three genetic units: (1) western and central Aleutian Islands; (2) eastern Aleutian Islands to northern California; and (3) central California. Loss of any of these populations would result in loss of a portion of the species' genetic resources and/or local adaptations, and may compromise its long-term viability.

(Piatt et al. 2007, p. 43). Since the currently listed population encompasses all of one genetic unit as mentioned above and a portion of another, loss of the population could compromise the long-term viability of the species as a whole.

Piatt et al. 2007 (2007) confirm that the genetic diversity of the species is critically dependent on the viability of the Washington, Oregon, and California DPS. Using allelic richness as a measure of the robustness and diversity of murrelet population genetic structure, Peery et al. (2009) concluded that allelic richness has declined from historic levels in the northern California to southeast Alaska populations. This suggests that the murrelet gene pool is shrinking and may face a genetic bottleneck in the future unless declines in breeding success are abated.

The static or declining population trends coupled with extremely low numbers of juveniles and a shrinking gene pool suggest that the natural reproductive potential of the species is in danger of failure. The USFWS concluded in 2010:

Based on the evaluation of the threats and the murrelet's population status and trends, we have determined that the murrelet is likely to become endangered in the foreseeable future unless the current population decline is arrested. Nothing in our assessment indicates that the currently observed population decline is transient. Rather, our threats assessment indicates that it is reasonable to expect that the species will continue to be exposed to a broad range of threats across its listed range.

(USFWS 2010).

The decline of the marbled murrelet population in Washington, Oregon, and California has not been sufficiently arrested since the USFWS analysis. Greater state level protections for the marbled murrelet are essential to its survival.

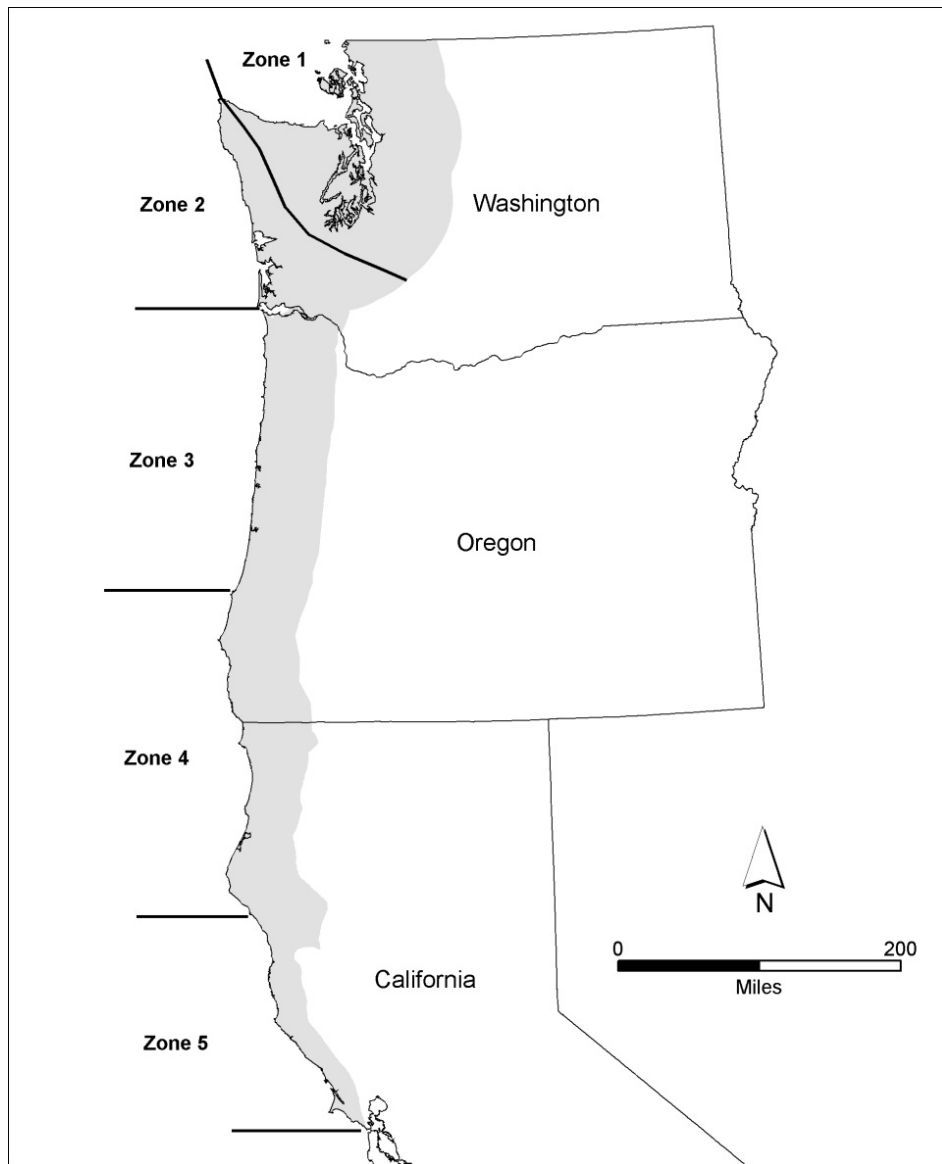


Figure 1. Marbled Murrelet Conservation Zones. Adapted from USFWS (1997) and Falxa et al. (2014).

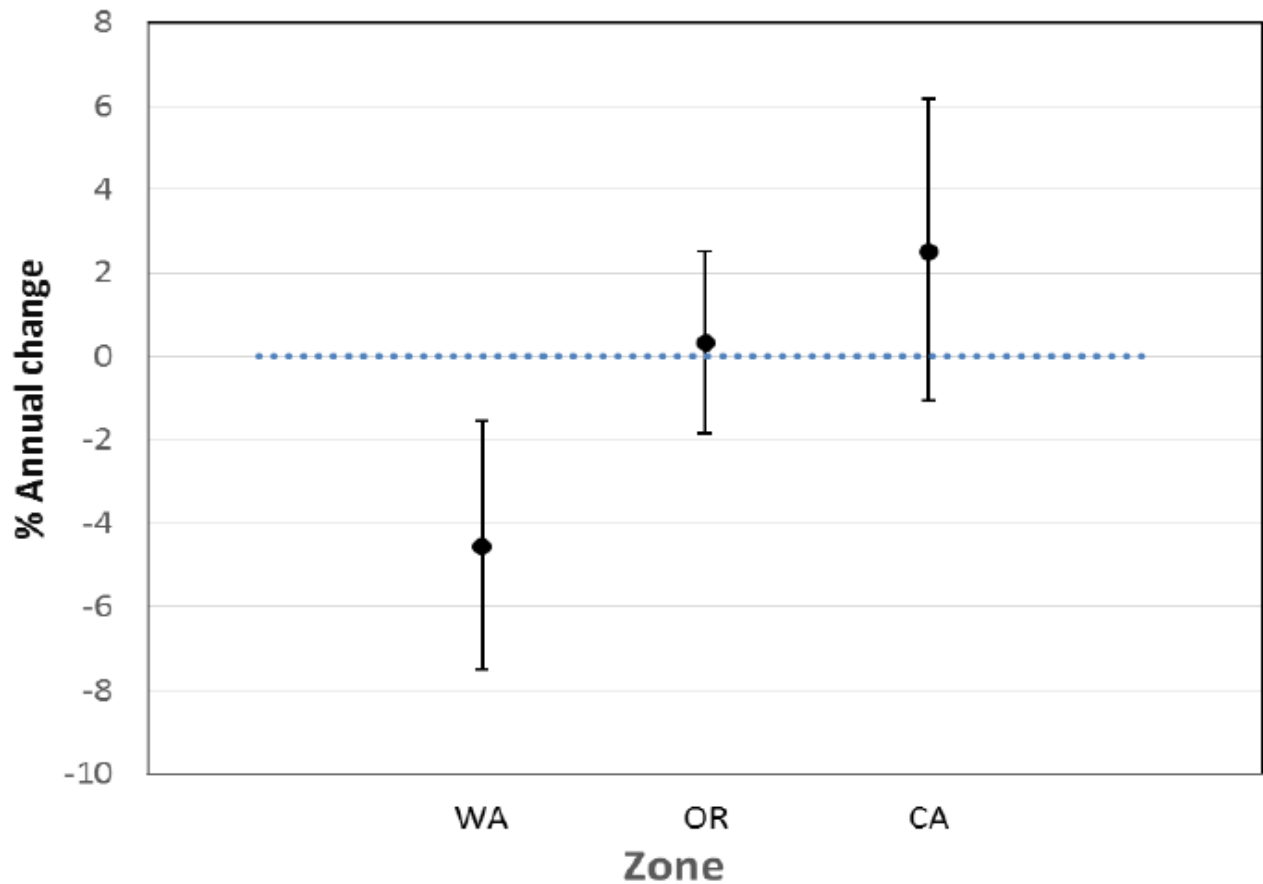


Figure 2. Average annual percentage change in marbled murrelet populations in Washington, Oregon and California from 2000-2013. Adapted from Falxa et al. (2015).

C. Potential Conflict of Forestry Practices with Resource Sites

Although the Board will conduct its own assessment utilizing the best available science, our review of the available science suggests that Oregon's logging practices on state and private lands have, and absent increased protections will continue to, compromise marbled murrelet sites.

The largest threat to the murrelet is the destruction or modification of nesting habitat (Falxa & Raphael 2016). The widespread removal of murrelet nesting habitat by timber harvest

was the primary reason for listing them under the federal ESA in 1992 and the Oregon ESA in 1987. The murrelet is likely facing severe population reductions within the next 20 to 100 years due to extensive nesting habitat loss (USFWS & BLM 1994, Beissinger 2002, Raphael et al. 2015). Loss of nesting habitat is highly correlated with declining populations through most of the species' range (Burger 2002, Burger & Waterhouse 2009, Piatt et al. 2007, Raphael et al. 2015, Falxa & Raphael 2016). There is substantial continuing loss of murrelet nesting habitat in Oregon on federal, state, and private lands. Between 1992 and 2006 alone, murrelet nesting habitat decreased by an estimated 10 percent across the range of the Washington, Oregon, and California DPS (USFWS 2004, Raphael et al. 2015).

Strittholt et al. (2006) estimated that the Central Pacific Coastal Forest ecoregion, which includes nearly the entire murrelet habitat from the Olympic Peninsula to the Oregon/California border, historically contained nearly 9 million acres of old-growth forest. In 2006, the estimated area of conifer forests greater than 150 years old in the Central Pacific Coastal Forest ecoregion was 1.65 million acres (Strittholt et al. 2006). This represents an 82 percent decline in late-successional forests within the ecoregion since precolonial times. This estimate is very close to previous estimates of habitat loss over the last 150 years in the region (Teensma et al. 1991, Booth 1991, Ripple 1994, Perry 1995, USFWS 1997).

The Central Pacific Coastal Forest ecoregion, which includes all of coastal Oregon, is the most heavily impacted ecoregion outside of population centers such as the Willamette Valley and Puget Lowlands (Strittholt et al. 2006). This ecoregion contains only 18 percent of the estimated levels of historical old conifer forests, and the older forests that exist are within Oregon's coastal checkerboard of industrial forestlands which are highly fragmented. *Id.* The

Strittholt et al. (2006) analysis used Landsat images that are now more than 15 years old, and habitat loss has continued since their study (Raphael et al. 2015).

The majority of high quality suitable murrelet habitat in Zone 3 occurs along the central Oregon coast on USFS and BLM lands. Alternatively, northwest Oregon contains less suitable habitat that is generally lower in quality and found in small scattered patches. What is left of suitable habitat is largely found on State lands and has been subject to a long history of timber harvest and wildfire. In western Oregon, private forest industry lands consist of younger age classes than Federal and State lands; 90 percent of the stands on private lands are 60 years of age or younger (Adams et al. 2001). On non-federal lands in western Oregon, only about 5 percent of the stands have an average stand diameter of 21 inches or greater. In the Oregon Coast Range, 64 percent of the land is privately owned, while 12 percent is State owned, and 24 percent is managed by federal agencies (Wimberly & Spies 2000).

While the implementation of the Northwest Forest Plan (NWFP) in 1994 has somewhat reduced the annual rate of habitat loss on federal land, habitat loss is still occurring at a rate higher than predicted before the implementation of the plan (Raphael 2006, Raphael et al. 2015, Falxa & Raphael 2016). Raphael et al. (2006) estimate that between 1994 and 2003, as many as 279,000 acres of suitable habitat were lost across the DPS. The US Forest Service estimated in 2007 that only 48 percent of higher quality murrelet nesting habitat in the Northwest Forest Plan area is under federal ownership (Rapp 2007). Across all ownerships between 2004 and 2009, the U.S. Fish and Wildlife Service (USFWS) authorized incidental take associated with the removal of 850 acres and the degradation of 715 acres of murrelet nesting habitat in Conservation Zone 3, and removal of 4,472 acres of nesting habitat in Conservation Zone 4. The USFWS also

authorized incidental take associated with the degradation of 22,723 acres of nesting habitat in Conservation Zone 4 (Lynch et al. 2009).

Given that less than half of higher quality habitat in the Northwest Forest Plan area is under federal ownership, protections on private and state lands are critical to the species. Although most private timberlands support second- and third-growth forest stands that do not represent suitable murrelet habitat, some suitable habitat remains. However, on private timberlands in Oregon, no surveys are required for marbled murrelets prior to timber harvest in suitable habitat. Thus, private forest lands not owned by timber companies are not likely to contribute murrelet habitat in the future if the regulatory framework remains the same (McShane et al. 2004).

State lands in the Oregon coast range are comprised mostly of the Elliott, Clatsop, and Tillamook State Forests. These forests have a history of fire and heavy logging, but the majority of the Clatsop and Tillamook forests are maturing into murrelet habitat, and there are many documented murrelet nest sites in these forests. The Elliott, which burned around 150 years ago, represents one of the largest contiguous blocks of suitable murrelet habitat along the Oregon Coast, and is in the NWFP conservation zone with the largest at-sea population counts (Falxa et al. 2014).

The Oregon Department of Forestry was harvesting approximately 35 to 45 million board feet of timber per year from the Elliott (ODF 2011), until a lawsuit in 2013 alleging ongoing take of marbled murrelets halted timber production in older stands. Since 2013, primarily only younger stands have been subject to logging in the Elliott. Approximately half of the Elliott State Forest's 90,000 acres remain prime marbled murrelet habitat, with survey efforts continuing to be very successful.

Aside from timber harvest, natural sources of murrelet habitat loss include wildfire, insect outbreaks, and windthrow events (Lynch et al. 2009). Windthrow events may become more severe as fragmentation increases (McShane et al. 2004), especially with the extent of clearcutting and heavy thinning across land ownerships. Wildfire events are projected to increase in severity and frequency due to climate change (Millar et al. 2006). Additionally, insect outbreaks may also increase in severity as climate change affects ecosystems (Millar et al. 2006).

Aside from loss of mature forest habitat, local and regional fragmentation of nesting habitat across the DPS is a key contributor to species decline. Numerous studies indicate the importance of large areas of contiguous mature and old-growth forest to murrelet terrestrial nesting habitat (Ripple et al. 2003, Raphael 2006, Meyer et al. 2002, Hébert & Golightly 2007). Ripple et al. (2003) found that murrelets in western Oregon do not nest near clearcuts but may nest adjacent to young or mature forests.

While little is known about predation on adult murrelets at sea, predation has consistently been the primary cause of murrelet nest failure (McShane et al. 2004). McShane et al. (2004) report that the majority (78%) of murrelet nest failures are due to predation. Murrelets that nest in close proximity to forest stand edges are more vulnerable to predation by corvids, primarily common ravens (*Corvus corax*) and Steller's jays (*Cyanocitta stelleri*) (Nelson & Hamer 1995, Raphael et al. 2002), because the predators have easier access to nests without the presence of protective mature forest canopy (Meyer et al. 2002). Compounding this edge effect, corvid populations have been shown to increase in clearcuts (Ripple et al. 2003). Corvid abundance is highly correlated with murrelet nest predation (Marzluff & Neatherlin 2006). Additionally, nest predation is likely higher than observed data suggest because often no evidence is left behind following nest predation by corvids, making nest predation sites entirely unobservable (Hébert &

Golightly 2007). Human presence near murrelet nesting habitat further aggravates nest predation by attracting predators (Ripple et al. 2003, Hébert & Golightly 2007).

Ripple et al. (2003) suggested that murrelet choice of nesting sites might be the result of an anti-predator strategy to protect eggs and young. The authors also suggest eliminating clear cutting within 1 km of a murrelet nest site to protect nests from predation. Currently there are no measures in place to address corvid predation of murrelet nests in Oregon.

The consequences of habitat fragmentation include: negative effects on murrelet population viability and size, local or regional extirpation or displacement, fewer nesting attempts, failure to breed, reduced fecundity, reduced nest abundance, lower nest success, increased predation rates and reduction in adult survival (Raphael et al. 2002). Generally, optimal murrelet habitat contains large core areas and low amounts of overall edge (Meyer & Miller 2002, Raphael et al. 2002). A study in British Columbia documented a decline in breeding success with increasing proximity to clearcuts (Zharikov et al. 2006). Malt & Lank (2007) have shown that rates of corvid predation increase with increasing murrelet nesting habitat edge.

Habitat fragmentation decreases the amount and the heterogeneity of nesting habitat, decreases habitat patch size, decreases the amount and quality of core habitat, increases the amount of edge around nesting habitat, and further isolates patches of nesting habitat (McShane et al. 2004). Hard edges along murrelet nesting habitat can cause an increase in frequency and severity of windthrow events, further reducing the amount of nesting habitat (McShane et al. 2004). As mentioned earlier, Peery et al. (2009) found that habitat fragmentation due to extensive logging of old-growth forests in northern California changed murrelet population structures, leading to increased risk of local extirpation (Peery et al. 2009). In British Columbia,

van Rooyen et al. (2011) found that hard edges compromised epiphyte micro-climates, thus reducing mossy landing platforms, while soft and natural edges did not. Further habitat fragmentation will continue to isolate populations and increase the chance of local extinctions of murrelet populations. The marbled murrelet recovery plan suggests one of the most important factors to ensure the survival of the species is to decrease habitat fragmentation across the landscape (USFWS 1997). The recently published 20-year status report of the species found that:

[g]iven 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 to 5 decades).

(Falxa & Raphael 2016, emphasis added).

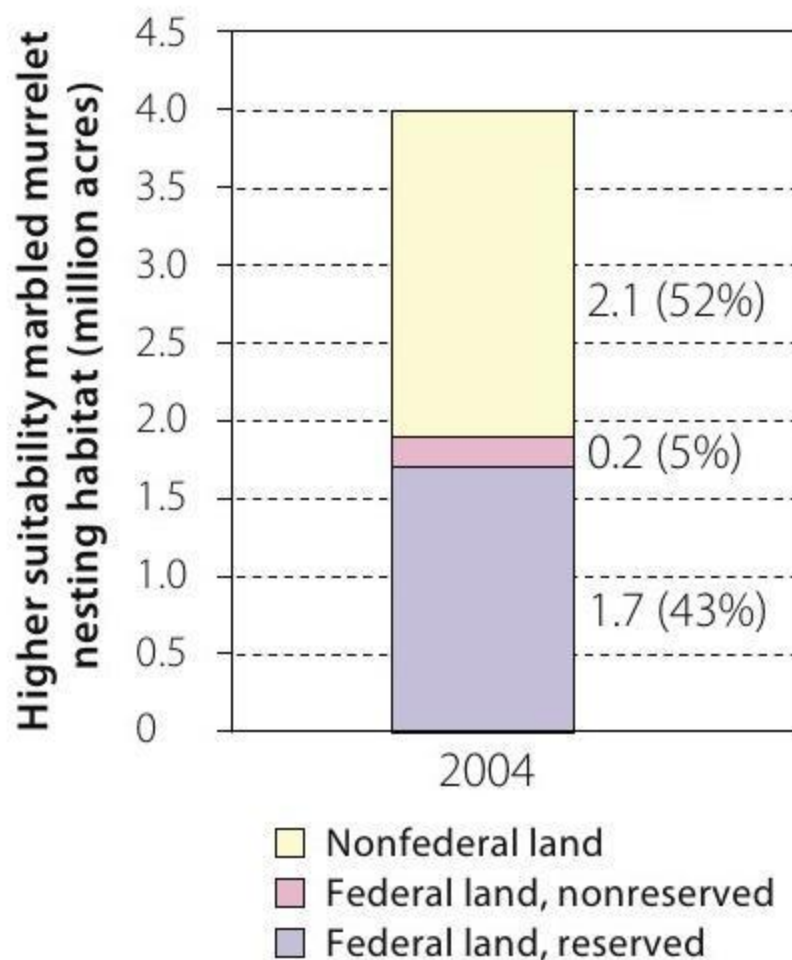


Figure 3. Higher suitability marbled murrelet habitat across the Northwest Forest Plan Area by ownership. Adapted from Rapp (2007).

D. Inadequacy of Current Regulatory Regime

In 1992, the marbled murrelet was listed as a “threatened” species under the federal Endangered Species Act (ESA), 16 USC §§1531 - 1544. 57 Fed Reg 45328 (Oct 1, 1992); 50 CFR §17.11 (1993). Since that listing, marbled murrelets have been protected pursuant to the Northwest Forest Plan on federal lands in Oregon.

While the implementation of the Northwest Forest Plan (NWFP) in 1994 has somewhat reduced the annual rate of habitat loss on federal land, habitat loss is still occurring at a rate higher than predicted before the implementation of the plan (Raphael 2006, Raphael et al. 2015). Raphael (2006) estimates that between 1994 and 2003, as much as 279,000 acres of suitable habitat were lost across the DPS. The US Forest Service estimated in 2007 that only 48 percent of higher quality murrelet nesting habitat in the Northwest Forest Plan area is under federal ownership (Rapp 2007). For this reason, it is critical that protection for existing nesting sites extends to both state and private lands.

Furthermore, between 2004 and 2009, the USFWS authorized incidental take associated with the removal of 850 acres and the degradation of 715 acres of murrelet nesting habitat in Conservation Zone 3, and removal of 4,472 acres of nesting habitat in Conservation Zone 4. The USFWS also authorized incidental take associated with the degradation of 22,723 acres of nesting habitat in Conservation Zone 4 (Lynch et al. 2009). Additionally, both Region 6 of the Forest Service and Oregon’s BLM Districts have initiated the process to revise their management plans, which could result in substantial reductions in protections marbled murrelet habitat on federal lands.

The marbled murrelet is also protected by Section 9 of the Endangered Species Act which entails a prohibition on “take.” 16 U.S.C. § 1531 et seq. “Take” has been defined to include the adverse modification of occupied habitat. *Babbitt v. Sweet Home Chapter of Cmty. for a Great Or.*, 515 U.S. 687, 708 (1995) (Secretary reasonably construed ESA § 9 by including “adverse habitat modification” under the definition of “take” in 50 C.F.R. § 17.3). Both citizens and the USFWS are permitted to sue violators for taking or killing marbled murrelets. However, this prohibition is practically inapplicable to private lands in Oregon because of their lack of survey requirements, the statutes’ respective notice provisions,¹ and a general lack of enforcement by the USFWS.

As an example of the lack of enforcement, as part of a due diligence study undertaken by the Department of State Lands in 2013 regarding the timber appraisal of three tracts of lands under consideration for disposal from the Elliott State Forest, the appraisers interviewed a number of private landowners potentially interested in buying the parcels. When asked how marbled murrelet occupancy would affect their interest in the parcels, several private timber operators believed a private timber company could harvest occupied murrelet habitat without regulatory action. When Kevin Maurice with the USFWS was asked by the contractor about these remarks, he indicated that the USFWS does not pursue violators of the federal ESA, even when violations are known (Whitler 2013).

The marbled murrelet is also afforded protections by state law, ORS 496.171 to 496.192, otherwise known as the Oregon Endangered Species Act. The Oregon Department of Fish and Wildlife (ODFW) administers the Oregon Endangered Species Act. Under the Oregon ESA,

¹ To bring a Section 9 citizen suit, a plaintiff must give the potential violator and the USFWS sixty days’ notice of the alleged violations. Under state law, a timber producer must only provide the state with fifteen days’ notice prior to logging. Because citizen suits under the Act are only prospective, in that the only potential relief is injunctive, these suits are nearly impossible to successfully prosecute.

ODFW works with other state agencies and private landowners to develop regulations to help recover imperiled species. ORS 496.182. Further, the statute prohibits take of state-listed threatened and endangered species on state-owned lands, and requires the promulgation of quantifiable and measurable guidelines to prevent the loss of individual members of the species. However, ODFW only develops such survival guidelines for threatened and endangered species listed after 1995. Because the marbled murrelet was listed prior to 1995, ODFW has not developed survival guidelines for murrelets. Additionally, private and commercial timber owners are exempt from responsibility to follow the state Endangered Species Act. ORS 496.192.

As elaborated upon supra, the Board of Forestry has a legal requirement to: (1) collect and analyze the best available information on marbled murrelets; (2) conduct a resource site inventory; and (3) adopt rules to protect resource sites and develop a process to identify new sites in the future. ORS 527.710(3)(b), (c). These steps have not been taken, leaving a regulatory hole on Oregon's private timberlands for the marbled murrelet.

The Forest Practices Act grants the Board exclusive authority to develop and enforce rules governing forest practices that apply to state and private lands. ORS 527.630; ORS 527.736. The FPA is not intended to be a substitute for compliance under either the federal or state ESA. Instead, it is specifically stated in the FPA that compliance with forest practices rules does not substitute for or ensure compliance with the federal ESA. Under the FPA, landowners must submit a written plan when harvesting near a "specific site involving threatened or endangered wildlife species." OAR 629-605-0170 (1) (b); ORS 629-605-0170 (4) (b); ORS 629-0190. The Department has responsibility to notify the landowner if a written plan is required (e.g., if the landowner is operating near a known threatened or endangered species site). It is the landowner's responsibility to develop the written plan and it must contain information on the

techniques and methods that will be employed for resource protection. ORS 629-605-0170(7)(d). The Department maintains a database of known threatened and endangered species sites that is compiled using available information. But because private landowners are not required to survey for listed species, nor are they required to notify the Department of any threatened and endangered species' sites on their lands, all of the marbled murrelet sites currently known to the Department are on public lands (state and federal ownerships). Murrelets are thus effectively without any protection on private lands where habitat remains.

The Oregon Department of Forestry (ODF) manages its forest lands "to secure the greatest permanent value of those lands to the state. . . ." ORS 530.050. Pursuant to that directive, ODF may sell forest products and enter into timber sale contracts. ORS 530.050(2), (3). In addition, ODF may permit the use of its lands for other purposes so long as those uses are not detrimental to the best interest of the state, including for the protection of fish and wildlife. ORS 530.050(4). ODF has adopted rules governing the management of state forestlands. See OAR chapter 629, division 35. The State Forester is charged with the mandate to "secure the greatest permanent value to the state. . . ." ORS 530.050. "Greatest permanent value" means "healthy, productive, and sustainable forest ecosystems that over time and across the landscape provide a full range of social, economic, and environmental benefits." OAR 629-035-0020(1). The State Forester is required to actively manage state forest lands to provide sustainable timber harvest and revenues in a way that "[p]rotects, maintains, and enhances native wildlife habitats[.]" OAR 629-035-0020(2), (2)(b).

The USFWS has not published guidance on how to avoid take of marbled murrelets, and neither has ODFW developed guidelines under the state ESA. The State Forests Division developed, and ODF has adopted, policies to protect threatened and endangered species on state

lands, including a set of policies specifically concerning marbled murrelets. Through its Marbled Murrelet Operational Policies, ODF seeks to “[m]inimize the disruption of [the marbled murrelet’s] reproductive activities” and to “maintain habitat suitable for successful nesting” in marbled murrelet occupied sites. Marbled Murrelet Operational Policies 1.1.2.0.

In addition, ODF will use reasonable measures to “avoid direct take of marbled murrelets” and to “minimize the risk of any potential take incidental to [its] management practices.” Marbled Murrelet Operational Policies 1.1.1.0. Pursuant to those policies, ODF surveys areas proposed for commercial logging, and establishes Marbled Murrelet Management Areas (MMMA) in locations that ODF determines are occupied by marbled murrelets. These MMMA afford only slight protection for murrelets as they often fail to include all local contiguous occupied habitat as recommended in the PSG survey protocol (Evans-Mack et al. 2003), and they are often too small to provide adequate nesting opportunity for healthy murrelet populations.

In 2013, these policies were challenged by a lawsuit brought by Cascadia Wildlands, Portland Audubon, and the Center for Biological Diversity, arguing essentially that the state’s policies permitted “take” of marbled murrelets in violation of Section 9 of the federal Endangered Species Act. After the Court halted over a dozen timber sales on the Elliott State Forest, the state agreed to halt all older timber harvest on the Elliott State Forest and revise its murrelet policies to better protect occupied sites. However, there is no comprehensive murrelet conservation strategy for state lands, and no regulation by ODFW or the Oregon Board of Forestry for private lands, leaving a regulatory void in Oregon for this imperiled species on more than 75 percent of coastal forests. The State of Oregon’s management of murrelet habitat on ODF managed lands, especially the Elliott, Clatsop, and Tillamook State Forests, has led to

declining populations of the threatened murrelet such that extinction is likely and reclassifying the species to endangered is necessary to ensure its survival and recovery.

V. RULEMAKING REQUEST

Marbled murrelets are suffering a decline in breeding productivity (Peery 2007, Becker et al. 2007, Norris et al. 2007, Ronconi & Burger 2008, Crescent Coastal Research 2008), in nest success (Beissinger & Nur 1997, Cam et al. 2003, Peery et al. 2004), and in genetic diversity (Peery et al. 2004). Numerous studies show significant localized population declines (Burger 2002, Burger & Waterhouse 2009, Piatt et al. 2007, Raphael et al. 2015, Peery et al. 2009, Nelson & Hamer 1995, Hamer & Meekins 1999, Manley 1999, Manley & Nelson 1999, Bradley 2002, Hébert & Golightly 2007, Nelson & Wilson 2002, Manley 2003, Peery et al. 2004).

Due to these factors, marbled murrelets are likely facing a severe population reduction in the foreseeable future due to anthropogenic habitat destruction (USFWS & BLM 1994, Beissinger 2002, Raphael et al. 2015). The loss of nesting habitat is highly correlated with declining populations through most of the range of the species (Burger 2002, Burger & Waterhouse 2009, Piatt et al. 2007, Raphael et al. 2015, Falxa & Raphael 2016). Between 1996 and 2006 alone, there was a 10 percent loss in marbled murrelet nesting habitat across the range of the Washington, Oregon and California DPS (USFWS 2004, Raphael et al. 2015). While murrelet nesting habitat on federal forest land has had increased protection since the implementation of the Northwest Forest Plan, only 48 percent of the remaining higher quality nesting habitat of the murrelet is on federal lands (Rapp 2007). Private forestlands make up 64 percent of coast range forests (Wimberly & Spies 2000) and have minimal oversight from federal or state wildlife agencies. The preservation of the remaining murrelet habitat is critical for the species' persistence (Falxa & Raphael 2016).

In conjunction with this rulemaking petition, Petitioners have additionally filed a petition with Oregon's Fish and Wildlife Commission to uplist the marbled murrelet from threatened to endangered, compelling the development of survival guidelines for the species and to allow the Commission to:

work with private landowners, affected cities, affected counties and affected local service districts, as defined in ORS 174.116 (Local government and local service district defined), to mitigate the adverse impact on local economies when the commission adds a species to the list of threatened species or endangered species pursuant to ORS 496.172 (Commission management authority for threatened or endangered species).

ORS 486.182(2)(b). Given that most private lands are second and third growth forests that do not provide suitable marbled murrelet habitat, specifically targeting locations with remaining habitat and working with impacted land owners may be feasible and mitigation of impacts possible through collaborative efforts with the Fish and Wildlife Commission and the Board of Forestry.

Further, given the abundance of habitat on state lands, primarily on the Elliott, Tillamook, and Clatsop State Forests, the Board will be able to engage the Department of Fish and Wildlife to identify how these lands can contribute to the conservation and recovery of the marbled murrelet. Currently all state policy is focused on take avoidance of the murrelet, but an endangered listing would encourage proactive measures to facilitate recovery of the species to bring a species to the point at which the protective measures on private, state, and federal lands are not required. "[L]and managers should focus particular attention on forest practices that will conserve and restore [higher suitability nesting] habitat" (Falxa and Raphael 2016).

Petitioners envision numerous steps and proactive measures that could be taken to facilitate the recovery of this species at the state level. The Board, in conjunction with the Oregon Department of Fish and Wildlife, could work with impacted private timberland owners

to identify the remaining high quality habitat on private lands and to identify measures to survey for and protect the species therein, and measures of mitigation and compensation for the landowners.

Together these agencies can also develop a firm conservation plan for the species that involves the great deal of suitable habitat, and habitat that is close to becoming suitable, on state forest lands. Proactive conservation would result in the development of a comprehensive plan for the species that could replace the reactive survey and “take-avoidance” strategy that has been problematic for the Oregon Department of Forestry. Such a plan could involve both a strategic system of reserves for the species and a focus on selective restorative forest improvement projects to help accelerate development of older forest characteristics necessary for the murrelet in forests nearing maturity that are abundant on the North Coast forests.

The purpose of this restoration thinning is to create new murrelet habitat without impacting existing habitat. Accordingly, such projects should only occur in young even-aged plantations using the existing road system, roads should be decommissioned after one entry, and no thinning should occur within an occupied site or its buffer. Occupied sites, as identified pursuant to the Pacific Sea Bird Group Protocol, need to be buffered from any logging, including thinning, by at least 200 meters to prevent edge effects, canopy openings, and entry into the stand by corvids.

Given the drastic indications of declining breeding success, marbled murrelet populations will continue to decline along the West Coast, and regulatory measures will inevitably become stricter. But given the abundance of suitable habitat on state and private land in Oregon, and that the remaining bulk of the West Coast population is found off the Oregon Coast, the state has the opportunity to proactively head off further decline of the murrelet and leverage our state

resources to bring the species to the point where both state and federal protections are no longer needed. Petitioners will gladly assist the Board in these processes, and put the energies of Oregon's robust conservation community behind the state in crafting and implementing this plan.

Accordingly, pursuant to the legal requirements provided supra, Petitioners request the Board of Forestry: (1) collect and analyze the best available information on marbled murrelets; (2) conduct a resource site inventory; and (3) adopt rules to protect resource sites and to develop a process to identify new sites in the future. ORS 527.710(3)(b), (c). We further request that the Board engage the Oregon Department of Fish and Wildlife to coordinate efforts for this species.²

A. Proposed Rule Language

Specifically Petitioners propose the addition of the following rule:

OAR 629-665-0250

Marbled Murrelet Sites and Protection Requirements

(1) Following the state's inventory of private forest lands sixty years and older, any private landowner wishing to conduct timber harvest operations or activities involving tree felling or removal on these inventoried lands shall be required to have authorization from the Department of Forestry prior to proceeding with harvest.

(2) Prior to providing such authorization, the Department shall conduct marbled murrelet surveys pursuant to the Pacific Seabird Group ("PSG") Protocol. Pursuant to the Protocol, some documented audio-visual cues indicate that a survey area is occupied by the marbled murrelet. The Department shall submit all survey details and results to the United States Fish and Wildlife Service and Oregon Department of Fish and Wildlife.

(3) If pursuant to Section (2) above, the Protocol surveys result in occupied detections, the Department shall withhold authorization of logging, and encourage the landowner to secure an Incidental Take Permit from the United States Fish and Wildlife Service.

(4) If prior surveys in the existing inventoried area have indicated marbled murrelet occupancy, or surveys in stands adjacent to the inventoried area have indicated occupancy, the Department shall withhold authorization of logging, and report the

² If the marbled murrelet is uplisted to "endangered" by the Fish and Wildlife Commission, ORS 496.182(8)(a) mandates cooperation between the Commission and the state land owning or managing agency to determine whether, and in what capacity, state land can play a role in conservation.

logging plans to United States Fish and Wildlife Service and Oregon Department of Fish and Wildlife.

VI. CONCLUSION

Given the ongoing decline of the marbled murrelet, pursuant to ORS 183.335 and ORS 527.710, Petitioners formally request that the Oregon Board of Forestry: (1) collect and analyze the best available information on marbled murrelets; (2) conduct a resource site inventory; and (3) adopt the above suggested rules to protect resource sites and to develop a process to identify new sites in the future. ORS 527.710(3)(b), (c). Petitioners look forward to the Board's written response within 90 days of receipt of a petition concerning whether the petition presents substantial information to warrant the action requested. Please contact Petitioners with any questions concerning this Petition. To contact Petitioners please address:

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