



December 6, 2018

The Honorable Hilary Franz  
Commissioner of Public Lands  
Washington Department of Natural Resources  
PO Box 47001  
Olympia, Washington 98504-7001

Mark Ostwald  
U.S. Fish and Wildlife Service  
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SEPA Center  
Washington Department of Natural Resources  
PO Box 47015  
Olympia, Washington 98504-7015

**Re: SEPA File No. 12-042001 and FWS-R1-ES-2018-N106  
The Marbled Murrelet Coalition's Comments on the Revised Draft Environmental  
Impact Statement and proposed Habitat Conservation Plan Amendment for the  
Washington Department of Natural Resources' Long-Term Conservation Strategy  
for the Marbled Murrelet**

Dear Commissioner Franz, Mr. Ostwald, and the staff of the Washington Department of Natural Resources and staff of the United States Fish and Wildlife Service:

Thank you for considering the attached comments on the proposed Marbled Murrelet Long-Term Conservation Strategy ("LTCS" or "Long-Term Strategy"). We are non-profit conservation organizations acting in partnership as the Marbled Murrelet Coalition. The member groups of the coalition are Conservation Northwest, Defenders of Wildlife, Olympic Forest Coalition, Seattle Audubon Society, Washington Environmental Council, Washington Forest Law Center, and the Washington State Chapter of the Sierra Club.

We understand that the Final Environmental Impact Statement (FEIS) will address our previous comments on the Draft Environmental Impact Statement (DEIS) as well as those in this document. For that reason, we request that you consider this comment letter and its attachments as supplementary to our comments on the DEIS, submitted on March 9, 2017. Additionally, some of these comments are drafted to address both the Revised Draft Environmental Impact Statement (RDEIS) and the proposed Habitat Conservation Plan Amendment (HCPA) for the

LTCS, and we ask that they are considered by both Washington Department of Natural Resources (DNR) and U.S. Fish & Wildlife Service (USFWS) as appropriate.

We believe none of the alternatives presented in the RDEIS do enough to maintain and protect marbled murrelets in Washington. Given constraints imposed by DNR there are components of Alternatives F and G that we value, but the rest of the alternatives not only fail to contribute to recovery objectives but could in fact make recovery of the species more difficult or impossible, contrary to the commitment DNR made in its 1997 HCP and the ESA in general. We still maintain our support for the Conservation Alternative that we presented in our DEIS comments as providing the best chance of success at murrelet population maintenance, protection, and recovery. Given the constraints of the range of alternatives that DNR has imposed on the process, we also identified components of the different alternatives with the highest conservation value which we believe move the LTCS as currently conceived in the right direction. These components include a novel combination and configuration of current and future habitat based on principles of conservation biology and murrelet ecology, and can be found in Attachment A.

This comment letter includes three complementary attachments. First, we submit an analysis from Dr. Kara Whittaker and Dr. David Lank on the ability of the LTCS as proposed to make a significant contribution to the recovery of the marbled murrelet on state trust lands (Attachment A). Our comment letter also includes a response, prepared by Ernie Niemi of Natural Resource Economics, to the “Socioeconomics” sections and other relevant sections of the RDEIS, evaluating the adequacy of the RDEIS’s assessment of socioeconomic impacts (Attachment B). Another document from the Washington Forest Law Center addresses the legal and scientific credibility of the proposed LTCS, as well as DNR’s trust mandate issue (Attachment C). These comments may reference previous comments on the DEIS.

Thank you for considering the following comments on the RDEIS and proposed HCPA. We urge the agencies to adopt a scientifically-sound conservation strategy that significantly contributes to the maintenance, protection, and recovery of marbled murrelets in Washington. We believe that to be scientifically and legally credible, any LTCS must sufficiently support the goals of stabilizing the declining population of marbled murrelets, increasing geographic distribution of murrelets, and improving resilience of this species to impacts from climate change and other natural and human-caused disturbances. Whether or not the marbled murrelet persists within western Washington may very well depend on the degree to which the LTCS contributes to its recovery. We look forward to the agencies’ responses to our comments in the FEIS.

If you have questions, responses, or requests for referenced materials, please direct inquiries to Sally Paul. Her email address is [sally@wecprotects.org](mailto:sally@wecprotects.org), and her phone number is 206-631-2616.

Sincerely,

Marbled Murrelet Coalition



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Evergreen Forests Program Director  
Washington Environmental Council



Peter Goldman  
Director  
Washington Forest Law Center



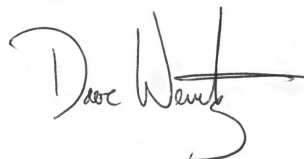
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# Attachment A



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**MEMORANDUM**

**DATE:** December 6, 2018

**TO:** SEPA Responsible Official, Washington Department of Natural Resources; Mark Ostwald, U.S. Fish and Wildlife Service; Washington Board of Natural Resources; Washington Department of Natural Resources; U.S. Fish and Wildlife Service

**FROM:** Kara A. Whittaker, Ph.D. and David B. Lank, Ph.D.

**Re:** Comments on the Revised Draft Environmental Impact Statement and Draft Habitat Conservation Plan Amendment for the Washington Department of Natural Resources' Long-Term Conservation Strategy for the Marbled Murrelet (DNR SEPA File 12-042001 and FWS-R1-ES-2018-N106)

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Dear Agency Officials,

Thank you for considering the following comments on the Revised Draft Environmental Impact Statement (RDEIS) and draft Habitat Conservation Plan Amendment (HCPA) for the Marbled Murrelet Long-Term Conservation Strategy (LTCS). These comments have been prepared by Kara A. Whittaker, Ph.D., Senior Scientist at the Washington Forest Law Center and David B. Lank, Ph.D., University Research Associate and Adjunct Professor at Simon Fraser University. These comments are primarily technical in nature and supplement the comments we made on the DEIS with the Marbled Murrelet Coalition on March 9, 2017. Our former comments emphasized four themes:

- 1) why Washington Department of Natural Resources (DNR)-managed lands are disproportionately important to murrelet conservation,
- 2) scientific arguments why the proposed range of alternatives are inadequate and why they do not mitigate or minimize the take of marbled murrelets to the maximum extent practicable,
- 3) a detailed description of the Conservation Alternative we designed, and
- 4) other technical problems with and omissions from the LTCS DEIS.

The revisions made in the RDEIS and HCPA do not satisfactorily address our comments on the DEIS. In these supplemental SEPA and NEPA public comments, we address the following topics:

- 1) The LTCS needs explicit biological goals tied to recovery objectives.
- 2) How well do the RDEIS alternatives meet these population biological goals?
  - a. Population size
  - b. Population stability
  - c. Geographic distribution
  - d. Resilience to natural disturbances
  - e. Resilience to human disturbances
- 3) What constitutes a significant contribution?
- 4) Components of a scientifically-defensible conservation strategy.
- 5) Flaws in the analytical framework.
  - a. Thinning
  - b. Adaptive management
- 6) Conclusion: State lands are crucial to avoiding extirpation and supporting recovery of the marbled murrelet in Washington State.

In essence, our concerns remain about the ability of the LTCS as proposed to make a significant contribution to the recovery of the marbled murrelet on state trust lands.

### **1) The LTCS Needs Explicit Biological Goals Tied to Recovery Objectives**

In 1997, the U.S. Fish and Wildlife Service (USFWS) articulated its *recovery objectives* for the marbled murrelet in its Recovery Plan: “to stabilize and then increase the population size, changing the current downward trend to an upward (improving) trend throughout the listing range” and “to provide conditions in the future that allow for a reasonable likelihood of continued existence of viable populations” (p. 112). These objectives were grounded in widely recognized principles of conservation biology and were intended to enable the species to persist through both chronic stressors and catastrophic events.

The 1997 Habitat Conservation Plan (HCP) was a negotiated agreement between the DNR and the USFWS. As the first “All Species” HCP with a no surprises component, the DNR made significant commitments to providing Habitat Conservation. In the 1997 DNR HCP, the LTCS intended to “help meet the *recovery objectives* of the U.S. Fish and Wildlife Service, contribute to the conservation efforts of the President’s Northwest Forest Plan, and make a *significant contribution* to maintaining and protecting marbled murrelet populations in western Washington over the life of the HCP” and “result in *improved conditions* for the murrelet over time” (p. IV-44, emphases added). The DNR HCP is a legally binding contract that was adopted by the Board of Natural Resources

(BNR) to ensure compliance with the Endangered Species Act (ESA) on DNR-managed lands over the long-term.

The expert Marbled Murrelet Science Team formed “a set of recommendations that provide the foundation for a credible, science-based LTCS that *meets DNR’s HCP requirements*”, equivalent to DEIS/RDEIS Alt. F (Raphael et al. 2008, p. 1-3, emphasis added). Their modeling demonstrated that the following *biological goals* could all be achieved across all landownerships statewide (Raphael et al. 2008, Table 5-3):

1. population size increased (measured by habitat capability or K’),
2. population stability increased (measured by the area of interior habitat),
3. geographic distribution improved within planning units and rangewide, and
4. resilience improved.

Unfortunately, DNR rejected the Science Team’s recommendations because their “work purely represents a biological conservation perspective” (HCPA, Section 1.1). As a result, neither the RDEIS nor the HCPA are based on quantitative or qualitative *population* biological goals for the murrelet population on DNR-managed lands. Instead, DNR’s five RDEIS objectives are not biologically based nor sufficient to help meet recovery objectives. The *only* murrelet-related objective (#2) of DNR’s is limited to minimizing and mitigating incidental take of marbled murrelets resulting from their forest management activities. Similarly, in the HCPA DNR established as its biological goal of the LTCS “to avoid, minimize, and mitigate the incidental take of murrelets resulting from DNR’s forest management activities, in a manner that increases the habitat capacity of DNR-managed HCP lands over the life of the HCP” (HCPA, Section 6.1). DNR put forth three related biological objectives: to conserve occupied sites, manage special habitat areas (SHAs), and delay the harvest of 3,600 adjusted acres of murrelet habitat for ten years. While these objectives are clearly fundamental to murrelet conservation, they are insufficient to support murrelet recovery on state lands.

In contrast, the USFWS established as one of its purposes to ensure “the incidental take permit and implementation of the 1997 HCP amendment achieve *long-term species and ecosystem conservation objectives* at ecologically appropriate scales” (RDEIS p. 1-2, emphasis added). Another one of USFWS’s purposes is to ensure that ESA permit issuance criteria are met by the LTCS, including that take will not appreciably reduce the likelihood of survival and *recovery* of the species in the wild. As applied to all HCPs, “The conservation strategy defines what the HCP is trying to accomplish through *biological goals*, how the applicant will track progress through the monitoring program, and how the applicant will adjust implementation of the HCP through adaptive management and changed circumstances. The conservation strategy *must be founded on the biological needs of species*, a structured and logical approach to problem solving, forward thinking to anticipate future changes, and it must be developed to fit into the larger conservation context occurring around the HCP” (USFWS and NOAA Fisheries

2016, p. 9.1, emphases added). Below, we describe how DNR’s approach does *not* make a significant contribution to maintaining and protecting marbled murrelet populations and thus fails to satisfy DNR’s HCP commitments.

## 2) How well do the RDEIS alternatives meet these population biological goals?

### a) Population Size

Population size is a direct indicator of the fundamental recovery objective “to stabilize and then increase the population size, changing the current downward trend to an upward (improving) trend throughout the listing range” (USFWS 1997). While population size can be estimated at sea within discrete zones, it is virtually impossible to determine the subpopulation size of a given landownership to assess its conservation contribution. At a broad geographic scale (nine conservation zones from California to the Canadian border), at-sea population sizes strongly correlate with adjacent areas of nesting habitat (Raphael 2006, Fig. 1a). Strong correlations also exist at the individual watershed scale between areas of suitable habitat and radar-derived counts of murrelets during the breeding season (Burger 2001, Raphael et al. 2002). Because of these strong correlations, the area of habitat can be used as a simple surrogate for potential population size. Applying this concept to the RDEIS, DNR showed this same relationship between female population size and both raw acres (Fig. 1b) and adjusted acres (Fig. 1c) of inland habitat projected at year 50. As expected, the largest murrelet population was associated with Alt. F because it conserves and grows the largest acreage of habitat over time, and the opposite was true for Alt. B (40% smaller population than Alt. F). DNR’s preferred alternative (H) produced 21% fewer female murrelets than Alt. F. If no habitat were harvested (an upper “bookend” scenario), after five decades DNR-managed lands are predicted to have 403,215 raw acres of habitat, equivalent to a 26% larger population size than Alt. F<sup>1</sup>.

Another useful metric for quantifying population risk was generated in the Population Viability Analysis (PVA), namely the “quasi-extinction probability”. The quasi-extinction probability is the proportion of 10,000 simulated populations with an ending female population size (after 50 years) lower than four quasi-extinction thresholds (one half, one quarter, one eighth, and one sixteenth of the current population size; Table 1).

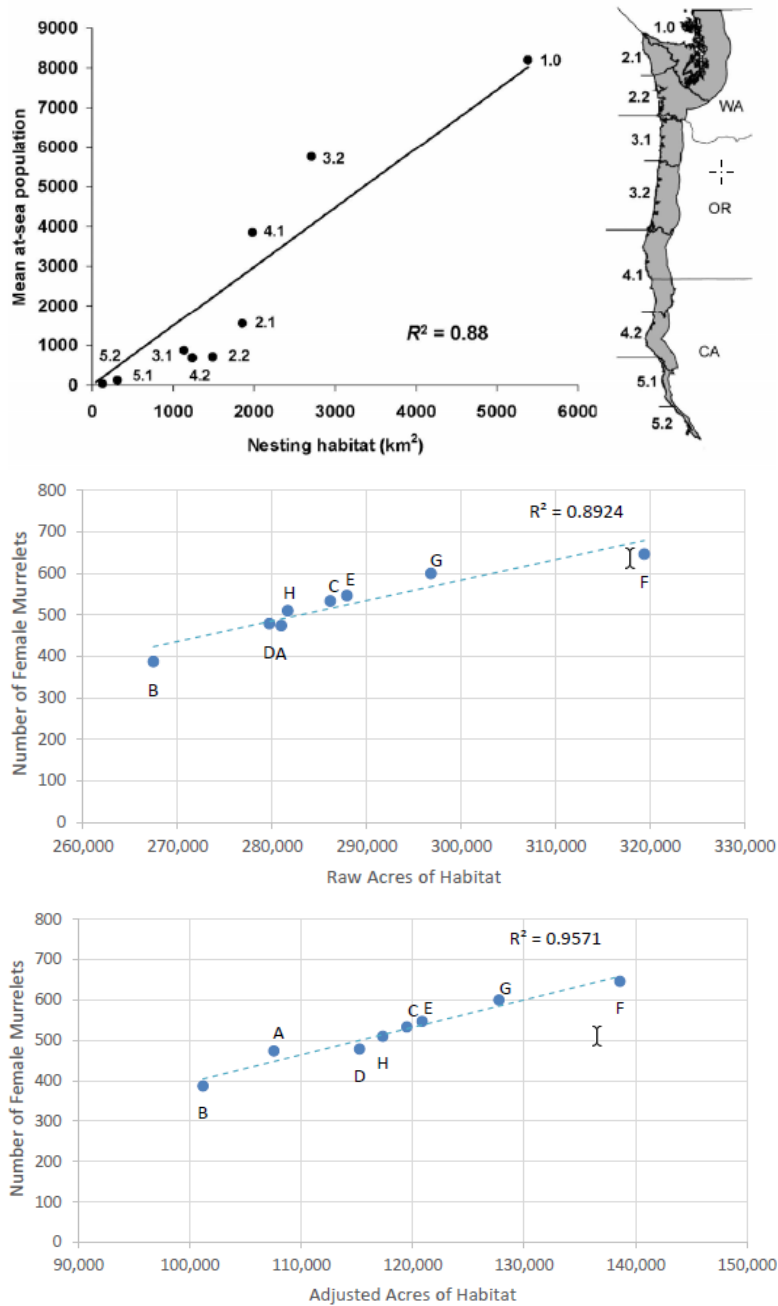
**Table 1.** Quasi-extinction probabilities under the Risk modeling scenario.

Female population size in 50 years from now	DNR lands	Washington
one half	271	1,808

<sup>1</sup> Based on PVA input data for ‘MAX’ option shared by DNR: “mm\_pva\_input\_2018\_04\_26.xls”



one quarter	136	904
one eighth	68	452
one sixteenth	34	226



**Figure 1.** Relationship between murrelet population size and habitat area (a) at-sea population size with adjacent nesting habitat, with segment numbers denoting conservation zones and segments within zones

(from Raphael 2006), and female population size in year 50 (DNR-Enhancement scenario) with (b) raw acres of habitat and (c) adjusted acres of habitat (RDEIS Fig. 4.6.10 and 4.6.11 respectively).

Although the PVA is most useful for comparing scenario outcomes, because the DNR-“Risk” scenario used parameter values tuned to match the recent at-sea statewide population trend, this provides the most realistic estimates of outcomes under current conditions (PVA Table 2; RDEIS Fig. 4.6.12). Under this set of assumptions, there is a high probability the murrelet population on DNR-managed lands will be less than half its current size under all alternatives (range: 0.80 – 0.94 for Alt. F - B). It is more likely than not the DNR population will be reduced to one quarter (or less) of its current size for Alt. A, B, D, and H (no meter). For Alt. F and G, the DNR population reached the one quarter threshold (136 females) in only 36% of the simulations, performing best among all alternatives and 6% better than DNR’s preferred alternative (H; probability of 0.42).

At the state scale (Risk scenario) across all alternatives, there is roughly a 50% chance the population will only be between one quarter to one half its current size after 50 years, between *904 and 1,808 females* (PVA Table 2; 50% being the midpoint between 0.31 and 0.81). The range of LTCS alternatives do not properly reflect this imperiled state, nor do they account for DNR’s lengthy delay in adopting a LTCS, a time during which the murrelet’s habitat and population have continued to decline (Raphael et al. 2018, Lance and Pearson 2016). More needs to be done *now* to compensate for these past losses and prevent functional extirpation from the state within the next several decades (Desimone 2016).

### **b) Population Stability**

Population stability is another key metric of the fundamental recovery objective “to stabilize and then increase the population size, changing the current downward trend to an upward (improving) trend throughout the listing range” (USFWS 1997). The Science Team used the area of interior habitat (more than 100 meters from the forest edge) as a measure of population stability because murrelet nest success is maximized where edge effects are minimized, and the rate of nest success greatly impacts population growth or decline. Their recommendations (~Alt. F) lead to a significantly larger (52-73%) area of interior habitat in each of the three units they analyzed, interpreted to improve the potential for a stable population (Raphael et al. 2008; Table 5-3). In the RDEIS relative to Alt. A, the raw acres of interior habitat for Alt. H are only 15% higher whereas those in Alt. F are 57% higher, and Alt. F has 37% more interior habitat than Alt. H (Table 4.6.4). Among alternatives, Alt. F and G have the most interior habitat in every decade and landscape, and Alt. F is the only alternative with more interior habitat than Alt. A in

the “other high value landscape”, which can help fill the gap in geographic distribution of potential nest sites on DNR-managed lands between the three strategic locations (RDEIS Fig. 4.6.2).

These trends are largely driven by variation in the size of Marbled Murrelet Management Areas (MMMA; Alt. F, G), Emphasis Areas (EA; Alt. C, E, G) and Special Habitat Areas (SHA; Alt. C, D, E, G, H), in order from largest to smallest on average, with the larger areas providing the most opportunities for interior habitat restoration over time. The modest increase (15%) in interior habitat for Alt. H may be explained by its reliance on smaller SHAs which often exclude adjacent areas of current and future habitat that are captured by other alternatives. Another relative weakness of Alt. H is that a number of its SHAs do not include any occupied sites. While murrelets may recolonize these SHAs over time, conserving larger SHAs around occupied sites is a higher priority for increasing reproductive rates sooner rather than later.

Habitat quality also influences nest success and serves as an indicator of population stability. As described by the 2008 Science Team, “Forest stands differ in their functionality as potential habitat. Several elements of stand structure and composition that often increase with successional development, particularly potential nesting platforms and complex canopy architecture, are important for providing accessible, secure nest sites (Nelson 1997).” That nest success increases with habitat quality is a fundamental assumption of DNR’s P-stage habitat model, and murrelet population change is most sensitive to the simulated loss of high quality habitat (P-stage  $\geq 0.47$ ; PVA Fig. 15). The disproportionate importance of high quality habitat in promoting population stability is reflected by its complete deferral from harvest in Alt. C, E, and G and its delayed harvest in some landscapes in Alt. H.

Nesting carrying capacity (K) increases at a faster rate than the area of habitat due to this influence of habitat quality, with substantial differences among alternatives (PVA Fig. 2a-b). For Alt. C, D, E, and H, nesting carrying capacity doesn’t change for the first decade and then it increases over time relative to the modeling baseline. In contrast, nesting carrying capacity increases *every* decade for Alt. F and G, giving murrelets a ten-year-earlier opportunity to increase reproductive rates and stabilize the population. Alt. F especially stands out with a 147% increase in carrying capacity after 50 years.

The time it takes until population decline reverses also represents when population stability is predicted to increase. This is illustrated in the PVA Enhancement scenarios and varies among alternatives. At the scale of DNR lands, Alt. F and G are the first to increase in population size (by decade 2) and increase the most (by decade 5; PVA Table 3). None of the other alternatives increase in population size until the third decade. At the state scale, Alt. F begins to increase in decade 4, and Alt. D, E, G, and H begin to increase in decade 5. While the concept of metering is unique to Alt. H, it applies only to ~32% of the habitat DNR proposes to harvest (3,600 of 11,300 adjusted acres or 12,244 of 38,264 raw acres) during decade one, and “the specific location and quality of habitat to be metered will be at DNR’s discretion” (RDEIS p. 2-54). The metering of high

quality habitat is especially important for stabilizing the murrelet population and is effectively achieved by Alt. G in its deferral of all high quality habitat for all five decades. Population stability could be achieved sooner than the PVA predicts if metering of take were applied to all alternatives. Delaying harvest of habitat for at least the first decade of LTCS implementation would allow for a net growth of habitat during the otherwise declining periods prior to more widespread habitat restoration. The sooner the murrelet population stabilizes, the greater the odds that extirpation can be avoided.

### c) Geographic Distribution

Another important population biological goal for supporting murrelet recovery is providing a sufficiently wide geographic distribution of nest sites and opportunities. In essence, there is greater risk to a population if a conservation strategy puts “all its eggs in one basket” across a given landscape. By geographically spreading out long-term habitat reserves, there is less risk a large natural or human disturbance will impact a significant proportion of the population. The DNR HCP recognized this vulnerability for murrelets:

“Due to their dependence on both forest and marine habitats, catastrophic events occurring in either environment (fire, windthrow, clearcut harvesting, oil spills, El Nino) can have significant negative effects on the population. Therefore, protecting multiple colonies within a reasonable distance of each other in each Watershed Analysis Unit and maintaining a well-dispersed population will help overcome and minimize these effects.” (DNR 1997 p. IV.42)

DNR’s primary approach to geographic distribution in the RDEIS was to define a number of large landscapes where the preferred alternative (H) manages murrelet habitat differently over time (RDEIS Fig. 2.3.1). At a coarser scale, these include a ‘high value landscape’ and a ‘marginal landscape’, and at a finer scale, the high value landscape is further separated into three ‘strategic locations’ and an ‘other high value landscape’. The three strategic locations have a disproportionately high importance for murrelet conservation for various reasons. On the other hand, the Recovery Plan identified a drawback of deemphasizing conservation *outside* of strategic locations: “Preventing further erosion of the already patchily-distributed nesting habitat...is especially important in areas where gaps already occur” (USFWS 1997, p. 139).

The area of habitat gained and lost in each of these landscapes differ widely among alternatives. In the high value landscape, including all three strategic locations, Alt. H has significantly fewer net adjusted acres than Alt. F and G, especially in the North Puget strategic location, where Alt. H has a *net loss* of 1,072 adjusted acres after 50 years (RDEIS Table 4.6.5). If DNR’s preferred alternative is adopted, this would create a larger gap in the geographic distribution of habitat on DNR-managed lands in this part of the state. A related concern is that only 51% of the higher quality ‘reclassified’ habitat in the North Puget Planning Unit has been surveyed for murrelet nesting, and the more of this habitat that is harvested, the greater the chance unknown nest sites will be lost. A net loss of habitat in the North Puget Planning Unit under Alt. H is also concerning due to its

proximity to the San Juan Islands, where murrelet density at-sea is relatively high. “Depending on the alternative, murrelet conservation strategies on DNR-managed lands may reduce the impact of other stressors. For example, alternatives that distribute habitat gains throughout the strategic locations may reduce the impact of changes in productive foraging locations resulting from climate change” (RDEIS p. 5-15). In contrast to Alt. H, Alt. F and G yield a net increase of habitat in all three strategic locations and the remainder of the high value landscape, which is much better aligned with the biological goal of geographic distribution.

The Southwest Washington (SWWA) strategic location is an especially critical geographic component for maintaining the murrelet population. This area has been depleted in past decades: “there appears to be a strong relationship between murrelet population declines and the large loss of higher suitability habitat on non-federal land, especially in Zone 2 [Southwest Washington]” (Raphael et al. 2016). Maintaining and increasing the distribution of nesting murrelets across SWWA is needed to minimize the risk of creating a gap in the north-south distribution of the species across its range and partial genetic isolation of adjacent subpopulations (USFWS 1997, McShane et al. 2004, Raphael et al. 2008) as has occurred in California (Peery et al. 2010). Strong contributions from DNR-managed lands are needed in SWWA where federal and private habitat is particularly scarce and DNR-managed lands contain 28% of the existing inland habitat base on only 13% of the land area (Raphael et al. 2008). Unfortunately, among all alternatives, DNR’s preferred alternative (H) makes the smallest net gain in mitigation minus impact in SWWA, only 751 adjusted acres (RDEIS Table 4.6.5). All other alternatives have a net habitat gain between 1,268 (Alt. B) and 3,414 (Alt. F) adjusted acres in SWWA after 50 years. The Science Team’s (and Alt. F’s) recommended conservation emphasis in SWWA resulted in a *doubling* of the potential habitat capability (K’) of those forests due to the restoration of high quality marbled murrelet habitat. To support a robust geographic distribution and support population recovery, the LTCS must include large areas of current and future habitat in the SWWA strategic location.

The RDEIS also presents geographic results at a finer scale than landscapes, namely at the watershed scale in watersheds with at least 50 acres of adjusted acres of habitat (Fig. 4.6.6). DNR found that by decade 5, the adjusted acres of habitat increase in more watersheds than they decrease under all alternatives, though there was wide variation in the number of watersheds with a net loss of habitat. As with the strategic locations, the DNR preferred alternative (H) could have performed better at the watershed scale, where net decreases in habitat occurred in 19 watersheds. In contrast, for Alt. F and G net habitat decreased in only 7-8 watersheds, respectively. The shrinking distribution of habitat under Alt. H would negatively impact the population statewide.

A more robust assessment of geographic distribution would include identification of patterns of nesting sites and habitat on DNR *and* non-DNR lands across a given landscape, a concept also recommended in the DNR HCP and murrelet Recovery Plan:

“Preventing the isolation of breeding colonies and maintaining a well-distributed population will entail considering the location of occupied sites on adjacent ownerships. Developing landscape-wide management plans in cooperation with adjacent landowners for each planning unit as outlined in the federal Draft Recovery Plan for the Marbled Murrelet (USDI 1995) will be desirable. An optimal outcome of such plans would be to have occupied sites in each Watershed Analysis Unit. If one occupied site were lost, additional habitat for these birds would be available within a reasonable distance, facilitating replacement and establishment of new colonies as the population grows” (DNR 1997 p. IV.44).

Unfortunately, the RDEIS did not include an evaluation of occupied sites on non-DNR lands nor landscape-wide management plans across landownerships. Many observations of murrelet nesting behaviors on state, private, federal, and other lands have been recorded in WDFW’s database and could be utilized in such an evaluation. In watersheds where occupied sites have not yet been documented, retaining high quality habitat that could or may already be colonized is the next best way to achieve the goals of maximizing geographic distribution *and* population growth. High quality habitat on DNR lands is included in the P-stage habitat model, and the Maxent habitat suitability model results for murrelets can be used to locate high quality habitat on non-DNR lands (Raphael et al. 2016). We highly recommend the FEIS for the LTCS include an analysis of the distribution of occupied sites and high quality habitat on non-DNR lands.

#### **d) Resilience to natural disturbances**

A population’s capacity to grow, stabilize, and recover depends in part on its resilience to natural disturbances. These include unpredictable, stochastic events (such as windthrow and tree mortality due to pest infestation) as well as more predictable events (such as extrapolating observed trends in tree mortality and growth rates driven by shifts in temperature and precipitation) that result in a loss of habitat or habitat quality. DNR recognized these threats when the HCP was written:

“Habitat loss appears to be the major cause of population declines (Ralph et al. 1995; USDI 1995; USDI 1992). Additional incremental losses of nesting habitat due to windthrow, fire, and other natural processes will be a persistent problem, even with the benefits of an HCP.” (DNR 1997 p. IV.42)

More recently, the effects of climate change have also been observed and exacerbate natural disturbance rates. As described in the last status review:

“based on climate model projections, the future conditions of forests where murrelets nest will be *largely unfavorable* for maintaining current forest structure and composition...to the extent that changes such as increased tree mortality, decrease in canopy epiphytes, and increased severity and frequency of fires reduce the number of potential nest trees,

*impacts to murrelets appear likely to be negative*” (USFWS 2009, Raphael et al. 2018, emphases added).

The RDEIS describes how climate change is likely to worsen existing threats to marbled murrelet nesting habitat throughout its inland range in the next 50 years, via increases in drought-related fire, mortality, insects and disease, extreme flooding, landslides, and windthrow events. For example, the area of stand-replacing fire in western Washington is projected to *at least double* relative to historical fire return intervals (from 200 to over 1,000 years). In addition, over the course of 17 years, tree mortality rates in unmanaged old forests of the Pacific Northwest have also *doubled*, which is likely due, at least in part, to drought stress associated with regional warming (van Mantgem et al. 2009). These projected habitat losses have significant consequences for the LTCS:

“Other risks to murrelet populations were not captured by the modeling framework of either the population viability analysis or the impact and mitigation calculations...Natural disturbances, including landslides, windthrow, and wildfires, may remove large or small areas of inland habitat, in addition to the acres released for harvest. Alternatives with more adjusted acres of mitigation have more buffer for these disturbances, whereas alternatives that have an impact greater than mitigation have no buffer for natural disturbance” (RDEIS p. 4-69).

The most direct and effective strategy to promote west-side forest resistance and resilience under a changing climate is to maintain existing forest cover, especially older forests because they are better able to withstand unfavorable disturbances than younger forests (Halofsky et al. 2018). Because it has the largest area of habitat and LTFC, Alt. F would likely suffer the least impacts from climate change relative to other alternatives (RDEIS p. 4-13).

The future rate of murrelet habitat restoration will likely be slower than current forest growth rates during the warmer, drier summers predicted for western Washington (Littell et al. 2010, Halofsky et al. 2011), which is becoming evident in over-predictive regional forest growth models. This creates an “increased risk to the species from the alternatives if the intended conservation does not perform as expected” (RDEIS p. 5-11).

Consequently, DNR’s P-stage habitat model probably overestimates the area and quality of future habitat across the analysis area and hence *overestimates the mitigation future habitat is expected to provide under all alternatives*. DNR acknowledges, “It is important to recognize that while specific outcomes are presented, there are uncertainties associated with these estimates of impact and mitigation acres...forest growth and future habitat development may be influenced by many factors (such as climate change or natural disturbance)...These projections of future habitat development are estimates which may or may not be realized over time” (RDEIS p. 4-50). With a greater expected loss of habitat area and quality due to future climate conditions, *a sufficient level of mitigation is necessary in the LTCS to account for this risk and uncertainty*.

Furthermore, this uncertainty can be minimized by front-loading mitigation rather than counting on large areas of low quality habitat restoration over the course of decades.

While not reported in the RDEIS using the same terminology, DNR did present to the BNR an estimate of the acres of mitigation needed to compensate for risk and uncertainty in natural disturbance rates. This metric was defined as ‘epsilon’ ( $\epsilon$ ). When we asked for more detail about their methodology, DNR replied:

“The size of epsilon is based on the expected loss of marbled murrelet habitat due to natural disturbance. The murrelet habitat disturbance rate used in this calculation comes from Raphael and others (2016) and is supported by Davis and others (2015). When developing epsilon, DNR anticipated a doubling of disturbance rates over the next 50 years due to climate change. While the actual increase in murrelet disturbance rates is uncertain with some disturbance mechanisms becoming more common and some becoming less common over the next 50 years, a review of the scientific literature supports the assumption that overall disturbance rates will increase by this magnitude (see the Chapter 3.2 Climate of the marbled murrelet RDEIS).”

For DNR’s preferred alternative (H), ‘epsilon’ came to only 735 adjusted acres, equivalent to 1,205 raw acres<sup>2</sup> or 6.5% above the level of impact/take (11,300 adjusted acres) to account for natural disturbances over 50 years of LTCS implementation. Incidentally, this is about the same area of habitat that was lost on state lands due to a single, large storm event in SWWA: the Great Coastal Gale of 2007 (RDEIS p. 5-6).

The area of past disturbances per decade can be extrapolated into the future to estimate the potential extent of future habitat loss. For example, Raphael et al. (2016) and Davis et al. (2015) used LandTrendr change-detection data to estimate the forest area subject to insects and wildfire between 1993 and 2012 in four physiographic provinces of Washington state, and they found that the total west side disturbance on all non-federal lands in two past decades was roughly 5,114 acres. Extrapolated to 5 decades, the total non-federal area expected to be disturbed is 12,785 acres. Assuming this rate will double over the next 5 decades, the total comes to 25,570 acres over 5 decades. DNR manages 11.6% of all nonfederal lands (RDEIS Table 1.3.1). Assuming natural disturbances are distributed in proportion to landownership, the area of DNR-managed lands expected to be subject to disturbance is at least 2,966 acres over the next 50 years. It is unclear how DNR concluded this area should be only 1,205 raw acres (a shortfall of 1,761 raw acres or 1,074 adjusted acres) using the same data sources. In addition, this is a conservative estimate because mitigation is likely also overestimated by the P-stage model if it assumes forest growth rates are static over the next 50 years. The FEIS should include a detailed description of the methods used to calculate the very consequential variable, epsilon, accounting for both expected habitat loss due to natural disturbances and tree mortality as well as a slower rate of future habitat restoration and succession in the analytical framework. The effectiveness monitoring described in the draft HCP Amendment (p. 19) can directly measure future rates of habitat restoration and succession as it documents changes in habitat conditions over time. If the uncertainty is too great to

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<sup>2</sup> The average acreage adjusted for P-stage and edge is 61 percent of the average, unadjusted habitat acreage (RDEIS p. 4-47).



permit at least ballpark estimates of these variables at this time, the precautionary principle should be applied in favor of the species.

**e) Resilience to human disturbances**

Human-caused disturbances have the potential to take murrelets when they impair nesting behaviors and nest success. The ESA's implementing regulations define two forms of behavior-related take: 'harm' is an act that significantly impairs essential behavioral patterns, including breeding, feeding, or sheltering and 'harass' is an act which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly impair normal behaviors, including breeding, feeding, or sheltering (50 CFR 17.3). Human disturbances are considered significant when they cause a murrelet to delay or avoid nest establishment, flush away from an active nest site, or abort a feeding attempt during incubation or brooding of nestlings (USFWS 2012, RDEIS p. H-9).

Unfortunately, DNR did not fully account for all sources of disturbance take in the RDEIS. In Section 2.2 of the RDEIS, DNR states "The Joint Agencies conducted an analysis of *common, ongoing forest management activities* and incorporated a level of "disturbance take" into the take and mitigation framework for the long-term conservation strategy (refer to Appendix H for more information). The Joint Agencies also identified *new, intensified, or expanded forest management activities* that could create new impacts to marbled murrelets through the life of the 1997 HCP, including disturbing the birds during nesting and breeding season. To address these potential impacts, the action alternatives propose new conservation measures. Most conservation measures apply specifically to marbled murrelet conservation areas" (p. 2-17, emphases added). DNR does not define these two types of forest management activities nor why they would be treated differently in this context. The proposed conservation measures for the action alternatives are then described in detail, leaving one to assume they constitute the new, intensified, or expanded forest management activities:

- Harvest and Harvest-Related Infrastructure and Forest Management
  - Harvest
  - Thinning and related silviculture
  - Forest health treatments
  - Forest roads
  - Harvest-related infrastructure
  - Salvage and recovery
- [Other] Noise-Generating Activities
  - Blasting
  - Crushing and pile-driving
  - Aerial activities
- Recreation

- Other Non-Timber Harvest Land Uses
  - Easements and rights-of-way
  - Leases and contracts
  - Research
  - Emergency operations
- Other Forest Management Activities

After giving the impression that the analytical framework at least partially accounts for disturbance take, DNR appears to contradict itself:

“uncertainties over the nature of murrelet responses to the range of potential disturbances, the location of murrelet nests, and the timing and location of potentially disturbing activities *do not allow quantitative estimates of disturbance impacts* similar to the estimates of habitat quality and quantity used to evaluate the impacts of harvest and development of murrelet habitat. Thus, while the spatial and temporal overlap of potentially disturbing activities with current and future murrelet habitat can be estimated, *the impacts of potential disturbance to that acreage cannot be directly compared or tallied with habitat acreage*” (RDEIS p. 4-77).

In the next paragraph, DNR proceeded to quantify the average habitat disturbed annually during the nesting season for six activity groups (RDEIS Table 4.6.14). “The estimates of annual habitat disturbance are based on the amount of habitat (Appendix H) estimated for the middle of the term of the 1997 HCP, averaged across all alternatives. Cumulative disturbance can be estimated by multiplying acres disturbed annually by 51” (RDEIS p. 4-77). When all six activity groups are combined, this totals 11,384 adjusted acres per year for 51 years or *580,584 total adjusted acres* over the next 51 years! This is equivalent to 18,662 raw acres per year for 51 years or *951,762 total raw acres* over the next 51 years<sup>3</sup>. It is unclear why DNR would conduct this quantitative analysis if these acreages cannot be directly compared or tallied with habitat acreage, which is reflected in their final approach to disturbance take:

“Estimates of acres of inland habitat gained and lost under the alternatives do not take into account the disturbance acres because those impacts do not result in habitat removal. *Instead, the frequency, intensity, and amount of acres impacted from these disturbances informed conservation measures proposed under the action alternatives.* These measures are designed to reduce the risk of these impacts and are more fully described in Chapter 2, Section 2.2.” (RDEIS p. 4-79, emphasis added).

Unfortunately, a number of the proposed conservation measures for the action alternatives that define the forest management practices permitted within LTFC (RDEIS

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<sup>3</sup> The average acreage adjusted for P-stage and edge is 61 percent of the average, unadjusted habitat acreage (RDEIS p. 4-47).

Section 2.2) contain loopholes or weaknesses that could harass or cause harm to nesting murrelets (see detailed list in our DEIS comments). Of greatest concern are permitting harvest-related activities and disturbances in occupied sites or buffers during the breeding season. For instance, (emphases added):

- Under all alternatives, “In occupied sites, occupied site buffers, and special habitat areas, impacts to platform trees from tailholds, guylines, and rigging must be avoided *when possible*.” (RDEIS p. 2-22)
- “Under Alternative H, landings are allowed in occupied sites and occupied site buffers *when no other location is feasible*”, with USFWS consultation if in habitat (RDEIS p. 2-22)
- For Alt. B, E, F, and H: “Creation of edge and audiovisual disturbance may occur as a result of some *road construction through murrelet conservation areas including occupied sites*...Habitat located outside occupied sites is subject to ongoing disturbance impacts from road construction.” (RDEIS p. 4-80)
- Multiple conservation measures rely on daily timing restrictions on forest practices activities, but they only apply during the daily peak activity periods (one hour before official sunrise to two hours after official sunrise and from one hour before official sunset to one hour after official sunset) during the nesting season. Unfortunately, after the chick hatches adults make visits to and from the nest throughout the day and are subject to disturbances from forest practices near the nest *throughout the day* (USFWS 2012; see our DEIS comments).
- Murrelets nesting outside of conservation areas *may be subject to disturbance from blasting and aerial activities* (RDEIS p. 4-81). For Alt H, the vast majority of known occupied sites are located outside of conservation areas across all planning units.

The LTCS cannot merely *reduce* the impacts of human disturbances - it must fully *minimize and mitigate* for disturbance take, especially over such large spatial and temporal scales. DNR discloses that disturbance take is expected under the proposed alternatives, meaning they recognize the conservation measures will not fully compensate for the disturbance impacts associated with forest management:

“Incidental take would likely include take from harvest of murrelet habitat in areas outside long-term forest cover, take from some limited road construction and maintenance in certain occupied sites, and take from edge impacts, roads, and *disturbance from forest management and land use within long-term forest cover*” (RDEIS p. 5-11, emphasis added).

We have a number of other questions and concerns about the methodology presented in RDEIS App. H (Disturbance Impacts) and Attachment 1 (Calculating the Mitigation for Disturbance) and request they be addressed in the FEIS:

- The variable ‘duration’ (how long habitat would be exposed to an activity) is difficult to interpret without ‘frequency’ (in Table 4).
- Within each of the six activity groups, how many acres of disturbance occurred per activity?
- For Group 1 activities (green collecting, precommercial thinning, non-motorized trail use, minor road maintenance)  $\leq 100$  meters from murrelet nests, DNR assumes “no significant response based on duration; minimal to no impacts” (RDEIS p. H-13). We disagree with this assumption. For example, precommercial thinning and minor road maintenance both require the use of heavy machinery and should be included in Group 2 or 4 activities because they can result in potential harassment. Non-motorized trail use can be heavy in popular places and occur many times per day within 100 meters of a murrelet nest. Corvids are often attracted to people who feed them (whether on or off trail), increasing the risk of nest predation, a form of harm. Non-motorized trail use and green collecting should be included in activity Group 3. It’s not only the duration, but also the *frequencies* of the Group 1 activities that better indicate the response/impact in close proximity to murrelet nests, which are likely to be significant (USFWS 2012).

Harvest-related disturbance take has been anticipated since the DNR HCP was first approved. DNR released a memo (dated Oct. 11, 2010) that provided a Draft Preliminary Take Analysis for the Marbled Murrelet as Described under the HCP Biological Opinion vs. Interim Strategy Implementation. The memo reports the area of take due to harvest and *harvest-related disturbance* in the Straits, OESF, South Coast and Columbia Planning Units since 1997. As of 2010, a total of 4,310 acres of non-habitat had been harvested within 0.25 miles of occupied sites. While USFWS (2012) has since revised its in-air disturbance analysis for murrelets, it is clear the expectation was that this source of take would be accounted for over time. In the RDEIS, DNR *estimated* harvest-related disturbance within 100 meters of habitat would be 1,630 adjusted acres per year for the next 51 years, but it appears this estimate served only to *inform* conservation measures (Table 4.6.14, Activity Group 4). All forms of take must be accounted for in DNR’s analytical framework in the FEIS, and the preferred alternative must provide sufficient mitigation to offset all disturbance take to ensure population resilience to human disturbances.

In summary, the RDEIS alternatives vary widely in their ability to meet population biological goals and support recovery of the marbled murrelet in Washington State. As concluded in the PVA (p. 38):

“In sum, alternative B posed the greatest risk to murrelet populations and alternative F (often closely followed by alternative G) provided the greatest capacity to enhance

murrelet populations...alternative F is predicted to have the most positive effect on murrelet populations over the next 50 years because it provides the greatest amount of habitat and carrying capacity with the least edge effects.”

Even better population performance on state lands is possible than presented in the RDEIS. Four additional alternatives (proposed within comments on the DEIS) were considered but not analyzed in detail because they were seen as not economically feasible or within the range of alternatives analyzed in the DEIS (RDEIS p. 2-67). Because these four alternatives recommended zero take (harvest of habitat) and 50-250% greater mitigation than Alt. F, they would have performed better to stabilize and increase the murrelet population in Washington (RDEIS Fig. 2.4.5). Our proposed Conservation Alternative, in particular, should result in a net habitat increase after the first decade, the most gain over time in interior habitat, the highest modeled population gains, and the lowest risk of quasi-extinction relative to all other alternatives. As such, the Conservation Alternative is most likely to make a significant contribution to murrelet population biological goals and support population recovery (USFWS 1997, Raphael et al. 2008). In contrast, through the lens of population biological goals, DNR’s preferred alternative (H) doesn’t measure up:

“Alternatives with a greater loss of higher-quality habitat (Alternatives B, D, and H) have a *greater potential negative impact* to the marbled murrelet population.” (RDEIS p. 5-11, emphasis added).

More can and must be done on DNR-managed lands to contribute to murrelet population stability and recovery as soon as possible. While all alternatives have a net increase in raw habitat after 50 years, *any loss of habitat on state lands in the next decade (on top of expected losses to harvest on private lands and natural disturbances) will virtually ensure that the murrelet population continues to decline rather than begin to stabilize.* We make this conclusion because murrelet abundance is so highly correlated with habitat abundance (Raphael 2006) and little more habitat on federal forests is expected to become restored for at least 30-50 years (Raphael et al. 2016). In its increasingly imperiled state, Washington’s murrelet population cannot afford further habitat losses or it may become functionally extirpated before future, low quality habitat is restored. Absent explicit population recovery criteria at the state or federal levels (UFWFS 1997), the adopted LTCS Alternative could *preclude* murrelet recovery if it does not preserve enough existing and future high quality habitat to meet recovery objectives while it may still be possible. Because existing habitat provides nesting opportunities for murrelets *today*, it is more valuable than lower quality habitat that will develop in coming decades.

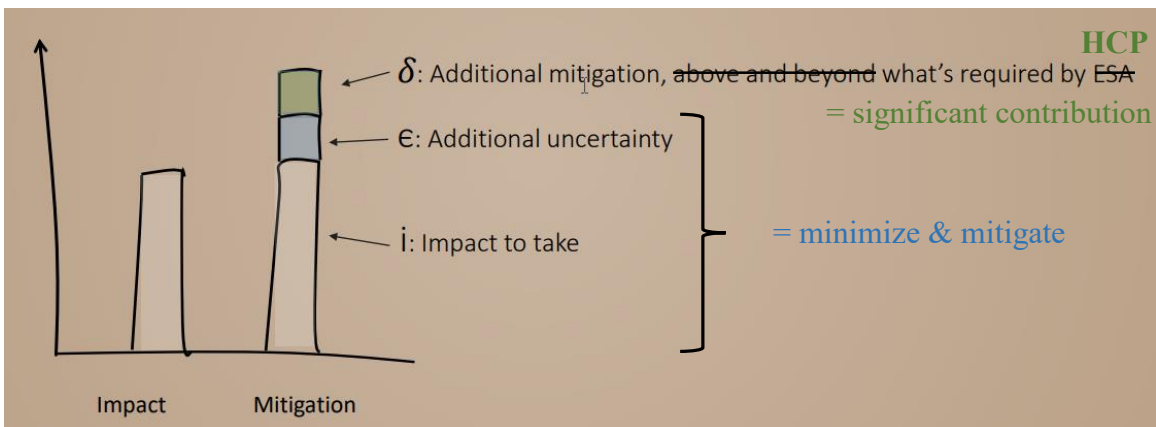
### **3) What Constitutes a Significant Contribution?**

Our coalition strongly disagrees with DNR’s interpretation of its HCP commitments for the marbled murrelet. For example, in its proposed HCPA DNR stated:

“The phrases “help meet the recovery objectives of the U.S. Fish and Wildlife Service” and “make a significant contribution to maintaining and protecting marbled murrelet populations” do not mean that DNR has an obligation to either recover the murrelet or sustain the Washington murrelet population. Rather, these phrases mean that if DNR designs and implements an effective Long-term Strategy, then the habitat thereby provided is likely to contribute to the broader murrelet conservation goals expressed in USFWS’s recovery plan” (HCPA, Section 6.3.5).

While we acknowledge that statewide murrelet recovery will rely on more than DNR-managed forests, we maintain that DNR-managed forests are crucial to murrelet recovery and that the LTCS must be based on biological measures in order to be effective and consistent with DNR’s HCP commitments.

In DNR’s RDEIS objective (#2) and in its Sept. 2017 presentation to the BNR, DNR has characterized its mitigation requirement equivalent to only the impact/take ( $i$ ) plus additional uncertainty/risk due to anticipated natural disturbances ( $\epsilon$ , or epsilon; Fig. 2). This perspective is reflected in DNR’s preferred alternative (H), which fails to support recovery objectives as measured by murrelet population biological goals. As such, Alt. H does not make a significant contribution to maintaining and protecting marbled murrelet populations and thus fails to satisfy DNR’s HCP commitments. The additional mitigation ( $\delta$ , or delta) needed to make a significant contribution is reflected by alternatives that best meet population biological goals (Fig. 2). As detailed above, of the alternatives analyzed in the RDEIS, Alt. F and G performed best in terms of population size and stability, geographic distribution, and natural and human disturbances, and this level of mitigation may represent a significant contribution. The Conservation Alternative would provide even stronger support for murrelet population recovery.



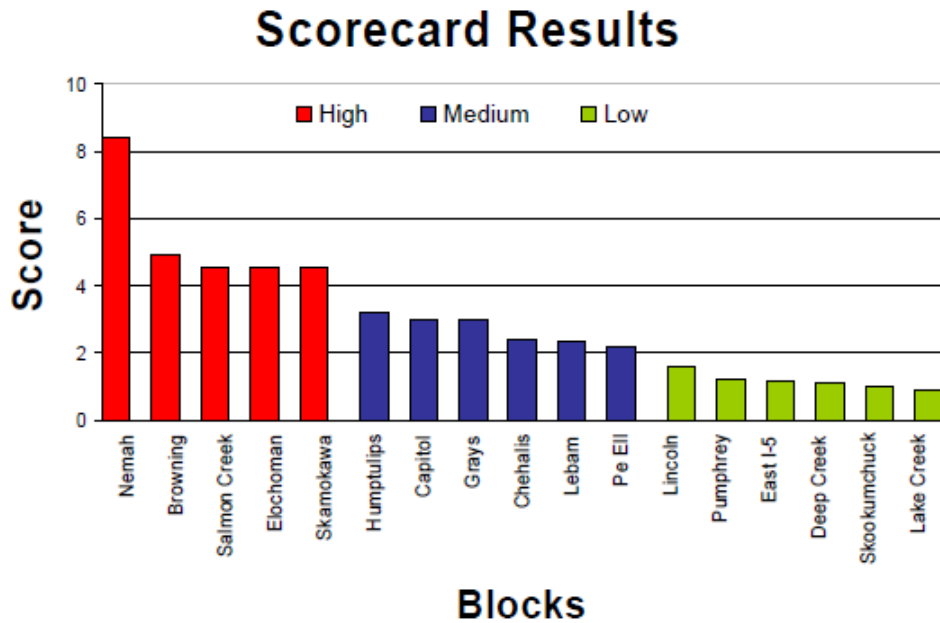
**Figure 2.** Components of mitigation ( $i + \epsilon + \delta$ ). A large enough additional mitigation ( $\delta$ ) is the significant contribution DNR committed to in its HCP in addition to offsetting the impact ( $i$ ) and accounting for future natural disturbances ( $\epsilon$ ; adapted from Sept. 2017 DNR presentation to the BNR).

As described above, several other sources of take and mitigation were either underestimated or not accounted for in the RDEIS. Disturbance take needs to be added to the total take estimate. This includes DNR's estimated ~11,384 adjusted acres per year. DNR underestimated the anticipated loss of habitat due to natural disturbances (epsilon) on lands it manages as only 735 adjusted acres. Using the same data sources, we expect epsilon should be at least 2.5 times larger (~2,966 acres) over the next 50 years. Finally, the mitigation needed for the LTCS to make a significant contribution to population recovery (delta), must also be calculated and added to the equation.

#### 4) Components of a Scientifically-Defensible Conservation Strategy

Consistent with our comments on the LTCS DEIS, we maintain that the Conservation Alternative would *best* support marbled murrelet population biological goals and recovery on DNR-managed lands. Unfortunately, DNR stated this approach was not a feasible alternative because it exceeded the size of Alt. F in LTFC (RDEIS p. 2-67). Applying this constraint defined by DNR, we propose the following elements are needed in a LTCS to support population recovery:

1. All occupied sites (including those delineated in the Science Team Report)
2. Occupied site buffers (328 feet [100 meters] minimum)
3. All habitat with a P-stage value of 0.47 or higher throughout the analysis area
4. In the OESF HCP Planning Unit, all current habitat (P-stage greater than zero in decade zero)
  - a. Outside of the OESF, meter the harvest of low quality habitat for one decade.
5. Habitat identified by the Washington Department of Fish and Wildlife during the 2016 DEIS comment period
6. Custom combination of SHA, EA and MMMA from Alt. F, G, and H (Table 2) based on the following principles:
  - a. Capture as much existing habitat as possible contiguous or in close proximity with occupied sites, especially where it is not in existing conservation acres (ECA).
  - b. Lowest priorities were where non-habitat, existing conservation areas were buffered by security forest and/or where there is no known occupancy.
  - c. *Isolated* occupied sites appear to contribute relatively more in SWWA, making larger Conservation Areas a higher priority there (Raphael et al. 2008).
  - d. *Isolated* occupied sites make important contributions to geographic distribution throughout all planning units and high value landscapes.
  - e. Science Team scorecard results by geographic planning block in SWWA (Fig. 3).



**Figure 3.** Scorecard Results by Geographic Planning Block in SWWA (Raphael et al. 2008, Figure 3-4).

**Table 2.** Combination of SHA, EA and MMMA from Alt. F, G, and H. Names correspond with labels in RDEIS App. F.

Strategic Location	Name	F	G	H
OESF	Clallam		EA	
	Dickodochtedar 1	MMMA		
	Dickodochtedar 2	MMMA		
	Reade Hill		SHA	
	Goodman Creek 1	MMMA		
	Goodman Creek 2	MMMA		
	Goodman Creek 3	MMMA		
	Kalaloch 2	MMMA		
	Kalaloch 3	MMMA		
	Queets		SHA	
Straits	North Crescent West		SHA	
	North Crescent Middle		SHA	
	North Crescent East		SHA	
North Puget	101		MMMA	
	102		MMMA	
	Deer Creek North		SHA	
	Deer Creek South		SHA	
	104		MMMA	
	105		MMMA	
	106		MMMA	
	109		MMMA	



<b>Strategic Location</b>	<b>Name</b>	<b>F</b>	<b>G</b>	<b>H</b>
North Puget, cont.	113		MMMA	
	114		MMMA	
	115		MMMA	
	116		MMMA	
	117		MMMA	
	119	MMMA		
	120	MMMA		
	Sumas N		SHA	
	Sumas			SHA
	Van Zandt		SHA	
	Skookum Cavanaugh		SHA	
	Ho		SHA	
	Hazel West		SHA	
	North Mtn		SHA	
	Marsh		SHA	
	Lake Shannon West			SHA
SWWA	Salmon Creek 1	MMMA		
	Salmon Creek 2	MMMA		
	Salmon Creek 3	MMMA		
	Skamokawa 1	MMMA		
	Elochoman 1		EA	
	Elochoman 2		EA	
	Browning 1	MMMA		
	Browning 2	MMMA		
	Browning 3	MMMA		
	Browning 4	MMMA		
	Browning 5	MMMA		
	Chehalis 2	MMMA		
	Lower Chehalis		SHA	
	Lebam	MMMA		
	Nemah 1	MMMA		
	Nemah 2	MMMA		
	Nemah 3	MMMA		
	Nemah 4	MMMA		
Nemah 5	MMMA			
None	Moclips			SHA
	Humptulips 2	MMMA		
	Humptulips 3	MMMA		
	Humptulips 4	MMMA		
	Humptulips 5	MMMA		
	Grays 1	MMMA		
	Grays 2	MMMA		
	Grays 3	MMMA		
	Grays 4	MMMA		
	Enumclaw		SHA	
	Tahoma		SHA	

### **a) Thinning**

A scientifically-defensible LTCS would also have conservative (precautionary) thinning prescriptions in order to avoid impacting murrelet reproductive success. The best available science on this specific topic (Raphael et al. 2018) recommends the following:

“Taken as a whole, research to date suggests that...managing forest structure to reduce nest predation risk should be approached with consideration of local factors that might affect predator densities (e.g., overstory thinning that might result in increased abundance of berry-producing early-seral shrubs that attract corvids)” (p. 336).

“Active management actions could include thinning in plantations to accelerate growth of potential nest trees and development of nesting platforms, but care will be needed to prevent simultaneously increasing numbers of nest predators attracted to more diverse understory conditions” (p. 337).

The conditions for thinning listed in RDEIS Table 2.2.5 should reflect these important concepts. For example, in occupied site buffers, thinning should only be allowed to enhance or maintain security forest with windfirm *and closed* canopies. Of the four alternatives with SHAs, only Alt. H allows thinning within occupied site buffers, which may increase the risk to nesting murrelets. This also assumes occupied site buffers are non-habitat by definition, or else they would be part of the occupied site itself. This is inconsistent with the respective column for MMMA, which states thinning is “Allowed to enhance marbled murrelet *habitat* with windfirm canopies” (emphasis added) and Table 2.4.1. The goal of all thinning harvests within all Conservation Areas (EA, SHA, and MMMA) should be a 100% habitat target over time as soon as possible, and any harvest-related disturbances less than 100 meters from an occupied site should be prohibited during the breeding season. If these conditions cannot be met, then thinning should not be permitted in or around these areas in order to avoid impacting murrelets.

### **b) Adaptive management**

With respect to monitoring, we found neither the draft HCP Amendment nor the RDEIS is consistent with requirements outlined in the HCP or the HCP Handbook. The RDEIS (p. 1-14) acknowledges that the NEPA record of decision must include a monitoring and enforcement program for adopted mitigation measures (40 CFR 1505.2), and according to the HCP Handbook: “our compliance monitoring has to be planned ahead of our permit decision.” (USFWS and NOAA Fisheries 2016, p. 17-3). We found no other references to a monitoring program in the RDEIS.

The draft amendment does not clearly incorporate all the monitoring provisions of the HCP. Section 6.4 cites Chapter V of the HCP and briefly describes two types of monitoring DNR intends to conduct: effectiveness monitoring and validation monitoring.

In its HCP, DNR *also* committed to conduct implementation, or compliance, monitoring in all six planning units:

“Implementation monitoring will also periodically describe changes in landscape-level habitat conditions in areas managed to provide spotted owl and murrelet habitat. Such monitoring will be primarily accomplished through DNR's planning and tracking, and geographic information systems. Statistically valid sampling of management activities will be conducted to evaluate the reliability of information stored in these databases.” (DNR 1997 p. V.2 and Table V.1)

While implementation monitoring is not described explicitly in the draft amendment, we note the possibility that DNR may have interpreted it as such:

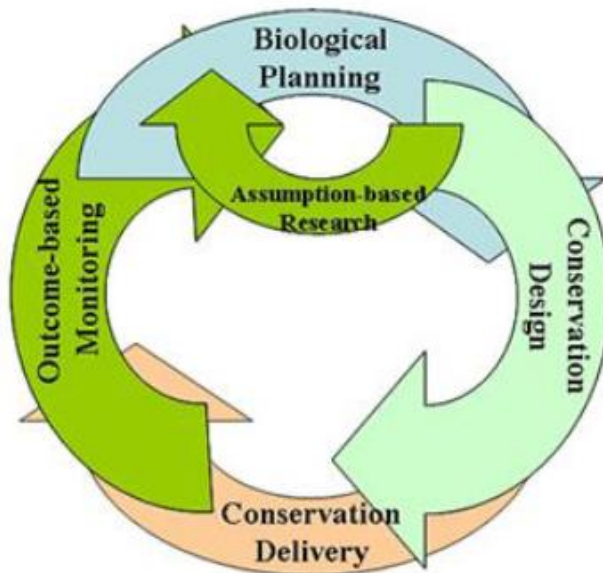
“This Amendment anticipates the loss of 11,300 adjusted acres of habitat over the 50 years that remain in the initial 70-year term of the HCP (DNR and USFWS 2018). This take is mitigated by the Long-term Strategy, which includes an anticipated gain of 12,100 adjusted acres of habitat over the same period (DNR and USFWS 2018). The net gain in habitat on DNR-managed HCP lands over the next 50 years is anticipated to be 700 adjusted acres. *These figures set a clear standard for monitoring incidental take and mitigation under the Long-term Strategy*” (p. 10, emphasis added).

The HCP also describes the expected content and timing of monitoring procedures:

“These procedures will identify specific assumptions or hypotheses to be tested, data to be collected, sampling intensity and frequency, field and analysis methods, budgets, and timelines...Monitoring procedures will be prepared by a team of scientists from DNR, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service. *Implementation, effectiveness, and validation monitoring procedures will be completed and reviewed before forest management activities consistent with a conservation strategy are first undertaken.*” (p. V.4, emphasis added).

We suggest this requirement may be satisfied by implementing Chapter 6 of the 2008 Science Team report: Concepts in Adaptive Management (Raphael et al. 2008), with the exception that the procedures should be completed and reviewed *before* the adoption of the final LTCS. Monitoring is a fundamental component of adaptive management and one of the keys to developing a successful conservation strategy (Fig. 4; USFWS and NOAA Fisheries 2016, p. 9-4):

1. having an integrated framework to develop biological goals and objectives,
2. developing a monitoring framework to measure results,
3. developing an evaluation process to assess results, and
4. outlining a systematic learning process to use what will be learned to improve future decisions.



**Figure 4.** Strategic Habitat Conservation as applied to HCPs (USFWS and NOAA Fisheries 2016, Fig. 9.0a)

A robust monitoring and adaptive management program is essential to the success of the LTCS because of inherent uncertainties in the links between forest management and marbled murrelet ecology and demography. There are also related uncertainties in the take and mitigation estimates, such as habitat selection, forest growth and future habitat restoration, and disturbance impacts (RDEIS p. 4-5). The Science Team cautioned:

“These uncertainties carry over to projected outcomes of the LTCS and *could result in the LTCS failing to perform as expected for marbled murrelet conservation*. Thus, adaptive management offers potential improvements to performance of the strategy over time for conservation and policy objectives” (Raphael et al. 2008, p. 6-3, emphasis added).

Consistent with the 1997 HCP and HCP Handbook, the Final HCP Amendment and FEIS need a monitoring and adaptive management program with measurable biological goals and objectives, provisions for plan reviews, research to test assumptions and the effectiveness of management actions, and corrective actions as needed to meet mitigation targets. This program should include adequate provisions for compliance, effectiveness and validation monitoring (OESF) as well as an alternative, reliable funding source that is not subject to the actions of the legislature (HCP p. V.4).

## 5) Flaws in the Analytical Framework

We are concerned about a several assumptions made in the analytical framework as applied to the RDEIS analyses. First, similar to the 2016 DEIS, for the RDEIS a P-stage value of 1 was assigned to all acres within each occupied site, regardless of the forest condition of those acres (RDEIS p. S-3). In reality, some occupied sites include areas of non-habitat (P-stage = 0), an area totaling ~9,000 acres across the analysis area<sup>4</sup>. For the PVA in the RDEIS, the *actual* P-stage value of all acres within occupied sites were input into the model, and the growth of forests in occupied sites was also modeled over the 5-decade analysis period. “This revised approach more precisely reflects estimated habitat quality and permits increases in carrying capacity to occur at occupied sites through forest maturation as forest stands transition into higher P-stage classes.” (PVA p. 16). In the FEIS, DNR should either revise the RDEIS values of occupied sites consistent with the PVA or provide clear rationale for not doing so.

Second, in their comments on the DEIS, WDFW reported ~1,500 acres of high quality murrelet habitat they had ground-truthed and that was misclassified by the P-stage model. About 1,300 of these acres were already captured in ECA, and the remainder of the area was included as murrelet-specific conservation acres *only* for Alt. G (RDEIS Table 2.3.7). In the DEIS, the P-stage model underestimated the value of these stands, in some cases as non-habitat (RDEIS p. 2-51). Although DNR conducted an extensive P-stage data update as part of the RDEIS, DNR reported to us that the WDFW polygons were *not included in the take and mitigation calculation*. We believe the WDFW habitat polygons should be in the P-stage model and included in the take and mitigation calculations for all alternatives. If this is not fixed in the FEIS, DNR should clearly explain its rationale for ignoring this expert source of habitat quality data and how take and mitigation values are affected as a result.

Third, DNR may be overestimating the benefits to murrelets and the socioeconomic impacts of Alt. F in its treatment of low quality spotted owl habitat. The 567,000 acres of existing conservation areas (ECA) includes ~113,000 acres of low quality owl habitat common to all alternatives and ~72,000 acres of low quality owl habitat specific *only* to Alt. F (RDEIS Table 2.3.6). When we inquired why not all low quality owl habitat was included the ECA for all alternatives, DNR responded as such:

“Low quality habitat is not included as existing conservation because the 1997 HCP northern spotted owl conservation strategy envisions a shifting mosaic of spotted owl habitat. The alternatives for a murrelet long-term conservation strategy envision a preserve-based strategy of conservation areas and protection of individual stands. Protecting low quality spotted owl habitat in a similar preserve based system constitutes a signification change in the implementation of the northern spotted owl conservation strategy and [is] incompatible with the definition of existing conservation as “DNR-managed lands that are already deferred from harvest or otherwise conserved, meaning

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<sup>4</sup> Based on PVA input data shared by DNR: “mm\_pva\_input\_2018\_04\_26.xls”

they are subject to existing policy or legal constraints and are excluded from variable retention harvest planning under the sustainable harvest calculation.” The change in management of low quality spotted owl habitat from a shifting mosaic to preserve-based strategy is contemplated in Alternative F.”

While this explanation makes sense biologically, we believe such a preserve-based strategy would require an additional HCP amendment for spotted owls and makes Alt. F appear less favorable as a result. More importantly, we are concerned that including low quality owl habitat where it does not directly or indirectly benefit marbled murrelets unless they are murrelet (P-stage) habitat or security forest will unfairly overinflate the socioeconomic impacts of Alt. F relative to other alternatives. DNR should either treat low quality spotted owl habitat the same for all alternatives in the FEIS or explain how its current approach does not bias the analysis.

#### **6) Conclusion: State lands are crucial to avoiding extirpation and supporting recovery of the marbled murrelet in Washington State**

Whether or not the marbled murrelet persists within western Washington may very well depend on the degree to which the LTCS contributes to its recovery. This has been recognized at least since the 1997 Recovery Plan, which stressed that HCPs on non-federal lands “*should incorporate the best biological information about the recovery needs of the marbled murrelet and actually contribute to the conservation of the marbled murrelet*” (p. 137-138, emphasis added). Despite its HCP commitment to make a significant contribution to murrelet conservation and to help meet recovery objectives, the LTCS alternative currently preferred by DNR fails to do so. As we have demonstrated above, how well the LTCS contributes to a suite of population biological goals (population size, stability, geographic distribution, and resilience to natural and human disturbances) will directly affect the ability of the statewide population to recover.

Providing sufficient high quality, interior habitat on DNR-managed lands is especially significant in the context of the continuing habitat loss on private lands and delayed habitat restoration on federal lands. Ever since the Northwest Forest Plan was implemented, scientists have understood that “Nesting habitat management on nonfederal lands will affect viability of murrelets on federal lands” (Raphael et al. 2018). If federal habitat protections were weakened in the future, then state forests would become even more crucial for stabilizing the murrelet population. In this context and given the murrelet’s increasingly imperiled status, a scientifically-defensible LTCS that sufficiently offsets all sources of take is imperative to making the significant contribution to conservation the DNR committed to. Supporting marbled murrelet population biological goals and recovery on DNR-managed lands would be *best* achieved by the Conservation Alternative or possibly achieved by the set of components we proposed that are constrained by the range of DEIS alternatives. We request that DNR analyze both of these approaches in the FEIS so this information can be a part of the final LTCS decision-making process.

Thank you for considering our comments and concerns, and please feel free to contact us with any questions.

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# Attachment B

## Comments on Socioeconomic Analysis

Prepared by Ernie Niemi, Natural Resource Economics, Inc., edited by Paula Swedeen, Conservation Northwest.

### I. Core Comments

The Washington Department of Natural Resources (DNR) and the U.S. Fish and Wildlife Service (USFWS) have released, and asked for public comments on, their Revised Draft Environmental Impact Statement (RDEIS) for the Long-term Conservation Strategy for the Marbled Murrelet (LCSMM). This document provides comments on the “Socioeconomics” sections (3.11 and 4.11) of the RDEIS and on other sections that have implications for evaluating the adequacy of the RDEIS’s assessment of socioeconomic impacts.

The “Socioeconomics” sections have multiple, severe deficiencies that render the RDEIS grossly incomplete, insufficient, and biased as a source of information decision-makers and the public need to understand fully the potential socioeconomic consequences of the Proposed Action. Because of these deficiencies, the RDEIS falls far short of satisfying the agencies’ legal and procedural obligations applicable to the RDEIS. The deficiencies occur because the agencies excluded readily available information that strongly indicates the Proposed Action, relative to other alternatives with less logging, will:

- Provide less, not more, long-term certainty for timber harvest and other management activities on forested state trust lands, as required by commitments in the 1997 HCP and DNR’s fiduciary responsibility to the trust beneficiaries as defined by law.
- Impose greater harm on the people of Washington and on people outside the state.
- Impede sustainable economic development in Washington.
- Generate greater risk for each trust.
- Provide fewer opportunities for adopting feasible, practical, and cost-effective actions that are likely to be successful and can be sustained throughout the life of the 1997 HCP.

To correct the deficiencies and satisfy their obligations, the agencies must discard the “Socioeconomics” sections of the RDEIS and start anew. They must conduct a socioeconomic analysis that provides a comprehensive, unbiased assessment of each alternative’s benefits, costs, risks, and impacts on sustainable economic development. They also must clearly apply the findings from the new socioeconomic analysis in a new evaluation of alternatives, select as their preferred alternative the one most likely to satisfy the need for the proposed action and satisfy their legal obligations, and explain their reasoning.

### II. Failure to Satisfy the Agencies’ Obligations

In preparing the “Socioeconomics” sections of the RDEIS, the DNR and USFWS had numerous obligations to satisfy legal and administrative requirements and to prepare

this section in a manner consistent with widely accepted professional standards of economic analysis applicable to the document. The agencies failed to satisfy many of these obligations. Most notably, they failed to satisfy obligations tied to:

- Need for the proposed action
- National Environmental Policy Act (NEPA)
- *Principles, Requirements and Guidelines for Water and Land Related Resources Implementation Studies (PR&G)* and related documents.
- 1997 HCP.
- State Lands.
- Identify and evaluate probable impacts, alternatives and mitigation measures, emphasizing important environmental impacts and alternatives, as required by SEPA.

#### **A. Need for the proposed action**

The RDEIS offers this statement of the proposed need for the action it is proposing to take:

##### ***Need for the Proposed Action***

###### ***DNR***

*DNR needs to obtain long-term certainty for timber harvest and other management activities on forested state trust lands, consistent with commitments in the 1997 HCP and DNR's fiduciary responsibility to the trust beneficiaries as defined by law.*

###### ***USFWS***

*USFWS' need is to fulfill its legal obligations under Section 10(a)(1)(B) of the Endangered Species Act in response to DNR's request to amend its incidental take permit for the marbled murrelet long-term conservation strategy.*

The RDEIS does not, however, convincingly demonstrate that the preferred alternative will, in fact, satisfy this need. It also does not demonstrate that the preferred alternative will do more to satisfy the stated need than alternatives that entail less logging. Instead, the RDEIS provides evidence that strongly suggests the preferred alternative is not the best for satisfying this need.

This evidence includes numerous risks that the RDEIS says will become more intense with more logging. The greater risks have real, meaningful consequences. For example, all else equal, more logging on State Lands will increase the likelihood that:

- The state's marbled murrelet populations will decline.
- Washington's greenhouse-gas (GHG) emissions will exceed targets associated with both its legislatively mandated targets established in 2008 of 25% below 1990 levels by 2035 and 50% below 1990 levels by 2050, and the 2016 Paris Agreement's recognition that holding average global warming to 1.5°C is necessary to avoid unacceptable risks of catastrophic outcomes. Logging-related emissions are a major component of Washington's overall emissions (see below), and the state likely can't reach targeted levels without substantial net reductions in these emissions. Each year of increased logging on State Lands will push the state further from its obligations relative to the 1.5°C target and contribute to

non-linear increases in climate-risks. Thus, each year of increased logging on State Lands likely will trigger heightened political and legal actions to reduce logging in subsequent years. To offset the non-linear effect on climate of the emissions from each year in which DNR increases logging by X, it will have to reduce logging in subsequent years by more than X, so that initial efforts to implement the preferred alternative will trigger a decline in long-term logging and trust revenues.

- State Lands will contribute to unacceptable environmental and economic outcomes. These outcomes might materialize as increased logging on these lands intersects with changes in climate – more intense winter storms and hotter summers, for example – to trigger more landslides and reductions in suitable habitat for salmon and other cold-water fish. As these and similar outcomes materialize, DNR will face heightened political and legal pressure to reduce logging and undertake expensive actions to correct the damage.

Despite recognizing the biophysical risks associated with increased logging, the RDEIS makes no effort to assess their potential socioeconomic and forest-management consequences. It fails to tell readers that these risks erode the certainty DNR needs for future timber harvest and related forest-management activities, and diminish USFWS' ability to satisfy its obligations under Section 10(a)(1)(B) of the Endangered Species Act. The agencies can correct this deficiency only by preparing a completely new socioeconomic analysis.

## **B. NEPA**

The RDEIS recognizes [p. 1-7] the agencies' obligation to fully satisfy NEPA's requirements, with this statement

*The purpose of NEPA is to promote analysis and disclosure of the environmental issues surrounding a proposed federal action. The scope of NEPA goes beyond that of the Endangered Species Act by considering the impacts of a federal action not only on fish and wildlife resources, but also on other aspects of the environment such as water quality, cultural resources, recreation, and other pertinent areas, depending on the scope of the action. The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences and take actions that protect, restore, and enhance the environment.*

The statement, however, does not capture the analytical standards the agencies must meet in developing an environmental impact statement (EIS) for the Long-Term Conservation Strategy. NEPA states that federal agencies "to the fullest extent possible" must provide a detailed EIS (42 U.S.C. 4332). In applying this standard, courts have held that, at a minimum, NEPA imposes on an agency a duty to take a "hard look at environmental consequences" (*Natural Resources Defense Council v. Morton*, 458 F.2d 827, 838 (D.C. Cir., 1972)) and a "requirement of a substantial, good faith effort at studying, analyzing, and expressing the environmental issues in the EIS and the decision making process" (*Natural Resources Defense Council v. Morton*, 458 F.2d 827, 838 (D.C. Cir., 1972)). A sufficient EIS must provide good faith analysis and sufficient information to allow a firm basis for weighing the risks and benefits of a proposed action (*County of Suffolk v. Secretary of the Interior*, 562 F.2d 1368 (2nd Cir. 1977), cert. denied, 434 U.S. 1064 (1978)).

In short, NEPA requires the agencies to use accurate information, consider all the relevant factors, and present a full and unbiased picture of the economic impacts of each alternative it considers. They then must demonstrate how this information justifies selection of the agencies' preferred alternative. These standards specifically apply to the socioeconomic components of a NEPA document when an agency uses an alternative's economic impacts as justification for selecting it as the preferred alternative. In such circumstances, the agency must prepare an EIS that fully describes and compares the economic impacts of all alternatives.

The RDEIS clearly uses its economic impacts as justification for selecting the preferred alternative, but it fails to present a full and unbiased picture of the economic impacts of that alternative and compare them to the impacts of the other alternatives. This statement captures the agencies' use of economic impacts to justify selection of the preferred alternative:

*Socioeconomic impacts in this analysis concern the relationship of DNR-managed land to local economies, including county revenues, state trust revenues, employment, and local tax generation. These impacts were measured both qualitatively, by considering how activities on DNR-managed land contribute broadly to the local economy, and quantitatively, by attributing assumed values to the acres that would be available for harvest under each alternative.*

In other words, the RDEIS's socioeconomic analysis focuses solely on potential impacts tied to the timber industry. More logging equates to more good impacts. Other impacts, such as changes in the supply and value of ecosystem services, impacts on climate change, and socioeconomic risks, receive little attention, if any, in the document, and they apparently played no role in the agencies' evaluation of alternatives and selection of the Proposed Action. Ignoring impacts not directly linked to the timber industry does not constitute a "hard look" at the alternatives. By disregarding the economic importance of impacts on the ecosystem, climate change, and non-timber sectors of the economy, the socioeconomic sections of the RDEIS do not come anywhere close to satisfying the obligation to provide a detailed description of environment impacts "to the fullest extent possible."

### **C. Principles, Requirements and Guidelines for Water and Land Related Resources Implementation Studies (PR&G) and related documents.**

The *Principles, Requirements and Guidelines for Water and Land Related Resources Implementation Studies (PR&G)* governs how federal agencies should evaluate projects and land-management decisions that affect the nation's water resources.<sup>1</sup> The PR&G is supported by *Interagency Guidelines* developed by the Council on Environmental Quality and, for agencies in the Department of Interior, by its *Agency-Specific Procedures*. Combined, these documents define the administrative requirements and professional standards applicable to the RDEIS's analysis of socioeconomic impacts.

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<sup>1</sup> The PR&G generally calls for a comparison of the benefits and costs of an alternative and selection of the alternative with the greatest net benefits. It excludes ESA consultations and take permits from this net-benefit requirement, but this exclusion does not exempt the USFWS from other requirements that govern the content of socioeconomic analyses included in NEPA documents.

These requirements and standards include:

<b>Evaluation Framework</b>	Apply an ecosystem services approach, and consider both quantified and unquantified information when determining which alternative will maximize net public benefits.
<b>Best Available Science</b>	Utilize the best available science, data, analytical techniques, procedures, models, and tools in hydrology, engineering, economics, biology, ecology, risk and uncertainty, and other fields.
<b>Collaboration</b>	Collaborate fully with other affected agencies and with Tribal, regional, state, local, and non-governmental entities, as well as community groups, academia, and private land owners (stakeholders).
<b>Risk and Uncertainty</b>	Identify, describe, and consider risk and uncertainty in a manner that is clear and understandable to the public and decision-makers, accounting at least for the risks of climate change, risks from and to future land use, and risks that accompany adaptive management.
<b>Water use</b>	Consider the impacts on both water efficiency and quality and the tradeoffs, if any, between the alternatives.
<b>Design of Alternatives</b>	Formulate alternative plans, strategies, or actions in a systematic manner to ensure that a range of reasonable alternatives is evaluated, and that each alternative considers four evaluative criteria: completeness, effectiveness, efficiency, and acceptability.
<b>Decision-Making</b>	Aim to significantly increase the transparency of the planning and implementation process with respect to prior, similar planning processes.
<b>Plan Selection</b>	Justify any recommendation for federal investments in water resources to address identified water resources needs by the public benefits when compared to costs. They must fully document the basis for their selection of the recommended plan, considering the extent of both monetized and non-monetized effects.

The RDEIS does not satisfy these requirements and standards. It does not take an ecosystem-services approach for describing environmental and socioeconomic impacts. Indeed, a word search of the document for the term, “ecosystem services” comes up empty. Instead of beginning their analysis by identifying services that would be affected and describing their socioeconomic importance, the agencies focused on logging. While impacts to jobs and revenue related to logging need to be analyzed given their role in providing income to trust beneficiaries and for one important sector of the economy, just focusing on this set of impacts misses other important dynamics of socioeconomics. This narrow focus is a prime example of the type of approach that the PR&G seeks to correct.

#### **D. 1997 HCP**

The RDEIS recognizes [p. 1-4] that the 1997 HCP requires the agencies to fully analyze and show the socioeconomic reasons why the agencies chose the Proposed Action. The preceding paragraphs demonstrate that the RDEIS ignores important socioeconomic impacts. Hence, comparing the RDEIS against the HCP indicates that the agencies either failed to comply with the HCP’s requirements or they based their selection of the Proposed Action on an incomplete, biased examination of socioeconomic impacts.

## E. State Lands

The RDEIS recognizes [p. 1-4 – 1-5] that laws governing State Lands require the agencies to manage these lands to provide not just revenue but also benefits other than revenue to the people of Washington:

Shortly before Washington became a state in 1889, Congress passed the Omnibus Enabling Act of 1889 (Volume 25, U.S. Statutes at Large, Chapter 180, p. 676) to grant the territory more than 3 million acres of land as a source of financial support for named beneficiaries, primarily for public schools and colleges. Unlike states that sold many of their federally granted lands early in the 1900s, Washington retained ownership of most of these lands and continues to manage them to provide revenue and other benefits to the people of Washington (DNR 2006). These lands are called State Lands.

[underline and bold emphasis added]

The RDEIS does not come close to describing these “other benefits.” It does not describe the economic importance of these “other benefits.” It does not describe how the different alternatives would affect the value of these benefits or their sustainable availability in the future.

## F. SEPA

The RDEIS recognizes [p. 1-7] DNR’s obligation to identify and evaluate probable impacts, alternatives and mitigation measures, emphasizing important environmental impacts and alternatives. The preceding paragraphs demonstrate that the RDEIS ignores the economic dimensions of important environmental impacts, such as the value of logging-related impacts on ecosystem services, and the economic importance of logging-related increases in risks, such as those associated with climate change, landslides, and salmon populations. The RDEIS also fails to identify and fully evaluate the probable, negative impacts of increased logging on the long-term certainty for timber harvest and other management activities on forested state trust lands and, hence, the long-term certainty of DNR’s ability to satisfy its fiduciary responsibility to the trust beneficiaries.

In sum, the RDEIS’ treatment of socioeconomics demonstrates that the agencies failed to satisfy their obligations as the managers of important publicly-owned assets. These obligations reflect both legal requirements and the broader responsibilities of resource stewardship. Failure to satisfy them leaves Washingtonians, represented by DNR, and all Americans, represented by USFWS, without a comprehensive, unbiased description of the socioeconomic impacts of the different alternatives, the rationale for selecting the preferred alternative, and the potential risks that will accompany implementation of the preferred alternative. Indeed, the agencies didn’t seriously try to satisfy these obligations. Instead of taking a broad view that encompasses all potential impacts, such as changes in ecosystem services, the RDEIS begins and ends with a narrow focus on the timber industry.

### III. The Agencies Failed to Take a Hard, Accurate Look at the Socioeconomic Impacts of the Alternatives



The requirements and standards described in the previous section all point to this outcome: the RDEIS should clearly describe all the socioeconomic impacts of each alternative and demonstrate how the impacts of the preferred alternative will differ from those of the other alternatives. The relevant impacts include much more than the level of activity in and related to the timber industry resulting from logging on State Lands. Particularly important, the agencies should have described potential increases (benefits) and decreases (costs) in the value of ecosystem services derived from or affected by forests on State Lands. They also should have fully described the economic importance of biophysical risks identified in the RDEIS.

DNR and USFWS had ready access to information that would have supported an assessment of the net benefits of each alternative. Hence, it appears their failure to complete and explain such an assessment stems either from ignorance about this information or from a deliberate decision to disregard it. Particularly important, the agencies failed to identify, describe, and evaluate numerous costs (social costs) that would be borne not by DNR, its logging contractors, or the trusts, but by society as a whole. These costs would accrue without compensation to workers, families, businesses, and communities, reducing their future well-being as well as their ability to progress toward a sustainable, better economic future. These costs will materialize throughout Washington and in other states, and other nations. It is reasonable to anticipate that those who would bear these costs will take actions to restrict and prevent them in the future.

This failure to describe all the potential social costs leaves decision-makers and the public unable to know if the Proposed Action's social costs, in total, will be large enough to exceed its benefits. If so, then implementing the Project would decrease, not increase, the well-being of the people of Washington as a whole. The failure to describe and evaluate the social costs also makes it impossible for different groups to determine how and when the Proposed Action's social costs will fall on them. As a consequence, the RDEIS leaves them without the information they need to seek appropriate compensation for those costs and to determine what steps they might take to attenuate the harm from costs that they can't avoid.

The many social costs ignored by the RDEIS fall into four general categories, which result from the agencies failure to provide an accurate description of the economic importance of logging-related:

- Impacts on ecosystem services provided by State lands.
- Emissions of greenhouse gases.
- Risks.
- Local economic impacts.

**A. *Failure to describe the socioeconomic importance of logging-related impacts on ecosystem services provided by State Lands***

The following discussion demonstrates that the RDEIS fails totally to describe the differences among the alternatives in their impacts on ecosystem services derived from Washington's forests, including State Lands. Without explanation, DNR arbitrarily chose to ignore these impacts, and their socioeconomic importance, despite recognizing

that the failure “ carries with it the risk of ignoring their deterioration and loss, until a crisis occurs.”

The discussion also illustrates information DNR could have used to describe the socioeconomic importance of these impacts on ecosystem services. This part of the discussion focuses first on water-related ecosystem services, and then on other services.

### 1. DNR failed to describe impacts on ecosystem services

DNR has openly recognized the existence of at least some of the ecosystem services, provided by Washington’s forests including the State Lands, that make important contributions to the well-being of the people of Washington. For example, it has a document that briefly identifies some of the ecosystem services from forest watersheds:<sup>2</sup>

*Nature provides communities with myriad ecosystem services; ranging from fresh drinking water to pest control to areas for recreation. In 2010, the Washington Legislature defined ecosystem services as “benefits that the public enjoys as a result of natural processes and biological diversity.... Streamside (riparian) forests are “living filters” that absorb sediments and transform pollutants before they reach drinking water sources. Forests also soak up stormwater and provide shade for streams that keeps water cool, which is critical to the health of salmon and other aquatic organisms.*

In this document, DNR also recognizes that protecting and enhancing a forest’s ability to provide services can yield substantial economic benefits:

*Watershed restoration and protection can significantly reduce or prevent downstream water management costs. Cleaner water generally requires less time- and energy-intensive water treatment for public consumption. Providing protection to upstream salmon habitat ensures higher rates of survival, which supports commercial and recreational fisheries. Improving wetland ecosystem functions regulates stormwater and prevents flood damage occurrences downstream.*

Moreover, this same document recognizes that “Failure to adequately account for the benefits of nature carries with it the risk of ignoring their deterioration and loss, until a crisis occurs.” Accordingly, it describes DNR’s recognition of the contributions forest ecosystems make to human well-being and its dedication toward protecting and enhancing the economic these benefits:

***Economic Value.** DNR is assisting in a broad effort toward ecosystem services awareness. Building this awareness will help governments, businesses, and the public recognize nature’s true value and result in their investing in ecosystem protection, and in turn, promoting human wellbeing. DNR is enthusiastic about assisting in both protecting and enhancing the benefits of ecosystem services, and rewarding owners of forests and farms who can help provide these benefits. [bold emphasis in original]*

Some of this enthusiasm carries over to the RDEIS. In the introduction to Section 3.11 Socioeconomics, which purportedly describes the socioeconomic elements of the environment that will be affected by the Proposed Action, it states (p. 3-56):

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<sup>2</sup> DNR. 2012. “Forest Watershed Ecosystem Services.”

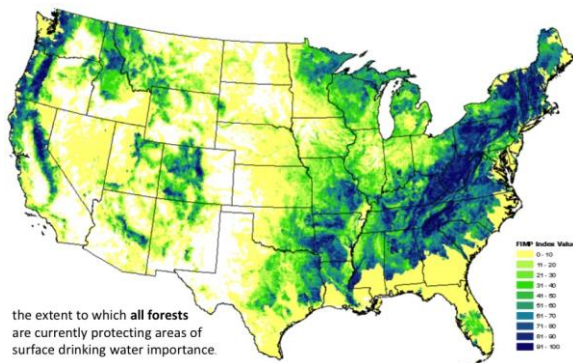
*DNR-managed forestland plays an important role in the local economies of 18 counties in the analysis area. Changes to how much land is available to harvest or use for other ecosystem services can impact these local economies. [bold emphasis added]*

Thereafter, however, the RDEIS makes no mention of ecosystem services. It does not describe the ecosystem services that would be affected. It does not describe how these services will be affected by each alternative. It does not attempt to describe the economic importance of these effects of ecosystem services. It does not show how the Proposed Action will promote human well-being by protecting and enhancing the ecosystem services provided by State Lands. It does not explain how the proposed management of State Lands will affect the ecosystem services the people of Washington derive from other lands.

In short, the RDEIS totally fails to pay any attention whatsoever to the socioeconomic consequences of the Proposed Action's impacts on ecosystem services.<sup>3</sup> This failure has several important implications, insofar as the socioeconomics sections of the RDEIS :

- Violates widely accepted professional standards applicable to this type of document.
- Presents USFWS with a decision-support document that does not comply with the *Principles, Requirements, and Guidelines (PR&G)*.
- Gives decision-makers and the public no socioeconomic information for weighing the impacts on ecosystem services against other impacts as they compare the Proposed Action against other alternatives.
- Demonstrates that, through its "Failure to adequately account for the benefits of nature," DNR proposes to "carr[y] with it the risk of ignoring their deterioration and loss, until a crisis occurs."

**Figure 1. Forests Are A Widespread Source of Drinking Water in Washington**



Source: U.S. Forest Service. 2012. "Forests to Faucets."

**2. Information was available to DNR for describing socioeconomically-important impacts on water-related ecosystem services**

Washington's State Lands collect, store, purify, cool, and produce water vital to the ecosystems and economies of communities throughout Washington. Figure 1 illustrates

<sup>3</sup> Instead, the description of environmental consequences, in Section 4.11 Socioeconomics, has this limited, logging-related focus "Potential impacts to trust revenue, employment, and taxes are evaluated in this analysis." [p.4-110]

these important water-related services, showing the extent to which forests currently protect important sources of drinking water.<sup>4</sup> The darkest blue indicates areas with the highest levels of water supply and protection. Overall, the map shows that forested areas in Washington serve as important surface sources of drinking water. The RDEIS overlooks the socioeconomic importance of the Proposed Action's potential impacts on water-related ecosystem services. It also provides no information about how excluding any area from the designation would affect water-related values. This omission is especially important, as a large body of research suggests that increased logging likely would have a negative effect on the quantity and quality of water in streams.

For example, last year researchers published research findings that show industrial logging west of the Cascade Mountains has had a "major effect" on the quantity of water flowing through streams in summer months:<sup>5</sup>

*Analysis of 60-yr records of daily streamflow from eight paired-basin experiments in the Pacific Northwest of the United States (Oregon) revealed that conversion of old-growth forest to Douglas-fir plantations had a major effect on summer streamflow. Average daily streamflow in summer (June through September) in basins with 34 to 43-yr-old plantations of Douglas-fir was 50% lower than streamflow from reference basins with 150 to 500-yr-old forests dominated by Douglas-fir, western hemlock, and other conifers. Study plantations are comparable in terms of age class, treatments, and growth rates to managed forests in the region. ... Reduced summer streamflow in headwater basins with forest plantations may limit aquatic habitat and exacerbate stream warming, and it may also alter water yield and timing in much larger basins. Legacies of past forest management or extensive natural disturbances may be confounded with effects of climate change on streamflow in large river basins.*

Some of the reduction in streamflow can result from the logging of large trees. As fog filters through the forests of this region, water vapor condenses on the trees' limbs and needles and drops to the earth, where it adds to supplies of ground and surface water. Large trees are especially productive relative to the smaller trees of younger forests because they have greater area on which fog can condense.<sup>6</sup>

The overall impact can be substantial. Fog precipitation contributes 8 - 34 percent of water used by coastal redwoods in forests near the Klamath River, for example.<sup>7</sup> Annual precipitation reaching the earth under trees in an old-growth forest near the Oregon coast was 20 inches greater than in a nearby clearing.<sup>8</sup> And, within the Bull Run

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<sup>4</sup> U.S. Forest Service. 2012. "Forests to Faucets." Retrieved 2 June 2011 from [http://www.fs.fed.us/ecosystemservices/FS\\_Efforts/forests2faucets.shtml](http://www.fs.fed.us/ecosystemservices/FS_Efforts/forests2faucets.shtml).

<sup>5</sup> Perry, Timothy P., and Julia A. Jones. 2017. "Summer Streamflow Deficits from Regenerating Douglas-fir Forest in the Pacific Northwest, USA." *Ecology*.

<sup>6</sup> Franklin, J.F. and T.A. Spies. 1991. "Composition, Function, and Structure of Old-Growth Forests." In *Wildlife and Vegetation of Unmanaged Douglas-Fir Forests*. Edited by L.F. Ruggiero, K.B. Aubry, A.B. Carey, and M.H. Huff. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

<sup>7</sup> Research reported in Keppeler, Elizabeth. 1998. "The Summer Flow and Water Yield Response to Timber Harvest." In *Proceedings of the Conference on Coastal Watersheds: The Caspar Creek Story*. Edited by Robert Ziemer. U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. Pgs. 35-43.

<sup>8</sup> Isaac, L.A. 1946. "Fog Drip and Rain Interception in Coastal Forests. US Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station, described in Harr, R.D. 1983. "Potential for

watershed that supplies drinking water for much of the Portland metropolitan area, the condensed fog constituted 30 percent of the total precipitation that reached the earth under old-growth trees, and the total precipitation was 25 – 29 percent higher on lands with old-growth forests than on adjacent lands with young trees in an area that had been logged eleven years earlier.<sup>9</sup> The increased precipitation apparently influenced stream flows, which declined less during late summer in a stream near old-growth forest than in streams near logged areas.

Figure 2 provides illustrative values of incremental increases in the quantity of water produced by public forests in the Pacific Northwest.

**Figure 2. Value of Incremental Changes in Streamflow on National Forests in the Pacific Northwest (2003 dollars per acre-foot of water per year)**

Pacific Northwest	
Aggregate marginal value	\$24
Hydroelectric generation	\$12
Instream recreation	\$10
Waste dilution	\$1
Ecosystem functions	\$21

Source: Brown, T.C. 2004. *The Marginal Economic Value of Streamflow from National Forests*. U.S. Forest Service, Rocky Mountain Research Station. Discussion Paper. DP-04-1, RMRS-4851. December 28.

Industrial timber production also can increase stream flows in a manner that has negative economic consequences. Logged areas and timber-related roads can accelerate runoff during storms, increasing erosion and increasing downstream flooding. Research conducted on the west side of the Cascade Mountains, for example, found “Forest harvesting has increased peak discharges [of runoff water] by as much as 50% in [small] basins and 100% in large basins over the past 50 years.”<sup>10</sup> While we understand that DNR has incidental take coverage for aquatic species, we think that the RDEIS should at least describe how DNR’s aquatic related conservation strategies avoid these damages and therefore avoid costs associated with them. A discussion of monitoring results to date over 20 years of implementation of the HCP that underlies DNR and the Services sense that increased logging will not cause issues that incur these types of costs should be included to justify statements in the RDEIS that increased logging will not pose risks or cause impacts.

Numerous studies have described negative effects of industrial timber production on the quality of water in streams. A large, long study conducted in Oregon, for example,

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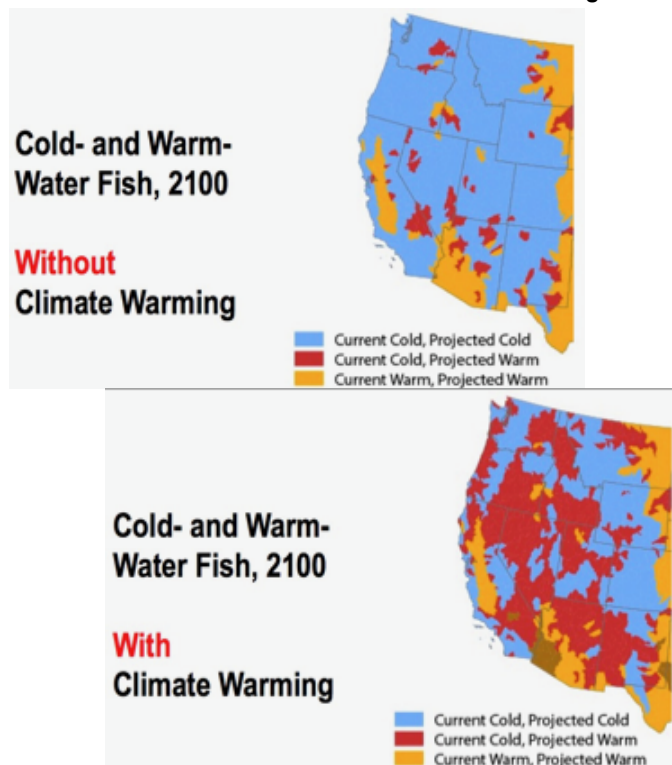
Augmenting Water Yield Through Forest Practices in Western Washington and Western Oregon.” *Water Resources Bulletin* 19 (3): 383-393.

<sup>9</sup> Harr, R.D. 1982. “Fog Drip in the Bull Run Municipal Watershed, Oregon.” *Water Resources Bulletin*. 18(5):785:789.

<sup>10</sup> Jones, J.A. and G.E. Grant. 1996. “Peak Flow Responses to Clearcutting and Roads in Small and Large Basins, Western Cascades, Oregon.” *Water Resources Research* 32 (4): 959-974.

found that industrial timber production on private lands increased average stream temperatures by 1.3 °C.<sup>11</sup> Increases in stream temperature can have negative impacts on habitat for fish that require cold-water. These impacts would exacerbate stresses on water and fish assets arising from the anticipated impacts of climate change. Research reported by EPA (Figure 3) describes these climate-related stresses, showing the expected decline in the distribution of cold-water fish, if current trends in climate change continue. Expanding industrial logging onto more State Lands could exacerbate these warming trends, with negative effects for the state’s fish, as well as for wildlife dependent on them.

**Figure 3. Increased Industrial Logging Could Exacerbate Climate-Related Destruction of Habitat for Cold-Water Fish in Washington**



Logging also can increase the amount of sediment in streams. One study determined that clearcuts can generate an additional one ton of sediment, and clearcuts plus roads can generate 3.5 tons per acre per year for about 25 years.<sup>12</sup> Other studies have found that debris slides linked to logging and roads can accelerate erosion rates 30–300 times the background rate; the levels of erosion from roads and clearcuts were nearly equal on the west side of the Cascade Mountains; and erosion rates on harvested areas in the

<sup>11</sup> Groom, Jeremy D. 2013. “Stream Temperature Responses to Timber Harvest and Best Management Practices.” U.S. Forest Service Gen. Tech. Rep. PNW-GTR-880.

Klamath Mountains were seven times, and those on landings were 100 times those on undisturbed areas.<sup>13</sup>

Studies have quantified the value of sediment in streams. Work completed by the USDA Economic Research Service, for example, quantifies the economic harm per ton of sediment for the thirteen types of damage shown in Figure 4.<sup>14</sup> This harm stems from adverse impacts of sediment on reservoir services, navigation, water-based recreation, marine fisheries, freshwater fisheries, municipal industrial, steam electric, irrigation ditches, flood damages, soil productivity, road ditches, and municipal water treatment.

The RDEIS offers no explanation for why it does not use this and similar information to estimate the economic harm that would accompany any increase in timber production resulting from either the inclusion of some lands in the designation or the exclusion of other lands from it. Again, we realize that the HCP has provisions to prevent sediment delivery. However, as detailed in the table below, sedimentation is costly. A discussion of how the HCP's provisions for preventing sediment delivery are actually working in light of the fact that there will be more logging in the preferred alternative than more conservation oriented alternatives should be included in order to support assumptions that such costs to local communities will not be incurred. Given that the HCP has been implemented for 20 years and the RDEIS relies on implementation of current policies to claim a lack of impact, it would be more accurate to describe how those policies are actually working on the ground to prevent sediment delivery. We think that DNR should follow research steps analogous to those it used to quantify the benefits of increased timber production to quantify the water-related costs. Such steps would entail reviewing the existing literature and consulting with scientists in the region to describe the amount of sediment that would be generated with the increased logging described in the RDEIS, with vs. without each alternative, then multiplying this amount times the estimates of the harm per ton of sediment, such as those available from Hansen and Ribaudó (2008), and accounting for the timing of harm and for the uncertainty in the data.

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<sup>14</sup> Hansen, L., and M. Ribaudó. 2008. *Economic Measures of Soil Conservation Benefits: Regional Values for Policy Assessment*. Technical Bulletin 1922. USDA, Economic Research Service. Retrieved 19 June 2012 from <http://www.ers.usda.gov/Publications/TB1922/TB1922.pdf>.

**Figure 4. Types and Values of Economic Harm from Sediment in Streams**

<b>Category of Harm</b>	<b>Damages due to<sup>a</sup></b>	<b>Range of Values<sup>b</sup> (\$ per ton)</b>
<b>Reservoir services</b>	More sediment in reservoirs	0 to \$1.38
<b>Navigation</b>	Shipping industry additional damages from groundings	0 to \$5.00
<b>Water-based recreation</b>	Dirtier fresh water for recreation	0 to \$8.81
<b>Irrigation ditches and channels</b>	Increased cost of removing sediment and aquatic plants from irrigation channels	\$0.01 to \$1.02
<b>Road drainage ditches</b>	More damage to and flooding of roads	\$0.20
<b>Municipal water treatment</b>	Higher sediment removal costs for water-treatment plants	\$0.04 to \$1.45
<b>Flood damages</b>	Increased flooding and damage from flooding	\$0.10 to \$0.77
<b>Marine fisheries</b>	Diminished catch rates for marine commercial fisheries	0 to \$0.93
<b>Freshwater fisheries</b>	Diminished catch rates for freshwater commercial fisheries	0 to \$0.12
<b>Marine recreational fishing</b>	Increased catch rates for marine recreational fishing	0 to \$1.57
<b>Municipal &amp; industrial water use</b>	Increased damages from salts and minerals dissolved from sediment	\$0.07 to \$1.47
<b>Steam powerplants</b>	Increased plant growth on heat exchangers	\$0.04 to \$1.05
<b>Soil productivity</b>	Increased losses in soil productivity	\$0.37 to \$1.21

Source: Hansen and Ribaudo (2008).

<sup>a</sup> Economic harm represents loss of consumer surplus or producer surplus.

<sup>b</sup> Values in dollars of 2000.

### **3. Information was available to DNR for describing socioeconomically-important impacts on other ecosystem services**

Washington’s forests provide a multitude of ecosystem services besides those associated with the quantity and quality of stream water. Many of these provide habitat for forest-dependent species. Industrial logging of State Lands could degrade these services and jeopardize many species. Habitat loss and climate change are powerful threats to biodiversity, made even more dangerous when they reinforce one another. Logged lands can be less efficient at dissipating heat and maintaining cool temperatures than unlogged forests. The cooler conditions can buffer some species from heat stress and provide more food and favorable habitat.<sup>15</sup> The “Socioeconomics” sections of the RDEIS ignore these potential outcomes.

<sup>15</sup> Betts M, Phalan B, Frey S, Rousseau J, Yang Z (2017) “Old-Growth Forests Buffer Climate-Sensitive Bird Populations from Warming.” *Diversity Distrib.*



State Lands also can provide services with aesthetic, recreational, and spiritual value. The "Socioeconomics" sections of the RDEIS provide no assessment of the value of the differences in how the different alternatives would affect these services. This gap in the RDEIS is especially inexplicable because there is a long history of research in the region to estimate the economic value of outdoor recreational resources.<sup>16</sup>

The agencies also should consider the results from recent research by the Bureau of Land Management, which estimated the negative effects of logging on the value of recreational activities on lands it manages in western Oregon.<sup>17</sup> The analysis estimated that, for every \$1 of logs produced, the negative effects of logging on outdoor recreation results in a cost of \$0.50. This ratio, or something close to it, likely applies to logging on State Lands.

The agencies also should incorporate into their analysis the recreational values associated with specific forest-related activities, as shown in Figure 5. Few, if any, of these activities are likely to have a higher value in logged areas than in unlogged areas.

**Figure 5. Average Value Consumers Derive from Outdoor Recreational Activities on National Forests in the Western States (2004 dollars)<sup>18</sup>**

Activity	Value Per Person Per Day	Activity	Value Per Person Per Day
Backpacking	52.10	Mountain biking	49.68
Camping	104.35	Off-road vehicle driving	40.37
Cross-country skiing	48.38	Other recreation	74.47
Fishing	44.36	Picnicking	64.22
General recreation	32.35	Sightseeing	20.27
Hiking	23.24	Wildlife viewing	72.48
Hunting	45.49	Wilderness activities	26.22

As they consider the potential recreation-related costs of logging on State lands, the agencies should recognize that any degradation of unroaded or wild areas, even relatively small ones, likely would be especially costly. The bottom line of Figure 5 shows that the value of any recreation activity is increased by \$26.22 per person per day (2004 dollars) when it occurs in a wilderness setting. They also should account for any adverse impacts on recreation that would occur outside the logging sites, e.g., if it harms fishing downstream and in the ocean through the adverse impacts on fish populations resulting from logging-related increases in stream sediment and stream temperatures. More fundamentally, they should account for research that shows the negative impacts

<sup>16</sup> One place to begin is: Rosenberger, Randall S., Eric M. White, Jeffrey D. Kline, and Claire Cvitanovich. 2017. *Recreation Economic Values for Estimating Outdoor Recreation Economic Benefits From the National Forest System*. U.S. Forest Service General Technical Report PNW-GTR-957.

<sup>17</sup> Bureau of Land Management. 2016. *Proposed Resource Management Plan/Final Environmental Impact Statement: Western Oregon*.

<sup>18</sup> Loomis, John. 2005. *Updated Outdoor Recreation Use Values on National Forests and Other Public Lands*.

of logging on ecological characteristics attractive to many recreationists, insofar as it intensifies the effects of subsequent fires, increases erosion, and introduces invasive species.

The failure to examine the socioeconomic importance of potential impacts on ecosystem services linked to outdoor recreation, aesthetics, and spiritual values is especially troubling because these values underlie the decisions of many households and businesses to locate in Washington.<sup>19</sup> Business and political leaders throughout the region recognize the importance of outdoor recreation. Labeling them the “New Pillars of the Western Economy,” the Western Governors’ Association, for example, recently emphasized the economic importance of outdoor recreation and its companion, tourism, because of the competitive advantage they provide western communities and businesses.<sup>20</sup>

### **B. Failure to describe socioeconomic importance of logging-related emissions of greenhouse gasses.**

The trees on Washington’s State Lands store large amounts of carbon. These stores come from photosynthesis that has removed carbon dioxide from the air and converted it into wood fiber. Logging releases most of this carbon back into the atmosphere, where it intensifies climate change.<sup>21</sup> The more intense climate change imposes greater harm on humans in Washington and around the world. Allowing trees to continue to grow offers one of the strongest opportunities for slowing climate change and reducing future harm.

The RDEIS asserts [p. 5-10] that it is “unlikely” the Proposed Action would exacerbate expected changes in climate, by storing less carbon than Alternative F, which would store the most. Some important research, though, indicates that the exacerbation of climate change could be greater and that the economic cost from storing less carbon likely will be significant.

Scientists at Oregon State University recently estimated the amount of carbon dioxide that would be released through logging on federal lands western Oregon.<sup>22</sup> Their analysis of different scenarios accounted for the average amounts of carbon stored in the forest as live or dead biomass, and for the disposition of materials manufactured into wood products, sent to disposal sites, incinerated, or recycled. They found that, relative to a conservation scenario, industrial production of timber on a 60-year rotation would

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<sup>19</sup> See, e.g., Whitelaw, E. (ed). 2003. *A Letter from Economists to President Bush and the Governors of Eleven Western States Regarding the Economic Importance of the West’s Natural Environment* 3 December; and Rasker, R. (ed) Letter to President Obama regarding the economic importance of the West’s public lands. 30 November.

<sup>20</sup> Western Governors’ Association. 2012. *The West’s Competitive Advantage: Landscapes, Open Lands and Unique History*. Retrieved 25 June 2012 from [http://www.westgov.org/component/joomdoc/doc\\_download/1598-the-wests-competitive-advantage-landscapes-open-lands-and-unique-history](http://www.westgov.org/component/joomdoc/doc_download/1598-the-wests-competitive-advantage-landscapes-open-lands-and-unique-history).

<sup>21</sup> I use the term, “climate change” to include the full set of effects resulting from greenhouse-gas emissions. Besides climate change, per se, these effects also include ocean acidification and warming, and the potential for catastrophic in the geologic, ecological, and social systems that influence human well-being.

<sup>22</sup> Krankina, O.N, M.E. Harmon, F. Schneckenger, and C.A. Sierra. 2012. “Carbon balance on federal forest lands of Western Oregon and Washington: The impact of the Northwest Forest Plan” *Forest Ecology and Management*. 286: 171-182. The analysis also folded-in other lands where the NWFP allows logging: adaptive management areas and riparian reserves.

increase atmospheric CO<sub>2</sub> by about 3.58 metric tons per acre per year through 2100. These findings are consistent with other research that emphasizes the importance of conserving mature forests as an effective means for keeping carbon dioxide out of the atmosphere.<sup>23</sup> They also generally apply to logging on Washington's State Lands, insofar as the forests and logging practices here are similar to those on federal lands in Oregon.

Follow-up research published this year looked more broadly at Oregon's forests to describe the impacts of forest-management alternatives on atmospheric carbon dioxide.<sup>24</sup> The analysis showed:

- Logging-related greenhouse-gas emissions, reflected in the net ecosystem carbon balance (NECB) "was equivalent to 72% of [Oregon's] total emissions in 2011–2015."
- "Reforestation, afforestation, lengthened harvest cycles on private lands, and restricting harvest on public lands increase NECB 56% by 2100, with the latter two actions contributing the most.
- "Increasing forest carbon on public lands reduced emissions compared with storage in wood products because the residence time is more than twice that of wood products."
- "GHG reduction must happen quickly to avoid surpassing a 2 °C increase in temperature since preindustrial times. Alterations in forest management can contribute to increasing the land sink and decreasing emissions by keeping carbon in high biomass forests, extending harvest cycles, reforestation, and afforestation. Forests are carbon-ready and do not require new technologies or infrastructure for immediate mitigation of climate change."
- Allowing more, not fewer, trees to go unlogged west of the Cascade Mountains is a necessary step if Washington and Oregon are to make meaningful contributions toward the achievement of the Paris Agreement.

In the past decade, economists have estimated the value of the harm resulting from each metric ton of carbon dioxide emitted into the atmosphere. One of these efforts was completed in 2015 by economists from federal agencies, including the Department of Interior, that participated in the Interagency Working Group on the Social Cost of Carbon Dioxide (IWG). Using their estimates, the Bureau of Land Management showed that the global climate-related harm from logging on lands the agency manages in western Oregon exceeds the value of the logs produced by more than 4-to-1.<sup>25</sup>

Research just published finds that the economic damage per metric ton of carbon dioxide emitted into the atmosphere is about ten times greater, and perhaps 20 times

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<sup>23</sup> See, for example, Mackey, B., et al. 2013. "Untangling the Confusion around Land Carbon Science and Climate Change Mitigation Policy." *Nature Climate Change*. Vol. 3 June. pp. 552-557.

<sup>24</sup> Law, Beverly E., Tara W. Hudiburg, Logan T. Berner, Jeffrey J. Kent, Polly C. Buotte, and Mark E. Harmon. 2018. "[Land use strategies to mitigate climate change in carbon dense temperate forests](#)." *Proceedings of the National Academy of Sciences*. "Our LCA [life-cycle analysis] showed that in 2001–2005, Oregon's net wood product emissions were 32.61 million tCO<sub>2</sub>e (Table S3), and 3.7-fold wildfire emissions in the period that included the record fire year (15) (Fig. 2). In 2011–2015, net wood product emissions were 34.45 million tCO<sub>2</sub>e and almost 10-fold fire emissions, mostly due to lower fire emissions." p. 2 of 6.

<sup>25</sup> Bureau of Land Management. 2016. *Proposed Resource Management Plan/Final Environmental Impact Statement*.

greater than the estimates from the IWG.<sup>26</sup> This research indicates that the global damage from logging on public lands in western Oregon exceeds the value of the logs by a ratio of at least 40-to-1 and, perhaps, by more than 80-to-1. It is important to note that all the estimates fail to capture all the potential social costs of carbon-dioxide emissions, by overlooking costs associated with ocean acidification and extreme catastrophes, for example.

These research findings apply to logging on Washington's State Lands, insofar as forest characteristics and logging practices resemble those on BLM-managed lands in Oregon. It is important to note that the actual damage from logging on State Lands will be higher than indicated by the estimates described above. All of those damage estimates represent only a portion of the full damage that will result from emitting carbon dioxide into the atmosphere. For example, they do not represent damage associated with warming and acidification of the oceans or the full damage that would result if changes in climate cause geologic, ecological, or social systems to cross a tipping point. Such an occurrence, such as a collapse of ocean currents, broad extirpation of species, or massive climate-driven migration, could multiply the existing damage estimates by an order of magnitude.

The estimates described above also do not account for the October 2018 findings of the Intergovernmental Panel on Climate Change (IPCC), which summarized the most recent climate research.<sup>27</sup> This report describes current understanding of the threats posed by climate change if meaningful actions are not taken immediately to reduce greenhouse-gas emissions. Direct threats to the people of Washington include:

- Greater rise in sea level will intensify the exposure of Washington's small islands, low-lying coastal areas and deltas to the risks associated with increased saltwater intrusion, flooding and damage to infrastructure.
- Higher temperature extremes will increase risks to Washington's human health, livestock, wildlife, and fish. Families, businesses, and governments will incur additional costs to ameliorate the effects of higher temperatures, especially on extreme hot days. Workers will experience reduced productivity and income on extreme hot days and be exposed to greater risk of heat-related impairment of their health.
- Greater risk of wildfires.
- Greater spread of invasive species.
- Greater risk of extirpation for native species.
- Greater increase in ocean temperature and acidity, with risks to marine biodiversity and fisheries, and to ecosystems and their ability to provide valuable services to the people of Washington.
- Greater risk of poverty and disadvantages for vulnerable populations, indigenous peoples, coastal communities, and dryland communities dependent on agricultural livelihoods.

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<sup>26</sup> Ricke, Katarine, Laurent Drouet, Ken Caldeira, and Massimo Tevoni. 2018. "Country-Level social Cost of Carbon." *Nature Climate Change*.

<sup>27</sup> IPCC. 2018. *Global Warming of 1.5 °C*.

- Reduced yields of wheat and other cereal crops, resulting in lower incomes for farmers and higher food prices for consumers.
- Higher likelihood of slowing in global economic growth, resulting in lower profits for investors and lower incomes for workers.

Thus, when making long-term, asset-management decisions regarding the State lands and satisfying fiduciary obligations to the trusts, it would be prudent for DNR to explicitly recognize the full range of risks, including risks that would push the social costs from logging to more than 80 times the value of the logs. Only a portion of the climate-related costs resulting from logging on the State Lands would directly fall on the people of Washington. They would bear additional costs indirectly, however. For example, climate-related costs from extreme weather events in China often have repercussions for trading partners in the U.S.<sup>28</sup> Future research likely will advance the ability to trace emissions and the costs they impose on particular groups.

Overall, this information indicates that climate-related damage from proposed logging on State Lands will far exceed the revenue DNR receives for the logs. Much of those costs will directly fall on the people of Washington, including trust beneficiaries. Others may indirectly find their way to Washington as other groups harmed by emissions from State Lands seek compensation. The magnitude of the social costs from these emissions will increase exponentially if others follow DNR's lead and increase their emissions, thus accelerating global warming, changes in climate and the oceans, and the likelihood of catastrophic outcomes.

The RDEIS, however, says nothing about the climate-related social costs that the proposed logging will impose on the people of Washington and on others. It says nothing about how these costs might affect the ability of DNR and USFWS to satisfy their expressed need for the proposed action. This failure to describe the climate-related social costs associated with each alternative abrogates the agencies' NEPA obligation to take a "hard look" at the alternatives' potential impacts. The failure also violates the agencies' obligations under the HCP and SEPA.

### **C. Failure to describe the socio-economic importance of risks inherent in the proposed action.**

The discussion, above, demonstrates that logging of State Lands will impose substantial ecosystem- and climate-related costs on the people of Washington and others. It would be prudent for the agencies to anticipate that those burdened by the costs will come knocking on the door, seeking compensation for those costs and cessation of the actions so that future costs will be avoided. To manage these risks, the agencies should develop a full understanding of these costs. They also should identify and anticipate the risks that these costs will generate for the agencies, themselves, and for taxpayers and the trust beneficiaries.

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<sup>28</sup> Willner, Sven N., Christian Otto, Anders Levermann. 2018. "Global Economic Response to River Floods." *Nature Climate Change*.

It was imprudent for the agencies not to fully explore these risks in the RDEIS. The absence of a comprehensive discussion raises several questions. Are the agencies ignorant of the costs that the proposed logging on State Lands will impose on others? Do they know that the proposed logging will impose the costs on others, but naively anticipate that those who will bear these costs will sit passively and allow themselves to be harmed? Do they anticipate resistance from those who will be harmed, but they lack the expertise to know how to assess and manage the risks? Do they understand the risks but decided not to explain them to decision-makers and the public in the RDEIS?

Whatever the explanation, the agencies should now provide full disclosure to let decision-makers and the people of Washington know the likelihood that those potentially harmed by logging on State Lands will seek compensation and strive to stop further logging. That is, they should fully explain the socioeconomic risks inherent in the proposed logging.

The agencies might begin by providing a realistic biophysical assessment of the many risks that will accompany the proposed logging. Then they should provide a realistic socioeconomic assessment of those risks and explain the implications for each potentially affected party. Finally, they should apply these findings to each forest-management alternative and – in absolute terms and relative to the other alternatives – evaluate its ability to satisfy the expressed need for the project.

### **1. The Agencies should provide a complete and realistic biophysical assessment of risk**

Figure 5 shows some of the RDEIS' statements that identify logging-related risks. These include risks to marbled murrelets as well as risks to human safety, state trust assets, public resources, overall forest productivity, rare plants, and natural resources. Identifying these risks is a necessary step in risk management. Two additional necessary steps are (1) identifying appropriate steps that the agencies will take to reduce each risk, and (2) specifying what the agencies will do when these steps prove inadequate and the anticipated bad outcome materializes. The RDEIS takes the first of these two steps, but not the second. That is, it assumes its efforts to reduce risk will be universally successful.

Examples of these assumptions include these:

- DNR implements rules, policies, and procedures...to minimize these impacts.
- [A]ll existing policies and regulations governing forest practices for soil productivity would remain in place.
- Lands identified as potentially unstable would continue to be managed under current regulations, policies, and procedures, which are designed to minimize landslide risks.
- DNR policies protecting old-growth forests and gene pool reserves would be unchanged by any alternative.
- The use of buffers and other protective measures on occupied sites reduces the risk to inland habitat from predation and other disturbances.

- Disturbance impacts will be ongoing in long-term forest cover but will be minimized inside occupied sites, occupied site buffers, and special habitat areas.
- Across the analysis area, it is unlikely that these changes would increase the risk of environmental impacts because of the existing regulations, policies, and guidelines designed to minimize these risks.
- Longer roads could elevate risks to water quality and/or involve additional stream crossings or elevate risks to other natural resources.
- The existing regulatory framework would continue to provide environmental protections designed to minimize risks.
- These activities all include the use of heavy equipment, and guidelines to address these activities could help minimize risks of disturbance to nesting birds.

With these statements, the agencies reassure readers that they have minimized risks; and they will apply existing regulations, policies, and procedures; and increases in risk are unlikely. But these reassurances do not make the risk of bad outcomes disappear. Minimizing impacts and risk is not the same thing as no impacts and risk. Continuing with existing regulations, policies, and procedures will not make the risks disappear. Saying that it is unlikely that the proposed actions would increase the risk of environmental impacts does not guarantee that no increase in risk would occur. Nor does it mean that negative impacts on the environment will not occur.

**Figure 6. Illustrations of Biophysical Risks Identified in the RDEIS**

Page	Identified Risk
2-64	Studies (for example, Burger and others 2004, Malt and Lank 2009) have shown that predation risk at marbled murrelet nests is likely higher near forest edges and in fragmented landscapes
3-5	Timber harvest and road-building activities can adversely affect soil productivity by compacting soils, changing soil temperature, removing organic layers, changing nutrient dynamics, or increasing the risk of landslide or surface erosion.
3-6	Protection of potentially unstable slopes is a major consideration in DNR's planning for timber harvests, road building, and road removal because landslides pose significant risks to human safety, state trust assets, public resources, and overall forest productivity.
3-10	It is therefore likely that summer drought frequency and severity will be greater in the future in western Washington.
3-11	As further discussed later in this section, winter flood risk is likely to increase with higher projected winter stream flows (Hamlet and others 2013) and more frequent and more intense heavy rain events (Mote and others 2013).
3-16	High stand density can be related to increased risks from weather and disease in the presence of other risk factors, such as landscape position, soil, and climate (Powell 1999, Mitchell 2000).
3-44	The risk of impact to natural resources from roads varies but is related to the location, quality of construction, density of roads, the number of stream crossings, and noise disturbance from road use, construction, and maintenance activities.
4-17	[B]ecause every location of every rare plant is not known, this vegetation can be at risk from forest management activities.
4-35	Timber harvesting can result in both direct and indirect effects to murrelets. These effects can include the direct loss and fragmentation of habitat, increased risk of nest predation near harvest edges, habitat degradation associated with harvest edges, disruption of nesting behaviors associated with noise and visual disturbance, and the potential for direct mortality of murrelet eggs or chicks if an active nest tree is felled (USFWS 1997).
4-45	Habitat in an edge condition is subjected to a number of edge effects, including changes to microclimate, increased risk of predation, increased windthrow, and other types of disturbances.
4-69	Other risks to murrelet populations were not captured by the modeling framework of either the population viability analysis or the impact and mitigation calculations.
4-74	[U]nder the "risk" scenario, the population continues to decline because this scenario assumes a greater influence from chronic environmental stressors outside the forest.
4-76	Harvest and other forest management and forest use indirectly impact habitat quality by increasing the risk of disturbance to nesting marbled murrelets and chicks
4-91	[T]he identification of specific impacts tied directly to the alternatives are based on stated assumptions about how the alternatives may affect roads, their location, and management, and how those changes may in turn affect the risk to natural resources.
4-92	Longer roads could elevate risks to water quality and/or involve additional stream crossings or elevate risks to other natural resources.
4-127	In summary, the population viability analyses suggest that relative to the other alternatives, Alternative B results in the highest risk of local declines and the smallest projected local population sizes during the modeled planning period. Alternatives F and G are projected to result in the lowest risk of local declines, and Alternative F has the largest projected local population sizes, with intermediate results projected under Alternative A and Alternatives C through E, G and H.
5-11	Alternative B represents the greatest risk for negative cumulative effects to marbled murrelets because it would release for harvest the greatest amount of existing habitat (47,000 acres, including over 6,000 acres of higher-quality habitat).
5-11	Considering the threats to the species (refer to preceding sections) there is increased risk to the species from the alternatives if the intended conservation does not perform as expected. For example, Alternative B has the most timber harvest and least conservation; thus, there is a higher risk of this alternative having cumulative impacts in comparison to the other alternatives.



In sum, the RDEIS first identifies numerous biophysical risks that would accompany implementation of the Proposed Action and then dismisses all concern about them as if waving a magic wand. The RDEIS never says what will happen if things do not go as planned. It never tells decision-makers and the people of Washington how bad things might get if they don't go as planned. It never specifies what procedures and decision-rules it will use to decide when to suspend or alter implementation of the Proposed Action if things start to go wrong. It never lays out the agencies' priorities and plans for arresting things that are going wrong and correcting them.

The failure to provide this information leaves the RDEIS wholly inadequate as a decision-support document. It leaves the RDEIS vulnerable to challenge for failing to satisfy the agencies obligations with respect to the statement of need for the project,

NEPA, SEPA, the HCP, and DNR's trust responsibilities.

## **2. The agencies should provide a complete, realistic socioeconomic assessment of risk**

The biophysical risks described in the previous section have strong socioeconomic implications. They constitute financial liabilities that could impose substantial costs on the agencies, state and federal taxpayers, and the trusts. The RDEIS contains no information about these potential costs. To correct the error, the agencies should, at minimum, describe:

- The costs that logging on State Lands would impose on the people of Washington and others, the likelihood that those harmed would claim compensation, the likelihood that the claims would be successful, the legal costs and other costs the agencies would incur in response to the claims, and the overall potential costs to the agencies, taxpayers, and the trusts.
- The likelihood that logging on State Lands, or any proposal to conduct logging, would trigger legal and political efforts to stop logging, the legal costs and other costs the agencies would incur in response to the efforts, and the overall potential costs to the agencies, taxpayers, and the trusts.
- The likelihood that logging on State Lands would cause, or be perceived as causing, adverse outcomes, such as landslides, reductions in marbled murrelet populations, degradation of stream habitat for salmon and other species, and threats to rare plants; the agencies' plans for responding to these risks, the costs the agencies would incur to implement the plans, and the overall potential costs to the agencies, taxpayers, the trusts, and society as a whole.

For each of these risks, the agencies should describe the expected value of the potential costs as well as the value of a worst-case scenario. For example, they should fully explain their expectations for the costs they, taxpayers, and the trust will incur if the population of marbled murrelets declines following logging on State Lands. They also should fully explain how large these costs could become if initial efforts to stem the population decline prove unsuccessful, so that the agencies must undertake more extreme measure to conserve the species.

As they describe the risk, the agencies must look to conditions expected in the future, not those of the past. For example, they must explicitly and fully account for the likelihood that change in climate will, in a non-linear fashion, magnify costs stemming from ecosystem degradation.<sup>29</sup>

The agencies should describe not just the potential costs that would materialize directly for themselves and indirectly for taxpayers and the trusts. They also should describe the potential costs to society as a whole. These costs could take many forms. For example, reductions in marbled murrelet populations might trigger more restrictions on logging and other activities on lands other than State Lands. Similarly, negative impacts on stream habitat and salmon populations might trigger restrictions on activities that affect stream habitat or on recreational and commercial fishing. Any reduction in the population of an at-risk species would reduce the wellbeing of, and, hence, impose costs on, individuals who see benefits from sustaining the existence of these species.

### **3. The agencies should apply these findings regarding risk to each management alternative**

The RDEIS provides some information about differences in biophysical risks associated with the alternatives. Table 4-75, for example, shows the agencies believe that more logging is associated with a higher probability that the DNR sub-population of marbled murrelets will fall below one-quarter of the starting population. The agencies should build on this, and similar biophysical assessments of other risks, to describe the socioeconomic implications of the differences among the alternatives.

#### **D. Failure to Describe the Logging-related Risks to Local Communities**

The agencies' assessment of socioeconomic impacts focuses primarily on how the alternatives would intersect with the timber industry. More specifically, it focuses on the intersection with what the timber industry looked like in the past. This focus overstates the timber-related impacts likely to materialize in the future, as the industry's significance to local economies continues to shrink. It also overlooks the potentially larger impacts associated with the alternatives' effects on non-timber ecosystem services derived from State Lands.

In its explanation of "How [Socioeconomic] Impacts Are Measured," the RDEIS states:

*Potential impacts to trust revenue, employment, and taxes are evaluated in this analysis. The threshold used for this analysis is a 25 percent reduction in DNR-managed operable acres for most counties and trusts. This threshold is used because it is assumed that counties can accommodate changes in revenue potential of this magnitude." [p. 4-110]*

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<sup>29</sup> Revesz, Richard L., Peter H. Howard, Kenneth Arrow, Lawrence H. Goulder, Robert E. Kopp, Michael A. Livermore, Michael Oppenheimer, and Thomas Sterner. 2014. "[Global Warming: Improve Economic Models of Climate Change](#):"

"Because the services provided by ecosystems are likely to decline as warming degrades them, the costs of future ecosystem damage from climate change will rise faster than the models predict."

*For county-level employment change impacts, two assumptions were made. One assumption is that, within a county, timber harvest volume is closely related to employment levels in timber-related jobs. Another assumption is that workers are not employed outside their home county. [p. 4-111]*

*Potential impacts to employment are measured based on the expected change in operable acres. [p. 4-117]*

In other words, the RDEIS focuses solely on timber to measure the alternatives' impacts on employment.

To measure impacts on timber employment, the RDEIS uses data from a report published in 2007 to describe, in Table 3.11.9, the "Jobs Created for Each Million Board Feet of Timber Harvested in Washington State." The data show 8.67 direct jobs and 2.62 indirect jobs per million board feet of timber harvested. Just one page later, though, the RDEIS explains that, "wood products manufacturing jobs experienced a peak in 2006 followed by a 38 percent decline to 2009." It also states, "Total jobs in the forest products sector declined during the recession and there was no subsequent recovery, even as the total harvest volume from all ownerships increased following the recession (Figure 3.11.2)." The figure shows that, between 2001 and 2016, "total jobs" in the industry have declined by more than one-third, while "all ownership harvest" declined by about one-fifth.

In other words, the data in the RDEIS, itself, indicates that the direct jobs per million board feet of timber harvested has declined by more than one-third relative to the data shown in Table 3.11.9. The number of indirect jobs likely has fallen by a similar degree, insofar as they depend on the wages paid to direct employees.

Despite recognizing that timber-related jobs have declined in the recent past, the RDEIS does not anticipate that the decline will continue into the future. Declines are certain to occur, as corporations replace workers with machines. For example, many logging companies are buying machines that replace as many as eight loggers per machine.<sup>30</sup> Hence, all aspects of the RDEIS that relate to the intersection between the alternatives and the timber industry are seriously misleading and biased. This means that the discussion of logging-related jobs is misleading and biased. And, the discussion of local communities' dependence on logging-related jobs and their resilience to changes in logging is misleading and biased. For similar reasons, the discussion of sales and other taxes related to timber employment is misleading and biased. If it is culturally important for logging-related jobs to remain at their current level, then the RDEIS should discuss the means by which losses due to trends in automation could be countered. In addition, discussions of how to add value to the manufacture of wood products from a certain volume, that will by necessity be limited in order to meet other environmental obligations, could be achieved.

The RDEIS' discussion of employment in the "Socioeconomics" sections, covers 11 pages. In this discussion, there is just one paragraph about non-timber employment, on

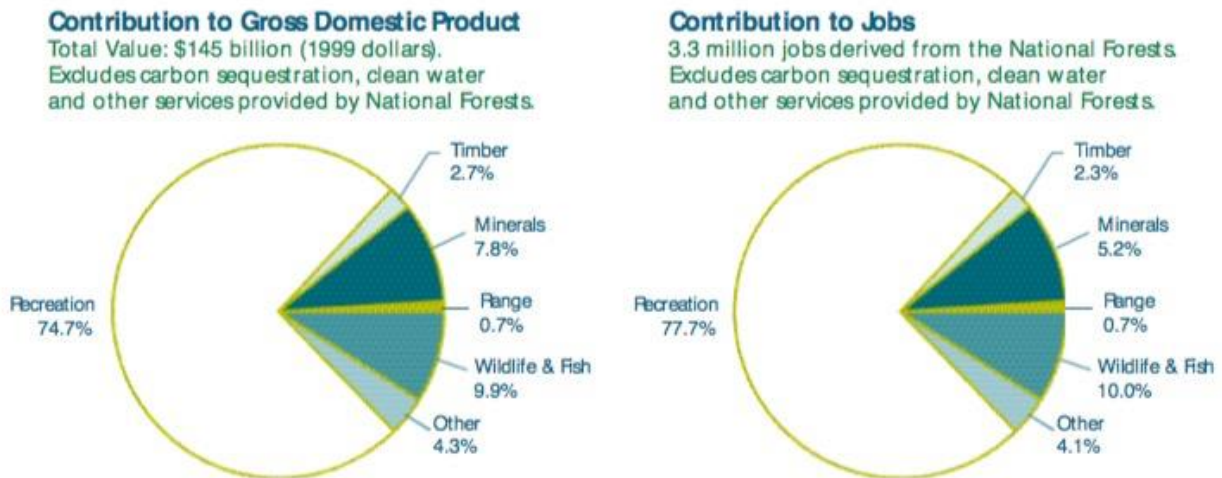
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<sup>30</sup> Jason Wilson. 2017. "[Into the Woods: How the Logging Industry is Courting Millennials.](#)" *The Guardian*. Wednesday 23 August.

p. 3-73. It concludes with this statement: “Briceno and Schundler (2015) estimated that approximately 200,000 full- and part-time jobs are supported by outdoor recreation in Washington.” In contrast, Figure 3.11.2 shows statewide timber-industry employment is about one-tenth this amount. Despite the disparity, the RDEIS focuses on the latter rather than on the former. To justify the bias, the RDEIS says it was unable to locate any data on the economic importance of outdoor recreation. I recommend that it begin with recent reports from the [Outdoor Industry Association](#) and the [U.S. Bureau of Economic Analysis](#).

The agencies also should recognize that economists long ago concluded that recreation on public lands can play a much greater role in the economy than timber production. Far more important are the potential impacts on other sectors of the economy. Research two decades ago documented the respective contributions to economic output, measured by gross domestic product (GDP), and jobs by different major categories of goods and services derived from the nation’s national forests.<sup>31</sup> Figure 7 illustrates the findings. They show that timber production represented only 2.7 percent of the national forests’ contribution to GDP and 2.3 percent of the forests’ contribution to jobs. These contributions of timber production were less than those of recreation, fish and wildlife, high-quality water, and minerals.

**Figure 7. Socioeconomic Importance of Goods and Services from National Forests, 2000**



In its discussion of recreation, the RDEIS notes that:

*Recreation on DNR-managed lands is guided by a variety of statutes, regulations, rules, county ordinances, and internal policies. RCW 79.10 directs DNR to apply a “multiple use concept” to public lands “where such a concept is in the best interests of the state and the general welfare of the citizens thereof, and is consistent with the applicable provisions of the various lands involved.” [p. 3-42]*

<sup>31</sup> U.S. Department of Agriculture, Forest Service. 1995. *The Forest Service Program for Forest and Rangeland Resources: A Long-Term Strategic Plan*. U.S. Department of Agriculture Forest Service. Draft 1995 RPA Program.

The disparity demonstrated in the REIS, between the emphasis given timber and the disregard for recreation, does not comply with this direction.

# Attachment C



December 6, 2018

The Honorable Hilary Franz  
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**Re: Washington DNR SEPA File No. 12-042001 and FWS-R1-ES-2018-N106  
Legal Comments on the Revised Draft Environmental Impact Statement (Dated  
September 2018) for the Washington Department of Natural Resources' Long-Term  
Conservation Strategy for the Marbled Murrelet**

Dear Commissioner Franz, Mr. Ostwald, and the staff of the Washington Department of Natural Resources and staff of the United States Fish and Wildlife Service:

Thank you for the opportunity to comment on the September 2018 Revised Draft Environmental Impact statement (RDEIS) on the Marbled Murrelet Long-Term Conservation Strategy ("LTCS" or "Long-Term Strategy"). This letter was prepared by the Washington Forest Law Center, a partner in the Marbled Murrelet Coalition. The other partner organizations in the Coalition are the Washington Environmental Council, Olympic Forest Coalition, Seattle Audubon, Defenders of Wildlife, Conservation Northwest, and the Washington State Chapter of the Sierra Club.<sup>1</sup>

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<sup>1</sup> WFLC is solely responsible for the contents of this letter.

## 1. Introduction and Executive Summary

This comment letter addresses the multiple legal issues presented by the alternatives discussed in the September 2018 Revised Draft Environmental Impact Statement (RDEIS). The purpose of this letter is to outline the science-based legal concerns with the RDEIS and the process being used by the agencies to evaluate and select a LTCS alternative that complies with the ESA and state law.

ESA Section 10 requires the USFWS to prescribe, and DNR to adopt, a biologically sound and precautionary LTCS alternative, an alternative that places the scientific risk of “take” on the permittee DNR, not the murrelet. As presented in the RDEIS, the USFWS cannot scientifically and legally conclude that DNR’s “preferred alternative,” Alt. H, meets the ESA Section 10 issuance criteria, as set forth in 16 U.S.C. § 1539(a)(2)(B). Read together, DNR’s 1997 HCP and the Section 10 issuance criteria require DNR to fully mitigate its “take” of marbled murrelets in a scientifically-sound and accurate manner *and* to make a “significant contribution” to the protection and recovery of this species. The Board’s preferred alternative, Alt. H, fails to meet this standard. A long-term conservation strategy does not make a “significant contribution” to murrelet protection and recovery merely because the DNR or the USFWS believe that it satisfies the Section 10 issuance criteria.

One of the threshold tests for whether a specific LTCS alternative is legally acceptable under ESA Sect. 10’s “issuance criteria” is whether it is the “maximum extent practicable” that the USFWS can and should obtain from DNR in exchange for DNR’s proposed past and future “take” of murrelet habitats under DNR’s forest program. There are numerous reasons why it is “practicable” for DNR to be required to adopt to a biologically-*precautious* LTCS. The most compelling reason is that, as conceded in the proposed Amendment, DNR cannot sustainably, reliably, and economically harvest timber without the federal government’s approval of an incidental take permit. HCP Amendment at 4 (bullet 1). A biologically precautionary LTCS is also “practicable” because of the levels of DNR’s past and future logging levels on or near marbled murrelet habitat, the negative population trend of the species, DNR’s ownership of 2 million acres of valuable forest land, and the availability of financial options that could lessen the financial burden for DNR. DNR and the Board of Natural Resources have the legal authority to adopt a scientifically and legally sound LTCS because doing so is in the best long-term interest of future generations of beneficiaries and the general public.

A biologically-precautious LTCS—one that does *not* place the risk of DNR’s “take” over the next 50 years of murrelet habitat on the species itself—is required because there is no escaping that DNR is requesting a biologically risky permit amendment. The population of marbled murrelets in Washington is declining by 3.9% per year and the RDEIS assumes that murrelet



populations could decline by as much a 75% over the remaining 50 years of DNR’s HCP.<sup>2</sup> WDFW estimates the population decline at 4.4% per year. Today, murrelet populations are down by 44% over the past fifteen years. WDFW Periodic Status Review for the Marbled Murrelet (Desimone, 2016), at 14. Much, though not all, of this population decline is attributed to a 30% cumulative loss of habitat on private lands. *Id.*, at iii. This steeply-declining population trend dictates the need for a scientifically-precautious LTCS, one that fully protects occupied habitat and which provides murrelets with large edge-protected reserves of un-fragmented blocks of older forest habitat near salt water.

The RDEIS’ analysis of the alternatives, like the 2016 DEIS, rests heavily, if not entirely, on two flawed assumptions, one scientific and one legal. The flawed *scientific* assumption is that, under principles of conservation biology and DNR’s murrelet population modeling, the “mitigation” provided by DNR’s preferred Alt. H slightly exceeds the “take” or “effect” of this alternative, with a small “risk” cushion built into it known as “Epsilon.” This is incorrect: using various specious biological assumptions, the RDEIS *under*-estimates the effect of logging up to 38,000 acres of geographically-significant DNR forests within the first decades of the LTCS, *over*-estimates the biological value—temporally and geographically—of DNR’s proposed “mitigation,” and fails to account for the enormous risk and uncertainties in DNR’s so-called mitigation strategies.

The RDEIS’ flawed *legal* assumption—and the Board’s justification for selecting Alt. H as its “preferred alternative”—is that the DNR “trust mandate” does not allow DNR or the Board of Natural Resources to conserve any more potential future habitat using forest buffers or recovery areas<sup>3</sup> than is necessary to obtain DNR’s federal Section 10 incidental take permit approval. *This assumption is incorrect as a matter of law.* The Board clearly has the authority to adopt a conservation-oriented, comfortably ESA-compliant LTCS. By adopting such a plan, the Board will provide the trust beneficiaries with the long-term regulatory certainty they need to ensure sustainable forestry continues on an even-flow basis from state lands. This is particularly important for future generations of state forest beneficiaries. The DNR and Board also has the authority to significantly contribute to the “maintenance and protection” of the marbled murrelet because DNR already committed to this level in its 1997 HCP and because DNR holds these “State Lands” (the federal school lands) in trust “for all the People.”<sup>4</sup>

These two assumptions, one scientific and one legal, run throughout the RDEIS’s assessment and comparison of the alternatives. They guide everything, including the terms of the “purpose and need” statement, the range of reasonable alternatives, the assessment of impacts relative to the present day baseline, and the justification for the Board’s selection of Alt. H, its “preferred

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<sup>2</sup> RDEIS, at 4-68 (“For each alternative, the Joint Agencies considered the modeled probability that, in the next 50 years under the “risk” scenario, the Washington murrelet population and the murrelet population on DNR lands will reach one-quarter of its initial size.”). More specifically, “At the state scale (Risk scenario) across all alternatives, there is roughly a 50% chance the population will only be between one quarter to one half its current size after 50 years, between 904 and 1,808 females (PVA Table 2; 50% being the midpoint between 0.31 and 0.81).” Accordingly, 75% is a reasonable number for the RDEIS’ assumptions.

<sup>3</sup> For example, “special habitat areas,” “marbled murrelet management areas,” “emphasis area.”

<sup>4</sup> See Attachment 1 for our “trust mandate” memorandum. This memorandum concludes that DNR and the BNR have the legal authority to adopt a LTCS that both protects and recover murrelet populations in Washington.

alternative.” The two assumptions, in fact, are so interwoven into the reasoning behind the justification for Alt. H that, if either is incorrect, the RDEIS’ analysis, and the Board and DNR’s selection of Alt. H based on it, is called into question.

## 2. Initial Notes

- a. These comments were prepared by the nonprofit Washington Forest Law Center (WFLC) staff, including Peter Goldman, Director and Sr. Staff Attorney, and Dr. Kara Whittaker, Senior Scientist and Policy Analyst, in consultation with an independent marbled murrelet expert, Dr. David Lank of Simon Fraser University.
- b. WFLC prepared these legal comments on behalf of the Marbled Murrelet Coalition. WFLC does not, in any way, intend to limit or circumscribe arguments that any individual affiliated with the Coalition may choose to make either in today’s comment period or in a future comment period.
- c. These comments are joint legal comments to *both* the USFWS and DNR. However, because the two agencies have different but sometimes overlapping statutory and regulatory mandates and considerations, some of these comments will apply to *both* agencies while others may only apply to one.
- d. The September 2018 Revised Draft Environmental Impact statement (RDEIS) analyzes seven (7) “action alternatives” (B-H) but the “HCP Amendment” (dated July 2018) on which the agencies seek comment is under comment on a parallel review track. The proposed Amendment to DNR’s HCP assumes that DNR’s “preferred alternative,” Alt. H, is the only alternative that DNR deems to meet the HCP’s purposes, needs, and objectives. Amendment, at 5. The Amendment states that the other alternatives are unacceptable to DNR because they either “over-take” or “over-mitigate.” Amendment, at 6. We provide significant comment on which agency makes the Sect. 10 “maximum extent practicable” decision and how that decision must be made. However, because the Amendment assumes Alt. H, this comment letter *will focus heavily* on that alternative.
- e. In the RDEIS, DNR and the Services (a) did not directly address the technical, legal, and socio-economic comments submitted for the September 2016 DEIS; (b) took note of some of those comments and, where appropriate, incorporated them into the RDEIS; and (c) will address the DEIS comments in the FEIS to the extent they have not been incorporated into the RDEIS. For this reason and in the interest of brevity, this Comment letter will (a) not reiterate in full comments that were made on the September 2016 DEIS; and (b) incorporate those comments by reference.

**3. The LTCS alternatives impermissibly rely on hundreds of thousands of acres of “existing conservation” forests as mitigation of DNR’s proposed past and future “take” of existing or potential marbled murrelet habitat.**

The RDEIS continues to rely heavily on the mitigation strategy of “long term forest cover” (LTFC), forest cover DNR promises it will grow over the next 50 years as a major component of each of the LTCS alternatives, RDEIS, at 2-7. An important component of LTFC are the areas of “existing conservation.” The RDEIS’ reliance on “existing conservation” areas is demonstrated by the “Putting it All Together” section on pg. 2-15, which breaks out “murrelet specific” conservation areas and adds “Areas of Existing Conservation” (567,000 acres) to the “murrelet-specific” acres. RDEIS, at 2-7-2-8. Areas of “existing conservation” consist of forests that are off-limits to most DNR forest practices as a result of DNR’s HCP or the agency policies. DEIS, at 2-8-2-9.

The Marbled Murrelet Coalition’s March 2017 master comment letter consistently pointed out that the mitigation strategies of a biologically-credible LTCS cannot rely on fragmented, low-quality habitat forests with little biological use to murrelets simply because these forests are off-limits to most logging under DNR’s general HCP or policy. Coalition Master Comment letter, at 8-9; Whittaker/Lank Comm. Letter, at 2-10 n. 11. We noted that only 194,000 (now 212,000 acres; RDEIS, at 5-5) of the then-583,000 acres of “long-term forest cover” (now 567,000 acres; RDEIS, at 2-7(Table 2.2.1)) are currently marbled murrelet habitat and that many of the “existing conservation areas” were too small, too close to forest edges, too fragmented, and too disturbed by noise and vibration of adjacent logging activities to provide meaningful murrelet “protection” habitat for purposes of being included as mitigation for approximately 70,000 acres of modeled murrelet habitat that DNR has already logged or intends to log under Alt. H. *See* Whittaker/Lank Comm. Letter, at 8.

The RDEIS’ continues to rely heavily on the “network”<sup>5</sup> of 576,000 acres of “long-term forest cover” but this reliance requires further documentation and scientific analysis in the FEIS. Specifically, how and exactly when do these acres protect murrelet-specific habitat? Is this land mostly riparian buffer? The 2016 DEIS acknowledged that riparian buffers and other fragmented areas with edge effects provide limited habitat value, and accounts for those limits by applying reductions in value. DEIS at 5-8, 9. The RDEIS similarly states that forests with high road densities can compromise the utility of those lands for murrelets. RDEIS, at 2-21. The DEIS also stated that about 70% of the described areas of LTFC exist within riparian zones and that 12% occur in the urban Puget Trough with little to no benefit and potential harm to marbled murrelets. *See* DEIS at H-18; *See also*, Whittaker and Lank Comm. Letter, at 19.

The best argument why DNR’s reliance on riparian zones for murrelet-specific mitigation purposes needs more documentation and analysis in the final EIS is the concession pertaining to riparian areas within private forests. The RDEIS states that “due to their narrow width, riparian zones are not expected to develop extensive areas of habitat, nor is that habitat expected to provide secure areas for marbled murrelet.” RDEIS, at 5.9. Yet, despite the questionable habitat

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<sup>5</sup> RDEIS, at 2-15.

values of the “areas of existing conservation,” DNR relies heavily on these riparian forests to protect murrelet habitat and, consequently, boosts the mitigation value of each alternative. There may be biological differences between riparian areas on private vs. DNR lands, but the RDEIS contains no discussion of this important issue.

The RDEIS asserts that it does not “double-count” already-committed conservation areas when making its take/mitigation analysis. RDEIS, at 2-15 (“Summary data provided throughout the RDEIS does not double-count those overlapping acres for purposes of assigning take or mitigation or analyzing impacts.”). But the LTCS *does* in effect double-count areas already encumbered by conservation regardless of their contribution to murrelets because it uses these acres to effectively justify DNR’s satisfaction of the Section 10 issuance criteria. It does this by including the 567,000 acres of LTFC in the calculation for “total acres of conservation,” RDEIS, at 2-7 (Table 2.2.1); RDEIS, at 2-8. And the RDEIS cites the 567,000 acres of LTFC to demonstrate that its proposed mitigation for all alternatives go well-beyond the murrelet-specific mitigation acres set forth in RDEIS, at 2-7 (Table 2.2.1). In this way, the RDEIS excludes LTFC for some considerations (take/mitigation analysis) but includes it for others (Section 10 “practicability” analysis). The proposed Amendment to DNR’s HCP also references the LTFC benefits of DNR’s Alt. H.

Because the acres of LTFC are inextricably bound-up in the Section 10 issuance criteria decision, the USFWS cannot allow DNR to offset or mitigate DNR’s take with acres of forests that do not demonstrably benefit murrelet protection. DNR must demonstrate that these acres in fact *do* offset future take and *when*. The FEIS must more particularly disclose and document the conservation value, if any, of these areas of “existing conservation” and scientifically (as opposed to anecdotally) explain *when and how these acres contribute to the support of potential future murrelet habitat*. The FEIS must zero-out or steeply discount the future potential conservation value of these “other conservation areas” to the extent their edges, size, location, or structure reduce their usefulness to the murrelet, the extent to which roads (which create paths for predators such as corvids) compromise their value as blocked-up interior forest, and the extent to which their geographic location does little to support the murrelet’s demographic or genetic needs.

- 4. The RDEIS continues to rely on scientifically-questionable and speculative mitigation assumptions, including the geographic location and temporal value of future forests and not effectively considering the effect of climate change on to-be grown murrelet habitat.**
  - a. The ESA requires the USFWS to use the precautionary principle in measuring the biological risks of DNR’s potential take and mitigation.**

DNR seeks an ESA-authorized incidental take permit to conduct forest practices that will incidentally “take” additional murrelets. While agencies approving Section HCPs must, to some

extent, use predictive modeling and scientific assumptions to measure potential “take” and “mitigation” scenarios, the science underlying these models and assumptions must be biologically sound and not place the risk of failure on the species that is supposed to be protected. This is particularly the case relative to the murrelet on Washington State forests because habitat loss is the major cause of murrelet population decline (Ralph et. Al 1995; USDI 1995; USDI 1992), the RDEIS predicts that all alternatives might not forestall “quasi-extinction” (RDEIS, at 4-61), and because climate change will create future forest conditions that are largely unfavorable for maintaining current forest structure and composition. USFWS (2009).

Agencies using predictive habitat take/mitigation models for ESA permits, like the USFWS and DNR here, must and should apply the *precautionary principle* to the take/mitigation analysis. The precautionary principle is “an ex-ante governmental stance of precaution whenever a proposed activity meets some threshold possibility of causing severe harm to human health or the environment.” Douglas A. Kysar, *Regulating From Nowhere: Environmental Law and the Search for Objectivity* 9 (2010).<sup>6</sup>

The law requires the application of the precautionary principle to this HCP amendment. The general rule is that when an agency action impacting a listed species hinges on uncertainty and environmental risk, this risk must be borne by the party (here, DNR) doing the impacting, not the impacted species. *Sierra Club v. Marsh*, 816 F. 2nd 1376, 1385 (9<sup>th</sup> Cir. 1987); *National Wildlife Fed. v. NMFS*, 184 F. Supp. 3d 861, 873 (D. Or. 2016). The ESA also requires the Services, in making a Section 10 permit decision, to maintain a “viable population” of a species. 16 U.S.C. 1532 (3); 1536 (a)(1); 1536 (a)(2). See *SW Center for Biological Diversity v. Bartel*, 470 F. Supp. 2d 1118, 1128 (S.D. Cal. 2006). More broadly, the ESA requires a “policy of institutionalized caution.” *Ariz. Cattle Growers’ Ass’n v. Salazar*, 606 F.3d 1160, 1166-67 (9<sup>th</sup> Cir. 2010).

The precautionary principle for this HCP amendment is particularly justified in light of the influence that climate change will have on forest growth and development. Dr. Whittaker pointed out on Pg. 10 of her comments dated December 6, 2018 that “based on climate model~projections, the future conditions of forests where murrelets nest will be largely unfavorable for maintaining current forest structure and composition....” (quoting Raphael et al.2018). Indeed, the RDEIS contains an entire section admitting that climate change makes predicting the future a risky proposition; this section describes how climate change is likely to worsen existing threats to marbled murrelet nesting habitat throughout its inland range in the next 50 years, via increases in drought-related fire, mortality, insects and disease, extreme flooding, landslides, and windthrow events. See Whittaker Comment letter at 11 (citing RDEIS, at 4-69.) The RDEIS even concedes climate change is a real but essentially unquantifiable factor: “there is increased risk to the species from the alternatives if the intended conservation does not perform as expected.” RDEIS p. 5-11.

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<sup>6</sup> At least one federal district court has cited the ESA as requiring agencies to apply the precautionary principle to mitigation calculations. *National Wildlife Fed. v. NMFS*, 184 F. Supp. 3d 861, 873 n. 26 (D. Or. 2016).

The entire RDEIS fails to apply any real semblance of the precautionary principle. For example, the RDEIS mitigation strategy relies heavily on the fact that Alt. H proposes to harvest an *additional* 38,264 acres of both high quality habitat (4201 acs) and low-quality habitat (34,062 acs) over the next 50 years. RDEIS, at 4-38. Yet, all of this habitat is proposed to be harvested within the first 10 years, except under Alt. H, which “meters” 3600 “adjusted” acres of habitat over the first decade. The RDEIS fails to document the biological assumption that the impact on the murrelet from this precipitous loss can be offset by 1:1 take/mitigation.

Another biologically-risky aspect of Alt. H is the minuscule delta between the take and mitigation levels over the 50 year life of the HCP. At the watershed scale, Alt. H. decreases “adjusted habitat” in 19 watersheds and even under Alts. F and G this habitat would decrease in 7 to 8 watersheds, respectively. RDEIS, at 4-52 (Fig. 4.6.6). Similarly, it is risky that over the next 50 years Alt. H will only produce a net increase of 735 acres of habitat on average over all regions. To make matters worse, some regions, for example the North Puget, will experience a net *loss* of habitat by 1072 acres. RDEIS, at 4-51 (Table 4.6.5).

The RDEIS *admits* that there are “uncertainties” associated with the methodologies that estimate potential take and mitigation. RDEIS, at 4-50. It *admits* that habitat-selection science is poorly understood and that its forest development assumptions are speculative. RDEIS, at 4-50. It *admits* that “there are uncertainties about marbled murrelet survival, reproduction rates, dispersal, and other environmental influences may affect how the population responds to increased inland habitat.” RDEIS, at 4-58. These uncertainties include that the future rate of murrelet habitat restoration will likely be slower than current forest growth rates during the warmer, drier summers predicted for western Washington (Littell et al. 2010, Halofsky et al. 2011), and “there is increased risk to the species from the alternatives if the intended conservation does not perform as expected.” See RDEIS, at 5-11.

*While paying lip-service to them, the RDEIS fails to account for these “uncertainties” in its modeling or habitat growth/utility assumptions.* If one adds these acres to the 28,300 acres of marginal murrelet habitat and 2600 acres of surveyed unoccupied habitat that DNR has *already* logged (see RDEIS, at 5-6), the total number of acres of “take” over the life of the HCP exceeds **70,000 acres**. Given this level of past and future “take,” it follows that any federal approval governing murrelets and forestry on DNR state forests effectively for the next 50 years must be based on sound principles of best science **and** the precautionary principle.

The RDEIS does, to a certain extent, try to discount the biological value of forests based on their age and maturity (pstage), their “strategic location,” and the time-value). But the RDEIS continues to rely on scientifically-questionable assumptions without quantifying or qualifying the inherent risks of these modeling scenarios. Nor does the “epsilon” discount factor account for the risk of DNR’s mitigation not working. “Epsilon” only attempts to account for loss of habitat due to natural disturbance (which was grossly underestimated), not the risk inherent in DNR’s LTCS. See Whittaker Comm. Letter 11-6-18, at 11 (citing DNR verbal comments).

The murrelet cannot legally be required to bear the biological risk of the success of DNR's LTCS. As noted by Dr. Kara Whittaker, DNR's risk scenarios reflect the urgent need for DNR to adopt a scientifically-precautious LTCS. Dr. Whittaker wrote:

The DNR-Risk scenario provides the results most realistic estimates of outcomes under current conditions (PVA Table 2; RDEIS Fig. 4.6.12). Under this set of assumptions, there is a high probability the murrelet population on DNR-managed lands will be less than half its current size under all alternatives (range: 0.80 – 0.94 for Alt. F - B). It is more likely than not the DNR population will be reduced to one quarter (or less) of its current size for Alt. A, B, D, and H (no meter). For Alt. F and G, the DNR population reached the one quarter threshold (136 females) in only 36% of the simulations, performing best among all alternatives and 6% better than DNR's preferred alternative (H; probability of 0.42).

At the state scale (Risk scenario) across all alternatives, there is roughly a 50% chance the population will only be between one quarter to one half its current size after 50 years, between *904 and 1,808 females* (PVA Table 2; 50% being the midpoint between 0.31 and 0.81). The range of LTCS alternatives do not properly reflect this imperiled state, nor do they account for DNR's lengthy delay in adopting a LTCS, a time during which the murrelet's habitat and population have continued to decline (Raphael et al. 2018, Lance and Pearson 2016). More needs to be done *now* to compensate for these past losses and prevent functional extirpation from the state within the next several decades (Desimone 2016).

In summary, DNR is presenting the USFWS with a biologically-risky HCP amendment. The DNR and the USFWS must more clearly qualify and quantify the biological risk associated with their respective assumptions and modeling and reconsider its take/mitigation analysis in light of these uncertainties. DNR and the USFWS should reconsider its analysis in light of a more precautionary approach. DNR and the USFWS should adjust the risk factor, "epsilon," upward to reflect the inherent risks of this permit.

**b. The RDEIS' mitigation strategy relies heavily on unsubstantiated and biologically-risky assumptions pertaining to the geographic and temporal value of future marbled murrelet habitat.**

The RDEIS continues to maintain the undocumented assumption that habitat grown in the future and in different geographic locations can functionally, on a 1:1 basis, replace forest logged within 10 years. While the RDEIS's models try to "discount" future forests for purposes of relative forest maturity (pstage), location, and time, RDEIS, at 4-49 (the 60, 80% discount factor), the RDEIS' statement and comparison of the alternatives assume a constantly shifting landscape of habitat lost and habitat gained. We believe the RDEIS' attempt to discount the biological value of habitat grown over time is biologically speculative and unsound.

The Ninth Circuit Court of Appeals has held that that the “short-term” effects of logging cannot, without clear scientific documentation, be adequately mitigated by natural vegetation regrowth elsewhere. *Pac. Coast Fed’n of Fishermen’s Ass’n, Inc. v. Nat’l Marine Fisheries Serv.*, 265 F.3d 1028, 1037–38 (9th Cir. 2001). The Revised HCP Handbook similarly emphasizes that “care should be given to compare and document the value of what is lost and the expected value of measures to replace what would be lost.” Handbook at 9-31. The quantity and quality of any habitat destroyed or modified by an activity covered by an incidental take permit must be mitigated in whole and not merely by an inadequate substitute. Handbook, at 9-29-9-30. An agency, like USFWS here, must consider near term habitat loss to populations with short life cycles.” *Nat’l Wildlife Fed’n v. NMFS*, 524 F.3d at 934 (citing *Pac. Coast Fed’n v. BOR*, 426 F.3d at 1094).

The RDEIS’ mitigation strategy, as did the DEIS’, relies heavily on a key assumption: that, at the end of the 50 year “planning period,” DNR would “grow” more murrelet habitat of “long-term forest cover” than it would “take” by logging. RDEIS, at 4-39. It also assumes that higher-quality habitat harvested in one habitat-rich area (ie. SW WA, Olympic Peninsula) can be offset by habitat grown in what is now marginal habitat in the North Puget. RDEIS, at 4-51. Accordingly, *despite* that DNR intends to log between 24,000 and 47,000 acres of inland habitat under most alternatives (RDEIS, at 4-41), DNR concludes that Alternatives A-H will grow more of this inland habitat in the future than currently exists today and that this future growth constitutes substantial mitigation. *See* RDEIS, at 4-41 (Fig. 4.6.1).

The assumption that DNR’s mitigation strategy depends heavily on the value of future forests is reflected elsewhere in the RDEIS. DNR assumes, without documentation however, that younger forests within “long-term forest cover” will eventually erase or reduce the fragmentation created by forest edges that, today, could threaten murrelets. RDEIS, at 4-46. And, while trying to “discount” the value of future habitat by giving it a lower “P-stage” value (RDEIS, at 4-49) or by applying a “decadal adjustment factor,” (RDEIS, at 4-49), the RDEIS assumes that “future habitat development” is a key component of DNR’s mitigation. RDEIS, at 4-50. The “growth of new habitat” is also central to the RDEIS summary section. RDEIS, at 4-83 (Table 4.6.16). Other sections of the RDEIS reflecting heavy reliance on “increasing forest cover” are 2-15 and 4-28.

The RDEIS concedes that its projections of the relative value of future habitat as a surrogate for habitat logged today is risky. RDEIS, at 4-50 (“It is important to recognize that while specific outcomes are presented, there are numerous uncertainties associated with these estimates of impact and mitigation acres.”) Yet the RDEIS impermissibly assumes, without any scientific basis, that acres of very low quality habitat in one location will offset the biological impact of the elimination of high quality habitat today in a different geographic location. This approach appears to lack any scientific basis.

Dr. Whittaker’s accompanying comment letter explains why the RDEIS mis-assumes that geography for the murrelet-where’s its habitat is “taken” and where it’s grown in the future-- is fungible. *See* Whittaker Comments, at 8. For example, Dr. Whittaker observes with respect to the North Puget strategic location:



The area of habitat gained and lost in each of these landscapes varies widely among alternatives. In the high value landscape, including all three strategic locations, Alt. H has significantly fewer net adjusted acres than Alt. F and G, especially in the North Puget strategic location, where Alt. H has a net loss of 1,072 adjusted acres after 50 years (RDEIS Table 4.6.5). If DNR’s preferred alternative is adopted, this would create a significant gap in geographic distribution on DNR-managed lands in this part of the state. In contrast, Alt. F and G yield a net increase of habitat in all three strategic locations and the remainder of the high value landscape, which is much better aligned with the biological goal of geographic distribution. (emphasis added).

Whittaker Comment, at 7. The RDEIS also fails to account for the current distribution of occupied sites on non-DNR lands. This makes it impossible for DNR to explain why the LTCS will improve population distribution. Whittaker Comment, at 8.

Another oversight is that the RDEIS fails to consider the *absolute* impact of the take on murrelet populations. *Union Neighbors United, Inc. v. Jewell*, 831 F.3d 564, 581 (D.C. Cir. 2016). Instead, the RDEIS focuses only on the relative quantity of take under the different alternatives. DNR candidly admits the importance of present day forests for predicting in-tact murrelet populations, RDEIS, at 3-31 (citing Falxa et al. 2016)(“the amount and distribution of inland habitat are the primary factors influencing the abundance and trends of murrelet populations.”) But the RDEIS admits its population modelling (a key component of DNR’s “analytical framework”) only demonstrates relative impacts and not absolute impacts of its take. RDEIS, at 4-59.

The RDEIS also makes highly speculative special assumptions. As an example, the RDEIS admits that DNR’s forests in SW Washington are “strategic” for murrelets. RDEIS, at 2-28; 2-29 (Fig. 2.3.1). But all of alternatives would harvest thousands of acres of habitat within this “strategic” area. See RDEIS, at 4-38 (Fig. 4.6.2)(Alt H: 5068 acres of “low quality” habitat logged and 174 acres of “high quality” habitat logged). Yet, as “mitigation” for this loss of habitat, DNR’s preferred Alternative, H, would replace 11,593 of these SW Washington acres with “low quality” habitat and with 26,980 acres with “high-quality” habitat but this replacement will take five decades to occur.

Another oversight is that the RDEIS under-estimates the amount of “natural disturbance” murrelet habitat will endure over the next 50 years. Dr. Whittaker pointed out that DNR estimated “natural disturbance” to be 1205 raw acres when this figure should be more like 2966 acres. Whittaker Comm. Letter, at 11 (citing RDEIS Table 1.3.1).

The FEIS needs to quantify absolute impact of DNR’s LTCS on murrelet populations, not just the relative impact of each of the alternatives. The question should be what is the *absolute impact* on the murrelet of losing an additional 27,000 to 40,000 acres of habitat within the first two decades and how is that impact offset by the growing of future habitat? Alternatively stated, the RDEIS does not measure or assess the impact of habitat loss on the species in peril; it

assumes lack of impact by equating baseline vs. future numeric habitat quantities. Time and immediate habitat loss matters but the RDEIS hides this fact in speculative modeling.

**c. Failure to Account for Disturbance Take.**

In her December 6, 2018 comments, Dr. Kara Whittaker explained why the RDEIS failed to adequately account and mitigate for the disturbance take of DNR's timber sales. See Whittaker Comment letter, December 6, 2018, at 13-16. We will not repeat those comments here. We do, however, note this very important point: although disturbance take is a form of "take" under the ESA (15 CFR 17.3), such take is not adequately accounted for in the RDEIS. See RDEIS, at 4-51.

After quantifying disturbance acres (RDEIS Table 4.6.14), DNR stated the figures were used only to *inform* proposed conservation measures because they do not result in habitat removal. RDEIS, at 4-79. Furthermore, the proposed conservation measures are not robust enough to avoid or minimize a significant amount of disturbance take, and at best only *reduce* it (RDEIS Table 4.6.15).

**5. The RDEIS continues to give DNR effective mitigation credit for tracts of DNR forests for which DNR has already received fair market value compensation by the State to place these lands into conservation status.**

DNR has informed stakeholders its alternatives do not seek to assign retroactive "mitigation" credit for DNR forest habitat that exists today but only for habitat that DNR grows in the future. But this commitment, if true, appears to conflict with an implicit assumption in the RDEIS: that lands *already set aside* for regulatory or DNR policy reasons or for which DNR has received legislative appropriations to set aside forests as "natural conservation areas" **can** be included in the "mitigation" column.

The RDEIS includes 89,000 acres of set-aside forested "natural recreational areas" within the 567,000 acres of "existing conservation." These acres were permanently placed into conservation as "Natural Resource Conservation Areas (NRCAs) or Natural Area Preserves (NAPs) by legislative appropriation. RDEIS, at 2-10 (Table 2.2.2). By including these acres in the "existing conservation" category, DNR uses them as retroactive mitigation for DNR's past and future take of murrelets. The RDEIS, accordingly, implies that these 89,000 acres can be factored into DNR's Section 10 "practicability" analysis (ie. what DNR can "practicably" offer in its LTCS).

The inclusion of these 89,000 acres as "mitigation" forests is impermissible double-counting of habitat already protected. An agency, like USFWS here, must consider near term habitat loss for species with short life cycles. *Nat'l Wildlife Fed'n v. NMFS*, 524 F.3d at 934 (citing *Pac. Coast Fed'n v. BOR*, 426 F.3d at 1094). The Service has defined mitigation and enhancement

measures as “measures, including live propagation, transplantation and habitat acquisition and improvement necessary and appropriate (a) to minimize the adverse effects of a proposed action on listed species or their critical habitats and/or (b) to improve the conservation status of the species beyond that which would occur without the action.” 50 C.F.R. § 450.01 (emphasis added). The use of the word “action” in this definition also suggests that mitigation must be something that is actively being done and that is directly related to “improv[ing] the conservation status of the species.” *Id.*<sup>7</sup> *According to the ESA’s statutory language and the Service’s definition of “mitigation,” wholly past deeds outside of HCP implementation should not count as mitigation credit.*

In addition, the USFWS’ Section 10 “practicability” analysis must take into account that DNR and the trust beneficiaries had been fully compensated for NAPs and NRCAs. These areas would be preserved regardless of whether or not the HCP is in place, and their presence does not restrict logging in any way. It is impermissible for DNR to “double-dip” with these lands: to receive fair market value for them years ago and then claim they are mitigation for DNR’s future take of modeled murrelet habitat. Because DNR has been compensated in full for these 89,000 acres well before DNR’s LTCS will be adopted, DNR cannot use these 89,000 acres as mitigation for purposes of calculating mitigation of future take of murrelets.

**6. Alternative B should be eliminated from consideration in the FEIS because it fails on its face to meet the Section 10 issuance criteria.**

The requirement that an HCP minimize and mitigate take “to the maximum extent practicable” requires the Services to conclude that the proposed mitigation is “rationally related” to the proposed take. *National Wildlife Fed. v. Norton*, 306 F. Supp. 2d 920, 928-9 (E.D. Cal. 2004). According to DNR, an alternative that does not meet the project’s purpose or need or the Section 10 “issuance criteria” should be eliminated. RDEIS, at 2-67. It flows from this that Alt. B should be eliminated from consideration because it fails to meet the basic take/mitigation requirements and principles of Sect. 10.

Specifically, the mitigation supposedly provided by Alt. B falls far short of the projected take. RDEIS, 4-50 (Fig. 4.6.5); 4-83. In fact, Alt. B. provides a 6325 adjusted acre **negative** impact. RDEIS, at 4-51. Alt. B. also has the “highest probability of quasi-extinction.” RDEIS, at 4-83; Peery and Jones Report, at ii. It would negatively affect distribution of murrelets due to the decline of habitat in the northern half of the North Puget strategic locations. RDEIS, at 4-52. It presents the least protection to SW Washington. RDEIS, at 4-57 (70 %, as opposed to 80% for Alt. H and 91 % for Alt. F). And it protects the least interior forest habitat and habitat capacity. RDEIS, at 4-57.

In addition, not only does it fail to meet the ESA Section 10 criteria on its face, but Alt. B fails to conform with the commitments of the 1997 HCP, including making a “significant contribution”

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<sup>7</sup> The HCP Handbook defines mitigation more broadly incorporating the definition of mitigate from NEPA regulations. See Revised HCP Handbook at 9-14.

to the protection and recovery of the species. Alt. B should be eliminated as it facially fails to provide mitigation that is equal to take. RDEIS, at 2-42.

A Section 10 approval requires the applicant to “more than compensate for the take.” *Id.*, at 928. Because the mitigation proposed by Alt. B fails to come close to offsetting the take of this alternative, it should be eliminated from consideration in the FEIS as a matter of law.

**7. The RDEIS incorrectly assumes that DNR will meet its contractual obligations under the HCP to “make a significant contribution to maintaining and protecting marbled murrelet populations” by merely by adopting a LTCS that meets the Section 10 permit issuance criteria.**

DNR’s 1997 HCP made the express commitment to the USFWS that its LTCS would “make a significant contribution to maintaining and protecting marbled murrelet populations. 1997 HCP, at IV-44. DNR committed to making “improved conditions” for the murrelet over time. *Id.* Yet, DNR implies in “Objective 2” that DNR lives up to this environmentally-significant commitment merely by mitigating and minimizing the “take” of murrelets through DNR’s 50 year LTCS. RDEIS, at 1-2; 2-70. DNR has made the same representation before the BNR. This assumption ignores DNR’s contractual commitments in its HCP and, if the agencies continue to adhere to it, will require reconsideration of the USFWS of some of the biological justifications underlying DNR’s HCP.

As we pointed out in our March 2017 comment letter, DNR’s HCP explicitly requires it to adopt a LTCS that “makes a significant contribution to maintaining and protecting marbled murrelet populations in western Washington over the life of the HCP.” *See also* 1997 DNR HCP, at IV-14. Specifically, DNR committed to “protecting and maintaining habitat, decreasing the risk of loss of suitable habitat, maintaining or increasing the reproductive success of the marbled murrelet, and increasing adult survivorship.” 1997 DNR HCP, at 43. The 1997 HCP’s Biological Opinion accompanying DNR’s HCP also assumed that basic principles of the USFWS’ recovery plan for the murrelet, when completed, would be imbedded into DNR’s HCP. *Bi Op*, at 95. *While the HCP does not explicitly commit to achieving recovery, it certainly implies that the LTCS would certainly promote recovery and certainly nothing in the LTCS should make state-wide recovery less viable or possible.* Indeed, adoption of a LTCS that “maintains and protects” murrelets is one that helps promote their recovery.

The USFWS should not permit DNR, unless the Service reconsiders the biological basis of DNR’s HCP, to back-track on its HCP commitment to make a significant contribution to maintaining and protecting” murrelets. Simply offsetting “take” does not make that contribution. The HCP uses the terms “minimizing and mitigating take” and “contribution to recovery” in the disjunctive (1997 DNR HCP, at 44 (first para.)). The HCP never suggests that this “contribution” is satisfied merely because (or when) the USFWS can theoretically issue DNR an amendment that is technically-approvable under the Section 10 issuance criteria. Because a contract’s plain terms controls its interpretation, the USFWS must demand that DNR’s LTCS make a “significant

contribution to recovery” when considering its approval of this LTCS under Section 10 of the ESA.

The DNR cannot today contest the justification for its “significant contribution” commitment. When the USFWS approved DNR’s HCP in 1997, the document clearly acknowledged that little was known about marbled murrelets, their habitat, or their actual presence on DNR’s state forests. Nor had the USFWS even adopted a recovery plan for the species. DNR HCP, at 39. The clear assumption of the HCP was that DNR’s yet-to-be-adopted LTCS would help advance (and certainly not be inconsistent with) the yet-to-be-developed USFWS recovery objectives. The HCP said as much: the DNR committed to “meet recovery objectives,” “contribute to the conservation efforts of the Northwest Forest Plan,” and “make a significant contribution to maintaining and protecting marbled murrelet populations in western Washington over the life of the HCP.” 1997 DNR HCP, at 44. DNR’s 2008 Science Report, which has never been formalized adopted in any manner, characterized the biological goals of the HCP and the 1997 Federal Recovery Plan as (1) a stable or increasing population, (2) an increasing geographic distribution, and (3) a population that is resilient to disturbances. *Raphael et al.* 2008.

In her scientific comment letter, WFLC Senior Staff Scientist and Policy Analyst Kara Whittaker pointed out why, with the possible exception of Alts. F and G, the LTCS analyzed in the RDEIS fail to meet the express commitments in DNR’s HCP. Whittaker Comment letter, at 36. Dr. Whittaker points to numerous HCP-stated biological goals that should be, but are not, met by Alt. H:

- **Population Size:** Dr. Whittaker’s comment letter notes that the population size will be less than one-half its current size and could be reduced to 25% of its size. *Id.*, at 6. This is not a “significant contribution” compared to more precautionary alternatives.
- **Population Stability:** stability of population is measured in terms of raw acres of interior habitat created by each alternative. Dr. Whittaker points out that Alt. F. creates 37% more interior habitat than Alt. H. This is not a “significant contribution.”
- **Nest Success.** Dr. Whittaker points out that only Alts. F and G give murrelets a ten year earlier opportunity to increase reproductive rates, especially Alt. F produces a 147% increase. Whittaker Comm. Letter, at 7.
- **Geographic Distribution.** Dr. Whittaker points out that, in the high value landscape, including all three strategic locations, Alt. H has significantly fewer net adjusted acres than Alt. F and G, especially in the North Puget strategic location, where Alt. H has a *net loss* of 1,072 adjusted acres after 50 years (RDEIS Table 4.6.5). If DNR’s preferred alternative is adopted, this would create a larger gap in the geographic distribution of habitat on DNR-managed lands in this part of the state. A related concern is that only 51% of the higher quality ‘reclassified’ habitat in the North Puget Planning Unit has been surveyed for murrelet nesting, and the more of this habitat that is harvested, the greater the chance unknown nest sites will be lost. A net loss of habitat in the North Puget Planning Unit under Alt. H is also concerning due to its proximity to the San Juan Islands, where murrelet density at-sea is relatively high.

In conclusion, the FEIS, and the agencies use of it in evaluating its decisions, should consider the “significant contribution” commitment separate and apart from the baseline Section 10 permit issuance criteria (ie. “minimizing and mitigating take to the maximum extent practicable” and “avoiding jeopardizing of the species.”). If the agencies continue to maintain that a plain reading of the HCP and recent developments require reconsideration of or retreat from the higher standard set forth in the 1997 HCP, the FEIS must identify, quantify, and analyze the direct and cumulative environmental impacts that flow from this decision. In its current state, given the biological danger(s) of its proposed take and the weakness of its mitigation, Alt H. does not make a “significant contribution to maintaining and protecting marbled murrelet populations.”

**8. The RDEIS erroneously assumes that no more than a roughly 1:1 take-to-mitigation ratio is the “maximum extent practicable” DNR can provide in its LTCS to be consistent with DNR’s purported Trust Mandate.**

The proposed HCP amendment (July 2018) states that DNR’s logging under Alt. H would lead to the loss of 11,300 acres over the remaining 50 years of DNR’s HCP and that this take is mitigated by Alt. H. to the tune of 12,100 adjusted acres. Amendment, at 10 (5.2). The proposed “benefit” of the LTCS (other than to give DNR regulatory certainty to continue its logging)-- a mere 700 acres over 50 years—is a hardly enough to mitigate the risk of Alt. H. Given their dangerously precarious population trend, the inherent biological risks of DNR’s mitigation strategy, and loss of habitat, a proposed 700 acre gain over 70 years (10 acres a year) does not make a significant contribution to murrelet protection and population stability.

The RDEIS states that DNR’s preferred alternative, Alt. H, makes the best compromise between mitigation and take (referred to as “impact” in the RDEIS) because the two are roughly numerically equal, except for a small risk cushion referred to as “epsilon.” RDEIS, at 4-49. In contrast, the RDEIS provides that the most conservation-oriented alternative, Alt. F, would produce a mitigation-to-take ration of 2.8:1. The RDEIS consolidates the relative take/mitigation ratios into a horizontal bar chart (Figure 4.6.5 (pg. 4-50)) implying that Alt. H is the most practicable and legally viable alternative because habitat and murrelet success gains slightly exceed habitat losses.

Alt. H. is not the “maximum extent practicable” LTCS that DNR may legally adopt. The ESA specifically provides that, in order to demonstrate practicability, the USFWS must thoroughly consider alternative methods of mitigation and alternative methods of practicably achieving greater mitigation. 16 U.S.C. § 1539(a)(2)(A)(iii)(emphasis added). Courts have generally interpreted “maximum extent practicable” with the emphasis on “practicable.” Practicable means “reasonably capable of being accomplished.” Black’s Law Dictionary (10th ed. 2014). Proposed mitigation measures must be the maximum that can be reasonably required of the applicant. *Nat’l Wildlife Fed’n v. Babbitt*, 128 F. Supp. 2d at 1293. An applicant may do something less than fully offset the impacts of the take through minimization and mitigation only where to do more would not be practicable. *Nat’l Wildlife Fed’n v. Norton*, 306 F. Supp. 2d 920, 928 (E.D. Cal. 2004).

For example, a record should show “not just that the chosen mitigation fee and land preservation ratio are practicable, but that a higher fee and ratio would be impracticable.” *Babbitt*, 128 F. Supp. 2d at 1292. The Service, not the applicant, determines whether alternatives providing greater minimization and mitigation are impracticable. *Gerber v. Norton*, 294 F.3d 173, 178-184 (D.C. Cir. 2002). If the Service determines that the applicant rejected another alternative that provided more benefits to the species either by providing more mitigation or causing less harm, and the Service determined that this alternative was feasible, then the Service cannot approve the ITP under the less protective alternative. *Sw. Ctr. for Biological Diversity v. Bartel*, 470 F. Supp. 2d 1118, 1158 (S.D. Cal. 2006), *appeal dismissed and remanded*, 409 F. App’x 143 (9th Cir. 2011).

To determine whether another alternative is feasible, the Service must “weigh[] the benefits and costs of implementing additional mitigation, the amount of mitigation provided by other applicants in similar situations, and the abilities of that particular applicant.” *Babbitt*, 128 F. Supp. 2d at 1292. Furthermore, an applicant cannot rely on the speculative future action of others for sources of income to make up for the inadequacy of mitigation. *Sierra Club v. Babbitt*, 15 F. Supp. 2d 1274, 1280 (S.D. Ala. 1998).

In several ways, the RDEIS is wrong to the extent it implies that Alt. H is the legal limit in the “maximum extent practicable” analysis in ESA Sect. 10.<sup>8</sup>

We first point out an important procedural irregularity pertaining to the way this Section 10 permit is being processed by the USFWS: the public has no way of knowing which agency—DNR or USFWS—made the “maximum extent practicable” decision. It appears from the proposed HCP Amendment that DNR, *not the Services*, have informed the USFWS which LTCS alternatives are “the maximum extent practicable” for DNR to adopt. But this has it backwards. The Services must *independently* make this decision and not simply ask DNR what its “best offer” or “breaking point” is. The federal record MUST contain independent analysis of practicability. *National Wildlife Fed. v. Babbitt*, 128 F. Supp. 2d 1274, 1292 (E. D. Ca. 2000). Conclusory statements of “practicability” are not sufficient; there must a specific analysis why more mitigation is “impracticable.” *Id.* While Section 10 does not require the USFWS to exact as much land as possible, it does require the Service to obtain mitigation that is “rationally related” to the take. *NWF v. Norton*, 306 F. Supp. 2d 920 (E. D. Ca. 2004). At least one court strongly implied that at least a 1:1 take/mitigation ratio is the bare minimum necessary to pass muster under Section 10. *Id.* at 928.

The first reason why Alt. H falls well short of what is “the maximum extent practicable” is how little Alt. H’s *alleged*<sup>9</sup> 1:1 take/mitigation ratio accounts for the enormous long-term risk this alternative entails. The claimed “mitigation” acres of Alt. H only exceed the “impact” acres by 725 over 50 years, compared to 12,726 acres for Alt. F. RDEIS, at 4-51 (Table 4.6.5). The Amendment puts the net-gain of habitat at 700 “adjusted acres.” Amendment, at 10. Given the

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<sup>8</sup> Dr. Ernie Niemi’s comment letter will address the socio-economic issues in the RDEIS. This comment letter addresses the direct economic impacts of DNR’s state forest practices program.

<sup>9</sup> We do NOT, in any way, imply that Alt. H, in its current form, provides a 1:1 take/mitigation ratio. We believe Alt. H over-estimates mitigation by failing to account for the types of factors identified in this comment letter.

level of risk and the loss of 38,264 acres of both low and high quality habitat over the next 50 years (RDEIS, at 4-38; Table 4.6.2), it is certainly “practicable,” as that term is defined in Section 10, for the USFWS to require more up-front mitigation in light of the biological risk posed by 50 more years of DNR logging guided by Alt. H, the Board’s preferred alternative.

Second, in light of this biological risk, there is no analysis in the RDEIS suggesting the appropriate criteria against which to judge the “practicability” of the respective alternatives. For example, the RDEIS does not evaluate and analyze (a) the economic value of the 30,900 acres of habitat DNR has taken to date under the interim strategy (RDEIS, at 5-6), including accounting for the expensive and time-consuming murrelet surveys DNR would have had to or will in the future have to conduct without its HCP; (c) the economic value of the habitat proposed to be taken by the LTCS alternative; (d) the cost to DNR in terms of future logging restrictions as a result of loss of the HCP (surveying costs and the costs of delay) or if the USFWS issues a “jeopardy call” in the future; or (e) DNR’s ability to recoup all or part of its mitigation through other financial mechanisms. The FEIS should specifically document why it is financially impracticable for DNR today to offer a more conservation-oriented LTCS. DNR’s assumption that only Alt. H meets the “practicable” test is based simply on DNR’s anecdotal statement that Alt. H is all DNR can do and the mathematical equivalence of the take and mitigation numbers. It is not based on what DNR can reasonably provide in conservation given its ownership of 2 mil. acres and its potential take.

Third, DNR candidly admits that it has no interest in losing its federal incidental take protection (RDEIS, at 2-2 (first bullet point)). As a point of fact, DNR’s proposed amendment to its incidental take permit explains how costly and time-consuming it would be for DNR to manage its forests without federal incidental take protection:

Managing under only the forest practices rules would mean potential costly delays to the timber sale process due to required surveys of each stand for marbled murrelet occupancy (a one- to two-year process with up to 18 site visits [Evans Mack and others 2003]) and consultation with USFWS each time potential impacts to habitat are identified.

Proposed HCP Amendment, at 4 (bullet 2). This concession on its face reflects that DNR is bargaining with a weak hand and that the USFWS can reasonably and economically demand additional mitigation from DNR’s LTCS. This alone signals that it is “practicable” for the USFWS to require DNR to provide more conservation than a mere 1:1 take to mitigation ratio.

Fourth, given DNR’s overall level of take during the life of the HCP (~70,000 acres of modeled murrelet habitat) and its contractual commitment to providing a “significant contribution to recovery of the species,” there is no analysis reflecting that it is not economically viable for DNR to provide more mitigation. DNR manages about 2 million acres of state forests yielding almost \$115 million per year from logging the federal land grant forests. RDEIS, at 3-51 (Table 3.1.4). DNR yields an additional \$56 million from logging the county forest board lands. RDEIS, at 3-62 (Table 3.11.5).



Under Alt. H, DNR would forego about 43,000 additional acres of marbled murrelet-specific conservation areas and Alt. F would set aside 176,000 of these acres. RDEIS, at 2-7; Table 2.2.1. The fiscal impact on the trusts over the life of the HCP, as measured by the reduction in “bare land value,” would be negative \$9 million for Alt. H and negative \$51 million for Alt. F. When divided by 50 (50 more years of the HCP), these reductions are minimal considering DNR’s past and future “take” of 70,000 acres of marbled murrelet habitat and its 100 plus million timber sales program. These are “practicable” prices for DNR to pay to gain a 50 year exemption for its take of murrelets.

This is not like the situation in *National Wildlife Federation v. Norton*, where the plaintiffs opposing a massive California development argued that the USFWS could have pressed the developer further to provide more mitigation. That case involved a single developer and a one-time real estate development. DNR, in contrast, is a public agency that is statutorily charged with maintaining the 2 million acres of state forests on a sustainable yield basis (RCW Ch. 79.10). Unlike a private landowner who may be beholden to shareholder or investor-set returns, DNR is legally permitted to proactively manage lands in a conservative manner that promotes long-term productivity and which avoids future regulation or legal entanglements. See DNR 1992 Forest Resource Plan, at 4 (“Therefore, the department believes some of its policies, which provide greater protection for state forest land than the minimum legal requirements, allow the Department to preserve the long-term productivity of the forest lands and protect the range of resources found on state land for future beneficiaries.”). See also 1996 A.G.O. 11, at 40-41 (“Department management plans may exceed minimum standards, if doing so reflects a reasonable balancing of short-term interests and the protection of trust productivity over the long term.”).

Fifth, given the murrelet’s rapid decline and imperiled status, there are extremely strong conservation reasons why Alt. H is not the “maximum extent practicable.” The preferred alternative (H) will not stabilize Washington’s murrelet population as soon as other LTCS alternatives would and the sooner it stabilizes, the greater the chance of extirpation can be avoided. In the RDEIS relative to Alt. A (the “no-action” alternative,) the raw acres of interior habitat created by Alt. H are only 15% higher than the “No Action” alternative, Alt. A. In contrast, Alt. F produces 57% more interior habitat than the “No Action” alternative. And Alt. F creates 37% more interior habitat than Alt. H (Table 4.6.4). Among the alternatives, Alt. F and G also create the most interior habitat in every decade and landscape, and Alt. F is the only alternative with more interior habitat than Alt. A in the “other high value landscape”, which can help fill the gap in geographic distribution of potential nest sites on DNR-managed lands between the three strategic locations (RDEIS Fig. 4.6.2).

Alt. F and G also substantially out-perform Alts A and H relative to nest success, another key indicator of recovery. Nesting carrying capacity (K) increases at a faster rate than the area of habitat due to the influence of habitat quality with important differences between alternatives (PVA Fig. 2a-b). For Alt. C, D, E, and H, nesting carrying capacity doesn’t change for the first decade and then it increases over time relative to the modeling baseline. In contrast, nesting carrying capacity increases *every* decade for Alt. F and G, giving murrelets a ten-year-earlier

opportunity to increase reproductive rates and stabilize the population. Alt. F especially stands out with a 147% increase in carrying capacity after 50 years.

In the high value landscape, including all three strategic locations, Alt. H has significantly fewer habitat reserves than other alternatives, especially in the North Puget strategic location, where Alt. H has a *net loss* of 1,072 adjusted acres after 50 years (RDEIS Table 4.6.5). If DNR's preferred alternative (H) is adopted, this would create a significant gap in geographic distribution on DNR-managed lands in this part of the state. Alternatives with a net increase in habitat in all three strategic locations and the remainder of the high value landscape are much better aligned with the biological goal of geographic distribution.

The bottom line is that the "maximum extent practicable" bar must be kept high in light of the precarious population of murrelets and the risk posed by DNR's timber harvests over the next 50 years.

#### **9. The RDEIS ignores the crucial geographic location of DNR's forests to murrelets.**

The RDEIS (at 3-32) and Amendment (at p. 11 (Sect. 5.4)) rely heavily on the notion that DNR's forests only comprise about 14% of "total nesting habitat" within the murrelet's range. Based on this percentage, the Amendment concedes, "Given these small percentages, DNR's actions have limited potential to influence the trajectory of the Washington murrelet population and certainly cannot control it." *Id.*

The assumption that DNR cannot do much today on its own lands to protect and recover murrelets is misplaced for several reasons.

First, it is important to focus on how much of the murrelet's habitat has been lost to logging under DNR's management and regulatory authority. According to the WDFW's 2016 "Periodic Update" on the status of the marbled murrelet (Desimone et al.), about 30% of the bird's habitat was lost to logging since 1993 and only about 12-18% of its original old growth remains. Logging on private lands was the culprit behind much of this habitat loss, approximately 30 % (WDFW, Desimone 1996, at 11). DNR regulates logging on private lands through its chairmanship of the Forest Practices Board, RCW 76.09.040. Given DNR's responsibility to regulate forest practices on private land, DNR's state forests should bear responsibility for the loss of this habitat.

Second, DNR gross under-estimates the biological importance of its 14% ownership of nesting habitat. The USFWS emphasizes the importance of SW Washington to murrelets due to the absence of federal land and the abundance of early seral already-logged land (USFWS 1997 Recovery Plan, at 125-26). But under Alt. H, 20% of the forests in SW Washington that currently function as murrelet habitat would be harvested. RDEIS, at 4-57.

#### **10. Under principles of NEPA, the RDEIS erroneously excluded the Conservation Alternative from the Marbled Murrelet Coalition, an alternative from the Pacific Seabird Group, a USEPA alternative, and an alternative from the American Bird Conservancy; The Agencies must more specifically state which agency excluded these Alternatives and why they are not "practicable."**

The RDEIS states that the “Joint Agencies” excluded four alternatives because in their view they imposed too much costly mitigation for the affected trusts. RDEIS, at 2-67. The USFWS must reconsider this decision for several legal reasons.

At the outset, we reiterate (but do not repeat) that DNR and the USFWS have adopted an impermissibly narrow “purpose and need” statement, a statement the agencies subsequently used to exclude potential “reasonable alternatives.” *See* Coalition Comm. Letter, at 32-34. This narrowness stems from DNR’s assumption that the “trust mandate” precludes DNR from dedicating more acres of forest to murrelet protection or recovery that it would directly take by its logging of modeled habitat. The decision to exclude these four was wrong as a matter of law (1) to the extent it was based on the impermissibly narrow Purpose and Need statement; and (2) to the extent it is based on DNR and USFWS’s respective misinterpretation of DNR’s authority under the trust mandate.

Furthermore, the Joint Agencies’ refusal to include and consider the four alternatives lack legally-required transparency. Under NEPA, the public has a right to know if an agency’s decision on the range of alternatives was preordained or constrained by an impermissibly narrow purpose and need statement. *Alaska Survival v. Surface Transp. Bd.*, 705 F.3d 1073, 1084 (9th Cir. 2013). In addition, SEPA requires the inclusion of alternatives that are “feasible.” WAC 197-11-786.

After the public comment period on the 2016 DEIS closed, it appears the USFWS and DNR made several important decision behind closed doors, including the following:

(1) DNR decided that the four alternatives would violate the Trust Mandate (Objective 1) because DNR cannot legally offer more conservation under its trust mandate than the USFWS will approve under Section 10. If that is the case, the public has the right to know whether DNR made this trust mandate-based decision internally or whether it acted under the explicit or implicit direction of the Board.

(2) USFWS decided that, given DNR’s legal interpretation on the scope of DNR’s alleged trust mandate, it was not “practicable” under the issuance criteria to *require* DNR to provide more conservation.

(3) USFWS decided that, given the narrow Purpose and Need statement (which, itself, stemmed from DNR’s view on the trust mandate), these four alternatives were not reasonable alternatives.

If these decisions were made based on the “practicability” of these alternatives, the agencies must disclose (1) which agency made them; (2) when they were made; and (3) a written explanation of the specific “reasonableness” criteria or formula that was used to exclude them as “reasonable alternatives.” The USFWS cannot make its “maximum extent practicable” decision based solely on what DNR says is “practicable” for DNR given its self-declared economic requirements.

**11. The RDEIS assumption that the “trust mandate” prevents the Board from adopting a LTCS that provides more conservation than the bare minimum acceptable to the USFWS for issuance of the Section 10 permit is wrong as a matter of law.**

The USFWS and DNR appear to have agreed, or conceded, that DNR’s so-called “trust mandate” prohibits DNR from living up to its HCP commitment to “make a significant contribution to maintaining and protecting marbled murrelet habitat (HCP, at IV-44) to the extent this means taking steps to promote murrelet recovery. Consequently, the USFWS appears poised to accept DNR’s privately-communicated position that Alt. H, DNR’s preferred alternative, is the “maximum extent practicable” it can demand from DNR.

We reiterate, but do not repeat here, the argument in our White Paper on the DNR trust mandate. The USFWS cannot take DNR’s representations on its “trust mandate” at face value. We provided DNR and the Services with a copy of this Whitepaper in our comments on the Sept. 2016 DEIS and have attach an updated copy of it to this comment letter.

The White Paper explained that DNR has the legal authority to comply with Endangered Species Act’s Section 10 HCP section if doing so provides DNR’s trust lands with valuable long-term economic security. We argued that the Board and DNR have the authority to adopt a conservation-oriented LTCS that is legally defensible under state law, ESA Section 10, and NEPA, one that places the risk of non-attainment on DNR, not the marbled murrelet. Our White Paper also explained in detail why DNR and the Board have the legal authority to live up to its HCP commitment to make a “significant contribution” to murrelet populations and to provide more conservation than a 1:1 take/mitigation ratio. The Board has this authority because the federal school trusts are public trusts (they were placed in trust “for all the People”) and because preservation and recovery of federally-listed species serves the interests of “all the People.”

**12. The Amendment is Premature**

The Services are also requesting comment on the proposed HCP amendment dated July 2018 (“Amendment”). As set forth above, the Amendment assumes that, after the final EIS, the Board of Natural Resources and DNR will select Alt. H and submit it to the USFWS for approval under Section 10 of the ESA. We offer the following comments.

**a. The Amendment is Premature to the extent it assumes Alt H.**

The Implementation Agreement (IA) for DNR’s HCP provides that, before the USFWS approves a “major amendment” (which the LTCS is) the Services must determine whether the amendment increases the level of take, provides “appropriate mitigation,” and whether there are alternatives to the amendment. IA § 25.3 (b-c).

At the present time, the Amendment is being submitted at the same time that the RDEIS presents data on and analyzes eight (8) alternatives. This RDEIS analyzes important factors like take, mitigation, and potential alternatives. Yet the Amendment puts the cart before the horse by *presuming* we know the answers to things like level of take, appropriate mitigation, and alternatives. For this reason, the Amendment is premature to the extent it is based solely on Alt.

H, an alternative that has not yet been adequately analyzed in an EIS (and the comments on that EIS) and has not yet been approved by the Board of Natural Resources.

**b. The Amendment relies on multiple speculative and undocumented assumptions.**

Before approving a major amendment to DNR's HCP, such as the LTCS, the USFWS must find that the Amendment complies with the "issuance criteria" contained in Section 10 of the ESA. Yet the Amendment was drafted and is submitted for public comment *before* the USFWS has even formally applied the Section 10 issuance criteria to DNR's LTCS and has documented those findings. For example, the Amendment makes conclusory findings that only Alt. H meets DNR's objectives and that the other alternatives do not, that Alt. H best balances take vs. mitigation, and that Alt. H does not rely on unproven or unfinanced approaches. Amendment, at 5-6. There is NO basis for these summary conclusions unless and until the agencies issue a Final EIS (addressing and incorporating, as applicable, the comments on the DEIS and RDEIS) and the USFWS issues its Section 10 findings.

**c. The Amendment Mischaracterizes A Key Biological Point: the biological significance of DNR's forests.**

The Amendment provides that because DNR lands only comprise 14% of total murrelet nesting habitat that DNR's actions have "limited potential to influence the trajectory of the Washington murrelet population and certainly cannot control it." Amendment, at 11 (§ 5.4). This "14% rationale" ignores the importance of DNR's lands in SW Washington due to the lack of federal land and the extensive clearcutting (and loss of murrelet habitat) on adjacent private lands.

Washington's state forests are disproportionately important to the murrelet as compared to other sources of terrestrial habitat. The importance of these lands are even more clearly highlighted by initial results examining the impact of ocean versus terrestrial based effects indicating that the loss of terrestrial habitat rather than forage fish is likely the cause of the murrelet's precipitous decline. Miller et al., *Recent Population Decline of the Marbled Murrelet in the Pacific Northwest*, 114 *The Condor* 771, 779. This relationship was more recently corroborated by Raphael et al. 2015. Martin G. Raphael et al., *Habitat associations of marbled murrelets during the nesting season in nearshore waters along the Washington to California coast*. 146 *Journal of Marine Systems* 17 (2015).

The 14% figure also ignores the startling loss of murrelet habitat and that, given this loss, *all* habitat remaining is important, including DNR's strategically-located 14%. In 2016, WDFW's 5 year status review (Desimone) states that the NW Forest Plan (2012) estimate of murrelet habitat for all ownerships was 1,343,000 acres (66% federal, 34% non-federal) (Raphael, 2016). Between 1993 (listing) and 2012, higher quality nesting habitat for all lands was reduced by an estimated 418,400 acres, a 27% reduction. Most of this loss (95%) was attributed to timber harvest and windthrow and was only replaced by 212,700 acres of newly grown habitat, which does not biologically offset the lost habitat value of the older habitat. Given this dramatic loss, the strategic importance of DNR's 14% share of murrelet habitat cannot be written off so easily.

In fact, *thirty percent* of all murrelet habitat was lost to timber harvest on state and private forests since the listing of the murrelet. (Raphael, 2016). Given these declines, it is *inappropriate* for the Amendment to conclude that the 14% of habitat that remains on DNR's forests cannot make a difference. In fact, Peery's analysis demonstrates that the more conservation-oriented alternatives can, in fact, affect the steepness of the quasi-extinction curve and can, accordingly, have real effects on population stability and size.

The Alternative's 14% justification also ignores the proximity of DNR's lands to the Pacific Ocean, Strait of Juan de Fuca, and Puget Sound. It ignores that the forest edges created by DNR logging can undermine the habitat value of lands that may already be set aside in some type of riparian or reserve status. The 2008 Science Team identified many of the reasons why DNR's lands are so strategically important for murrelet survival and recovery and these cannot be dismissed so cavalierly by the Amendment.

In summary, the Amendment's assumption that DNR's preferred Alt. H is adequate given DNR's ownership of only 14% of the existing habitat of the species ignores that, while State lands constitute only a portion of the habitat that the marbled murrelet relies upon, these lands are extremely important: 1) their location as means for maintaining contiguous, non-fragmented habitat within the state and adjacent Oregon and California population, 2) their location near the ocean and thus containing a regional "hotspot" as identified in recent research 3) their potential to serve as a temporal bridge for murrelets until federal lands develop sufficient habitat, and 4) their presence within the jigsaw of private, state, tribal and federal lands with varying levels of habitat suitability and regulatory safeguards. For a more complete discussion of the importance of DNR lands see Whittaker and Lank Comment on DEIS, at 1-3. *See, also*, Martin G. Raphael et al., *Habitat associations of marbled murrelets during the nesting season in nearshore waters along the Washington to California coast*. 146 *Journal of Marine Systems* 17 (2015); Lorenz, et al, *Marine Habitat Selection by Marbled Murrelets (*Brachyramphys marmoratus*) during the Breeding Season*, 11 *PLOS One* (September 28, 2016).<sup>10</sup>

- d. **The Amendment's key rationale (that Alt. H is enough because DNR's forests "only" contain 14% of the remaining murrelet habitat) ignores the ESA Section 7 principle that agencies such as the USFWS cannot authorize actions that potentially reduce the likelihood of the species surviving or recovering.**<sup>11</sup>

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<sup>10</sup> <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0162670> (last accessed February 5, 2017).

<sup>11</sup> Most of this section was excerpted word-for-word from our March 9, 2017 comment letter on the DEIS. We are repeating it verbatim because it is germane to the Amendment's implication that Alt. H satisfies the Section 10 "issuance criteria" because DNR cannot, on its 14% statewide murrelet habitat, do more to affect the murrelet's survival. It is germane because of the ESA Section 7 principle that federal actions cannot further inhibit the recovery of species that are already in decline.

In order for the Service to approve the LTCS, it must find under ESA Sections 7 and 10 that the approval of the permit will “insure a lack of jeopardy to the species.” 16 U.S.C. §1536(a)(2); 16 U.S.C §1539(a)(B)(iv). As noted in the recent WDFW up-listing finding, absent substantive changes in habitat protection extirpation of the marbled murrelet in Washington is a likely outcome within the first decades of the permit term. The agencies therefore should conduct the jeopardy analysis with particular scrutiny and be sure to consider an alternative that is most likely to avoid jeopardy.

A federal action must neither “appreciably reduce the likelihood of survival” nor “reduce the likelihood of...recovery.” 16 U.S.C §1539(a)(B)(iv). In the analysis of an action’s effects, survival and recovery are different aspects of population dynamics. An action might not “appreciably reduce the likelihood of survival” but still hinder recovery, by keeping a population’s numbers so low that the species is unlikely to ever actually recover. *See, e.g., Nat’l Wildlife Fed’n v. Nat’l Marine Fisheries Serv.*, 184 F. Supp. 3d 861 (D. Or. 2016) (*NMFS V*). To avoid violating the ESA, agency action must not be likely to drive a species or distinct population segment to extinction. Beyond this, agency action must not facilitate a “slow slide into oblivion” thus “tip[ping] a species from a state of precarious survival into a state of likely extinction.” *Nat’l Wildlife Fed’n v. Nat’l Marine Fisheries Serv.*, 524 F.3d 917, 930 (9th Cir. 2008) (*NMFS IV*); *see also NMFS V*.

“Jeopardiz[ing] the continued existence of a species” involves “engag[ing] in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and the recovery of a listed species in the wild by reducing the reproduction, numbers or distribution of that species.” 50 C.F.R. §402.2 (emphasis added). Survival means that the species continues to exist; recovery raises the bar. As noted by the ninth circuit, “a species may cling to survival even when recovery is far out of reach.” *Nat’l Wildlife Fed’n v. Nat’l Marine Fisheries Serv.*, 524 F.3d 917, 931 (9th Cir. 2008) (*NMFS III*); *Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv.*, 378 F.3d 1059, 1070 (9th Cir. 2004) (“[T]he ESA was enacted not merely to forestall the extinction of species (*i.e.*, promote a species survival), but to allow a species to recover to the point where it may be delisted.”); *Nat’l Wildlife*, 524 F.3d at 936; *S. Yuba River Citizens League v. Nat’l Marine Fisheries Serv.*, 723 F. Supp. 2d 1247, 1258 (E.D. Cal. 2010) (holding that it is not enough to say that an action will improve species, absent a finding that the species population is stable to begin with). Most recently, Judge Simon reiterated that an agency action that keeps a species at low population numbers, just shy of extinction, is impeding recovery. *NMFS V*, at \*20. Recovery is determined by “improvement in the status of listed species to the point at which listing is no longer appropriate under the criteria

set out in section 4(a)(1) of the act.” 50 C.F.R. § 402.2. While survival is important, recovery is the actual goal of the ESA. *Id.* § 402.2.

Importantly, actions that hold the size of a species’ population at low numbers impede recovery. This is both because species at low numbers are susceptible to chance events, such as forest fire, and because small population sizes lead to inbreeding and genetic drift, thus reducing genetic variability and decreasing a species’ resilience to disturbance. Revised HCP Handbook, at 8 (noting that “the longer a species remains at low population levels, the greater the probability of extinction from chance events, inbreeding depression, or additional environmental disturbance.”); Michael Gilpin and Michael Soulé, *Minimum Viable Populations: Processes of Species Extinction*, Conservation Biology, the science of scarcity and diversity 19-24 (1986) (discussing the problem of small population size and the risk of extinction vortices).

The Recovery Plan, created under Section 4(f) when a species is listed by the Service, serves as a guidance document in determining what actions are likely to impede recovery. 16 USC 1533(f); *See also*, Jennifer Jeffers, *Reversing the Trend towards Species Extinction, or Merely Halting It? Incorporating the Recovery Standard into ESA Section 7 Jeopardy Analyses*, 35 Ecology Law Quarterly 455, 478. While these are guidance documents, they provide a basis for analysis of the recovery standard. *Id.* at 477. Indeed, at least one court has noted that “[t]he language and structure of the ESA’s provisions for recovery plans shows that FWS must make a conscientious and educated effort to implement the plans for the recovery of the species.” *Sw. Ctr. for Biological Diversity v. Bartel*, 470 F. Supp. 2d 1118, 1137 (S.D. Cal. 2006).

Ultimately, if it is uncertain whether the actions will impact survival or impede recovery of the species, “the benefit of the doubt” must be given to the endangered species. *NRDC v. Kempthorne*, 506 F. Supp. 2d 322, 388 (E.D. Cal. 2007); *NMFS V*, at FN 28 (invoking the “precautionary principle”).

The jeopardy standard under ESA Section 7 and Section 10 are identical with respect to the marbled murrelet. However, the Service’s ESA Section 7 analysis must extend to all impacted species, including northern spotted owl. For the jeopardy analysis, the consulting agency must use “the best scientific and commercial data available.” 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(g); *San Luis & Delta-Mendota Water Auth. v. Locke*, 776 F.3d 971, 995 (9th Cir. 2014). While an agency typically has leeway to identify the “best available science,” it must address all available scientific information, even if it decides that some of those data are not to be incorporated into the jeopardy analysis. *San Luis & Delta-Mendota Water Auth.*, 776 F.3d at 602 (noting that, although deference to the agency at its highest when it is identifying the “best available science” to use in its analysis, failure to consider available data undermines the agency’s assertion that it met the best available science standard).

Here, the Amendment, by assuming DNR satisfies the ESA merely by raising the extinction curve by a slight amount, violates a fundamental aspect of ESA Sect. 7: that an agency action may fail to ensure a lack of jeopardy if it approves an action that *impedes* the recovery of the species. While historically ESA Section 7 analysis has conflated the two prongs of the jeopardy definition, recent cases have confirmed that they require different analysis. For example, in



*NMFS V*, the court rejected a biological opinion that found a lack of jeopardy simply because associated mitigation measures would make very small, incremental improvements in habitat conditions. The project prolonged the species' risk by perpetuating low population levels and risked hindering recovery, particularly since "there is ample evidence in the record that indicates that the operation of the [action] causes substantial harm to listed salmonids." *Id.* at \*15-17; *NMFS IV.*, at 1130.

One principle is clear: reduction and fragmentation in nesting habitat is a major factor in the drastic decline in this species. *See, e.g.* USFWS Marbled Murrelet Recovery Plan 1997. Steven M. Desimone. *Periodic Status Review for the Marbled Murrelet*. Washington Department of Fish and Wildlife. 1, 15 July 2016; Sherri L. Miller et al., *Recent Population Decline of the Marbled Murrelet in the Pacific Northwest*. 114 *The Condor* 771, 778 (2012) (noting at the end of the study the results of a preliminary analysis suggesting that the effects of reductions in forage fish supply are overshadowed by the impact of nesting habitat reduction).

Indeed, the Service's own Recovery Plan indicates that the "objective of stabilizing population size" involves protection of "adequate nesting habitat by maintaining and protecting occupied habitat and minimizing the loss of unoccupied but suitable habitat." USFWS, Recovery Plan for the Threatened Marbled Murrelet, Region (*Brachyramphus marmoratus*) in Washington, Oregon, and California, 1, 119 (1997) (Recovery Plan). The risk of chance events wiping out the species is "exacerbated for the murrelet because populations that have negative long-term growth rates, as does the listed population of the murrelet ...have little or no capacity to overcome catastrophic population losses." Recovery Plan, at 118 (citations omitted). The murrelet is highly vulnerable to environmental variability and disturbance. Recovery Plan, at 117.

To compare the alternatives, the RDEIS and DEIS both documented changes in long-term forest cover and a model produced by Peery and Jones (DEIS, The Peery Model, Appendix C) for its population viability analysis of the impact of the alternatives on murrelet populations. The long-term forest cover changes are not informative as to the likely impact on the murrelets because much of the land included in the final acreage count for the long-term forest cover is not suitable for murrelets. Even based simply on a measure of habitat take, all of the alternatives allow for logging within the murrelet's identified habitat. Even the most protective alternative, F, allows logging of 25,000 acres of habitat, in addition to 30,000 acres of habitat already logged since the inception of the HCP.

The Peery model attempts to provide some linkage between the alternatives and murrelet population dynamics. While the Peery analysis may not be relied upon for objective species data, the analysis strongly suggests that under the more realistic "Risk" set of model parameters, none of the alternatives meet the jeopardy standard of insuring that the action does not reduce the likelihood of survival or recovery. For the risk scenario, every alternative shows declines over the first forty years, with the steepest drops initially, presumably as a result of the increased harvest of timber during the first decade. RDEIS 4-63, Table 4.6.9.

The RDEIS data shows species trends worse than those in *NMFS V*. Instead of very slow improvements over time, it shows accelerated loss (under both scenarios) followed by continued

decline (under the “Risk” set of model parameters). That future would leave the marbled murrelet highly vulnerable to chance events that could push the species from imperiled to extinct.

The Peery model acknowledges uncertainty regarding adult survival. Furthermore, according to at least one reviewer, this uncertainty is probably higher than indicated by the discussion of the model itself. *See* Sutherland Review. Given this uncertainty, the Service must adopt a precautionary approach and evaluate populations under the “risk” model. Under the risk model, where chronic environmental stressors are included as more realistic background to the impact of nesting habitat loss to murrelet survival, every single alternative resulted in population declines. The probability, under all alternatives, of the population declining by at least 50 percent is greater than 75 percent.

Given the drastic initial decline in population modeling on state lands and statewide, along with the crucial importance of state lands for marbled murrelets, a “jeopardy” finding is likely for all of the alternatives presented. It behooves the agencies to include the Conservation Alternative and to analyze the impact of a moratorium on the harvest of current and future habitat over the first decade. While the Peery model takes into consideration the possibility of a metered harvest during the first two decades rather than all habitat harvest during the first decade, it only considers this possibility for one alternative and it does not consider precluding logging altogether in the initial decade or beyond. This is not a sufficient analysis to determine the impact of metering across alternatives and is certainly not sufficient to determine the impact of a moratorium on harvest in broadly identified regions of actual and potential occupancy for at least the first ten years.

### **Conclusion**

WFLC thanks the USFWS and DNR for considering these legal comments on the September 2018 RDEIS. We look forward to working with both agencies to implement these comments and suggestions in the months ahead before the issuance of the Final EIS.

Very truly yours,

A handwritten signature in black ink, appearing to read "Peter Goldman". The signature is fluid and cursive, with a large initial "P" and "G".

Peter Goldman

Washington Forest Law Center

Director and Senior Staff Attorney

## **Attachment 1: Trust White Paper**

**Note:** this White Paper generally addresses the legal trust mandates governing DNR and the BNR in the management of the State forests. It has been revised recently to apply to all types of DNR/BNR state forest decisions, not just those pertaining to the LTCS.

September, 2018

### **The “Trust Mandate” Governing State-Owned and Managed Forests Allows the Board of Natural Resources to Exceed Minimal Requirements of Federal and State Law When Adopting State Forest Management Plans and Conservation Policies If the Board Deems Such Measures Are In the Public Interest**

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#### **Executive Summary**

The Board of Natural Resources (Board) and the Department of Natural Resources (DNR) currently operate under the legal assumption that they must manage the approximately 2.1 million acres of DNR-managed forests as if they were private trusts. This means that, for each management or planning decision, the Board or DNR must make decisions that are in the best interest of the affected forest trust, as opposed to being in the best interest of the general public, conservation, or a local community. This includes such decisions, for example, of how much existing or future potential habitat can be legally set aside for the protection *and* recovery of a federally-listed species and whether it is permissible for DNR to avoid conducting timber harvest on potentially dangerous landslides above an elementary school or homes even if this logging is potentially legal under the general forest practice regulations. It also includes whether, when planning logging sales or forest policies, DNR can take into account that maintaining older

forests and conducting lighter forestry practices sequesters carbon dioxide that otherwise would be lost to the atmosphere, exacerbating the warming of the planet.

This Memorandum concludes that the Board and DNR have the authority under the Federal School and the State-created county trusts to comply with and exceed the minimal requirements of federal and state law when making state forest land management decisions if those decisions are in the best interest of all of the People of Washington. This means that DNR and the Board have the authority to protect *and* recover federal and state-listed endangered and threatened species, to ensure public safety around potentially dangerous landslides proposed for timber harvest, and to make forest management decisions that provide other forest ecological benefits such as clean water and climate change mitigation through carbon sequestration. The Board, furthermore, has the authority to consider best available science, recovery goals, and the “precautionary principle” when making these important land management decisions. The “precautionary principle” means that if an action or policy has a suspected risk of causing harm to the public or to the environment in the absence of scientific consensus that the action or policy is not harmful, the burden of proof that this action is *not* harmful falls on those taking that action.

The BNR and the DNR have the authority to make trust management decisions that are in the best interest of the public for at least the following reasons:

1. The Board has the authority to comply with the Endangered Species Act, including securing long-term ESA assurances via a federal Habitat Conservation Plan.

It is undisputed that the State has the legal authority and duty to comply with the federal Endangered Species Act (ESA) and that the State has the authority to enter into a federal “habitat conservation plan” (HCP), a plan that gives the State long-term certainty that the State’s forestry will comply with the ESA.

In an important 1996 Attorney General Opinion (hereinafter AGO 1996 No. 11), the Attorney General wrote that the State has the legal authority to enter into an HCP that “exceed(s) minimum standards governing use of trust lands,” such as the Washington forest practices regulations that apply to all forest landowners in the state. The justification for this authority is that obtaining a federal habitat conservation plan (HCP) “reflects a reasonable balancing of short-term interests and the protection of productivity over the long-term.” An HCP also provides the State with valuable legal immunity under the “no take” provision of Section 9 of the ESA, which can be enforced by the federal government or citizen-brought “citizen suits.” Any amendments to DNR’s 1997 State Lands HCP requires the approval of the federal government under the ESA, which effectively assures DNR’s compliance with the ESA. The BNR does not violate its fiduciary duty to the federally-sourced State Lands or the county-sourced State Forest Lands by managing these forests with an eye towards long-term legally-comfortable compliance with the ESA guided by best available science *and* the precautionary principle. Promoting protection and recovery of

species is, and should be, in the best long-term interests of DNR’s forests and the general public interest.

2. The Washington State Constitution created public, not private, trusts for the school lands and the county forest lands are statutory—not constitutional—trusts. These public trusts permit the Board and DNR to include conservation and recovery measures over and above that which is minimally necessary to comply with federal law or to obtain long-term federal assurances.

Relative to the 1.5 million acres of the federally-sourced “State Lands,” the Washington State Constitution authorizes the BNR to manage these lands in a manner that promotes the interests of *all* citizens.<sup>12</sup> In receiving these school lands from the federal government and guiding their use, Washington’s Founding Fathers notably did *not* specify that these lands be managed for the exclusive benefit of any one designated beneficiary. Instead, Article XVI, Section 1, explicitly provides that the grant of federal public lands was for “all the people” of the State of Washington. The Founding Fathers specifically *rejected* constitutional language that would have required the State to maximize income from these lands. State forest land management decisions, plans and polices that are consistent with the ESA, which provides the State with valuable long-term regulatory certainty under the ESA, and which conserves imperiled species, “benefits all the people” and are “in the best interests of the state.”

3. Washington case law does not prevent the Board from either complying with the ESA or significantly contributing to the recovery of a species, such as the marbled murrelet, whose habitat has been destroyed by more than a century of industrial forestry.

No Washington case prevents the BNR from complying with the ESA or adopting habitat protection and recovery measures that exceed the basic requirements of State or Federal law.

The 1992 Washington Supreme Court’s decision in *Skamania v. State*,<sup>13</sup> suggests that the federally-sourced school trust lands are and must be managed as private trusts. But for the following reasons, *Skamania* does not prevent the BNR from adopting plans and polices intended to comply with federal law or which protect and advance important environmental forest benefits for all citizens.

First, the facts of *Skamania* are significantly distinguishable from the BNR’s adoption of conservation-oriented state land management policies. The Court in *Skamania* invalidated state

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<sup>12</sup> Const. art. XVI, § 1 provides that these forests are “held in trust for all the people.”

<sup>13</sup> *Skamania v. State*, 102 Wn.2d 127, 685 P. 2d 576 (1992).

legislation that would have diverted earned trust revenues to timber companies who sought to get out of timber sale contracts with the State as a result of a dramatic collapse in lumber prices. The Court held this statutory diversion violated the State’s fiduciary duty to the federally-sourced school trusts. But *Skamania* did not address *how* the State could *manage* its forests to comply with federal law, long-term productivity, and conservation goals that benefit both the trusts and the public at large. Taking conservation into account when managing public forests is not a “give-away” of assets.

Second, to the extent that the Court in *Skamania* held that the federally-sourced school trusts were *private* trusts, the case was wrongly decided. The history of the trusts reflect they were *public* trusts targeted for funding school construction but intended to benefit “all the people,” not only the enumerated beneficiaries. The constitutional mandate of benefitting “all the people” gives the BNR the legal authority to adopt policies that comply with the ESA and conserves and recovers federally-listed threatened or endangered species. *Skamania* was also wrongly decided to the extent it held that the county-sourced State Forest lands were subject to the same legal fiduciary duty as the federally-sourced school lands.<sup>14</sup> On the contrary, these county-sourced forests are statutory, not constitutional, trusts and the BNR and DNR are permitted to make decisions for their management in the “best interest of the state.”<sup>15</sup>

In conclusion, the Board and DNR are managing the state forests under the assumption that the trusts that benefit from this forest management are private, not public, trusts. This is a mistaken assumption. This mis-assumption is foreclosing management options that better-serve public safety, conservation, and ecosystem-services markets and opportunities.

### **The Purpose of this Memorandum**

The BNR, DNR, and some State Forest stakeholders have argued in multiple forums that the BNR’s “trust mandate” legally prevents the BNR from adopting state forest land management decisions, plans or ESA compliance policies (such as entering into federal habitat conservation plans) that unduly burden the potential economic return to the trusts. These stakeholders do not contest the Board’s ability to comply with federal law necessary to obtain “incidental take” protection via an HCP but they contend that the Board cannot adopt conservation plans that exceed the bare minimum required by federal law, comfortably comply with the Section 10 HCP issuance criteria, or provide protection and recovery of species over and above that which is required by State and Federal law.

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<sup>14</sup> *Skamania*, 102 Wn.2d at 133.

<sup>15</sup> RCW 79.22.050.

This Memorandum urges the Board to define the “decision space” governing state forest land management decisions. “Decision space” means the extent to which the Board and DNR have the legal authority to adopt plans or forest planning decisions that go beyond the bare minimum required by State and Federal law. It is vital for the Board to understand the scope of this “decision space” because numerous BNR decisions, both programmatic and site specific, often present situations where the economic interests of a trust are at odds with a general or local conservation or public safety consideration.

### **Background**

The State of Washington owns approximately 2.1 million acres of state forest lands, forests that are managed by the Department of Natural Resources (DNR). The Board of Natural Resources (BNR) guides DNR’s management of state forest lands by establishing management plans and policies, approving state timber sales and trust land transactions, and setting the state’s 10-year sustainable timber harvest level.<sup>16</sup> By law, the six-member BNR represents the trust beneficiaries of state forest land management activities.

Washington’s state forest lands fall into two categories: the “State Lands”<sup>17</sup> and the “State Forest Lands.”<sup>18</sup> The State Lands arose out of 3 million acres of forests that had been granted to the State of Washington by the federal government at statehood in 1889.<sup>19</sup> Today, there are approximately 1.5 million acres of “State Lands” in Washington. The Washington Constitution incorporated the Enabling Act restrictions in Const. art. XVI, § 1. This section of the Constitution provides that these lands are “held in trust for all the people.”

“State Forest Lands,” sometimes referred to as the “Forest Board Lands,” were transferred to the state by 21 Washington counties in the 1920s and 1930s as a result of county tax foreclosures, gifts, and purchases.<sup>20</sup> The State Forest Lands came into existence as a result of irresponsible

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<sup>16</sup> Policy for Sustainable Forests, Washington State Department of Natural Resources, Dec. 2006, [http://www.dnr.wa.gov/sites/default/files/publications/lm\\_psf\\_policy\\_sustainable\\_forests.pdf](http://www.dnr.wa.gov/sites/default/files/publications/lm_psf_policy_sustainable_forests.pdf) (last visited Sept. 18, 2017).

<sup>17</sup> RCW 79.02.010(14) designates the federally-sourced lands as the “State Lands.”

<sup>18</sup> RCW 79.02.010(13) designates the county-sourced lands as the “State Forest Lands.”

<sup>19</sup> 25 Stat. 676 (1889). See AGO 1996 No. 11, at 6 for more background.

<sup>20</sup> According to RCW 79.02.010(13), the statutory definition of “state forest lands,” the State Forest Lands have three sources: gifts of private land (RCW 79.22.010), deeds of county lands which had been subject to county foreclosure due to non-payment of taxes (RCW 79.22.040), and forests acquired by DNR through purchase that are suitable for reforestation. RCW 79.22.020.

logging during the early 20th century on private land, logging that left the counties with massive unpaid tax bills. Today, there are approximately 546,000 acres of State Forest Lands.<sup>21</sup>

The Board and DNR regularly grapple with the important question of “how much conservation” the trust mandate allows them to provide the general public over and above that which is required by law. Examples include:

- The Marbled Murrelet Long-term Conservation Strategy. This decision requires the Board to adopt a LTCS alternative. Can the Board adopt an alternative that promotes recovery of marbled murrelets or is the Board limited to adopting an alternative that is minimally acceptable to the U.S. Fish and Wildlife Service?
- Landslides. In the North Zender timber sale (2015; FPA No. 2814641), DNR sought approval of a timber sale directly on a deep-seated landslide in Whatcom County. The sale was approved by DNR’s Regulatory division yet several geomorphologists claimed the sale was dangerous and not in the public interest. Did DNR have the initial authority not to submit this sale because of the risk it posed to the downslope neighbors?
- Carbon Release and Sequestration. Logging of forests releases massive amounts of carbon dioxide into the atmosphere and forests do not become net carbon “sinks,” as opposed to net emitters, of carbon dioxide for decades after logging. Longer tree rotations and more selective timber harvest has the potential for reducing these emissions. Does the Board and DNR have the authority to plan and conduct forest practices in a manner that emits the least carbon dioxide into the atmosphere so as to mitigate climate change to the maximum extent possible?
- Recreation. In the Singletary timber sale (2014; FPA No. 2813860), DNR sought to log an approximately 200 acre timber sale directly adjacent to Wallace Falls State Park and adjacent to numerous hiking trails that DNR built to access the forest. Did DNR have the initial authority to avoid or reduce the physical footprint of this sale based on the general public’s strong recreational and aesthetic interest in this forest?
- Water Quality. In the late 1990’s, DNR sought to log along the shores of Lake Whatcom but, after adoption of the Lake Whatcom watershed plan, this logging proposal was withdrawn. Did the DNR have the initial authority not to seek permits to log the shores of Lake Whatcom, logging that was authorized by the forest practice rules, on account of the risks to the water quality of the lake?

**Legal Analysis: the Board and DNR Have the Authority to Exceed Baseline State and Federal Law if Doing So Is In the Interest of All Citizens**

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<sup>21</sup> <http://www.dnr.wa.gov/managed-lands/forest-and-trust-lands> (last visited Sept. 18, 2017).



A. Attorney General Opinion No. 1996-11 Confirms that the State of Washington has the legal authority to seek long-term assurances under the Endangered Species Act.

Before turning to Attorney General Opinion No. 1996-11, it is important to reiterate that a properly enacted federal law is supreme to state law. For example, a federal price control law trumps a state constitutional provision governing the management of the federal school lands.<sup>22</sup> A federal law banning the export of state timber can reduce the state's income from the federally-sourced school lands.<sup>23</sup> Federal environmental laws, such as the ESA, can be applied to all U.S. forests, including state-owned or managed forests.<sup>24</sup> And the State, through its general forest practices regulations applicable to all landowners, may regulate forest practices on state forests.<sup>25</sup> Accordingly, the State forests exist in a highly-regulated ecosystem of environmental laws. These are among the reasons why the State, in 1997, presumably sought and received an Incidental Take Permit (ITP) from the federal government for logging on the State's westside forests under an HCP.

Prior to the DNR applying for a federal ITP, the 1995 Legislature in Senate Concurrent Resolution (SCR) 8435 requested an Attorney General Opinion on whether DNR's agreement to enter into a federal HCP for its forests was consistent with DNR's fiduciary duties towards the trusts. In 1996, the Attorney General responded in detail in Opinion No. 11 (Attachment 1).

The Attorney General Opinion characterized the issue as whether DNR's decision to enter into and adhere to the HCP was in the best long-term interests of the trusts; if it was, DNR had the legal discretion to enter into the HCP in exchange for which DNR would obtain an ITP. The Opinion stated, "In the exercise of its discretion, [DNR] may approve management plans that exceed minimum standards governing the use of trust lands, if doing so reflects a reasonable balancing of short-term interests and the protection of trust productivity over the long term." While the Opinion also noted that, "in managing the grant lands, the Department may only take into account factors consistent with ensuring the economic value and productivity of the federal grant lands,"<sup>26</sup> it did not specify what it meant to "ensure the economic value" or "productivity," and whether these terms include conservation and attempts to obtain long-term regulatory certainty.

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<sup>22</sup> *Case v. Bowles*, 327 U.S. 92 (1946) (federal law (the Emergency Price and Control Act) trumps state constitutional provisions applying to the management of the federal school lands).

<sup>23</sup> *Board of Natural Resources v. Brown*, 992 F.2d 937 (9th Cir. 1993).

<sup>24</sup> *Babbitt v. Sweet Home Chapter*, 515 U.S. 687 (1995).

<sup>25</sup> *West Norman Timber, Inc. v. State*, 37 Wn.2d 467, 224 P.2d 635 (1950)

<sup>26</sup> AGO 1996 No. 11, at 6.

The Opinion supports the BNR's authority to adopt state forest land management plans and policies that promote long-term ESA regulatory certainty. The Attorney General opined that the State's compliance with state and federal laws of general application is not a violation of any fiduciary duty towards the trusts.<sup>27</sup> The ESA applies to all forest lands in the United States, including Washington's federal land grant lands. Section 9 of the ESA prohibits any person, including the State of Washington, from "taking" a federally-listed species, and Section 10 authorizes the federal government to issue an "incidental take permit" that allows take of listed species in exchange for specific enforceable conservation commitments. Because a Section 10 HCP is the means by which DNR avoids potential Section 9 "take" liability, DNR's compliance with a Section 10 HCP's biologically-required commitments constitutes DNR's compliance with the laws of general application.

The Attorney General also opined that DNR's compliance with the obligations and commitments of its HCP was within the discretion of the State as trustee if "[such compliance] constitutes a reasonable management plan that serves the interests of each of the federal grant land trusts and is consistent with common law fiduciary duties owed to each trust."<sup>28</sup> The required analysis is not the "relative benefit of the HCP as between each trust, but the benefit to each trust of adopting a plan as opposed to the legal consequences of complying with the ESA without a plan."<sup>29</sup> In addition, it is "sufficient that the Department, acting consistently with its fiduciary duties and in the exercise of reasonable judgment, determines that on balance, the [HCP] is in the economic interests of each trust."<sup>30</sup> Indeed, "[a]ll of the trusts can be affected differently by a single management plan."<sup>31</sup> Under these principles, the BNR has the authority to comply with the ESA and best available science even though some of the trusts might individually bear more of the burden of the protection and recovery of threatened or endangered species than others.

There are numerous reasons why the BNR should be able to enter into an HCP when it exercises its authority and duty to manage state forests. By maintaining incidental take coverage, state forest lands benefit enormously from legal immunity under Section 9 of the ESA.<sup>32</sup> While such compliance might lead to less financial return in the short-term, the Opinion specifically said that

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<sup>27</sup> AGO 1996 No. 11, at 19-27.

<sup>28</sup> *Id.*, at 33.

<sup>29</sup> *Id.*

<sup>30</sup> AGO 1996 No. 11, at 38-40.

<sup>31</sup> *Id.*, at 39.

<sup>32</sup> Citizens regularly (and successfully) use Section 9 of the ESA to prevent logging that will allegedly harm a listed species. The Seattle Audubon Society used Section 9 to preliminarily enjoin logging on private lands in Southwest Washington, logging that Audubon alleged would harm specific northern spotted owls. *Seattle Audubon Soc. v. Sutherland*, 2007 W.L. 1300964 (2007). And in 1996, a federal court of appeals upheld a Section 9 "take" case involving alleged "take" of murrelets in Oregon. *Marbled Murrelet v. Babbitt*, 83 F. 3rd 1060 (9th Cir. 1996). Courts will also enjoin "take" of a listed species "where an agency action would cause harm to a small number of individual species' members, but always under circumstances in which the loss of those individuals would be significant for the species as a whole." *Pac. Coast Fed'n of Fisherman's Ass'n v. Gutierrez*, 606 F. Supp. 2d 1195, 1210 n. 12 (E.D. Cal. 2008).

such short-term losses do not violate a fiduciary duty so long as they are in the interest of protecting the long-term productivity of DNR forest lands.<sup>33</sup> Moreover, there are ways to manage DNR's forest lands in a manner that achieves long, not necessarily, short-term returns. Conversely, if DNR does not comply with its HCP to the satisfaction of the federal services, the services reserved the right to suspend or revoke the HCP,<sup>34</sup> and DNR has the right to terminate the HCP and provide "mitigation" for take that has occurred before termination.<sup>35</sup>

In conclusion, AGO 1996-11 advised that the State has the authority to enter into and implement its HCP so long as this decision is justified by achieving long-term regulatory certainty and the long-term productivity of state forest lands. We believe, accordingly, that the State has the authority to manage lands in a manner that promotes protection and recovery of species.

B. *Skamania v. State* allows the BNR and the DNR to enter into a federal HCP or to provide conservation benefits to the general public over and above that which is required by state and federal law.

Trust beneficiaries, the Washington Attorney General, and the American Forest Resource Council frequently cite the 1992 Washington Supreme Court case *Skamania v. State*<sup>36</sup> for the principle that the BNR would violate its "trust mandate" by adopting state forest land management plans and policies that require costly conservation and species recovery measures over and above that required by baseline federal or state law. This is an incorrect reading of *Skamania*; that case merely prevents the giving away of trust assets or revenues to special interests at the expense of the trusts. The case does not limit the State's authority to comply with the ESA or to manage forests to provide conservation benefits for both the trust beneficiaries and the general public.

The *Skamania* case arose out of timber industry lobbying for a financial bailout. Between 1978 and 1980, as they do every year, private timber buyers entered into contracts with DNR to purchase timber on state forest lands. In early 1982, however, the market price for logs crashed, falling from \$300-\$800 per 1000 board feet to \$175 per 1000 board feet. If these contracts had been enforced, timber companies would have lost approximately \$100 million. The Washington Legislature came to the rescue of the affected timber companies with the Forest Products Industry Recovery Act of 1982 ("Act"). The Act effectively allowed purchasers of state timber to default on their contractual obligations or to extend or modify the term of their contracts. The

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<sup>33</sup> AGO 1996 No. 11, at 41-42.

<sup>34</sup> HCP Implementation Agreement § 26.

<sup>35</sup> *Id.*, at 27.3.

<sup>36</sup> 102 Wn.2d 127, 685 P.2d 576 (1992).

trial court hearing the eventual legal challenge subsequently found that the value of this forgiveness was approximately \$70-90 million dollars.

Skamania County sued the State of Washington alleging that the Act was a breach of the State's fiduciary duties to the trust beneficiaries. The superior court, and later the Supreme Court, agreed. The Supreme Court reasoned that the federal school trusts were analogous to private trusts; the trusts "impose upon the state the same fiduciary duties applicable to private trustees." *Skamania*, 102 Wn.2d at 132. The Court also rejected the State's argument that the Act was "a prudent response to an unprecedented emergency;" the Court held that no perceived or real economic emergency for the timber industry justified the Legislature rescinding these contracts, resulting in a loss to the trusts of about \$69.5 million dollars, and that the Legislature elevated the interests of the timber industry over the interests of trust beneficiaries. The Court also held that the Act could not be justified by the fact that it purportedly would advance other "state goals."<sup>37</sup> *Skamania*, 102 Wn.2d at 135. Finally, the Court held that the Act violated the State's duty to "act prudently" by relieving the timber companies from their contracts at less than market rate. *Skamania*, 102 Wn.2d at 138.

*Skamania* is significantly distinguishable from state forest land management decisions and does not limit the BNR's decision to adopt plans and policies that comply with the ESA and best available science. The adoption of state forest land plans and policies that comply with the ESA enable the State to obtain valuable long-term regulatory certainty, which is a direct and valuable benefit that contributes to the long-term productivity and sustainable yield of state forests. In contrast, the Court in *Skamania* held that the State could not give away or divert trust income to private corporate interests that do not directly benefit the beneficiaries, even if the entire state's economy would, to some extent, benefit from the bail out. The *Skamania* Court's opinion confirms this narrow view by similarly describing the violation of the duty to act prudently as the "dispos[ition] of a trust asset without obtaining 'the best possible price' for the asset." *Skamania*, 102 Wn.2d at 138 (citation omitted). Again, this "duty" is nothing more than the constitutional duty to receive "full market value" when selling trust assets. The Court identified the duty of undivided loyalty with the requirement "that when the state transfers trust assets such as contract rights it must seek full value for the assets." *Id.* at 134 (citing Const. art. XVI, § 1).

The BNR's adoption of state forest land management plans or policies, is, therefore, neither governed nor constrained by *Skamania*. In asking the BNR to comply with the ESA and best available science, the BNR is not being asked to forego or divert trust resources to benefit third parties, such as the timber companies in *Skamania* whom sought to be excused from their

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<sup>37</sup> The court cited several cases rejecting State attempts to divert trust revenues to causes that the State contended would indirectly benefit the trusts. *Ervien v. United States*, 251 U.S. 41, 47 (1919) (New Mexico could not divert trust assets to advertise and promote the state); *Gladden Farms, Inc. v. State*, 633 P.2d 325 (1981) (Arizona could not sell trust lands to a State agency even if motivated by humanitarian concerns).

binding contracts. Instead, the BNR would be pursuing its policy goal of seeking long-term regulatory certainty under the ESA and doing its part to conserve and recover imperiled species. Conservation of old growth-dependent species is in the best interests of “all the people,” the specific terms in the Washington Constitution.<sup>38</sup>

C. Skamania v. State incorrectly held that the federal school land grants were private trusts; the history of our State Constitution reflects that the trusts are public trusts, which permits the Board to manage them in the best interest of all citizens.

The Washington Supreme Court in *Skamania* characterized the federal school trusts as private trusts.<sup>39</sup> But, for the reasons detailed below, we believe the Court’s reference to “private trusts” was error and does not govern the BNR’s adoption of state forest land management plans or policies. Const. art. XVI, § 1 does *not* establish a private trust that must be managed exclusively for the benefit of the common schools. While the purpose of these lands are constitutionally dedicated to school construction, Const. art. XVI, § 1 explicitly provides the grants are for “*all of the people of the state.*”<sup>40</sup> This constitutional language gives the BNR the wide authority to adopt state forest land management plans that serve the general public interest. Review of state constitutional history reflects that these school lands can be managed to benefit both the trust beneficiaries’ and citizens’ mutual long-term interest in complying with the ESA and providing environmental protection that benefits all citizens.

1. History of the federal school land grants.

Washington was admitted to the union pursuant to the 1889 Enabling Act, which also admitted North Dakota, South Dakota, and Montana. 25 Stat., 676, ch. 180 (1889) [hereinafter “Enabling Act”].<sup>41</sup> This statute granted sections 16 and 36 of every township within the state “for the support of the common schools.” *Id.* § 10.

The tradition of granting such “school lands” to newly admitted states began with the admission of Ohio to the Union in 1803. *See Papasan v. Allain*, 478 U.S. 265, 268-69, 106 S. Ct. 2932, 92 L. Ed. 2d 209 (1986). Even before that time, the General Land Ordinance of 1785, governing the Northwest Territory, “reserved the lot No. 16, of every township, for the maintenance of public schools within the said township.” 1 Laws of the United States 565 (1815), *cited in Papasan*, 478

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<sup>38</sup> Const. art. XVI, § 1.

<sup>39</sup> *Skamania*, 102 Wn.2d at 132-33.

<sup>40</sup> As also explained above, such a trust, of course, would not be a traditional private trust but instead a public trust—a duty to legislate for the public good rather than to favor special interests.

<sup>41</sup> The Enabling Act is reprinted in Volume 0 of the Revised Code of Washington; we attach §§ 10-11 as Attachment 2.

U.S. at 268.<sup>42</sup> Every state admitted since Ohio, except Maine and West Virginia (which were carved out of existing states) and Texas and Hawaii (which were previously independent nations), has received a grant of school lands from the United States. See Jon A. Souder & Sally K. Fairfax, *State Trust Lands* 17-24 (1996).

School land grants reflect the United States' policy of promoting public education and were a reaction to the predominantly federal ownership of lands in the western states. In the early republic, the development of a well-educated citizenry was considered essential to the maintenance of a flourishing democracy. See Sean E. O'Day, Note, *School Trust Lands: The Land Manager's Dilemma Between Educational Funding and Environmental Conservation, a Hobson's Choice?*, 8 N.Y.U. Envtl. L.J. 163, 174-76 (1999). The original states could not fund a public education system through general taxation because in these states, lands were owned either by private individuals or by the states themselves. See *Andrus v. Utah*, 446 U.S. 500, 522, 100 S. Ct. 1803, 64 L. Ed. 2d 458 (1980) (Powell, J., dissenting). The western states, by contrast, were created from federal lands, and the federal government remained the owner of most of the land in these states. See *Papasan*, 478 U.S. at 269 n.4 (noting that "federal land, a large portion of the new States, was not taxable by them"). Therefore, the newly admitted states required a different source of funds to support public schools.

Significantly, the terms of the federal school land grants to the states varied over time. Most of the acts described the grants as being simply "for the maintenance of schools," "for the support of common schools," or "for the use and benefit of common schools." Sally K. Fairfax, Jon A. Souder & Gretta Goldenman, *The School Trust Lands: A Fresh Look at Conventional Wisdom*, 22 Envtl. L. 797, 818 (1992) (quoting General Land Ordinance, Colorado Enabling Act, and Oklahoma Enabling Act). These acts accorded different treatment, however, to the disposition of school lands and the establishment of a permanent fund. The early acts included neither restrictions on sales of land nor requirements that proceeds from sales or leases be invested in a permanent fund. *Id.* at 821-24. It was in the Colorado Enabling Act of 1875 that Congress first imposed sales limitations and required the establishment of a permanent fund. *Id.* Subsequent acts included similar limitations. *Id.* However, all of these provisions were less detailed than requirements that states had previously begun imposing on themselves through their constitutions. *Id.* Only in the New Mexico-Arizona Enabling Act of 1910 did Congress not only grant the lands "for the support of common schools," but also state that these lands "shall be by the said state held in trust." Act of June 20, 1910, ch. 310, §§ 6, 10, 36 Stat. 557 [hereinafter "New Mexico-Arizona Enabling Act"]. That act also includes detailed requirements for the sale

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<sup>42</sup> A "township" is the standard six mile by six mile square surveying unit established for all western lands by the Land Ordinance. *Papasan*, 478 U.S. at 268 n. 3. The early Enabling Acts reserved one of the 36 one-square-mile "sections" of each township as school lands. *Id.*, at 269. Later Enabling Acts, including Washington's, expanded this reservation to two sections per township. *Id.*; Enabling Act § 10.

and lease of school lands, investment of the proceeds, and enforcement of the terms of the act by the Attorney General of the United States. *See id.*, § 10, 36 Stat. at 563-65.

The Washington Enabling Act came near the end of this sequence of enabling statutes; it therefore contains more detailed provisions regarding the disposition of granted lands than the earliest enabling acts. The Act, however, is still quite general as to the overall grant of the school lands to the state. It provides that the “sections numbered sixteen and thirty-six in every township ... are hereby granted ... for the support of common schools.” Enabling Act § 10. It is more detailed as to the disposition of the lands and the use of the proceeds of sales of the lands. The Enabling Act, in its original form, required that “all lands herein granted for educational purposes shall be disposed of only at public sale, and at a price not less than ten dollars per acre, the proceeds to constitute a permanent school fund, the interest of which only shall be expended in the support of said schools.” *Id.* § 11. In contrast to the later New Mexico-Arizona Enabling Act, the Washington Enabling Act never mentions a trust of any kind.

2. The U.S Supreme Court has recognized the creation of a trust only by the New Mexico-Arizona Enabling Act.

The U.S. Supreme Court, when reviewing the federal school land grants contained in state enabling acts, has recognized that the duties imposed upon states by those acts vary depending on the specific language of the act. The Court has made it clear that the enabling acts do not impose identical duties. Indeed, the Supreme Court has held only that one enabling act, the New Mexico-Arizona Enabling Act, creates an enforceable trust. It did so after reviewing the specific language of the Enabling Act and finding therein an explicit imposition of trust duties. First, in *Ervien v. United States*, 251 U.S. 41, 40 S. Ct. 75, 64 L. Ed. 128 (1919), the Court struck down a statute that authorized the state commissioner of public lands to spend some of the proceeds from leases and sales of school lands to advertise the state to prospective settlers. In doing so, the Court specifically relied on the provision in the New Mexico-Arizona Enabling Act that made the use of the proceeds of the sale of granted lands for anything other than the enumerated purposes “a breach of trust.” *Id.*, at 47. Then, in *Lassen v. Arizona*, 385 U.S. 458, 87 S. Ct. 584, 17 L. Ed. 2d 515 (1967), the Court held that Arizona had to pay compensation to the permanent fund when it acquired school lands for highway rights-of-way. The Court found this compensation requirement in the specific language of the Enabling Act: “The Enabling Act unequivocally demands ... that the trust receive the full value of any lands transferred from it.” *Id.*, at 466. Thus the Court has found that this act, with its specific reference to a trust, imposed duties on the states that were enforceable in court.

The Supreme Court has, in contrast, held that other enabling acts do not create trusts. In *Cooper v. Roberts*, 59 U.S. 173, 182, 18 How. 173, 15 L. Ed. 338 (1855), the Court, discussing the Michigan Enabling Act, held that “the grant is to the State directly, without limitation of its

power, though there is a sacred obligation imposed on its public faith.” Next, in *Alabama v. Schmidt*, 232 U.S. 168, 173-74, 34 S. Ct. 301, 58 L. Ed. 555 (1914), the Court held that Alabama statutes that allowed school lands to be lost through adverse possession were valid, because “[t]he gift to the state is absolute” and the “obligation is honorary.” In both of these cases, the Court recognized that enabling acts that predated the New Mexico-Arizona Enabling Act did not create enforceable trusts, but were instead merely hortatory.

The Court continues to recognize that not all enabling acts impose identical duties. In *Papasan*, 478 U.S. at 270, the Court briefly surveyed the history of the school land grants, noting that “the specific provisions of the grants varied by State and over time.” It added, citing the New Mexico-Arizona Enabling Act, that “the most recent grants are phrased not as outright gifts to the States for a specific use but instead as express trusts” in which “there are explicit restrictions on the management and disposition of the lands in trust.” *Id.* The petitioners in the case before the Court claimed that the federal grant of lands to Mississippi created a trust. The Court noted that “it is not at all clear that the school lands grants to Mississippi created a binding trust,” *id.*, at 279, but did not decide the question because it held that the petitioners’ claim was barred by the state’s Eleventh Amendment immunity.

3. The Washington Enabling Act did not create a specific, restrictive trust in the federal school lands. *Skamania v. State* was wrongly decided to the extent it held that the State must manage the State forests as if they were private trusts.

The Washington Enabling Act did not create a narrow trust in the federal school lands. Congress simply did not express an intent to create such a trust—or any trust—in the Enabling Act. When Congress wanted to create a binding trust, it did so explicitly, as it did in the New Mexico-Arizona Enabling Act.

A trust is a fiduciary relationship in which one person holds title to some identifiable property, subject to an equitable obligation to keep or use that property for the benefit of another. 1 George Gleason Bogert & George Taylor Bogert, *The Law of Trusts and Trustees* § 1, at 1-2 (rev. 2d ed. 1984) (hereinafter Bogert & Bogert). Three elements are required to create a trust. First, the creator (or “settlor”) must express a clear intent to create a trust. *See Colman v. Colman*, 25 Wn.2d 606, 609, 171 P.2d 691 (1946) (“An express trust ... is created only if the settlor properly manifests an intention to create a trust.”); Restatement (Second) of Trusts § 25 cmt. a (hereinafter “Restatement”). Second, there must be a beneficiary. Restatement §§ 112, 25 cmt. b. Finally, there must be a property interest which is in existence or ascertainable and is to be held for the benefit of the beneficiary. 1 Bogert & Bogert § 1, at 4-6. If any of the three elements is absent, no trust has been created. *Id.* § 1, at 6.



In the Washington Enabling Act, Congress did not express intent to create a trust and thus the first element for creating a trust is missing. While a trust document need not use the word “trust” or any other particular form of words, Restatement § 24(2), the settlor nevertheless must express a clear intent “to impose duties which are enforceable in the courts,” *id.* § 25 cmt. a; *see also* 1 Bogert & Bogert § 45, at 466-67 (noting that a settlor must “express an intent that the trustee is to have the functions and duties which are incident to trusteeship”). A court will not presume that a trust is implied. Restatement § 24(2). Nor will a court find an intention to establish a trust in “precatory words” that “impose merely a moral obligation.” *Id.* § 25 cmt. b. In particular, “[t]he mere statement of purpose for which a gift is made does not in itself show an intent to make the donee a trustee to accomplish that purpose.” Bogert & Bogert § 46, at 494 (emphasis added).

To determine whether a given enabling act created a trust, a court must look at the specific language of the relevant act. *See Branson Sch. Dist. RE-82 v. Romer*, 161 F.3d 619, 633 (10th Cir. 1998) (“[T]he question of whether a statehood statute creates a federal trust requires a case-specific analysis of the particular state’s enabling statute because the history of each state’s admission to the Union is unique.”). “This is because Congress’ treatment of land grants evolved over time.” *Dist. 22 United Mine Workers of America v. Utah*, 229 F.3d 982, 988 (10th Cir. 2000).<sup>43</sup>

When Congress wanted to create a trust, it did so explicitly. The New Mexico-Arizona Enabling Act provided that the school lands were “held in trust.” New Mexico-Arizona Enabling Act, § 10. Violations of the terms of the Act would be “a breach of trust.” *Id.* Given that Congress could have explicitly imposed—and, with other states, did impose—a trust, there is no reason to infer this intent when Congress did not make its intent clear. If anything, the absence of language explicitly referring to a “trust” in the Washington Enabling Act indicates that Congress did not intend to create a trust.

Moreover, the Washington Enabling Act is closer in its language to the enabling acts that the Supreme Court has held do *not* create binding trusts. As noted above, the Court has recognized a binding trust only in the New Mexico-Arizona Enabling Act, which explicitly mentions a trust. *See Lassen*, 385 U.S. at 466; *Ervien*, 251 U.S. at 47. When interpreting land grants to other states for school purposes, the Court has always found that the grants imposed no binding obligations on the states. *See Schmidt*, 232 U.S. at 173-74; *Cooper*, 59 U.S. at 182. The Washington

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<sup>43</sup> The Washington Supreme Court has recognized that, by using different language in different enabling acts, Congress has varied the terms of the land grants to the states. For example, in *State v. Whitney*, 66 Wash. 473, 477-78, 120 P. 116 (1912), the Court held that by changing the terms of the grant from “shall be granted” to “are hereby granted,” Congress had switched “from a grant in futuro to a grant in praesenti.” *See also Thompson v. Savidge*, 110 Wash. 486, 502, 188 P. 397 (1920) (“[T]hat case might be differentiated from the one before us in view of the difference between the language of the Oregon grant and our grant.”).

Enabling Act, like the land grants to Alabama and Michigan, does not use the word “trust” or refer to any trust duties.

Scholarly commentators confirm this interpretation of the Washington Enabling Act. Most scholars who have examined the question agree that the Washington Enabling Act, like all other enabling acts except for the New Mexico-Arizona Enabling Act, does not create a trust. For example, Fairfax, Souder & Goldenman observe that “[i]f we are confined to interpreting enabling act language, it is difficult to describe anything other than Arizona and New Mexico school grants as trusts.” Fairfax, Souder & Goldenman, *supra*, at 854; accord Daniel Jack Chasan, *A Trust for All the People: Rethinking the Management of Washington’s State Forests*, 24 Seattle U. L. Rev. 1, 15 (2000) (“The fact that Congress used [trust language] in one place, but not in another, indicates that Congress had no intent to create a trust in the earlier cases.”); O’Day, *supra*, at 184 (“Outside of the New Mexico-Arizona Enabling Act, no other state enabling act mentions the word ‘trust.’”); Alan V. Hager, *State School Lands: Does the Federal Trust Mandate Prevent Preservation?*, 12 Nat. Resources & Env’t 39, 40 (Summer 1997) (“The trust concept did not appear in any enabling act until Congress passed the New Mexico-Arizona Enabling Act in 1910.”); John B. Arum, *Old-Growth Forests on State School Lands—Dedicated to Oblivion?—Private Trust Theory and the Public Trust*, 65 Wash. L. Rev. 151, 160 (1990) (“The Enabling Act does not manifest an intent to impose the equitable duties of a trustee on the state.”). These commentators agree that courts have imposed trust duties in states other than New Mexico and Arizona either because these duties are found in the relevant state constitution or through the misapplication of *Lassen* and *Ervien*. See Fairfax, Souder & Goldenman, *supra*, at 843 (observing that precedents from Arizona and New Mexico have become central in interpreting the grants in other jurisdictions); Chasan, *supra*, at 18; O’Day, *supra*, at 191-194; Hager, *supra*, at 41-42; Arum, *supra*, at 160 & n.67.

In sum, the Washington Enabling Act does not create a specific trust of any kind. While the school lands were given to and are constitutionally dedicated to school purposes, they are not trusts. The Washington Enabling Act never uses the word “trust” or in any other way manifests the required express intent to create a trust. The U.S. Supreme Court has found trust duties only in the one state enabling act that expressly mentions a trust. Academic commentators agree that only the atypical New Mexico-Arizona Enabling Act created a particular trust for school lands.<sup>44</sup>

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<sup>44</sup> It is not necessary to decide on the exact nature of the legal relationship created by the Enabling Act: it is enough to conclude that it does not create a strict private trust that requires DNR to ignore the general public interest to grant an easement or accept a condemnation award out of a fiduciary duty to the school beneficiaries. However, a logical interpretation of the Enabling Act is that it constitutes a dedication of lands to a particular purpose. See Arum, *supra*, at 163-68; cf. 1 Bogert & Bogert § 34, at 411-12 (“Where states hold land for special public purposes it is sometimes stated that there is a trust, but this is usually not true in a strict sense.”).

4. The Washington Constitution does not require that the school lands be held in trust for the schools or any other named beneficiaries

The Washington Constitution also does not create a private trust with the state as trustee and the schools as beneficiaries. The plain language of the Constitution provides instead that the school lands are held in trust “for all the people” of the state. Const. art. XVI, § 1. While the Constitution requires the state to obtain full market value when selling school lands and to use money from the permanent fund exclusively for the common schools, it does not, however, require the state to consider itself a trustee focused *exclusively* on school children when managing the school lands to comply with applicable laws and does not create a narrow trust benefiting only income beneficiaries of common school lands.

Instead, the “trust” created by the Constitution—based on the express language of the Constitution—is properly understood as a kind of public trust with all of the people of the state as beneficiaries, rather than as a private trust benefiting only the common schools. Unlike the Washington Enabling Act, the Washington Constitution does use the word “trust,” but the trust was not created to benefit just beneficiaries—it is directed to “all the people.” Article sixteen, section one, specifies that the granted lands “are held in trust for *all the people*.” Const. art. XVI, § 1 (emphasis added). This provision must be read to mean exactly what it says. *See Washington Economic Dev. Fin. Auth. v. Grimm*, 119 Wn.2d 738, 748-49, 837 P.2d 606 (1992) (“We will not construe or interpret a constitutional provision that is plain or unambiguous.”). Thus, Const. art. XVI establishes a trust, but one in which the State, as trustee, must take into account the interests of *all* people in the state, and not merely the common schools. *See Fairfax, Souder & Goldenman, supra*, at 846 (stating that the Washington Constitution “clearly” established a trust and observing that “if the trust is to benefit all the people, it is not clear how undivided loyalty ought to be defined”); *Chasan, supra*, at 16 (“From their choice of language, one can infer that the lands are merely dedicated to public purposes, not held in trust for specific beneficiaries.”).

The framers of the Washington Constitution knew of other states that had created trusts with the schools as beneficiaries. *See, e.g.*, Colorado Const. art. IX, § 10 (amended 1996) (providing that the granted lands were “held in trust ... for the use and benefit of the respective objects for which said grants of land were made”). Their decision not to do the same must be respected. Indeed, the framers of the Washington Constitution specifically rejected revenue maximization as the goal of management of the granted lands. The constitutional convention received two petitions that demanded that the granted lands be managed to maximize revenues. First, on July 10, 1889, the Tacoma Typographical Union No. 170 proposed an amendment to what became article sixteen, section One, that reads: “That all school lands and lands ceded to the state by the United States be reserved forever, and that they be treated so as to secure the highest perpetual income to the schools.” Beverly Paulik Rosenow, ed., *The Journal of the Washington State Constitutional Convention* 793-94 (1962). The Knights of Labor No. 115 submitted a virtually identical

proposition on July 25, 1889. *See id.*, at 794. The convention ignored both of these petitions; despite repeated requests, the framers chose not to require that the granted lands be managed for revenue maximization.

Other state constitutions from that time *did* require revenue maximization. For example, the Colorado Constitution required management of granted lands “in such a manner as will secure the maximum possible amount therefor.” Colorado Const. art. IX, § 10 (amended 1996). Colorado was the last state admitted to the Union before Washington. Similarly, the Idaho Constitution—drafted only one year after the Washington Constitution—required the state to acquire “the maximum amount possible” for the schools. Idaho Const. art. IX, § 8 (amended 1982). The framers’ decision to reject the revenue maximization approach is even more significant given the contemporaneous examples of that approach. Given their awareness of these other state constitutions, the framers’ decision to require that the school lands be held in trust “for all the people,” instead of merely “for the common schools,” was not accidental. Rather, it reflected a conscious decision to avoid imposing a narrow trust on these lands only for the income benefit of school beneficiaries.

The Constitution does, of course, impose strict duties on the state in the sale of school lands and the management of the common school fund derived from these lands. It requires that school lands, as well as “any estate or interest therein,” be sold only for “full market value.” Const. art. XVI, § 1; *see id.* § 3 (“[N]o sale of timber lands shall be valid unless the full value of such lands is paid or secured to the state.”). To carry out this requirement, the Constitution also requires that lands be sold only at public auction and only after being appraised by a board of appraisers. *Id.* § 2. The proceeds from these land sales, as well as the proceeds from, among others things, the sale of timber on school lands, must be added to the common school fund. *Id.* art. IX, § 3. “[T]he entire revenue from the school fund ... shall be exclusively applied to the support of the common schools.” *Id.*

In short, while the Constitution requires that the state obtain full market value from the disposition of trust assets and that any revenue generated from the disposition of such assets be dedicated to the support of the common schools, it does not require that retained trust lands and assets be managed in a way that maximizes the generation of revenues for any particular beneficiary.

5. The Washington Constitution imposes only a broad public trust on the management of school lands.

The trust created by the Washington Constitution is more akin to a *public* trust than a private trust. The public trust doctrine resembles “a covenant running with the land ... for the benefit of

the public and the land's dependent wildlife." *Orion Corp. v. State*, 109 Wn.2d 621, 639, 747 P.2d 1062 (1987). Such a trust prohibits the state from giving away state resources and requires the state to consider the public interest when allocating these resources. Arum, *supra*, at 154-55. While a public trust originally applied only to rights to navigation and fishing in navigable waters, its reach has expanded to include submerged lands and recreational activities. *Orion Corp.*, 109 Wn.2d at 639-41. The Washington Supreme Court has not yet had occasion "to decide the total scope of the doctrine." *Id.* at 641. Because the school lands are held in a trust "for all the people," a broader form of "public" trust such as the public trust doctrine would comport with the language of the Washington Constitution.

Interpreting the Constitution to establish such a public trust, rather than a private trust, accords with the concerns about the school lands at the time the Constitution was drafted. The overriding concern of Congress and the state constitutional conventions in the late nineteenth century was to prevent the school lands from being stolen or given away. *See Chasan, supra*, at 29-34. This is why the enabling acts and constitutions of the period contain so many detailed requirements regarding the *sale* of school lands and assets therefrom, but say nothing about the *management* of these lands. The framers were not thinking about land management. Similarly, cases such as *Lassen*, *Ervien*, and even *Skamania* which we discuss in detail below, dealt not with land management but with the disposition of school lands or the right to use those lands at unfairly low prices. Accordingly, management of Washington's common school lands is not subject to a narrow, income-oriented trust for schools but rather is constrained by a broad public trust-like duty to benefit "all of the people."

6. *Skamania* dealt with the diversion of trust income to private parties or other interests; it did not involve management decisions for the land itself.

The Court's opinion in *Skamania* does contain reasoning that describes the Washington Enabling Act and state constitution as establishing a trust with respect to the school lands. The *Skamania* Court's reasoning, however, cannot be squared with the express language of either the state Constitution or the Washington Enabling Act. Moreover, the Court's statements rely solely on cases that interpret the subsequent and different New Mexico-Arizona Enabling Act and therefore should not guide interpretation of the Washington Enabling Act. *See State v. Potter*, 68 Wn. App. 134, 149 n.7, 842 P.2d 481 (1992) ("Statements in a case that do not relate to an issue before the court and are unnecessary to decide the case constitute obiter dictum, and need not be followed.").

The *Skamania* Court stated that the federal school land grant created a trust to benefit the common schools. "Every court that has considered the issue has concluded that these are real, enforceable trusts that impose upon the state the same fiduciary duties applicable to private trustees." *Skamania*, 102 Wn.2d at 132. For this proposition, the Court primarily relied on

*Lassen*. Yet, as explained above, *Lassen* interpreted the New Mexico-Arizona Enabling Act, which, unlike the Washington Enabling Act, does explicitly establish a trust. See Fairfax, Souder & Goldenman, *supra*, at 844 (noting “the [*Skamania*] court’s treatment of Supreme Court decisions regarding Arizona and New Mexico as binding on other states, without apparent awareness that these cases apply only to Arizona and New Mexico and are particularly inappropriate in the *Skamania* case”).

The Court also cited *United States v. 111.2 Acres of Land*, 293 F. Supp. 1042 (E.D. Wash. 1968), *aff’d*, 435 F.2d 561 (9th Cir. 1970). This case, like *Skamania* itself, concerned the improper disposition of granted lands or assets from those lands, not the management of those lands. In *111.2 Acres of Land*, the state had allowed the federal Bureau of Reclamation to expropriate granted lands, without compensation, for an irrigation project. The court held that section 11 of the Washington Enabling Act prohibited the state from donating granted lands. *Id.*, at 1046. This holding is a straightforward application of the requirement in section 11 that the state obtain full market value when selling trust land. Enabling Act, § 11. The district court also stated that section 10 of the Enabling Act and article XVI, section 1, of the Washington Constitution establish a “real” trust. *111.2 Acres of Land*, 293 F. Supp. at 1049. The court provided no analysis to support this conclusion beyond a citation to *Lassen*.<sup>45</sup>

The only Washington Supreme Court case cited in *Skamania* in support of its conclusion that the school lands are held in a specific trust is *State ex rel. Hellar v. Young*, 21 Wash. 391, 58 P. 220 (1899). That case had nothing to do with the management of school lands, however. Instead, it dealt with the investment of the permanent fund. *Id.* at 392 (“[T]he permanent school fund of this state must be regarded as a trust fund.”). As explained above, entirely different provisions of the Washington Enabling Act and the Washington Constitution govern the permanent fund than govern the school lands and their management. *Young* says nothing about the latter.

In fact, there is no example of common law trust duties being applied to the *management* of school lands in Washington before *Lassen* and *Skamania*. The courts had not done so. Instead, for example, in *State ex rel. Forks Shingle Co. v. Martin*, 196 Wash. 494, 83 P.2d 755 (1938), the Washington Supreme Court upheld the constitutionality of a law that required the management of state forest lands according to a “sustained yield plan.” In reaching this conclusion, the Court observed that a law “having for its purpose the conservation of the state’s forest resources” on school lands deserved special deference. *Id.*, at 502. Neither had the agencies responsible for managing the school lands taken such a narrow view of their

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<sup>45</sup> The reference in *Skamania* to *111.2 Acres of Land* therefore simply restates the Court’s misunderstanding of *Lassen* at one remove.

management role. *See* Chasan, *supra*, at 22 (observing that the 1942 report of the Forest Advisory Commission did not mention a duty of undivided loyalty). Likewise the general public had not viewed the management of these lands so narrowly. *See id.*, at 22 n.115 (“When allegations of timber thefts and giveaways arose earlier in the century, legislative investigators and newspaper headline writers expressed outrage over people stealing from the state. Cheating school children was not the issue, and evidently no one even thought about common law trust responsibilities.”).

The language in *Skamania* aside, current law does not require that the state manage common school lands as a private trustee would manage a trust corpus. First, the school lands are plainly subject to federal laws of general applicability. *See generally* AGO 1996 No. 11, at 18-21. In *Case v. Bowles*, 327 U.S. 92, 98-102, 66 S. Ct. 438, 90 L. Ed. 552 (1946), the U.S. Supreme Court held that the sale of timber from granted school lands was subject to the federal Emergency Price Control Act, even though this federal statute reduced the revenue from such sales. Similarly, in *Bd. of Natural Resources v. Brown*, 992 F.2d 937, 941 (9th Cir. 1993), the Ninth Circuit upheld a federal statute that restricted the export of unprocessed timber harvested on state and federal public lands, thereby “reducing significantly the income generated from the sale of timber harvested from the land.” The same is true of generally-applicable laws enacted by the state legislature pursuant to its police powers. *See generally* AGO 1996 No. 11, at 20-21. For example, the Washington Supreme Court has upheld the applicability of the State Environmental Policy Act and the Forest Practices Act to granted school lands. *See Noel v. Cole*, 98 Wn.2d 375, 380, 655 P.2d 245 (1982); *West Norman Timber, Inc. v. State*, 37 Wn.2d 467, 475, 224 P.2d 635 (1950). The state also allows the public to use the school lands “for camping, hunting, hiking, fishing, boating, and motorized off-road travel, even though those uses may substantially increase the risk of fire on these lands.” Chasan, *supra*, at 24.

In other words, there is no dispute that the state may require management of the school lands in a way that does not maximize revenue so long as it applies the same restrictions to all people. But a trustee is required to do more than treat the beneficiaries as well as everyone else; a true trustee must treat the beneficiaries better than anyone else. *See* 1 Bogert & Bogert § 543, at 217 (“Perhaps the most fundamental duty of a trustee is that he must display throughout the administration of the trust complete loyalty to the interests of the beneficiary and must exclude all selfish interest and all consideration of the interests of third persons.”); *see also* Chasan, *supra*, at 24. If the school lands were truly held and subject to management pursuant to a private trust to benefit only the common schools, then applying state laws of general applicability to those lands could be deemed a breach of that trust duty. This result highlights the incongruity of applying common law trust duties to school lands.

Absent an express requirement in the Washington Enabling Act or Washington Constitution that it do otherwise, the state may enact laws to promote public health and safety pursuant to its

police powers. The “[p]olice power is inherent in the state by virtue of its granted sovereignty.” *Manufactured Housing Communities of Washington v. State*, 142 Wn.2d 347, 354, 13 P.3d 183 (2000). It permits the state to pass laws “for the benefit of the public health, peace and welfare.” *Conger v. Pierce County*, 116 Wash. 27, 36, 198 P. 377 (1921). “It exists without express declaration, and the only limitation upon it is that it must reasonably tend to correct some evil or promote some interest of the state, and not violate any direct or positive mandate of the constitution.” *Shea v. Olson*, 185 Wash. 143, 153, 53 P.2d 615 (1936).

BNR’s state forest land management decisions and adoption of plans or policies intended to benefit the general public are not limited by the cases holding that states cannot use their federal school trusts to “fund” conservation. For example, in *State v. University of Alaska*, 624 P. 2d 807 (Alaska, 1981), the court held that Alaska’s donation of state trust lands for a public park violated that State’s trust mandate. And in *National Parks & Conservation Ass’n v. Board of State Lands*, 869 P. 2d 909 (Utah, 1993), the court held that the State of Utah could not justify losing money on a land exchange to protect aesthetic resources of an inholding within a national park. These cases are, however, significantly different than the BNR’s state forest land management decisions. In both, the courts rejected “give aways” of public land, give aways that would have taken trust lands land out of income production. In the case of state forest land management plans or policies, however, the BNR would not be giving away anything; instead, the BNR would be enabling state forests to be harvested into the future without risk of ESA lawsuits. Conservation-oriented forest land management plans and policies do not “give away” public resources; they dedicate public resources to the public and they mitigate the environmental impacts of the state’s activity (logging) on public resources. In addition, BNR’s compliance with the ESA is not, like in the Alaska and Utah cases, a recreational bonus at the trusts’ expense; it is BNR’s compliance with federal law.

In conclusion, the federal land grants of school lands to Washington and, in turn, the framers of the Washington Constitution created *public*, not *private*, trusts. The purpose of these public trusts was to permanently set these lands for uses that the DNR and the BNR deem is in the long-term public interest of the schools *and* the public at large. To the extent that *Skamania* holds that the school lands are *private* as opposed to *public* trusts and that DNR has a fiduciary duty to maximize revenue from these trusts, this conclusion is not sound. The DNR and the BNR have the clear legal authority to manage the State trust lands to achieve protection and recovery of threatened and endangered species, because achieving these goals is clearly required by federal law and is in the best long-term interests of the public in general and the trusts viewed in the aggregate.

D. The BNR has the authority to manage the county-sourced “State Forest Lands” in the best interests of the state.



As set forth above, approximately ¼ of the forests that DNR manages originated from the counties themselves. Some forest stakeholders argue that BNR does not have the authority and discretion to exceed the minimal requirements of federal and state law when making state forest land management decisions that because such decisions would violate BNR’s fiduciary duty towards the counties and the junior taxing districts with respect to the county-sourced “State Forest Lands.” These stakeholders may contend that the BNR has the same fiduciary duty, or “trust mandate,” to these beneficiaries as they have towards the federally-sourced “State Lands” beneficiaries, including maximization of income in the long-term and undivided loyalty in favor of the beneficiaries.<sup>46</sup>

We acknowledge that the Legislature<sup>47</sup> and the Supreme Court in *Skamania*<sup>48</sup> have referred to the county-sourced State Forest Lands as being held in a “trust” status, but we respectfully disagree with the characterization that these forests are similar to the federal school trusts or that they must be managed as private trusts. Instead, the State Forests Lands are statutory, not constitutional, trusts and BNR has the statutory authority and duty to manage these lands “in the best interest of the state.”<sup>49</sup> The BNR may take all of the State’s interests into account, including the State’s interest in complying with its HCP, the ESA, and conservation-oriented sustainable timber harvest levels. No real or perceived trust duty towards a county or junior taxing district prevents BNR or DNR from managing the State Forest Lands in a manner that fully implements the science-based conservation requirements contained in DNR’s state-wide HCP.

#### 1. History of the “State Forest Lands.”

Washington’s first settlers encountered vast old growth forests, forests so vast that they believed they were inexhaustible. But that belief faded and by the 1920s, Washington’s title of “the Evergreen State” was starting to sound ironic. Washington’s forests were disappearing, just as the forests of Wisconsin and Michigan had vanished in the 19th century. There were no reforestation programs, and fire control was minimal or nonexistent.”<sup>50</sup> Forest landowners had

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<sup>46</sup> DNR Policy for Sustainable Forests, at 13 (2004) (*citing* RCW 79.22.040) (“However, the Legislature has directed that the State Forest Transfer Lands be managed in the same manner as the Federal Grant Lands.”) (Available at [http://www.dnr.wa.gov/Publications/lm\\_psf\\_policy\\_sustainable\\_forests.pdf](http://www.dnr.wa.gov/Publications/lm_psf_policy_sustainable_forests.pdf)) (last visited Sept. 18, 2017).

<sup>47</sup> RCW 79.22.040.

<sup>48</sup> *Skamania*, 102 Wn.2d at 133 (“[T]he forest board transfer lands are also held by the state in trust. RCW 76.12.030 [recodified at RCW 79.12.040] states that when counties transfer this land to the state, “[s]uch land shall be held in trust and administered and protected by the board as other state forest lands.” This statute, like the enabling act, imposes upon the state similar fiduciary duties in the management and administration of the forest board transfer lands.”)

<sup>49</sup> AGO 1996 No. 11, at 53 (“[t]he forest transfer lands are held in trust pursuant to a legislative enactment.”)

<sup>50</sup> Daniel Jack Chasan, *A Trust for All the People: Rethinking the Management of Washington's State Forests*, 24 Seattle U. L. Rev. 1, 6 (2000).

reduced the lush forests that once graced the landscape to mile-after-mile of scoured and stripped land.<sup>51</sup>

Washington's denuded landscape was more than just an eyesore. Wildfires often raced through the slash, risking life and property nearby, and leaving behind a strange, barren landscape of charred stumps.<sup>52</sup> "Denuded hillsides . . . made possible the rapid runoff of surface waters, thus increasing the dangers from floods and contributing to costly soil erosion."<sup>53</sup>

Regrettably, the business strategy of many of Washington's early forest landowners was "cut out and get out."<sup>54</sup> After clearing the land of timber, these landowners abandoned the land (which were then devoid of economic value) and ceased paying property taxes.<sup>55</sup> Eventually, the counties acquired these forests through tax foreclosure.<sup>56</sup>

The Legislature eventually recognized that something needed to be done to reforest these lands and that the counties were ill-equipped to do the job. During the 1920s and 1930s, "reforestation" became the rallying cry. As the Washington Supreme Court noted:

We are aware that the problem of our vanishing forests and the reforestation of the vast areas from which the timber has already been removed has challenged the attention, not only of the people of this state, but of the nation, and everywhere efforts are under way, through plans for a more orderly harvesting of timber crops and the planting of denuded areas, to remedy, in part at least, the wasteful practices of the past.<sup>57</sup>

Reforestation was seen as a panacea for a host of ills because forests provided a number of tangible benefits, such as anchoring soil, slowing water runoff, and providing a source of future timber. A 1931 Seattle Times editorial even praised Washington's reforestation efforts for aesthetic reasons:

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<sup>51</sup> *Id.*

<sup>52</sup> *Id.*

<sup>53</sup> *State v. Dexter*, 32 Wn.2d 551, 555-56 *aff'd*, 338 U.S. 863 (1949).

<sup>54</sup> *Id.*

<sup>55</sup> *Id.*

<sup>56</sup> *Id.*

<sup>57</sup> *State ex rel. Mason Cnty. Logging Co. v. Wiley*, 177 Wash. 65, 71 (1934).

Although there are sound economic reasons for perpetuating Washington’s magnificent forests, the idea that woodlands have an aesthetic and education values is taking hold of the public though here and elsewhere. The great movement for . . . reforestation of denuded hillsides is based upon the recreational and educational value rather than upon their possible commercial importance . . . . Bare hillsides or blackened stump areas where fires have raged fill the average person with a feeling of horror or regret. If there were no economic reasons for reforesting the land it would be well worth while to bring back the beauty of the American landscape.<sup>58</sup>

The Legislature took a number of steps to promote reforestation. In 1921, the Legislature authorized the State to acquire by purchase or gift any lands suitable for reforestation and to “seed and develop forests” on such land.<sup>59</sup> In 1923, the Legislature created the State Forest Board—the predecessor to today’s DNR—to manage the state forest lands and authorized the Board to issue bonds, up to \$200,000, to acquire and reforest these lands.<sup>60</sup> Lands purchased by the state were “forever reserved from sale,” but timber from these forests “may” be sold.<sup>61</sup> At that time, the Legislature created a trust relationship between the State and the counties, but granted the State significant discretion in managing the trust, requiring that: “timber and other products thereon may be sold or the said lands may be leased in the same manner and for the same purposes as is authorized for the state granted lands, except that no sale of any timber or other products thereon and no lease of said lands shall be made until ordered and approved by the State Forest Board.”<sup>62</sup> In 1927, the Legislature authorized DNR to acquire county lands received through tax foreclosure for the purpose of reforestation and incorporated by reference the management standards in the 1923 law.<sup>63</sup>

Twenty-one counties quickly transferred their barren and burdensome former forest lands to the State.<sup>64</sup> This transaction ultimately benefited both the State and the counties. Not only would the county and its junior taxing districts receive revenue if and when timber was sold, but all parties, the state and the county, would benefit from reforestation and the preservation of Washington’s forest resources. In 1955, the Legislature amended the language of the statutory trust to clarify that the State’s interests were paramount.

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<sup>58</sup> Seattle Times, July 12, 1931.

<sup>59</sup> 1921 Wash. Laws ch. 169.

<sup>60</sup> 1923 Wash. Laws ch. 154.

<sup>61</sup> *Id.*

<sup>62</sup> *Id.*

<sup>63</sup> 1927 Wash. Laws, ch. 288, §3-b.

<sup>64</sup> DNR Policy for Sustainable Forests, at 12 (Dec. 2006).

The Legislature specifically directed DNR to manage the State Forest Lands in the same manner as the federal land grant lands but this general directive was qualified by an important limitation: only “if the board finds such sale or lease to be in the best interests of the state and approves the terms and conditions thereof.”<sup>65</sup> Very similar language persists today in RCW 79.22.050.

2. RCW 79.22.040, .050, and .070 collectively allow the BNR to make decisions implementing DNR’s HCP that are in the best interest of the State.

The nature of BNR’s trust mandate hinges on the Legislature’s intent in creating the statutes governing DNR’s management of the State Forest Lands.<sup>66</sup> When a statutory standard conflicts with a common law standard, the common law gives way and is pre-empted as a matter of law.<sup>67</sup> Common law trust obligations apply only insofar as they are not inconsistent with statutory provisions. RCW 4.04.010. The trustee’s primary duty is to carry out the settlor’s (here, the State of Washington) intent as determined from the terms of the trust instrument.<sup>68</sup> Thus, the first place to look to determine BNR’s trust mandate and fiduciary land management standard are the statutes governing the State Forest Lands.<sup>69</sup>

Facing the cut, run, and tax defaults described above, in 1927 the Legislature authorized the State to accept the barren and burdensome county forests for the purposes of reforestation. RCW 79.22.040.<sup>70</sup> In directing *how* these lands should be managed, the Legislature had a choice: it could require the lands to be managed in the same manner as other forest lands purchased by or gifted to the state *or* in the same manner as the federally-sourced State Lands.

The Legislature chose the former, directing that these transfer lands be held in trust but “be forever reserved from sale, but the valuable materials thereon *may be* sold or the land may be leased in the same manner and for the same purposes as is authorized for state lands if the department finds such sale or lease to *be in the best interests of the state....*” RCW 79.22.050 (emphasis added). It is crucial to emphasize the terms “may be;” this means that the Legislature did not *direct* the BNR and DNR to manage the State Forest Lands the same as the State Lands; it gave the Board and DNR the *discretion* to do so. What is “in the best interests of the state,” however, is DNR’s management mandate.

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<sup>65</sup> 1955 Wash. Laws, ch. 116.

<sup>66</sup> AGO 1996 No. 11, at 53.

<sup>67</sup> *Washington Water Power Co. v. Graybar Electric Co.*, 112 Wn.2d 847, 851-56, 774 P. 2d 1199, *modified* 779 P.2d 697 (1989).

<sup>68</sup> *Austin v. U.S. Bank*, 73 Wn. App. 293, 304 869 P.2d 404, *rev. denied*, 124 Wn.2d 1015 (1994)

<sup>69</sup> *Id.* (“[The] terms of the forest . . . transfer lands trust are found in statutes directing the administration and protection of state forest lands. These statutes define the trust relationship and [DNR’s] obligations and authority in administering the trust.”).

<sup>70</sup> 1927 Wash. Laws, ch. 288.

The non-mandatory nature of DNR's management of the State Forest Lands is likely why the Attorney General recognized that the Legislature did not *require* DNR to manage the State Forest Lands in the same manner as DNR manages common law trusts. AGO 1996 No. 11, at 53 (“...[u]nlike the federal grant land trusts, the forest board transfer land trust is created by statute.”); *Id.*, at 54 (“In light of these principles, this opinion concludes that the legislative authority of the state with respect to forest board transfer lands generally is not constrained by common law fiduciary principles governing administration of private trusts.”); *Id.*, at 58 (“These statutes define the trust relationship and the Department’s obligations and authority in administering the trust.”).

Similarly, RCW 79.22.070 gives the BNR and the DNR the authority to manage the State Forest Lands with a long view towards conservation goals and principles. That statute provides:

(1) State forestlands shall be logged, protected, and cared for in such manner as to ensure natural reforestation of such lands, and to that end the department shall have power, and it shall be its duty to adopt rules, and amendments thereto, governing logging operations on such areas, and to embody in any contract for the sale of timber on such areas, such conditions as it shall deem advisable, with respect to methods of logging, disposition of slashings, and debris, and protection and promotion of new forests. ...

Because DNR holds the State Forest Lands in a statutory not a common law trust, a *different* management standard governs DNR's management of these lands. While, under *Skamania*, a trustee must manage a common law trust in the exclusive best interest and in furtherance of the undivided loyalty of the trust beneficiaries, among other fiduciary duties, *Skamania*, 102 Wn.2d at 137, the Legislature in RCW 79.22.040 and .050 circumscribed this common law trust standard and instead directed DNR to manage these lands *in the best interests of the state*. By its own terms, this management, however, may not necessarily be in the exclusive best interest of a specific county or junior beneficiary. RCW 79.22.050 provides:

Except as provided in RCW 79.22.060, all land, acquired or designated by the department as state forest land, shall be forever reserved from sale, but the valuable materials thereon may be sold or the land may be leased in the same manner and for the same purposes as is authorized for state lands if the *department finds such sale or lease to be in the best interests of the state* and approves the terms and conditions thereof. (emphasis added).

DNR, accordingly, may manage the State Forest Lands under the same standards state agencies manage its non-trust proprietary properties. AGO 1996 No. 11, at 58. This lower standard derives from the principle that agencies acting in an administrative capacity have significantly more discretion than when they act as a trust manager. *Id.*, at 36 (citing Jon A. Souder et al., *Sustainable Resources Management and State School Lands: The Quest for Guiding Principles*, 34 Nat. Resources J. 271, 295 (1994)). DNR is *not* required as a matter of law to administer the State Forest Lands “based on the economic circumstances and interests of each county in which such lands are located.” *Id.*, at 60.

### **Conclusion**

The BNR and the DNR has the legal authority to exceed the minimal requirements of federal and state law when making state forest land management decisions if this management is deemed necessary to promote the protection and recovery of endangered and threatened species or public safety and provides other important ecological benefits such as clean water and climate change mitigation to the general public.

The federal land grant trusts authorize the BNR to adopt state forest management plans and policies that will best comply with Section 10 of the ESA, provide long-term ESA certainty to the trusts, and, using best available science, best protect and recover imperiled species. *Skamania v. State* does not prevent the BNR from achieving these goals; *Skamania* holds only that the State cannot divert, at the expense of the trusts, trust assets or earned income to private entities. *Skamania*, moreover, was wrongly decided to the extent it held that the federal school trusts were private trusts. As documented in this Memorandum, the federal school trusts are public, not private, trusts and the BNR has the discretion to adopt state forest management plans and policies that benefit *both* the trust beneficiaries and society at large. Complying with federal law, obtaining long-term federal ESA assurance, and recovering threatened and endangered species on state forests is not an impermissible diversion of trust assets; instead, these are public values that the BNR has the authority, and duty, to advance. The BNR has the same authority with respect to the county-sourced State Forest Lands.