

**CENTER FOR BIOLOGICAL DIVERSITY * DEFENDERS OF WILDLIFE *
EARTHJUSTICE * NATURAL RESOURCES DEFENSE COUNCIL *
ORGANIZED VILLAGE OF KASAAN *
SOUTHEAST ALASKA CONSERVATION COUNCIL**

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Re: Comments on Twin Mountain II Timber Sale Draft Environmental Impact Statement

Dear Project Lead Cancino:

The U.S. Forest Service is in the process of analyzing the Twin Mountain II Project (“the Project”) and has prepared a draft environmental impact statement (DEIS). These comments are submitted on behalf of the undersigned organizations and tribes. These signatories have a long-standing interest in the Tongass National Forest and any developments that may affect its social, cultural, and ecological values. For the reasons described below, the Forest Service should not pursue old-growth logging via the Twin Mountain II Project.

Clear-cutting these ancient trees would devastate the remaining old-growth forests on Prince of Wales Island, which has already been heavily logged. The island’s remaining old growth must be left standing, as it is essential for subsistence and other cultural practices, providing wildlife habitat for deer, wolves, goshawks, and other sensitive species, and maintaining the island’s ecosystem function, including its unique karst systems. Modern economic drivers on the island also depend upon the forest’s old-growth stands to support Southeast Alaska’s fish, wildlife, and outdoor recreation industries, as well as sustainable fisheries. The logging proposed in the Twin Mountain II Project would also compromise the United States’ climate preparedness and reduce the country’s ability to address the effects of climate change worldwide. The Forest Service must account for these multiple uses in addition to timber demand. After decades of large-scale old-growth logging on Prince of Wales Island, additional sales like this one come at a cost that is too dear to these other important multiple uses—affecting Southeast Alaska communities’ quality of life, the environment, and the climate.

Rather than destroy the old-growth habitat that remains in the logging base on Prince of Wales Island, the Forest Service should focus its efforts on sustainable logging decisions consistent with a transition away from old-growth logging. Given the long-term weak demand for Tongass

timber, the enormous waste of taxpayer money spent subsidizing the Tongass timber program year after year, and the extreme threat posed to wildlife populations on Prince of Wales Island—the better course would be to drop plans for old-growth logging altogether.

The proposed logging is neither environmentally nor economically sustainable. It and other sales like it perpetuate controversy regarding old-growth logging and depend on massive public subsidies to support an export-dependent industry that contributes virtually nothing to the region's economy. The Forest Service has not, and cannot, explain how this sale is consistent with sustaining other uses of the forest when the affected habitats already cannot sustain those uses due to extensive logging that has already occurred on the island.

This sale is symptomatic of a wasteful and unsustainable logging program that threatens values important to residents of Prince of Wales Island, Southeast Alaska, and the nation. We strongly urge the Forest Service to take a different approach with regard to the logging contemplated in this and similar sales.

I. The Forest Service cannot use timber demand as an excuse to further degrade other important forest uses, and must explain how it weighed users' competing needs.

The DEIS explains that the sale's sole purpose and need is to seek to meet market demand for timber, citing the Tongass Timber Reform Act (TTRA) and its incorporation into the 2016 Amendment to the Tongass Land and Resource Management Plan (2016 Forest Plan.)¹ However, courts have repeatedly emphasized that the TTRA does not require the Forest Service to offer any specific quantity of timber for sale, let alone any specific quantity of old-growth timber.² While the Forest Service is obligated to “seek to meet” demand, it may only do so insofar as it is “consistent with providing for the multiple use and sustained yield of all renewable forest resources,” subject to the National Forest Management Act (NFMA) and other applicable laws.³

The DEIS does not explain how either action alternative is consistent with providing for the multiple use and sustained yield of all renewable forest resources, or with the requirements to provide for subsistence uses and wildlife populations that are contained in NFMA, the Alaska National Interest Lands Conservation Act (ANILCA), or the Multiple-Use Sustained-Yield Act (MUSYA). Nor could it. Large scale old-growth logging impairs virtually every other socially, culturally, and economically important use of the forest for at least 150 years.⁴ Game Management Unit 2 (GMU 2) on Prince of Wales is already incapable of meeting the need for subsistence deer hunting due to the extensive logging the Forest Service has facilitated since 1954.⁵ Three out of five of the relevant wildlife analysis areas (WAAs) are also likely incapable of supporting viable wolf populations due to logging's effects on deer habitat.⁶ Habitat availability and connectivity, and watershed integrity have suffered from extensive logging on the island. The proposed Project might provide a two- to three-year supply of timber for local

¹ DEIS at 3-4.

² See Order on Mot. to Dismiss, *Alaska Forest Association v. U.S. Dep't of Agric.* at *16-*24, Case No. 3:25-cv-00046-SLG (D. Alaska Mar. 12, 2026) (describing prior cases and holding the same).

³ *Id.* at *18 (quoting 16 U.S.C. § 539d(a)).

⁴ DEIS at 158-59.

⁵ *Id.* at 98-103.

⁶ *Id.* at 88-89.

mills,⁷ but it would further reduce the forest's ability to provide for subsistence hunters and to support goshawks, deer, wolves, and other old-growth dependent species for generations. And, as the DEIS admits, in the event the Twin Mountain II sale is not held, "if there is a demand for timber then local timber harvest activities would likely be displaced to a different area on the forest or to lands not part of the National Forest System rather than forgone."⁸ Therefore, the Project and its adverse impacts—including its significant possibility of significant restriction on subsistence resources—is not necessary, either legally or as a practical matter.⁹

At the same time, the value of the timber industry has dwindled to just one percent of regional employment, reflecting greatly diminished demand for Tongass timber and greatly diminished importance of the industry relative to all other regional employment sectors, including many that depend on healthy old-growth forests.¹⁰ The Forest Service has yet to deliver any significant transition to young growth.¹¹ Old-growth trees have immense value when left standing. The old-growth sales the Forest Service has offered in recent years have not even been worth the cost of logging unless most of the logs are exported for processing (costing local jobs) and the Forest Service builds or reconditions roads (costing taxpayer dollars). This is not judicious multiple use management. It is government-authorized waste of renewable, generational wealth that belongs to tribes and the public, for the short-term benefit of local mill owners and a small number of employees.

Adopting any alternative that authorizes large-scale old-growth logging will be arbitrary and inconsistent with the 2016 Forest Plan, NFMA, MUSYA, ANILCA and the TTRA on its face unless the Forest Service can explain how it weighed these competing interests in a rational, non-arbitrary manner, "with consideration being given to the relative values of the various resources,"¹² including over time. Citing the TTRA is no substitute for such an explanation. The TTRA does not tell the Forest Service how to weigh competing forest values.

During scoping, the Alaska Forest Association (AFA) commented that the analysis of "the original unit pool . . . resulted in a \$350,000 deficit for the sale," and that that deficit units "make up most of the current sale volume" for Twin Mountain II.¹³ AFA therefore asked the Forest Service to "consider making exceptions in the development of the [DEIS] for more than just the viewshed components" to increase the value of the units.¹⁴ The DEIS indicates the sale has a positive value, but does not explain what has changed to improve the units' value given that the market remains unfavorable.¹⁵ In the final environmental impact statement (FEIS), the Forest

⁷ *Id.* at 4.

⁸ DEIS at 41.

⁹ See ANILCA § 810(a) (if an agency action may significantly restrict subsistence uses, the agency cannot proceed unless it determines that action is necessary, consistent with sound management principles for the utilization of public lands).

¹⁰ DEIS at 198.

¹¹ 2016 Forest Plan at 5-2 to 5-3.

¹² 16 U.S.C. § 531(a).

¹³ T. Axelson, AFA, Letter to Thorne Bay Ranger District, Re: Public comment re: Twin Mountain II Timber Notice of Intent (Oct. 14, 2020).

¹⁴ *Id.*

¹⁵ DEIS at 200-03.

Service should address AFA’s comment specifically and explain clearly how the sale’s economics have changed since the original was appraised in 2019, including whether the Forest Service is assuming any exceptions to normal practices or standards and guidelines, and whether the Forest Service used or will use public funds to subsidize the sale.

II. The DEIS does not adequately analyze impacts to subsistence.

For the Organized Village of Kasaan’s citizens, Prince of Wales Island is home and subsistence is part of a deep cultural connection to the land and its resources. Deer and salmon are essential subsistence resources for the Organized Village of Kasaan’s way of life. Healthy deer and salmon are not possible without healthy forests. Everything that happens in the forest is connected to subsistence. Other subsistence resources that rely on healthy old-growth forests are also important to the Organized Village of Kasaan’s citizens; resources like berries, vegetation, and mushrooms. Tribal citizens are still connecting to their traditional medicines and they need healthy forests for those medicines. For the Organized Village of Kasaan’s people, good food is good medicine and nourishment through cultural and traditional foods sustains tribal citizens in a way that western foods do not. Store bought foods are expensive, not always easily accessible, and do not provide the same cultural connection and nourishment as traditional foods.

Tribal citizens rely on deer for dietary, nutritional, and cultural needs but are currently unable to harvest enough deer to fulfill those needs. Unfortunately, the deer population has gone down, while at the same time the number of hunters coming onto Prince of Wales to harvest deer and then take them off the island has increased. Tribal citizens see this happening regularly and sometimes are unable to even get a flight back to Prince of Wales Island themselves because the flights are already full of hunters flying in to hunt deer and take other resources.

A. The DEIS does not fulfill the requirements of ANILCA section 810.

Congress enacted Title VIII of ANILCA to address the loss of aboriginal hunting and fishing rights in the Alaska Native Claims Settlement Act (ANCSA) and to ensure the continued “opportunity for subsistence uses by rural residents of Alaska.”¹⁶ In doing so, Congress invoked its constitutional authority over Native affairs¹⁷ and specifically recognized that the subsistence uses to be protected by title VIII are “essential to Native physical, economic, traditional, and cultural existence.”¹⁸

In title VIII, Congress directed that “public lands in Alaska are to be utilized in a manner which will ‘cause the least adverse impact possible on rural residents who depend upon subsistence uses of the resources of such lands.’”¹⁹ In furtherance of this directive, section 810 requires federal agencies contemplating an action involving public lands to ensure impacts to subsistence resources and uses are avoided or minimized.²⁰

¹⁶ 16 U.S.C. § 3111(4); *see also* 89 Fed. Reg. 14008, 14009 (Feb. 26, 2024).

¹⁷ 16 U.S.C. § 3111(4).

¹⁸ *Id.* § 3111(1)

¹⁹ *City of Tenakee Springs v. Clough*, 915 F.2d 1308, 1311 (9th Cir. 1990) (quoting 16 U.S.C. § 3112(1)).

²⁰ 16 U.S.C. § 3120.

Consistent with Congress’s intent to provide strong protections for subsistence ways of life, section 810 only allows an agency to proceed with a proposed action if it has first evaluated, and then reduced or eliminated, impacts to subsistence, and considered the availability of other lands or alternatives, and only then if it is able to make several required affirmative determinations. The required determinations are that: (1) “such a significant restriction of subsistence uses is necessary, consistent with sound management principles for the utilization of the public lands”; (2) “the proposed activity will involve the minimal amount of public lands necessary to accomplish the purposes of such use, occupancy, or other disposition”; and (3) “reasonable steps will be taken to minimize adverse impacts upon subsistence uses and resources resulting from such actions.”²¹

The section 810 evaluation in the DEIS concludes that both action alternatives will significantly restrict subsistence uses of deer, mostly due to loss of deep snow habitat that provides forage and thermal cover in winter.²² The DEIS recognizes that deer in previously logged areas, which are in the stem exclusion stage, rely on travel corridors to access suitable habitat throughout the year.²³ WAA 1422 contains access corridors used by deer and subsistence harvesters; the Project proposes to log many timber units in those same areas of WAA 1422.²⁴ The DEIS acknowledges that logging those stands may affect deer distribution, although it does not explicitly recognize that logging will also likely affect deer abundance. The DEIS predicts that subsistence user harvest of deer would decline as a result of the Project, due to increasing difficulty in harvesting deer,²⁵ but seems to dismiss this concern as there is already a downward trend in deer harvest in the Project area.²⁶ Without support, the DEIS also states that “harvest effort may shift to other, more-productive areas.”²⁷

The DEIS also briefly considers effects of the Project to subsistence use of fish, but arbitrarily concludes that while many watersheds in the Project area were subject to logging activities, “best management practices and watershed protections” would make “further damage to watersheds throughout the project . . . minimal.”²⁸ The DEIS does not evaluate effects to subsistence uses of other resources, but concludes that the Project will not lead to a significant restriction of fish and marine invertebrates, food plants, personal use timber, upland game birds and waterfowl, furbearers, bears, or marine mammals.²⁹ The DEIS does not satisfy ANILCA’s section 810 requirements.

Informed decisionmaking is essential to section 810’s mandate.³⁰ The DEIS’s evaluation of subsistence impacts does not contain information about specific community needs or impacts to

²¹ *Id.* § 3120(a)(3)(A)-(C).

²² DEIS at v, 101.

²³ *Id.* at 101.

²⁴ *Id.*

²⁵ *Id.*

²⁶ *Id.*

²⁷ *Id.*

²⁸ *Id.* at 100.

²⁹ *Id.*

³⁰ *Se. Alaska Conservation Council v. U.S. Forest Serv.*, 443 F. Supp. 3d 995, 1017 (D. Alaska 2020) (quoting *Amoco Prod. Co. v. Vill. of Gambell*, 480 U.S. 531, 544 (1987)).

specific community use areas or otherwise provide enough information to inform the Forest Service’s evaluation of the full extent of subsistence impacts or facilitate subsistence users’ understanding of the details of the Project so they may meaningfully engage with the Forest Service about the specific ways their subsistence uses will be affected. The Forest Service itself, in a recent assessment for the ongoing forest plan revision, recognized the importance of emphasizing local community use areas and using local knowledge to increase sustainability of subsistence resources.³¹ An adequate analysis under ANILCA must, at a minimum, identify “site-specific impacts on subsistence resources, incorporate maps identifying which sites are important for subsistence use generally, and catalogue how and to what extent each community utilizes subsistence resources, including data on per capita consumption.”³²

In environmental analyses for other logging projects, the Forest Service has provided more site-specific information and analyzed the effects of those projects on a wider variety of important subsistence resources. For example, in the FEIS for the Big Thorne logging project, the Forest Service also considered the effects of that project on food plants, upland game birds, waterfowl, furbearers, and marine mammals.³³ It also attempted to assess how the Big Thorne project would affect hunter demand. While the commenters are not arguing that the Big Thorne FEIS meets the ANILCA standard, it illustrates that the Twin Mountain II DEIS falls far short not only of the legal standard, but also of the standard the Forest Service has applied in other analyses.

Further, the DEIS’s reliance on the 2016 Forest Plan’s assumption that the demand for resources would remain constant or increase slightly as habitat capability remains the same or declines over time is flawed.³⁴ That assumption in the Forest Plan is based on Ketchikan’s then-status as a non-rural community; Ketchikan has since received rural designation and its residents are able to participate in subsistence deer hunting on Prince of Wales Island.³⁵ The DEIS should acknowledge this recent development and assess what it means for subsistence harvest of deer as a cumulative effect of the Project.

Recent federal subsistence proceedings underscore the local knowledge of game trends and the indication of how ANILCA section 804 should be operating in GMU 2 especially in light of Ketchikan’s status designation. In 2025, the East Prince of Wales Fish and Game Advisory Committee submitted Wildlife Proposal WP26-08, asking the Federal Subsistence Board to eliminate the January deer season in GMU 2 in light of declining deer populations and threats to continued subsistence.³⁶ The advisory committee emphasized that GMU 2 deer are pressured by variables that include lack of suitable foraging habitat in second-growth stands.³⁷ Despite these documented concerns and the Board’s own recognition that Ketchikan’s 2025 rural

³¹ U.S. Forest Service, *Subsistence and Other Non-Commercial Harvest Resource Assessment: Tongass National Forest Plan Revision* at 8 (Aug. 2025).

³² *City of Tenakee Springs v. Clough*, 750 F. Supp. 1406, 1422-23 (D. Alaska 1990), *rev’d on other grounds*, 913 F.2d 1308 (9th Cir. 1990).

³³ See Forest Service, Big Thorne Final Environmental Impact Statement at 3-242 to 3-243 (2013).

³⁴ DEIS at 102 (citing 2016 Forest Plan FEIS at 3-429).

³⁵ See 90 Fed. Reg. 34152, 34154 (July 18, 2025).

³⁶ See Federal Subsistence Board, Wildlife Proposal WP26-08, East Prince of Wales Fish and Game Advisory Committee Submission (2025).

³⁷ *Id.* at 2.

determination expanded the pool of federally qualified subsistence users with a customary and traditional use determination for GMU 2 deer,³⁸ the Office of Subsistence Management recommended opposing WP26-08³⁹ and the Board declined to adopt this locally supported tightening of the federal season. This history shows that local users and the Southeast Alaska Subsistence Regional Advisory Council have already requested 804-type conservation and prioritization tools to reduce pressure on GMU 2 deer, but federal decisionmakers have resisted those measures even as the DEIS assumes continued or only slightly increasing demand and fails to grapple with what those same conservation concerns and user conflicts mean for the Project's section 810 and 804 obligations.

The Forest Service has also not met section 810's requirement to consider the availability of other lands or alternatives that would reduce or eliminate subsistence impacts. Nor will the Forest Service be able to show that the restriction is necessary, consistent with sound management principles or would only use the minimal amount of public lands necessary to accomplish the action's purpose.

The DEIS describes the purpose of the Project as:

[T]o implement the Forest Plan and move the project area toward the desired conditions described for these land use designations by maintaining and promoting wood production from suitable forest lands, providing a continuous supply of wood to meet society's needs and contributing to local and regional economies (USDA Forest Service 2016a, p. 2-1). More specifically, the purpose is to manage the timber resource for production of sawtimber and other wood products to seek to meet market demand consistent with Forest Plan direction.⁴⁰

And yet the Forest Service declined to consider in detail several alternatives that would reduce impacts to subsistence resources and uses and reduce the amount of public lands used to meet the action's purpose. In particular, the Forest Service arbitrarily declined to consider in detail an alternative that would seek to meet market demand for timber through young growth alone.⁴¹ The Forest Service also does not explain how the Project uses the minimal amount of public lands necessary, given that it has not shown the old-growth logging contemplated in the Project is necessary at all to meet demand or support local or regional economies.

A. The Forest Service has not met its National Historic Preservation Act obligations.

The Forest Service has not met its obligations under the National Historic Preservation Act (NHPA) for the Twin Mountain II Project.

³⁸ *Id.* at 2-4.

³⁹ *Id.* at 8-9.

⁴⁰ DEIS at 3.

⁴¹ *Id.* at 24-25.

Under section 106 of the NHPA,⁴² federal agencies must consider the effects of undertakings on historic properties, including those of religious and cultural significance to Tribes.⁴³ In considering those effects, agencies must consult with any Tribes that attach a religious and cultural significance to the property.⁴⁴

As a first step in the section 106 process, the Forest Service must “make a reasonable and good faith effort to identify any Indian tribe or Native Hawaiian organization that might attach religious and cultural significance to historic properties in the area of potential effects and invite them to become consulting parties.”⁴⁵

The Organized Village of Kasaan meets this criteria but has not been consulted with or invited to become a consulting party on this proposed Project, despite the DEIS’s statement that “Tribal consultation has been, and continues to be, conducted with tribal governments, non-federally recognized tribes, and [ANCSA] corporations to determine whether sacred sites or traditional cultural properties exist within the Project area.”⁴⁶ The Project area has long been used by Haida people and there is a high probability of undiscovered culturally modified trees, traditional gathering areas, sites of cultural and spiritual importance, and burial sites.

The DEIS is also unclear on the Project’s area of potential effect (APE) for NHPA purposes: it first states that the APE for the Project is a one-mile radius from “project activity areas.”⁴⁷ But it then states that the “project APE for all alternatives is the project area as defined in this document.”⁴⁸

Whatever the APE is, the DEIS does not explain how it was determined here: the APE is “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist.”⁴⁹ The APE is not synonymous with the geographic footprint of the project in question. Instead, the APE is intended to reflect the area where a project could affect cultural and historic properties, both directly and indirectly. The Forest Service must determine the APE using this criteria, in consultation with the Organized Village of Kasaan and other Tribes, and explain the reasoning for its determination. For a project of this scale, the APE should extend well beyond the footprint to account for both direct and indirect effects.

The DEIS also states that 41 cultural resources have been identified within a one-mile radius of Project activity areas.⁵⁰ It appears the Forest Service has inventoried what it calls “high probability” areas and not “low probability” areas and then concluded that the cultural resources that have been identified would not be affected by the Project and so there are not adverse effects

⁴² 54 U.S.C. § 306108.

⁴³ *Id.* § 302706(a).

⁴⁴ *Id.* § 302706(b).

⁴⁵ 36 C.F.R. § 800.3(f)(2); *id.* § 800.2(c)(2)(ii).

⁴⁶ DEIS at 153.

⁴⁷ *Id.* at 153.

⁴⁸ *Id.* at 154.

⁴⁹ 36 C.F.R. § 800.16(d).

⁵⁰ DEIS at 153.

to cultural resources.⁵¹ But the process for identifying cultural properties as well as the determination about appropriate identification efforts must be done in consultation with the Organized Village of Kasaan and other Tribes that are participating in the section 106 process.⁵² Thus far, the Forest Service has failed to follow this process here because it has not met its obligation to consult with the Organized Village of Kasaan or other Tribes.

If, as it appears here, the agency determines that the action will have no adverse effects on cultural properties within the APE, it must notify the Organized Village of Kasaan and other consulting Tribes of that determination.⁵³ The agency must also seek the concurrence of any Tribe “that has made known to the agency official that it attaches religious and cultural significance to a historic property subject to the findings.”⁵⁴ Where adverse effects are found, the NHPA requires execution of a memorandum of agreement that “evidences the agency official’s compliance with section 106.”⁵⁵ None of those steps occurred here: the Forest Service neither meaningfully involved the Organized Village of Kasaan in developing alternatives nor prepared a Project-specific memorandum of agreement to resolve adverse effects.

Finally, Section 106 requires agencies to “develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize, or mitigate adverse effects on historic properties.”⁵⁶ Establishing meaningful resolution measures for an undertaking’s adverse effects requires properly identifying, documenting, and evaluating the significance and integrity of historic properties.⁵⁷ This is particularly important for traditional cultural properties, traditional cultural landscapes, and properties of traditional religious and cultural significance, as adverse effects to such properties tend to be particularly hard, if not impossible, to resolve.

The Forest Service appears to have reached its conclusion that no cultural properties will be adversely affected by the Project without adequate (or any) tribal consultation, based on an arbitrary and overly-narrow APE, and in reliance on incomplete survey data. The agency has not met its obligations under the NHPA.

III. The DEIS and action alternatives do not satisfy the Forest Service’s obligation to maintain viable wildlife populations.

Both NFMA and the 2016 Forest Plan require the Forest Service to maintain species diversity and viability.⁵⁸ As described in a recent study prepared by Forest Service experts:

The Conservation Strategy was developed in the 1990s and adopted as an integral part of the 1997 Forest Plan, to ensure continued existence of viable populations of old-growth dependent and old-growth associated wildlife, well-distributed across

⁵¹ *Id.*

⁵² 36 C.F.R. § 800.4(b).

⁵³ *Id.* § 800.5(b)-(c).

⁵⁴ *Id.* § 800.5(c)(2)(iii).

⁵⁵ *Id.* § 800.6(b)(1)(i)-(iv)

⁵⁶ *Id.* § 800.6(a).

⁵⁷ See *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 807-09 (9th Cir. 1999); *Nat’l Parks Conservation Ass’n v. Semonite*, 916 F.3d 1075, 1086-87 (D.C. Cir. 2019).

⁵⁸ See 16 U.S.C. 1604(e), (g)(3)(B); 2016 Forest Plan at 2-1.

the Tongass. The Strategy includes a system of Large, Medium, and Small old-growth reserves, a network of old-growth corridors connecting the Medium and Large reserves, and a series of Standards and Guidelines that provide additional protection for species and species groups with conservation needs not fully addressed by the reserve system alone.⁵⁹

The conservation strategy was designed around eight old-growth associated species, including goshawks, Alexander Archipelago wolves, American marten, and northern flying squirrels, with the idea that protecting these species would also have benefits for other species.⁶⁰

Unfortunately, the Forest Service experts and other recent scientific literature found that the conservation strategy is not functioning as intended and may not be sufficient to meet NFMA's and the 2016 Forest Plan's requirements to maintain diverse, viable populations of species in the Tongass.⁶¹ These concerns echo previous expert critiques of the strategy and its underlying assumptions.⁶²

For example, expert reviewers identified a number of inadequacies in a 2023 study of the conservation strategy:

[W]e conclude that the Tongass Land Management Plan is not meeting expectations of ≥ 4 essential assumptions of the [Wildlife Conservation Strategy (WCS)]. Additional empirical evidence from the literature supports a conclusion that the WCS has not met expectations of maintaining an interconnected old-growth forest ecosystem. Extensive high-grading and disproportional harvest of the most productive forest have substantially reduced old-growth forest abundance and diversity (Albert and Schoen 2012). Expansive even-aged clearcuts produced landscapes that support a fraction of the old-growth obligate species and provide little functional connectivity, isolating wildlife communities in many of the remnant old-growth patches (Smith et al. 2011).⁶³

The Forest Service expert study of the conservation strategy reached similar conclusions and recommended that the agency modify the strategy to address its shortcomings. In particular, the Forest Service expert study noted the conservation strategy's insufficient protections for goshawks and wolves, a need to consider other species (like marbled murrelets, little brown bats,

⁵⁹ E. Berkley et al., *Relevance and Need For the Tongass Old-Growth Conservation Strategy* at 2 (revised Jan. 2024) (Berkley et al. 2024).

⁶⁰ *Id.* at 7.

⁶¹ See *id.*; W. Smith & E. Flaherty, E., *Wildlife Studies on the Tongass National Forest Challenge Essential Assumptions of its Wildlife Conservation Strategy*, J. WILDLIFE MANAGEMENT (2023) (Smith & Flaherty 2023).

⁶² See, e.g., W. Smith, *Spatially Explicit Analysis of Contributions of a Regional Conservation Strategy Toward Sustaining Northern Goshawk Habitat*, *Wildlife Society Bulletin* 37(3):649-658 (2013); Forest Service, Final Environmental Impact Statement, Tongass National Forest Management Plan, App. N (1997) (1997 Forest Plan FEIS).

⁶³ Smith & Flaherty 2023 at 16.

western screech-owls, and yellow cedar), and suggested expanding corridors that would allow species to migrate upslope or north because of climate change.⁶⁴

In the DEIS for Twin Mountain II, the Forest Service relies on the conservation strategy to meet the requirement of NFMA and the Forest Plan to maintain viable populations of wildlife species.⁶⁵ And the DEIS fails to consider the recent scientific literature that undercuts the Forest Service's conclusions that the conservation strategy will maintain viable species as required under NFMA. And the DEIS fails to explain how the Forest Service can meet its obligation in the absence of an effective conservation strategy. Approving the proposed logging Project would therefore violate NFMA.

IV. The DEIS does not comply with the 2016 Forest Plan standards and guidelines for connectivity.

The 2016 Forest Plan requires a connectivity analysis at the landscape scale “[d]uring the environmental analysis” for a timber sale.⁶⁶ This analysis must meet specific criteria. Depending on the results, the Forest Service may need to “provide stands, where they exist” within development LUDs to serve as corridors, ensuring they are “of sufficient width to minimize edge effect” and considering “elevation, natural movement corridors, length of corridor, tree heights, adjacent landscapes, and windthrow susceptibility.”⁶⁷

While the DEIS acknowledges both action alternatives would reduce habitat connectivity and describes Alternative 3 as being developed to reduce impacts on connectivity, neither the DEIS nor the unit cards contain the in-depth analysis required by the 2016 Forest Plan.

The required connectivity analysis cannot be deferred. It must appear in the FEIS, both because of the 2016 Forest Plan requirement that it occur *during* the environmental analysis for the Project and because, as the DEIS makes clear, the Project's impacts on connectivity are critical to understanding its overall environmental impacts.

⁶⁴ See Berkley *et al.* 2024 at 11-21.

⁶⁵ See, e.g., DEIS at 45 (stating that “[a]ll documented [goshawk] nests and probable nest site locations received the appropriate buffer per the Forest Plan”); *id.* (describing marbled murrelet nest stands as receiving nest protections per the Forest Plan); *id.* at 57 (describing system of small old-growth reserves designed to provide for distribution of flying squirrels in every major watershed and facilitate functional connectivity between larger reserves); *id.* (describing habitat connectivity corridors); *id.* at 66 (describing conservation strategy as protecting black bear and ermine habitats); *id.* at 81 (describing conservation strategy as critical to maintaining a sustainable marten population in the Project area); *id.* at 82, 84 (describing conservation strategy as maintaining brown creeper habitat in the Project area); *id.* at 86 (stating that the conservation strategy maintains old-growth associated species in the migratory birds section); *id.* at 88 (relying on conservation strategy timing restrictions and buffers around active wolf dens).

⁶⁶ 2016 Forest Plan at 4-87 (WILD1.VI.A.2).

⁶⁷ *Id.*

V. Wildlife

A. The DEIS does not adequately analyze impacts to Endangered Species Act-listed species, and the Forest Service has not demonstrated compliance with the ESA.

The DEIS does not adequately analyze impacts to Endangered Species Act (ESA)-listed species nor has the Forest Service shown it has complied with the requirements of the ESA. In order to enable the agency to understand potential impacts to marine mammals and the potential for cumulative impacts from shipping logs from other projects, such as the South Revillagigedo Integrated Resource Project (South Revilla project),⁶⁸ the Forest Service must disclose the projected volume of log transfer traffic, and the routes such traffic will take.

B. The DEIS does not adequately analyze impacts to bears.

In the DEIS, the Forest Service ignores information about the effects of logging and human presence on black bears, and, as a result underestimates the effects of the Project on bears, in violation of the National Environmental Policy Act (NEPA). Black bears (*Ursus americanus*) are a keystone species designated as a Management Indicator Species due to their importance for nutrient cycling and seed dispersal, hunting, recreation, and tourism. Unlike brown bears, black bears have a greater dependence on forested ecosystems. They occupy mid- to low-elevation forests with large diameter trees or structures derived from trees (e.g. logs, root structures, stumps) for denning habitat.⁶⁹ Black bears are highly associated with riparian areas while situationally occupying high-elevation burns, meadows, or openings with abundant berry crops.

As canopy closure occurs post-clear cut, there is a marked reduction and diversity in understory vegetation, and loss of large woody debris causing a loss in forage habitat diversity and denning structures for bears.⁷⁰ The DEIS notes that the proposed project would exacerbate the existing losses to bear populations:

Within the project area, WAA 1422 has contributed to approximately one-third of the annual harvest [of bears] on Prince of Wales Island. WAA 1422 offers both easy boat and road access. Other project area WAAs that have received notable hunting pressure include 1420, and 1530. Several WAAs, including WAA 1422, have experienced declines in harvest. One of the reasons that could be contributing to this decline is that Prince of Wales may be beginning to see the effects of a reduced carrying capacity for bears as clearcuts transition into stem-excluded second growth forests (Bethune 2014).⁷¹

⁶⁸ 42 U.S.C. § 4332(2)(C); 35 U.S.C. § 1536(c).

⁶⁹ B. Porter *et al.*, *Black Bears Select Large Woody Structures for Dens in Southeast Alaska*, JOURNAL OF WILDLIFE MANAGEMENT 85(7):1450-1461 (2021).

⁷⁰ H. Davis *et al.*, *Longevity and Reuse of Black Bear Dens in Managed Forests of Coastal British Columbia*, JOURNAL OF WILDLIFE MANAGEMENT 76(3):523-527 (2012).

⁷¹ DEIS at 64.

Timber harvest, particularly even-age management prescriptions, has the greatest impact on bear habitat as these stands will be in the stem exclusion stage for decades, effectively removing preferred habitat from their home range.

Increased human access through the construction of permanent and temporary roads would offer hunters, fishermen, and recreators increased access to formerly remote fishing streams. As reported in a 2022 study on black bears in British Columbia, bears' salmon consumption was significantly lower in large streams with regular human presence, suggesting that "human disturbance can cause a dietary shift in bears that could have important consequences to their fitness".⁷² This could result in reduced foraging opportunities for bear populations in the planning area. Thus, it is incorrect to conclude, as the DEIS says, "neither alternative is expected to substantially affect the currently available preferred habitat for black bears."⁷³ Despite these risks to black bear populations, alternative 2 is the proposed action which would produce the greatest impact to bears and their habitat.

C. The DEIS does not adequately analyze impacts to deer and wolves, in violation of NEPA, and fails to ensure compliance with the 2016 Forest Plan, in violation of NFMA.

The 2016 Forest Plan has a standard and guideline, WILD1.XIV, applicable to protection of the Alexander Archipelago wolf. Foremost, the purpose of WILD1.XIV is to "[i]mplement a Forest-wide program . . . to assist in maintaining long-term sustainable wolf populations."⁷⁴ To that end, WILD1.XIV sets forth a series of criteria applicable to future site specific actions, such as to "consider" road density when "wolf mortality concerns have been identified," with an expectation that "0.7 to 1.0 mile [of road] per square mile or less may be necessary;"⁷⁵ "[p]rovide, where possible, sufficient deer habitat capability to first maintain sustainable wolf populations;"⁷⁶ maintain deer habitat sufficient "to support 18 deer per square mile;"⁷⁷ and, "[m]aintain a 1,200-foot forested buffer, where available, around known active wolf dens."⁷⁸

The DEIS seems to acknowledge that the proposed Project would violate some or all of these criteria, yet contains no explanation why it would nonetheless be consistent with the 2016 Forest Plan or maintain viable wolf populations. For example, the U.S. Fish and Wildlife Service's 2023 species status assessment noted several significant concerns for wolf survival, including timber harvest, road development, wolf harvest, genetic inbreeding, disease, and climate

⁷² T. F. Shardlow *et al.*, *The influence of human disturbance on Pacific salmon (Oncorhynchus spp.) in the diet of American black bears (Ursus americanus) in two areas of coastal British Columbia, Canada*, CANADIAN JOURNAL OF ZOOLOGY 100(6):401-417 (2022).

⁷³ DEIS at 66.

⁷⁴ 2016 Forest Plan at 4-91 (WILD1.XVI.A).

⁷⁵ *Id.* (WILD1.XVI.A.1.c).

⁷⁶ *Id.* (WILD1.XVI.A.2).

⁷⁷ *Id.* (WILD1.XVI.A.2).

⁷⁸ *Id.* (WILD1.XVI.A.3.a).

change.⁷⁹ Given the insularity and geographical isolation of Prince of Wales Island wolves, inbreeding is a particularly acute concern.⁸⁰

In addition, deer densities are currently below the recommended level of 18 deer per square mile in three of five WAAs within the Project area due to past logging.⁸¹ The DEIS predicts that either of the action alternatives will worsen the situation for Prince of Wales deer—with even more detrimental impacts likely at the future stem exclusion stage.⁸² And these impacts are even worse when cumulative impacts beyond the Project area are considered.⁸³ The logic of the DEIS on this point appears to be that, because conditions are already sub-optimal, further deer population reductions will be non-consequential. This cursory and arbitrary explanation for disregarding mandated deer population levels does not comply with the 2016 Forest Plan or NFMA.

Overall, the DEIS acknowledges that “winter availability of forage is thought to be the most limiting factor for deer.”⁸⁴ This means that a major priority for deer—and the wolves that rely on them—is “[l]ow-elevation [high-productive old growth] on south-facing stands.”⁸⁵ Since 1954, the WAAs within the proposed Project area have already seen significant reductions in this type of deep snow winter habitat—from 33 percent in WAA 1527, to 67 percent in WAA 1422.

Sadly, it is the already severely impacted WAA 1422 that is most targeted for further old-growth logging by the action alternatives. Alternative 2 would remove another 76 acres—or 4 percent of the remaining acreage—of deep snow winter habitat from WAA 1422. Alternative 3 reduces that number to 36 acres, or 2 percent of the remainder. Under either action alternative, deer would lose even more of their deep snow winter habitat on Prince of Wales. In other words, the direct effects to deer from the proposed Project would be universally negative, and the cumulative effects picture is even bleaker.

The DEIS also notes that either action alternative will exacerbate already serious road density problems on Prince of Wales Island. The area is already well above the 0.7 mile/mile² 2016 Forest Plan standard, with the most road dense WAA (WAA 1422) already at triple that level. The action alternatives will lead to further road construction, meaning wolves in the area “may be at risk of overharvest (both unsustainable and pack depletion).”⁸⁶ Nonetheless, the DEIS proposes—without any real explanation of how it will comply with NFMA or the 2016 Forest Plan—moving forward with the proposed Project.

In an attempt to explain away these issues, the DEIS notes:

⁷⁹ See DEIS at 87 (citing a 2023 species status assessment by the U.S. Fish and Wildlife Service 2023).

⁸⁰ K. E. Zarn, *Genomic Inference of Inbreeding in Alexander Archipelago Wolves (Canis lupus ligoni) on Prince of Wales Island, Southeast Alaska*, Master’s thesis, Gonzaga University (2019).

⁸¹ DEIS at 88 (“Prior to the start of large-scale commercial timber harvest in 1954, habitat capability in all project area WAAs exceeded 18 deer per square mile”).

⁸² *Id.* at 91.

⁸³ *Id.* at 94.

⁸⁴ *Id.* at 77.

⁸⁵ *Id.*

⁸⁶ *Id.* at 90.

[W]olves are highly mobile and move between WAAs and wolf packs may be supported by several adjacent WAAs (Person and Logan 2012); the potential benefits of young-growth management on deer habitat and road management for controlling hunter access; or the presence of the Honker Divide Large [old-growth reserve] complex (200,000+ acres) and the Karta Wilderness (about 40,000 acres) both adjacent to the project area.⁸⁷

None of these rationales pass even minimal scrutiny. First of all, relying on the inherent mobility of wolf packs and the presence of adjacent habitat ignores the fact that the overall quantity of suitable habitat is already severely diminished and will be further diminished by the proposed Project. Put another way, if the Project pushes wolves to migrate elsewhere, that will only lead to resource pressure and competition in those areas. Moreover, the 18 deer/mile standard in the Forest Plan was developed as an average distribution across larger geographic areas, based on the assumption that individual wolves range widely, including across WAAs. Thus, relying on wolf mobility to justify going below that standard is arbitrary, inconsistent with the 2016 Forest Plan, and violates NEPA, NFMA, MUSYA, and the TTRA.⁸⁸ In sum, given that the 2016 Forest Plan's priority is ensuring the survival of wolves as a species—rather than individual wolves within the Project area—the further destruction of habitat caused by either of the action alternatives would surely undermine that priority.

Similarly, the Forest Service cannot rely on “the benefits of young-growth management on deer habitat and road management for controlling hunter access.”⁸⁹ Even assuming either of these activities could compensate for clearcutting old growth and all the destructive land practices that come with it—which they clearly cannot—neither young-growth management nor road management are part of the action alternatives, nor are they otherwise guaranteed. Moreover, the DEIS acknowledges that any benefits from young growth are short lived as formerly clearcut forests enter stem exclusion (25 years post-clearcut).⁹⁰ In other words, young growth makes unsupportive habitat for wolves, and its benefit to the deer they rely on is ephemeral at best.

The DEIS also fails to ensure an adequate buffer around dens. Overall, the DEIS seems confused on how dens would be protected during implementation of the proposed Project. First, it says that protection of dens “in perpetuity is a Forest Plan level decision and the size of the area to be protected is yet to be determined.”⁹¹ It is unclear how the DEIS fulfills NEPA's required hard look at impacts to wolves—let alone complies with NFMA and Forest Plan requirements related to protection of wolves—without being able to define something as fundamental as the appropriate buffer area around wolf den sites.

The DEIS then goes on to say that “[t]he current Forest Plan implements a 1,200-foot buffer around active wolf dens,” but does not state whether this restriction will be incorporated into either or both action alternatives.⁹² The DEIS does state that “[p]roject implementation” will

⁸⁷ *Id.* at 88.

⁸⁸ See D. Person *et al.*, *The Alexander Archipelago Wolf: A Conservation Assessment* at 29 (1996).

⁸⁹ DEIS at 88.

⁹⁰ See, e.g., *id.* at 100.

⁹¹ *Id.* at 88.

⁹² *Id.*

require “no road construction within 600 feet of a den unless site-specific analysis indicates that local landform or other factors will alleviate potential adverse disturbance.”⁹³ This is inadequate, as the Alaska Department of Natural Resources (ADNR) has noted in prior comments on this proposed Project. According to ADNR:

[Alaska Division of Wildlife Conservation] current and previous research (Person and Russell 2009) support the recommendation of the Interagency Wolf Technical Committee (2017) to protect habitat surrounding all documented wolf dens in perpetuity. DWC found that wolves used the same den (or a den nearby, e.g., ~100 m) for multiple sequential years which indicates that dens have long-term value for wolf reproductive activities and should be protected so they remain attractive to wolves. There are no known active den sites in the proposed area. If wolf dens are found during the planning period of timber harvest, DWC recommends excluding all development activity within a 0.5 mile-radius of dens but emphasize *that this distance should be considered the minimum necessary* (Roffler and Gregovich 2018). Non-circular buffers around discoverer dens are ideal. *Disturbance buffers of 1 – 6 miles radius have been recommended to reduce disturbance surrounding wolf den sites in British Columbia and the Canadian and U.S. Rocky Mountains* (Chapman 1977, Matteson 1992, Fritts et al. 1994, Paquet and Darimont 2002).⁹⁴

Finally, the DEIS also fails to cite, let alone consider, relevant information about Alexander Archipelago wolves. For example, a recent scientific paper catalogues the failures of the current management approach in the Tongass for Alexander Archipelago wolves.⁹⁵ The paper—titled *Wildlife studies on the Tongass National Forest challenge essential assumptions of its wildlife conservation strategy*—takes a careful look at the condition of many native species within the Tongass, and it concludes that the current approach is not assuring these species’ survival.

Specifically, the paper notes that “[e]xtensive high-grading and disproportional harvest of the most productive forest have substantially reduced old-growth forest abundance and diversity,” and “[e]xpansive even-aged clearcuts produced landscapes that support a fraction of the old growth obligate species and provide little functional connectivity, isolating wildlife communities in many of the remnant old-growth patches.”⁹⁶ Thus, the study finds it “unrealistic” to manage the Tongass “according to a conservation strategy that relies on isolated old-growth forest remnants scattered across vast landscapes of unmanaged, even-aged second growth[.]”⁹⁷ The study reaches a fairly dire conclusion as a result:

[W]hen forest management planning and implementation are considered in the context of widespread fragmentation, isolation and endemism, ecological scale, variation and complexity of ecological communities, and an incomplete monitoring plan with substantial gaps in data and analyses, serious questions arise

⁹³ *Id.*

⁹⁴ S. A. Kreel, ADNR, Letter to E. Stewart, U.S. Forest Service (Oct. 14, 2020) (emphasis added).

⁹⁵ Smith & Flaherty 2023.

⁹⁶ *Id.* at 16.

⁹⁷ *Id.* at 17.

about the effectiveness of the [wildlife conservation strategy] in maintaining widely distributed, viable populations of native wildlife, especially old-growthobligate endemics.⁹⁸

Based on these concerns, the study authors recommend that any future “commercial harvests ofold-growth forests should emulate the primary natural disturbance regime (wind) in size of canopy gaps, frequency of occurrence, and landscape conditions . . . and circumstances . . . , which *will prohibit commercial broad-scale clearcut logging*.”⁹⁹ This is relevant information that was not considered in the DEIS. Thus, the Forest Service needs to reevaluate impacts to Alexander Archipelago wolves based on the results of this study.

Another recent study—titled *Genomic Analysis Reveals Inbreeding in an Island Population of Alexander Archipelago Wolves*¹⁰⁰—adds further information that the Forest Service must evaluate in its NEPA analysis of potential impacts to wolves. According to the study, wildlife populations are generally becoming smaller and more fragmented and isolated due to habitat loss, climate change, and other anthropogenic pressures.¹⁰¹ These problems are exacerbated for populations living on islands, for which lower genetic diversity and geographic isolation make inbreeding more common.¹⁰² The study authors concluded that these factors have led to lower genetic variation and higher individual inbreeding estimates for island-based Alexander Archipelago wolves, making the populations less resilient to changes in environment.¹⁰³ The study findings highlighted the need to consider habitat fragmentation—such as the fragmentation resulting from clearcutting¹⁰⁴—as it relates to wolf survival.

To summarize, the wolves on Prince of Wales Island are already isolated, have concerning levels of genetic diversity, live in a habitat that has already been fragmented by historic old-growth logging, and have experienced high death rates due to hunters buoyed by a legacy of unmitigated road building in the area. The action alternatives would eliminate irreplaceable winter deer habitat, cause further declines in the overall deer population, and increase roads and, therefore, hunter/trapper access on Prince of Wales. These factors make the Project untenable, as either action alternative would undermine the 2016 Forest Plan’s requirement to maintain “long-term sustainable wolf populations.”¹⁰⁵ More succinctly, this proposal risks collapse of the remaining Prince of Wales wolf population, teeing up an irreversible decline in the species as a whole.

For all of these reasons, the Forest Service should go back to the drawing board and develop alternatives that avoid logging productive old-growth forests. Any alternatives should also avoid further reductions of deep snow winter habitat. And they should require a bare minimum 0.5 mile buffer around wolf dens, with a buffer of one to six-mile radius implemented as necessary.

⁹⁸ *Id.*

⁹⁹ *Id.* at 18 (emphasis added).

¹⁰⁰ K. E. Zarn *et al.*, *Genomic Analysis Reveals Inbreeding in an Island Population of Alexander Archipelago Wolves*, *Evolutionary Applications* 18:e70144 (2025).

¹⁰¹ *Id.* at 1.

¹⁰² *Id.*

¹⁰³ *Id.* at 2, 11.

¹⁰⁴ *See, e.g.*, DEIS at 60 (“Both action alternatives would result in an increase in fragmentation.”).

¹⁰⁵ 2016 Forest Plan at 4-91.

D. The DEIS does not adequately analyze impacts to the Queen Charlotte Goshawk.

As described above, recent scientific literature calls into question the effectiveness of the conservation strategy to protect wildlife, including goshawks. NFMA requires the Forest Service to implement additional measures beyond the Forest Plan's minimum not-less-than 100-acre buffer to ensure sufficient protections for goshawks. Those measures should include buffers that comply with standards recommended by goshawk specialists, suitable habitat to create post-fledging areas surrounding more rigidly protected nest stands, and sufficient secure habitat to sustain breeding pairs.

The DEIS does not include any analysis of the effects of the action alternatives on Queen Charlotte goshawk. Instead, the DEIS states that the biological evaluation in the Project record contains the Forest Service's determination of effects to that species.¹⁰⁶ NEPA requires that the DEIS contain information about the environmental effects of the Project, including here the agency's goshawk survey results and the agency's analysis of probable environmental effects to goshawks from the Project.¹⁰⁷ Commenters requested from the Forest Service the biological evaluation referenced in the DEIS on May 11, 2026, but had not yet received it at the time that this comment was submitted.

In assessing effects of the Project on goshawks, the NEPA analysis must include consideration of recent scientific literature regarding goshawks, including findings that:

- Goshawks prefer medium- and high-volume old-growth habitat and need large unbroken tracts of high-volume productive old-growth forests.¹⁰⁸
- Scientists “do not recommend any [timber] harvest within the remaining suitable or known occupied goshawk foraging (or breeding) territory areas.”¹⁰⁹
- New conservation measures—beyond those contained in the Forest Plan—are needed to protect goshawks considering their unique life-history needs and status as a sensitive species.¹¹⁰
- The Tongass is not meeting expectations of at least four essential assumptions in its wildlife conservation strategy because logging has substantially reduced old-growth forest abundance and diversity.¹¹¹
- The Forest Plan's conservation strategy is insufficient with regard to conservation of suitable goshawk habitat to create post-fledging areas surrounding more rigidly protected nest stands, to provide adequate forested habitat for fledgling goshawks learning to fly and hunt.¹¹²

¹⁰⁶ *Id.* at 52.

¹⁰⁷ 42 U.S.C. § 4332; *see WildEarth Guardians v. Mont. Snowmobile Ass'n*, 790 F.3d 920, 924-27 (9th Cir. 2015).

¹⁰⁸ P. Ferguson *et al.*, *Best Management Practices for Northern Goshawk Foraging Habitat: Retaining Old Growth Structural Attributes* (Apr. 2023).

¹⁰⁹ *Id.* at 2.

¹¹⁰ Smith & Flaherty 2023 at 14-18.

¹¹¹ *Id.* at 16.

¹¹² Berkley *et al.* 2024 at 12.

- The conservation strategy is not contributing sufficient secure habitat to sustain breeding pairs of the northern goshawk across Southeast Alaska.¹¹³
- The current Forest Plan's provisions for 100-acre buffers of unharvested productive old-growth around confirmed goshawk nests is well below the standards recommended by goshawk specialists.¹¹⁴
- The current Forest Plan's provisions for 100-acres buffers to last only two years around probable but unconfirmed goshawk nests are inconsistent with known goshawk nesting behavior.¹¹⁵

E. The DEIS does not adequately analyze impacts to ermine.

Genetic data indicates that the endemic Prince of Wales ermine, *Mustela erminea celenda*, is a unique, isolated island subspecies of short-tailed weasel that is likely only found on the Prince of Wales Island complex.¹¹⁶ While distinct, it is closely related to the subspecies *Mustela erminea haidarum*, which occurs to the south of Prince of Wales Island in the Haida Gwaii Archipelago (Queen Charlotte Islands) region of Canada. The Haida Gwaii subspecies is currently listed under the Canadian Federal Species at Risk Act and is subject to protections and prohibitions under the British Columbia Wildlife Act. Under these designations, all harvesting of the subspecies, as well as any logging or habitat modification, is strictly prohibited.

Concerningly, the DEIS lacks substantial scientific support for the understanding of the distribution, habitat requirements, and overall viability of this island endemic subspecies. Given the Forest Service's lack of overall knowledge regarding Prince of Wales ermine and its habitat requirements on Prince of Wales Island, the agency must follow the guidance of the 2016 Forest Plan which states that for projects proposing to substantially alter vegetative cover where existing species information is lacking, projects should survey for endemic mammals, specifically citing survey efforts for weasels.¹¹⁷

According to the DEIS, the Alaska Department of Fish and Game's (ADF&G) Trapper Report states that on Prince of Wales Island, 277 ermine were sealed in 2018, but down to 76 in 2023.¹¹⁸ The DEIS makes no mention if this 73 percent reduction in harvest is attributed to a decrease in the overall Prince of Wales ermine population, trapper effort, or something else. The DEIS claims that the addition of 13.3 new miles of combined temporary and permanent roads under alternatives 2 and 3 *should* not negatively affect ermine populations via increased hunting pressure because they do not provide access to new areas or they are unlikely to be areas where trappers would target.¹¹⁹ While it seems likely that new roads would introduce increased hunting

¹¹³ *Id.*

¹¹⁴ *Id.*

¹¹⁵ *Id.*

¹¹⁶ N. G. Dawson *et al.*, *A multi-locus evaluation of ermine (Mustela erminea) across the Holarctic, testing hypotheses of Pleistocene diversification in response to climate change* (2013).

¹¹⁷ 2016 Forest plan at 4-93.

¹¹⁸ DEIS at 64.

¹¹⁹ *Id.* at 65.

pressure, 13.3 new road miles does offer increased opportunities for predation by wolves, bears, or other predator species that benefit from increased road permeability to prey.

Both proposed alternatives include some “partial harvest”: 33 percent of the total acres for Alternative 2, and 44 percent of total acres for Alternative 3.¹²⁰ The DEIS states that “Where prescribed, uneven-aged management (partial harvest) would harvest a maximum of one-third of the stand’s live tree basal area from throughout the unit, leaving a minimum of two-thirds that would provide for visual, wildlife, and other resource values.”¹²¹ However, it is incorrect to state that the two-thirds of unlogged habitat will retain their same wildlife values. Introduced edge effects, especially for small, vulnerable species like ermine, cause negative effects deep into the forest ranging from canopy loss from windfall trees, understory competition with introduced invasives, and increased predation in disturbed habitats.¹²² The DEIS violates NEPA, because it fails to adequately analyze these effects, and NFMA, because it does not show how the Forest Service will maintain viable populations of this endemic species despite evidence of its decline.

F. The DEIS does not adequately analyze impacts to marten.

In Southeast Alaska, marten are dependent on high-quality winter habitat that includes low-elevation, productive old-growth forest, with the quantity and quality of this winter habitat on the landscape serving as a limiting factor. Marten were selected as one of the design species in the Forest Plan because they consistently exhibit a close association with mature forests throughout their distributional range. According to the DEIS, Alternative 2 would result in a cumulative reduction in productive old-growth acres between 26 and 40 percent depending on WAA, with greatest effect in WAA 1422 experiencing a 40 percent decline in productive old-growth habitat since 1954.¹²³

Though not discussed in the DEIS, martens rely heavily on long-tailed voles as their main prey, followed by salmon.¹²⁴ An ADF&G report highlights the shortcomings of estimating marten habitat suitability based solely on vegetative type and urges additional considerations, especially the availability of voles and presence of salmon streams:

Using partial harvest instead of clearcutting could also maintain habitat value for martens while allowing some timber harvest. To most benefit martens, the goal of partial harvesting should be to maintain productivity for small mammals, especially voles, within harvested stands. To do this the productivity of plants beneath the forest canopy must be maintained as a food source for small mammals. On study plots throughout Southeast Alaska, Deal (2001) found that partial harvesting prescriptions retaining >50% of the basal area of a stand including trees in all size classes prevented establishment of a new tree cohort and retained understory plant communities similar to old-growth forest. Widespread

¹²⁰ DEIS at 65-66.

¹²¹ DEIS at 63.

¹²² P. J. Burton, *Effects of clearcut edges on trees in the sub-boreal spruce zone of Northwest-Central British Columbia*, 36(1) SILVA FENNICA 329-352 (2002).

¹²³ DEIS at 67.

¹²⁴ R. W. Flynn *et al.*, *Abundance, prey availability and diets of American martens: implications for the design of old-growth reserves in southeast Alaska* (Dec. 2004).

use of partial harvesting prescriptions instead of clearcutting on lands managed for timber production could significantly enhance conservation of martens.¹²⁵

The DEIS fails to assess any other metrics for marten habitat selection, relying solely on habitat patch size and connectivity distance. The DEIS did not explain that reductions in available habitat and connectivity could change marten foraging behavior and foraging efficiency, change movement path selection, and cause them to inhabit suboptimal habitat. This necessitates them spending excessive energy on hunting, causing martens to have less time available for social interaction and breeding, and affecting female body index which reduces reproductive success. Reduction in available habitat and connectivity may force juveniles to disperse farther distances where they experience poorer body condition and suffer twice the mortality risk.¹²⁶

The DEIS correctly concludes that “cumulative reductions in landscape connectivity on all lands would further reduce the amount of suitable habitat which could result in local declines in marten,”¹²⁷ but has no way of analyzing or knowing how much resistance due to connectivity loss will ultimately result in population level consequences, particularly when compounded with any additive effects of logging projects on nearby state, federal, or private lands. Instead, the DEIS simply concludes, “these habitat modifications would not lead to a trend towards federal listing for these species [including marten].”¹²⁸ The agency hazards no guess about the likely marten abundance in the Project area or biogeographic province despite its long history of intense clearcutting and marten habitat loss. This analysis is vague, conclusory, and unjustifiably optimistic. It does not satisfy the Forest Service’s obligation to maintain viable marten populations; nor does it satisfy NEPA’s requirement to analyze the Project’s impacts.

G. The DEIS does not adequately analyze impacts to flying squirrels and other endemic mammals, and the Forest Service has not complied with NFMA and the 2016 Forest Plan with respect to flying squirrels and other endemic mammals.

The northern flying squirrel (*Glaucomys sabrinus*) was identified as an indicator species during the development of the conservation strategy for species categorized broadly in the Widely Distributed Group, and contributed to the development of the conservation strategy for all old-growth-associated species.¹²⁹ This selection was based on the species’ observed reliance on mature old-growth forest habitats and life history traits. The flying squirrel was specifically considered in the design of small-sized old-growth reserves and connectivity under the conservation strategy because its small size and home range make it particularly well suited for evaluating the effectiveness of the small reserves.

Northern flying squirrels are characterized as omnivorous, K-selected (e.g. long lifespans with few offspring) species obligately associated with mature forests.¹³⁰ This, combined with their

¹²⁵ *Id.* at 31.

¹²⁶ *Id.*

¹²⁷ DEIS at 61.

¹²⁸ *Id.*

¹²⁹ 1997 Forest Plan FEIS at 3-414.

¹³⁰ Smith & Flaherty 2023 at 12.

unique locomotion style that relies on specialized gliding through structurally complex forest environments, makes flying squirrels ideal candidates to serve as umbrella species for old-growth forest dwellers. The management rationale underlying their designation was that maintaining viable and well-distributed populations of northern flying squirrels throughout the Tongass planning area would, in turn, conserve other small mammal species with comparable life-history traits and habitat requirements. This is especially important in such a vast forest system where abundance studies at the population level are often unavailable or outdated for numerous species.¹³¹

Squirrels are also specifically referenced in the 2016 Forest Plan's Standards and Guidelines for endemic terrestrial mammals, the objective of which is to "maintain habitat to support viable populations and improve knowledge of habitat relationships of rare or endemic terrestrial mammals that may represent unique populations with restricted ranges."¹³² To implement this objective, the Forest Service must:

A.1.) Use existing information on the distribution of endemic mammals to assess project-level effects. If existing information is lacking, surveys for endemic mammals may be necessary prior to any project that proposes to substantially alter vegetative cover (e.g., road construction, timber harvest, etc.). Surveys are necessary only where information is lacking to assess project-level effects.

a.) Survey islands smaller than 50,000 acres in total size (e.g., Heceta Island and smaller) that have productive old-growth forest on lands suitable for timber production. Conduct surveys on larger islands if there is a high likelihood that endemic taxa are present and a high likelihood that they would be affected by the proposed project.

b.) The extent and rigor of surveys will be commensurate with the degree of existing and proposed forest fragmentation, and potential risk to endemic mammals that may be present.

c.) Surveys should emphasize small (voles, mice, and shrews) and medium sized (ermine and squirrels) endemic mammals with limited dispersal capabilities that may exist within the project area.

d.) Use the most recent inventory protocols for surveys.

A.2.) Assess the impacts of the proposed project relative to the distinctiveness of the taxa, population status, degree of isolation, island size, and habitat associations relative to the proposed management activity.

A.3.) Where distinct taxa are located, design projects to provide for their long-term persistence on the island.

¹³¹ Forest Service, *Draft Species of Conservation Concern, Tongass National Forest Plan Revision* at 19, Tbl. 2 (Dec. 2024).

¹³² 2016 Forest Plan at 4-93 (WILD1.XIX.A).

B.) Consider habitat needs of endemic mammals in design of thinning treatments.¹³³

Thus, the conservation strategy includes an integrated system of large (16,200+ hectare), medium (4050+ hectare), and small (650+ hectare) old-growth forest reserves, and matrix standards and guidelines. Researchers have examined the likelihood that flying squirrels could persist in this system over a range of time periods.¹³⁴ They concluded that it was “unlikely that small isolated habitat reserves could sustain populations of flying squirrels for >25 years in the absence of immigration,” and that “dispersal among small reserves is critical to ensure that they function to support metapopulations of northern flying squirrels.”¹³⁵ Connectivity within and between the matrix and reserves is thus critical for them to provide for viable populations of flying squirrels and other species in the Widely Distributed Group.

Prince of Wales Island is home to a unique subspecies of northern flying squirrel found nowhere else in the world, the Prince of Wales flying squirrel (“POW flying squirrel”). Due to land ownership patterns and extensive previous clearcuts, connectivity is already heavily compromised on the island and throughout much of the Project area—which the DEIS acknowledges.¹³⁶ The DEIS likewise admits that continued loss of old-growth forest and connectivity resulting from either action alternative increases the risk of local extirpation, especially for arboreal species like flying squirrels and other species for which squirrels serve as an indicator, and for spruce grouse.¹³⁷ The DEIS notes these species and indeed *all species* analyzed have likely already faced a downward trend due to historical Forest Service-authorized logging across the Project area.¹³⁸

Despite the uniqueness of the POW flying squirrel, the degraded condition of its habitat, and the likelihood that this Project will further reduce its population, the DEIS contains no assessment of the squirrel’s current population status. Nor has the Forest Service surveyed POW flying squirrels or other endemic mammals in the Project area.¹³⁹ In addressing this gap, the DEIS states “many small mammal surveys have been conducted and multiple specimens collected over the years on Prince of Wales Island.”¹⁴⁰ However, the DEIS fails to explain what, if any, value those surveys have to its current assessment of Project effects on POW flying squirrels or other endemic mammals.

Without more, the vague conclusions that POW flying squirrels have already faced a downward trend and that the Project would exacerbate that trend to an unknown degree, and possibly result in localized gaps in distribution,¹⁴¹ do not satisfy NFMA, NEPA, or the 2016 Forest Plan. NEPA

¹³³ *Id.* (WILD1.XIX) (emphasis added).

¹³⁴ W. P. Smith & D. K. Person, *Estimated persistence of northern flying squirrels populations in old-growth rain forest fragments*, 137 BIOLOGICAL CONSERVATION 626-636 (2007).

¹³⁵ *Id.*

¹³⁶ DEIS at 55.

¹³⁷ *Id.* at 74.

¹³⁸ *Id.* at 61.

¹³⁹ *Id.* at 45.

¹⁴⁰ *Id.*

¹⁴¹ *Id.* at 74.

requires more than vague conclusory statements about effects.¹⁴² The 2016 Forest Plan requires the Forest Service to assess project-level effects on endemic mammals, surveying for them if necessary, and suggests the rigor of the analysis should be “commensurate with the degree of existing and proposed forest fragmentation, and potential risk to endemic mammals.” Both factors call for greater rigor in this instance. The 2016 Forest Plan also requires that Project effects be assessed “relative to . . . population status.” The DEIS does not do this.

The FEIS must present information about the population status and distribution of endemic mammals in the Project area, and if that information does not exist then the Forest Service must survey the Project area with an emphasis on the species identified in standard and guideline WILD1.XIX, including squirrels. Either way, it must assess Project impacts on these species with greater specificity and design the Project to ensure their long-term persistence on Prince of Wales island.

H. The DEIS does not adequately analyze impacts to birds.

The DEIS admits both action alternatives will cause habitat loss that “may result in a negative effect on” the population of marbled murrelets, hairy woodpeckers, and spruce grouse.¹⁴³ It appears to acknowledge the potential for similar impacts on red-breasted sapsuckers and brown creepers.¹⁴⁴ However, the DEIS does not attempt to quantify, qualitatively describe, or otherwise contextualize these negative effects on bird populations. This is not an adequate approach under NEPA or the Administration Procedure Act (APA), and does not reflect the best available scientific information as NFMA requires.

VI. The DEIS does not adequately analyze geology-related impacts.

A. The DEIS does not adequately analyze impacts to karst.

The 2016 Forest Plan requires site-specific mapping of karst, including a vulnerability assessment and information about caves, the relative position of karst features within the proposed activity, the slope of the land, and the presence of streams and sensitive habitat and features that may be affected by land use changes in the area.¹⁴⁵ The Forest Plan also requires the Forest Service to assess “site-specific project conditions” and provide “[t]imber harvest unit cards [that] document resource concerns and protection measures . . . when Draft or Final NEPA documents and decisions are published.”¹⁴⁶ Currently neither the unit card or road card maps show karst that has been mapped and it appears from the DEIS that mapping and a vulnerability assessment of karst has not yet occurred in a large portion of the Project area.¹⁴⁷ Both must occur

¹⁴² *Bark v. U.S. Forest Serv.*, 958 F.3d 865, 872 (9th Cir. 2020).

¹⁴³ DEIS at 74.

¹⁴⁴ *Id.* at 53.

¹⁴⁵ 2016 Forest Plan at H-1-2; *id.* at 5-6 (standard for karst and cave resources stating that “Commercial timber harvest is not allowed on lands identified as high vulnerability karst lands.”); *id.* at H-7 (Stating that high vulnerability karst areas “shall be managed to ensure conservation of karst values through the implementation of a high level of protection. Timber management and related activities should be excluded from these lands.”).

¹⁴⁶ *Id.* at 4-68 (TIM3.I.B-C).

¹⁴⁷ DEIS at 178.

before the Project can move forward, and this site-specific information as well as protection measures must be documented as required by the Forest Plan.

The Forest Plan does not permit timber management or related activities on high vulnerability karst.¹⁴⁸ The Forest Plan also states that roads through high vulnerability karst areas are inappropriate unless no other route or option is feasible and if a road must be built, multiple guidelines apply.¹⁴⁹

With regard to moderate vulnerability karst, the Forest Plan states that “[t]imber harvest and related activities could be conducted in such areas under more restrictive guidelines than normally employed on lands underlain by insoluble bedrock.”¹⁵⁰ The Forest Plan also notes the likelihood that “individual features or areas with high vulnerability will be found within and adjacent to areas found to be of moderate vulnerability.”¹⁵¹ The Forest Plan describes several guidelines that must be applied along these boundaries or margins, including “[no] surface-disturbing activity such as timber harvest . . . within a minimum of 100 feet of the edge of . . . [any] collapse karst feature” as well as a buffer beyond the no-harvest zone to provide for reasonable assurance of wind firmness.¹⁵² “Appropriate protection measures for minor features should be designed on a case-by-case basis as field assessed by a karst management specialist.”¹⁵³ On moderate vulnerability karst, existing roads are preferred over the construction of new roads.¹⁵⁴

The DEIS states that under either action alternative, timber harvest would occur on high and moderate vulnerability karst, as well as known karst that has not yet had a vulnerability assessment.¹⁵⁵ The DEIS also states that road construction would occur on high and medium vulnerability karst, as well as known karst that has not yet had a vulnerability assessment.¹⁵⁶ Conducting timber harvest or building roads on high vulnerability karst violates the Forest Plan’s prohibition on doing so. And timber harvest or road building on moderate vulnerability karst also violates the Forest Plan unless specific guidelines are followed; the DEIS does not demonstrate the agency plans to follow those guidelines here. Nor does the DEIS analyze the environmental effects of timber harvest in high and moderate karst, as required by NEPA.

i. Karst & herbicides

The particular solubility of karst means that infiltration by herbicides used in the Project is a relevant risk. The DEIS mentions herbicide use in the Project area, but does not disclose the herbicides to be used or otherwise contain analysis of herbicide use.¹⁵⁷ The Forest Service must make clear whether herbicides are being used as part of this Project and, if so, disclose and

¹⁴⁸ 2016 Forest Plan at 4-24.

¹⁴⁹ *Id.*

¹⁵⁰ *Id.* at H-4.

¹⁵¹ *Id.* at H-5.

¹⁵² *Id.*

¹⁵³ *Id.*

¹⁵⁴ *Id.* at H-7.

¹⁵⁵ DEIS at 181.

¹⁵⁶ *Id.*

¹⁵⁷ *Id.* at 171.

analyze all relevant information, including specific herbicides that will be used, the units where they will be used, the subsurface movement of herbicides and their retention and degradation in groundwater systems, their effect on resources, including subsistence resources relied on by local communities, and their effect on native plants, fish, and wildlife. This information must be disclosed and analyzed in the NEPA document, not in a separate document in the record.¹⁵⁸ If herbicides are only being used in the Project area as part of the Prince of Wales Landscape Level Analysis project (Prince of Wales project), they must be disclosed and analyzed as a cumulative effect.

Two of the herbicides mentioned in the Prince of Wales project record of decision are glyphosate and atrazine. There is a substantial body of science showing the significant environmental harm both herbicides can cause.

a. Glyphosate

A 2015 U.S. Environmental Protection Agency (EPA) analysis found multiple environmental harms from glyphosate use. Use of glyphosate in accordance with the label was found to:

- 1) Result in concentrations that can potentially impact the survival and biomass of aquatic plants, upland plants, and riparian/wetland plants.¹⁵⁹
- 2) Result in residues on foliage that can potentially impact the growth of herbivorous birds, reptiles and terrestrial amphibians.¹⁶⁰
- 3) Potentially impact the growth and reproduction of terrestrial mammals following ground applications of glyphosate.¹⁶¹

This analysis also indicated that considerable no-spray buffers, nearly 400 feet for certain ground applications, would be needed to keep off-target plants from being harmed by glyphosate use.¹⁶²

Ecological incident data also reinforce the finding that the current labelled uses of glyphosate are having devastating effects on plant and animal life.¹⁶³ Approximately 600 incidents have been reported and logged on the Ecological Incident Information System (EIIS) and Avian Monitoring Information System (AIMS) databases. A separate Incident Data System (IDS) database has identified 269 separate aggregate incident reports. Ecological incidents are also significantly underreported for pesticides so this should be viewed as the absolute bare minimum of ecological incidents that involve glyphosate.

¹⁵⁸ See *id.* (describing a “summary of treatments” as “included in Appendix B of the Invasive Plants Risk Assessment, located in the project record.”).

¹⁵⁹ EPA, Memorandum Re. Registration Review - Preliminary Ecological Risk Assessment for Glyphosate and Its Salts at 2 (Sept. 18, 2015).

¹⁶⁰ *Id.*

¹⁶¹ *Id.*

¹⁶² *Id.* at 92.

¹⁶³ *Id.* at 59-62.

b. Atrazine

Atrazine is the most highly abundant pesticide contaminant in stream and groundwater in the United States, present in more than 80 percent of agricultural streams, 70 percent of urban streams, and 40 percent of ground water samples.¹⁶⁴ Atrazine and its metabolites are the most common pesticide groundwater contaminants in the U.S.¹⁶⁵

In addition to being extremely mobile, atrazine is also very persistent in the environment. Eighteen years after it was banned in Germany, atrazine was still the most abundant pesticide in ground water samples.¹⁶⁶ Furthermore, atrazine and its metabolites were still detected in soil samples 22 years after the last application.¹⁶⁷ The half-life of atrazine (the time it takes for 50 percent of atrazine to degrade) can be up to five years.¹⁶⁸ Due to its persistence, recurrent applications of atrazine can lead to a high accumulation in the environment.

Atrazine is extremely toxic to many species of plants, in particular aquatic non-vascular species, and the risk to plants is extensive. Even when modeling the reduced use rates of 0.25 and 0.5 pounds active ingredient/acre (lower than that allowed by the label, which itself violates federal law¹⁶⁹), every use scenario resulted in risk quotients above the EPA's level of concern for non-target plants. This is not only the case for the most sensitive non-vascular species, but for 13 out of 14 plant species tested.¹⁷⁰ It is not just aquatic, non-vascular plants that are impacted by atrazine, but a broad diversity of plants are sensitive to exposure.¹⁷¹ Terrestrial plant communities are likely to be impacted even when using the reduced use rates of 0.25 and 0.5 pounds active ingredient/acre due to spray drift and runoff. For plants in semi-aquatic habitats, the EPA's analysis indicates that 95 percent of species could have at least a 25 percent reduction in survival or growth when atrazine is used in compliance with the label.¹⁷² These risks can extend more than 1000 feet from the treated area just by spray drift alone.¹⁷³

Similar low doses of atrazine caused reproductive toxicities and neurological effects in many species of fish and shellfish.¹⁷⁴ A U.S. Geological Survey study found a significant association

¹⁶⁴ R. Gilliom *et al.*, *The Quality of Our Nation's Waters: Pesticides in the Nation's Streams and Ground Water, 1992–2001*, US Geological Survey Circular 1291 (2007).

¹⁶⁵ L. M. Bexfield *et al.*, *Pesticides and pesticide Degradates in groundwater used for public supply across the United States: Occurrence and human-health context*, Environmental Science & Technology (2020).

¹⁶⁶ N. D. Jablonowski *et al.*, *Still present after all these years: persistence plus potential toxicity raise questions about the use of atrazine*, 18(2) ENVIRON SCI POLLUT. RES INT. 328-31 (2011).

¹⁶⁷ N. D. Jablonowski *et al.*, *Persistence of 14C-labeled atrazine and its residues in a field lysimeter soil after 22 years*, 157(7) ENVIRON POLLUT. 2126-31 (2009).

¹⁶⁸ EPA, *Refined Ecological Risk Assessment for Atrazine* at 65 (April 12, 2016) (EPA 2016).

¹⁶⁹ 7 U.S.C. § 136j(a)(2)(G) (making it unlawful “to use any registered pesticide in a manner inconsistent with its labeling”).

¹⁷⁰ EPA 2016 at 313.

¹⁷¹ *Id.* at 266.

¹⁷² *Id.*

¹⁷³ *Id.* at 269

¹⁷⁴ K. Flynn *et al.*, *Burrowing in the freshwater mussel *Elliptio complanata* is sexually dimorphic and feminized by low levels of atrazine*, 76(20) J TOXICOL ENVIRON HEALTH A, 1168-81 (2013); A. Moore & N. Lower, *The impact of two pesticides on olfactory-mediated endocrine function in mature male Atlantic*

between atrazine concentrations and the prevalence and severity of intersex smallmouth bass, that is male bass that had female sexual traits, in the Potomac river basin.¹⁷⁵ Atrazine has been shown to limit olfaction that is necessary to smell and respond to sex cues released by mating fish.¹⁷⁶

Chronic toxicity thresholds for aquatic and marine fish were universally exceeded for all uses and application methods of atrazine.¹⁷⁷ Even when reduced application rates of 0.25 and 0.5 pound active ingredient/acre were modeled, 100 percent of the modeled scenarios exceeded EPA's level of concern for aquatic vertebrates.¹⁷⁸ Even when modeling based on a 0.25 pound active ingredient/acre, a rate so low that it would provide little herbicide utility, the EPA's levels of concern were exceeded for all aquatic organisms except freshwater invertebrates.¹⁷⁹ Furthermore, atrazine concentrations that can induce sublethal effects on fish overlap considerably with modeled *and monitored* concentrations of atrazine out in rivers and streams.¹⁸⁰ Monitoring data suggest that if atrazine is used according to current approved application rates, and even lower than current application rates, fish have a high likelihood of being exposed to atrazine concentrations that can cause chronic toxicities.¹⁸¹

EPA's levels of concern were exceeded for mammals for 80 to 100 percent of the scenarios modeled for all uses.¹⁸² Concentrations of atrazine that can cause chronic harm to mammals were exceeded for up to 130 days of the year based on allowable uses on the atrazine label.¹⁸³ Allowable uses of atrazine have the potential to cause harm to mammals via pesticide drift as far as 1000 feet from the spray site.¹⁸⁴ Using data arrays of a wide variety of acceptable studies, EPA also found that toxicity thresholds are universally exceeded for higher exposure groups based on labeled atrazine uses.¹⁸⁵

Epidemiological studies in humans also give cause for concern. Exposure to atrazine correlates with elevated cancer risk and an elevated risk for several birth defects—chroanal atresia,

salmon (Salmo salar L.) parr, 129(2-3) COMP BIOCHEM PHYSIOL B BIOCHEM MOL BIOL. 269-76 (2001) (Moore & Lower 2001); R. G. Botelho *et al.*, *Environmentally Relevant Concentrations of Atrazine and Atrazine Induce Micronuclei Formation and Nuclear Abnormalities in Erythrocytes of Fish*, ARCH ENVIRON CONTAM TOXICOL (2015); S. E. Wirbisky *et al.*, *Developmental origins of neurotransmitter and transcriptome alterations in adult female zebrafish exposed to atrazine during embryogenesis* 333 TOXICOLOGY 156-67 (2015).

¹⁷⁵ D. W. Kolpin *et al.*, *Chemical contaminants in water and sediment near fish nesting sites in the Potomac River basin: determining potential exposures to smallmouth bass (Micropterus dolomieu)*. 443 SCI TOTAL ENVIRON 700-16 (2013).

¹⁷⁶ Moore & Lower 2001.

¹⁷⁷ EPA 2016.

¹⁷⁸ *Id.* at 285.

¹⁷⁹ *Id.* at 280-282.

¹⁸⁰ *Id.* at 284.

¹⁸¹ *Id.* at 339.

¹⁸² *Id.* at 252.

¹⁸³ *Id.* at 254.

¹⁸⁴ *Id.* at 255.

¹⁸⁵ *Id.* at 256.

stenosis, abdominal wall defects and more.¹⁸⁶ Irregular menstrual cycles, estrogen metabolite levels and an increase in premature births also correlate with atrazine exposure.¹⁸⁷ Research also suggests significant reproductive harm in male pesticide applicators and rural populations exposed to triazine pesticides, including low sperm count and motility.¹⁸⁸

B. The DEIS does not adequately analyze risks of acid rock drainage.

Appendix B of the DEIS, the Project Travel Analysis, briefly mentions acid rock drainage as a potential issue that could arise related to road construction:

[A]cid rock drainage (ARD) was a water quality concern in project area watersheds due to excavation and exposure of naturally occurring pyritic rock in the Descon Formation. Approximately 15 percent (336,840 acres) of Prince of Wales Island is underlain by the Descon Formation containing pyrite. The use of this pyritic material in roads constructed in the Sweetwater drainage resulted in the generation of ARD which negatively impacted water quality and aquatic environments downstream of the construction. This problem has been mitigated and problems associated with other roads or Descon Formation are not anticipated (Baichtal personal comm. 2020).¹⁸⁹

Especially considering the catastrophe that occurred with Forest Service Road 3030,¹⁹⁰ the Forest Service must analyze and explain in the DEIS how it will ensure the materials sourced from existing and newly developed quarries for Project roads are not acid generating pyrite.¹⁹¹

VII. The DEIS fails to adequately analyze the Project's potential climate impacts.

Under NEPA, the Forest Service is obligated to analyze the reasonably foreseeable environmental effects of its proposed action.¹⁹² Courts have ruled that the impact of greenhouse gas emissions (GHGs) on climate change is precisely the type of analysis that NEPA requires of

¹⁸⁶ A. J. Agopian *et al.*, *Maternal residential atrazine exposure and risk for choanal atresia and stenosis in offspring*, 162(3) J PEDIATR 581-86 (2013); K. D. Mattix *et al.*, *Incidence of abdominal wall defects is related to surface water atrazine and nitrate levels*, 42(6) J PEDIATR SURG 947-49 (2007); P. D. Winchester *et al.*, *Agrichemicals in surface water and birth defects in the United States*, 98(4) ACTA PAEDIATR 664-69 (2009).

¹⁸⁷ H. Ochoa-Acuna *et al.*, *Drinking-water herbicide exposure in Indiana and prevalence of small-for-gestational-age and preterm delivery*, 117(10) ENVIRON HEALTH PERSPECT 1619-24 (2009); L.A. Cragin *et al.*, *Menstrual cycle characteristics and reproductive hormone levels in women exposed to atrazine in drinking water*, 111(8) ENVIRON RES. 1293-301 (2011); J. L. Rinsky *et al.*, *Atrazine exposure in public drinking water and preterm birth*, 127(1) PUBLIC HEALTH REP 72-80 (2012).

¹⁸⁸ S. H. Swan *et al.*, *Semen quality in relation to biomarkers of pesticide exposure*, 111(12) ENVIRON HEALTH PERSPECT 1478-84 (2003); S. H. Swan, *Semen quality in fertile US men in relation to geographical area and pesticide exposure*, 29(1) *Int J Androl.* 62-68 (2006).

¹⁸⁹ DEIS, App. B at 7.

¹⁹⁰ Alaska Department of Environmental Conservation, Spill Prevention and Response, Forest Service 3030 Road Cleanup, Prince of Wales Island (2008).

¹⁹¹ DEIS at 13.

¹⁹² 42 U.S.C. § 4332(2)(C); *Colo. Envtl. Coal. v. Dombeck*, 185 F.3d 1162, 1176 (10th Cir. 1999).

federal agencies.¹⁹³ Climate change is already causing substantial harm¹⁹⁴ and without “some action, the destabilizing climate will bury cities, spawn life-threatening natural disasters, and jeopardize critical food and water supplies.”¹⁹⁵ Science shows that each ton of carbon dioxide (CO₂) released into the atmosphere contributes to global warming.¹⁹⁶ The Forest Service must, therefore, consider unquantified effects, recognize the worldwide and long-range character of climate change impacts, and incorporate this analysis of ecological information into its environmental analysis.¹⁹⁷ “Without establishing the baseline conditions . . . there is simply no way to determine what effect the proposed [action] will have on the environment and, consequently, no way to comply with NEPA.”¹⁹⁸ The DEIS minimizes, dismisses, and/or fails to disclose climate change effects from the environmental baseline and ignores that the action alternatives’ impacts must be evaluated based on the already deteriorating, climate-impacted state of the resources, specifically, the carbon storage found in the Tongass’s old-growth stands and soils. The Forest Service fails to consider and disclose how the action alternatives will worsen climate change by detrimentally affecting the Tongass’s function for carbon storage, making its decision arbitrary and capricious.

The DEIS’s climate analysis is inadequate for two main reasons. First is that the Forest Service inexplicably fails to account for the important function the Tongass National Forest serves as a carbon sink (both its old-growth trees and its soils) at regional, national, and global levels. Second, the DEIS fails to consider that emissions from the action alternatives will add to already committed emissions from other projects while also failing to calculate the CO₂ emissions from the resulting wood products in a holistic way, and fails to consider how these emissions contribute to climate change.

A. The DEIS does not adequately disclose the action alternatives’ potential negative effects on carbon storage.

¹⁹³ See, e.g., *350 Mont. v. Haaland*, 50 F.4th 1254, 1264-68 (9th Cir. 2022); *Ctr. for Biological Diversity v. Bernhardt*, 982 F.3d 723, 740 (9th Cir. 2020); *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1216-17 (9th Cir. 2008)

¹⁹⁴ *Massachusetts v. EPA*, 549 U.S. 497, 521 (2007) (harms caused by climate change “are serious and well recognized,” and “have already inflicted significant harms” to many resources around the globe); IPCC, *Climate Change 2022, Impacts, Adaptation and Vulnerability*, Summary for Policymakers at 9 (2022) (concluding climate change has already caused substantial damage and irreversible loss among terrestrial and freshwater and oceanic ecosystems, widespread deterioration of ecosystem structure and function, increase in magnitude of extreme heat, mass mortality events on land and in the ocean, and hundreds of local losses of species). Climate change is causing shifts in seasonal timing and forcing thousands of species to shift polewards or to higher elevations, potentially causing population level losses. *Id.*; see, e.g., K. White *et al.*, *Projecting the future of an alpine ungulate under climate change scenarios*, 24 GLOBAL CHANGE BIOLOGY 1136 (2018) (finding a probability that warmer temperatures associated with climate change will drive genetically unique mountain goats in coastal Alaska up mountain terrain, leading to their “extinction” by 2085).

¹⁹⁵ *Juliana v. United States*, 947 F.3d 1159, 1166 (9th Cir. 2020).

¹⁹⁶ IPCC, *Climate Change 2021, The Physical Science Basis*, Summary for Policymakers at 28 (2021).

¹⁹⁷ See 42 U.S.C. § 4332(2)(A), (B), (D), (I) & (K).

¹⁹⁸ *Half Moon Bay Fishermans’ Marketing Ass’n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988).

The DEIS does not conduct a proper evaluation of the climate impacts associated with lost carbon storage from the Twin Mountain II Project, including the consequences of not conserving old-growth forests for their carbon storage value and the consequences of not maintaining an intact Tongass as a means of mitigating climate change and buffering its impacts.¹⁹⁹ It is well documented that the increased temperatures due to climate change have already accelerated carbon loss²⁰⁰ and still the DEIS makes no attempt to identify how and to what extent Alternative 2 will result in the greatest loss of carbon storage of the alternatives considered, despite available tools for doing so. First, the DEIS states, without a reasoned explanation, that the differences among alternatives of total carbon loss are negligible and do not translate to meaningful effects at the regional, national, or global scale.²⁰¹ Next, rather than prioritize the conservation of old-growth forests as strategic carbon reserves,²⁰² the action alternatives call for the harvest of more than 1,000 acres of old-growth timber²⁰³—to the detriment of carbon storage generally. Next, the DEIS does not contemplate, much less characterize, how the action alternatives will affect the Tongass’s soils by potentially releasing carbon and thereby negatively affect the surrounding region’s response to climate change.²⁰⁴ Finally, the DEIS attempts to minimize the Project’s impacts on carbon storage by oversimplifying the Tongass to so-called carbon “boom and bust” cycles.²⁰⁵ Each of these deficiencies demonstrates the DEIS failed to take a hard look at all costs because not all costs are properly considered, much less disclosed as NEPA requires.²⁰⁶

It is helpful to consider the Tongass’s composition, and how both its forests and soils occupy a vital role in mitigating the effects of climate. The Tongass plays an important role as “a globally relevant carbon sink” and has the distinction of being one of the most intact coastal temperate rainforests on Earth.²⁰⁷ In fact, Alaska may contribute over 50 percent of total carbon storage for the entire United States.²⁰⁸ Of this, the Tongass alone contains 20 percent of the total carbon stock from all national forests in the United States²⁰⁹ and the carbon stores are substantially greater than any other national forest in the country.²¹⁰ This extensive and largely undeveloped temperate rainforest will play a significant role in storing large amounts of carbon, even at the

¹⁹⁹ C. Vynne, *The Importance of Alaska for Climate Stabilization, Resilience, and Biodiversity Conservation* at 11-12 (Aug. 23, 2021) (Vynne 2021).

²⁰⁰ *Id.* at 12.

²⁰¹ DEIS at 42.

²⁰² Vynne 2021 at 12; *see also* D. DellaSala *et al.*, *The Tongass National Forest, Southeast Alaska, USA: A Natural Climate Solution of Global Significance* at 15 (May 10, 2022) (DellaSala *et al.* 2022).

²⁰³ DEIS at 65-66.

²⁰⁴ G. McNicol *et al.*, *Large, climate-sensitive soil carbon stocks mapped with pedology-informed machine learning in the North Pacific coastal temperate rainforest*, ENVIRONMENTAL RESEARCH LETTERS at 2 (Jan. 3, 2019).

²⁰⁵ DEIS at 41.

²⁰⁶ *Sierra Club v. Sigler*, 695 F.2d 957, 979 (5th Cir. 1983).

²⁰⁷ C. S. Shanley *et al.*, *Using LiDAR and Random Forest to improve deer habitat models in a managed forest landscape*, 499 FOREST ECOLOGY AND MANAGEMENT at 2 (2021); *see also* McNicol *et al.* 2019; N. L. Harris *et al.*, *Global maps of twenty-first century forest carbon fluxes*, NATURE CLIMATE CHANGE (2021) (Harris *et al.* 2021).

²⁰⁸ Vynne 2021 at 2.

²⁰⁹ DellaSala *et al.* 2022 at 1; Vynne 2021 at 6.

²¹⁰ D. DellaSala & B. Buma, *Analysis of Carbon Storage in Roadless Areas of the Tongass National Forest* at 1 (2019) (DellaSala & Buma 2019).

global scale.²¹¹ Protecting Alaska’s large and intact forest systems is therefore important for the United States as it considers natural climate solutions within its own borders.²¹² Retaining intact old-growth forests of the Tongass will be essential to providing resiliency in the face of climate change as global temperatures continue to warm, and the Tongass must be managed in a way that *increases* its ability to remove CO₂ from the atmosphere.²¹³ Management strategies that promote its conservation and restoration, and that increase carbon storage, are essential to meeting global climate targets.²¹⁴ Avoiding the conversion of the vast majority of Earth’s remaining, terrestrial habitats—including the Tongass—is essential to staying below 2°C rise in average global temperatures.²¹⁵

The Tongass’s naturally functioning ecosystem not only currently stores carbon but also has the potential for new carbon sequestration.²¹⁶ With respect to trees, the temperate forests of coastal Southeast Alaska store significant carbon in both live and dead tree biomass and the trees are expected to increase that storage potential up to year 2099 if they are allowed to remain intact, even with a certain level of projected future GHG fluctuations.²¹⁷ In the Tongass specifically, 26 percent of carbon is stored in live vegetation. The old-growth trees in certain parts of the Tongass are accruing biomass at a rate of approximately a teragram a year, which makes the unlogged parts of the Tongass immensely important carbon sinks, both at present and in the future.²¹⁸ This is not surprising, given that ongoing carbon sequestration and storage has been measured in forests older than 800 years.²¹⁹ Forgoing timber harvests altogether in the Tongass (along with all United States public timberlands) would help contribute to a net increase of 43 percent in carbon stores nation-wide, and an increase in the Tongass’s sequestration potential.²²⁰ By contrast, when a forest is cut down, anywhere from 66 percent to 80 percent of the stored carbon is released over time as CO₂, turning forests from carbon sinks to “sources” or “emitters.”²²¹ The Department of Agriculture has recognized that “timber harvesting, and not land use change or fire, was the largest source of gross emissions from [United States] forests between 2006 and 2010.”²²² Globally, deforestation and forest degradation contribute more GHG pollution than the world’s entire transportation network.²²³

²¹¹ Vynne 2021 at 5; *see also* Harris *et al.* 2021 at 2 (stating that 47 percent of global net carbon sink is in temperate forests).

²¹² Vynne 2021 at 9.

²¹³ *Id.* at 13.

²¹⁴ *Id.* at 1.

²¹⁵ Vynne 2021 at 2.

²¹⁶ *Id.*

²¹⁷ *Id.* at 8.

²¹⁸ DellaSala & Buma 2019 at 1.

²¹⁹ D. DellaSala, *The Tongass Rainforest as Alaska’s First Line of Climate Change Defense and Importance to the Paris Climate Change Agreement* at 5 (2016).

²²⁰ DellaSala & Buma 2019 at 2.

²²¹ DellaSala 2016 at 5.

²²² Forest Service, *The U.S. Forest Carbon Accounting Framework: Stocks and Stock Change, 1990-2016* at 14 (Nov. 2015).

²²³ DellaSala 2016 at 6.

Thus, the most effective measure for protecting existing carbon stocks is to maintain existing old-growth stands in the Tongass, where tree size and biomass are higher than in younger forests.²²⁴

Given all this information, the DEIS fails to justify its assertion that any differences between the alternatives with regard to lost carbon storage are negligible.²²⁵ Harvesting over 1,000 acres of old-growth timber will further diminish the Tongass's incredible carbon storage values by cutting substantial numbers of old-growth trees that store the carbon.²²⁶ The DEIS recognizes that Alternative 2 will have the greatest impact on carbon storage and that Alternative 3 would have the least impact among the action alternatives.²²⁷ Indeed, the DEIS even admits that "total carbon lost could be modelled for individual [harvested growth] stands"²²⁸ but the Forest Service chooses not to do that and instead, arrives at the conclusory statement that the differences between the alternatives do not translate to meaningful effects at the regional, national, or global scale.²²⁹ The Forest Service then relies on rough estimates of carbon losses between Alternatives 2 and 3 to state that an estimated carbon loss difference of 40,601 megagrams of carbon (Mg C) is negligible.²³⁰ But the rough estimates of carbon losses between Alternatives 2 and 3—101,016 Mg C and 60,415 Mg C, respectively—are a difference of magnitude of more than 1.5, which is certainly not negligible.²³¹ Thus, the DEIS, by its own admission, fails to consider and disclose all the lost carbon storage potential that will result from the action alternatives. The estimates that it does provide are no better, as they minimize the differences.

With respect to soils, they too play an important role in carbon storage.²³² In the Tongass, more than 95 percent of organic carbon is stored in old-growth forests, and most of that is split nearly evenly between woody biomass and soil.²³³ While the DEIS recognizes that "[a]bout 46.3 percent or more of the ecosystem carbon is in soils" it makes no attempt to characterize how disruption to soil brought on by timber harvesting activities will contribute to the release of carbon or to the resulting exacerbation of climate change.²³⁴ In order to accurately estimate carbon in soil, the Forest Service would need to include soil inventories along with sequestration rates.²³⁵ Yet the DEIS fails to complete this critical analysis. The DEIS even admits that activities like temporary roads affect long-term productivity, and that detrimental soil conditions in harvest units are the result of these kinds of short-term uses.²³⁶ The DEIS also states that soil restoration "should be considered" if certain soil detrimental conditions are met, without explicitly committing to such restoration.²³⁷ Conversion of productive soils to rock pits, roads, graveled

²²⁴ Vynne 2021 at 5-6.

²²⁵ DEIS at 41.

²²⁶ Vynne 2021 at 10.

²²⁷ DEIS at 41.

²²⁸ *Id.*

²²⁹ *Id.*

²³⁰ *Id.*

²³¹ *Id.*

²³² Vynne 2021 at 6.

²³³ DellaSala *et al.* 2022 at 7, 13, 15.

²³⁴ DEIS at 41.

²³⁵ DellaSala 2016 at 10.

²³⁶ DEIS at 208, 210.

²³⁷ *Id.* at 204.

trails, and graveled developed recreation sites is an irreversible commitment of the soil resource because it results in less tree growth. Despite all this, the DEIS does not directly address the issue of soil carbon storage loss. In fact, the DEIS states that the effects of Alternative 2 “would focus on the aboveground carbon pool stored in live woody vegetation”²³⁸ but does not consider possible impacts to carbon storage in soils. Thus, the Forest Service fails to describe, either qualitatively or quantitatively, loss to carbon storage in soils. By not considering, much less disclosing, the permanent and irretrievable loss of carbon storage in soils, the Forest Service is not taking a hard look at foreseeable climate impacts.

Once lost, it takes hundreds to thousands of years to reaccumulate the carbon in both trees and soils to their ecological potential, respectively, and it takes that long to regain that amount of carbon once removed.²³⁹ Thus, protecting old-growth forests is an important climate-smart strategy that is centered on sequestration and accumulation of organic carbon in order to protect and encourage the expansion of carbon stocks.²⁴⁰ Yet the DEIS is silent on these issues. It makes passing mention that some old-growth stands may take as long as centuries to re-gain pre-harvest carbon stocks²⁴¹ but it fails to calculate the amount of carbon that would be lost to logging over 1,000 acres of old-growth, much less does it grapple with those long-term consequences for carbon storage. The DEIS oversimplifies the carbon cycle in the Tongass by reducing it to “boom and bust” and by implying that forest regrowth is fast and is assured.²⁴² Specifically, the DEIS makes cursory reference to the Tongass’s release of carbon through mortality and disturbances, forest regrowth following mortality events, and the reinitiation of the carbon cycle, without acknowledging that it can take hundreds, if not thousands of years for the forest to reach its former carbon storage potential.²⁴³ The DEIS makes no mention of the consequences to soils and their ability to act as an important carbon stock. The DEIS does not properly disclose this cost.

B. The DEIS does not disclose or adequately consider emissions and their effects on climate change that will result from the sale.

The DEIS further claims that “it is difficult and highly uncertain to ascertain the indirect effects of emissions” on climate change.²⁴⁴ Yet the climate impacts on the Tongass are already documented, including the decline of Alaska yellow-cedar across the region.²⁴⁵ Climate change will affect ecosystem services that regulate greenhouse gas fluctuations in places like the

²³⁸ *Id.* at 41.

²³⁹ Vynne 2021 at 7.

²⁴⁰ DellaSala *et al.* 2022 at 15.

²⁴¹ DEIS at 42.

²⁴² *Id.* at 37.

²⁴³ *Id.*; *see also* Vynne 2021 at 7.

²⁴⁴ DEIS at 42.

²⁴⁵ C. S. Shanley *et al.*, *Climate change implications in the northern coastal temperate rainforest of North America*, 130 CLIMATE CHANGE 155-170, 165 (Feb. 27, 2015).

Tongass.²⁴⁶ Indeed, prior estimates of net carbon flux from logging scenarios in the Tongass indicate that only a no-logging scenario maintains carbon storage through time.²⁴⁷ Despite this, the DEIS makes no attempt to characterize the fluctuations within the Tongass and thereby underestimates the impact and consequences that the sale's emissions will have on climate change. For the reasons below, the DEIS does not properly analyze the direct, indirect, and cumulative impacts of emissions from Alternative 2 on climate change.²⁴⁸

First, the DEIS does not consider how the sale's GHG emissions will exacerbate climate change when paired with other logging projects that are already planned. Specifically, committed emissions (defined CO₂ emissions that are annually committed to reach the atmosphere given the total harvested volume in a given year) are anticipated to more than double to approximately 128,374 average metric tons of CO₂ per year 2022 and 2031.²⁴⁹ Then, from 2032 onward, those emissions will more than double again to 273,492 average metric tons of CO₂ per year.²⁵⁰ These projected emissions have not been considered in the development of the DEIS. For example, the DEIS simply states "current sources of emissions in the project area are not expected to cumulatively result in non-attainment of [National Ambient Air Quality Standards] or have significant adverse impacts."²⁵¹ In making that statement as well as in stating that the effect of proposed emissions on climate change is expected to be minimal, the DEIS completely ignores that its own emissions will combine with the previously mentioned emissions and contribute to climate change.

Further, the DEIS does not calculate, measure, or otherwise estimate CO₂ emissions from harvested wood products in an accurate and holistic way. For example, a proper estimate of the impact would consider soil organic carbon in wood harvested from forest removal to timber products to primary wood products to end uses, and finally to disposal. It would also necessarily include gross emissions from logging itself, decay of logging residue, decomposition of litter, and loss of soil organic carbon.²⁵² The DEIS does none of this. It simply states that wood fiber can be used to substitute more energy intensive products like concrete and steel, without calculating or otherwise demonstrating if that will be true for the wood fiber harvested from the Tongass.²⁵³ The DEIS also uses data from 1910 *only up until 2012*.²⁵⁴ The DEIS is missing

²⁴⁶ *Id.* at 158-161,165 explaining that climate change will increase mean annual temperature and mean annual precipitation while decreasing precipitation as snow. *See also* Harris *et al.* 2021 at 1-2 explaining that opposing fluxes--defined as CO₂ emissions from sources minus CO₂ removals from carbon sinks--occur simultaneously, and understanding the mechanisms that drive these fluxes, including spatial distribution, is crucial to climate policy. For example, tracking gross emissions separately from gross removals might show that the net annual forest-related GHG flux is either positive or negative, depending on the balance between gross fluxes.

²⁴⁷ DellaSala 2016 at 4.

²⁴⁸ *Colo. Env't. Coal. v. Dombeck*, 185 F.3d 1162, 1176 (10th Cir. 1999); *see also* 40 C.F.R. § 1508.25(c) (1978) (when determining the scope of an EIS, agencies "shall consider" direct, indirect, and cumulative impacts).

²⁴⁹ DellaSala *et al.* 2022 at 11-12.

²⁵⁰ *Id.*

²⁵¹ DEIS at 40.

²⁵² DellaSala *et al.* 2022 at 6.

²⁵³ DEIS at 37.

²⁵⁴ *Id.* at 38.

more than a decade's worth of recent timber product output and disturbance, and therefore its conclusions that, "[c]arbon losses from the forest ecosystem . . . have been relatively small" and that these carbon loss estimates "represent an upper bound" are in doubt.²⁵⁵ Further, the DEIS claims that carbon stored in wood products after harvesting should be taken into account when calculating how much carbon storage is lost.²⁵⁶ The DEIS arbitrarily assumes that the final wood products are as effective at carbon storage as maintaining the old-growth forests themselves without providing any support for such a claim. But this assumption is false because the wood products do not store as much carbon or provide long-term carbon storage.²⁵⁷

VIII. The DEIS does not adequately consider impacts to air pollution.

The Forest Service only summarily addresses impacts to air quality resulting from the proposed Project, describing it as "likely to remain unaffected by this project" or "not hav[ing] measurable effects."²⁵⁸ The DEIS acknowledges that there are localized sources of air pollution that could already be impacting Prince of Wales Island, including marine vessel emissions, vehicle and diesel power emissions, wood smoke, incinerators or refuse burning, and dust from vehicle traffic on unpaved roads.²⁵⁹

Nonetheless, the DEIS concludes that a more thorough air quality analysis of the Project is purportedly not necessary, since "winds off the Pacific Ocean, a small human population, low levels of industrial development, and lack of large-scale wildland fire smoke emissions maintain local and regional air quality."²⁶⁰ The Forest Service also points to the fact that the area has not been designated as nonattainment for any of the Clean Air Act's National Ambient Air Quality Standards.²⁶¹ And finally, the DEIS describes the Forest Service's own "forest plan monitoring program," which involves collecting lichen at 10 year intervals and testing it for 26 air pollutants.

None of these factors justify the Forest Service's decision to avoid further analysis of air quality in the DEIS, and any FEIS should include this analysis. In fact, all that the Forest Service manages to establish with its cursory justification is that the baseline is purportedly good, which says nothing of the impacts from *this proposed Project*. For example, the fact that population-based factors have historically maintained "local and regional air quality" only goes to past conditions in the Project area.²⁶²

The DEIS also relies on the supposed lack of "large-scale wildland fire smoke emissions." Climate change is increasing both the risk and incidence of catastrophic wildfire in Alaska and Canada, and recent years have seen smoke from those fires traveling long distances to affect distant locations. Thus, future wildfire smoke emissions are a predictable and likely cumulative

²⁵⁵ *Id.*

²⁵⁶ *Id.*

²⁵⁷ DellaSala 2016 at 5-6.

²⁵⁸ DEIS at 36.

²⁵⁹ *Id.*

²⁶⁰ *Id.*

²⁶¹ *See generally* Clean Air Act Section 109, 42 U.S.C. § 7409; 40 C.F.R. part 51.

²⁶² DEIS at 36.

effect that should be analyzed along with the air quality impacts from logging in on Prince of Wales.

Similarly, the state's efforts to monitor compliance with the Clean Air Act National Ambient Air Quality Standards may suggest a decent baseline, but they do not speak to the impacts from the action alternatives contemplated in *this DEIS*. Moreover—as the DEIS acknowledges—neither the state nor EPA operate any air quality monitors near Prince of Wales. In fact, the closest air quality monitor is in Juneau, and it only measures PM₁₀ and PM_{2.5}.²⁶³ In addition, the Clean Air Act allows states like Alaska to exclude so-called “exceptional events”—such as days impacted by wildfire smoke—from the analysis of whether an area is meeting National Ambient Air Quality Standards, meaning an area's on-the-ground air quality may not be reflected in a simple determination of Clean Air Act attainment.²⁶⁴

The Forest Service's lichen monitoring program—while an important and worthwhile aspect of the Forest Plan—cannot substitute for NEPA's hard look requirement. Lichen is only collected at 10-year intervals, making it a poor identifier of acute impacts from a project. And even if lichen were reliable on a relevant time scale, it would only demonstrate the Project's impacts after the fact, as opposed to the kind of up-front evaluation of effects required by NEPA. It is also concerning that—according to the DEIS—the Forest Service last collected lichen from nearby sites in 2011 and 2012,²⁶⁵ meaning the 10-year monitoring frequency mandated by the Forest Plan may not be applied in practice.

For all of these reasons, the Forest Service needs to supplement the DEIS' air quality analysis with an actual, fulsome evaluation of impacts from the proposed action alternatives. This includes anticipated pollution from road dust and internal-combustion engines (both of which can be estimated using readily available EPA tools). The Forest Service should also consider other potential air quality impacts expected to result from the action alternatives. And as discussed above, increasing wildfire emissions should be incorporated as a relevant cumulative impact.

IX. The DEIS does not satisfy NEPA.

A. The Forest Service must state more clearly which NEPA rules it intended to follow.

In the Purpose and Need section, the DEIS includes the following language related to the applicability of Council on Environmental Quality's (CEQ) and the Forest Service's longstanding NEPA requirements:

This environmental analysis is consistent with the [CEQ]'s 1978 regulations that implement the procedural provisions of the National Environmental Policy Act (40 CFR §§ 1500-0508, as amended), which are referenced by the Forest Service

²⁶³ See Alaska Division of Air Quality, 2025 Air Monitoring Network Plan Final, Section 2.3 Tbl. 1 (2025) (last accessed May 8, 2026).

²⁶⁴ See 40 C.F.R. § 50.14.

²⁶⁵ DEIS at 37.

NEPA regulations in effect when this project commenced (36 C.F.R. § 220.4 (2020)). The CEQ issued revised regulations for implementing the procedural provisions of the National Environmental Policy Act, effective September 14, 2020. The revised regulations provide the responsible official the option of conducting an environmental analysis under the 1978 regulations if the process was initiated prior to September 14, 2020 (40 CFR §1506.13, 85 FR 137, p. 43373, July 16, 2020). The project initiation memo was signed August 26, 2020; the scoping letter was released to the public and placed on the project webpage on September 11, 2020; and the Notice of Intent to prepare an environmental impact statement was published in the Federal Register on September 14, 2020.²⁶⁶

The Forest Service should apply the 1978 regulations and should revise the language in the DEIS to clarify that those regulations apply. As written, it is unclear which regulations the Forest Service intends to apply. For example, the DEIS points to the CEQ regulations “as amended,” but CEQ recently amended those regulations to remove them altogether.²⁶⁷ Thus, it is unclear which “amended” version of the regulations apply to this action, though it is presumably a pre-rescission version.

Similarly, the Forest Service’s NEPA regulations have also been rescinded.²⁶⁸ The DEIS references the 2020 version of those Forest Service regulations, but those amendments were effective November 19, 2020,²⁶⁹ more than three months after the Project was initiated on August 26, 2020. Thus, it is not clear how the 2020 Forest Service regulations could be “in effect when this project commenced.”

We agree that, given the Project initiation timeline, the Forest Service’s NEPA process for this proposal should be subject to pre-rescission versions of both the CEQ and Forest Service NEPA regulations. However, the DEIS is not clear on this point; saying that a DEIS “is consistent”²⁷⁰ with regulatory requirements is not the same as saying it is subject to them. The Final EIS should specify which regulations apply and why.

B. The DEIS uses an impermissibly narrow purpose and need.

The DEIS states that the Twin Mountain II Project is intended to “manage the timber resource for production of sawtimber and other wood products,” provide a “sustainable level of forest products,” and furnish roughly a two- to three-year supply *of old-growth volume* under contract to local mills during the Tongass transition to young growth.²⁷¹ In assessing the impacts and alternatives, NEPA requires more than a recitation of agency objectives; it requires a statement framed broadly enough to permit a genuine comparison of reasonable options and their

²⁶⁶ DEIS at 1.

²⁶⁷ See 90 Fed. Reg. 10610 (Feb. 25, 2025) (rescinding 40 C.F.R. Parts 1500-1508, effective April 11, 2025).

²⁶⁸ 90 Fed. Reg. 29632 (July 3, 2025).

²⁶⁹ 85 Fed. Reg. 73620 (Nov. 19, 2020). The publication date and effective date for that rulemaking were the same.

²⁷⁰ DEIS at 1.

²⁷¹ *Id.* at 3-4 (emphasis added).

environmental consequences.²⁷² No law obligates the agency to maximize old-growth output regardless of costs to subsistence, wildlife, and watersheds.

The DEIS treats old-growth “bridge timber” as effectively indispensable to sustaining local mills, and then builds the action alternatives around that premise.²⁷³ The purpose-and-need statement therefore risks narrowing the analysis at the front end by presuming the answer to the central dispute in the record: whether another major old-growth sale on northern Prince of Wales Island is lawful, necessary, and economically rational once cumulative effects on deer and other wildlife, subsistence users, watersheds, and public finances are fully disclosed.²⁷⁴ Similarly, whether the proposed alternative is appropriate to meet this purpose and need in the context of other timber activities within Region 10, including other federally proposed sales from the Forest Service, such as the South Revilla project, as well as other ownerships, including the Alaska Mental Health Trust and the Alaska Division of Forestry.

C. The DEIS does not consider a reasonable range of alternatives and does not describe alternatives in sufficient detail.

The DEIS evaluates three alternatives in detail: no action, the proposed action, and a reduced-volume action alternative.²⁷⁵ Alternative 2 would make about 26.8 million board feet available from roughly 1,655 acres, with approximately 0.9 mile of new National Forest System road, 12.4 miles of temporary road, and maintenance on about 33 miles of existing roads.²⁷⁶ Alternative 3 would reduce the Project to about 15.5 million board feet from roughly 1,061 acres, with 0.5 mile of new road, 6.1 miles of temporary road, and maintenance on about 24 to 27 miles of existing roads, and it was developed specifically to address concerns about wildlife habitat, subsistence, and watershed function.²⁷⁷

That reduced alternative is an improvement over the proposed action, but the range of alternatives remains constrained by the same underlying assumption that a stand-alone old-growth sale of substantial size must proceed on this landscape.²⁷⁸ Because it is using this unlawfully narrow lens, the Forest Service’s rationale for rejecting alternatives that do not include old-growth logging is arbitrary, and in violation of NEPA and the APA. NEPA requires the Forest Service to “rigorously explore and objectively evaluate” reasonable alternatives, and the alternatives section is “the heart” of the EIS.²⁷⁹ A legally sufficient range here should have included, at minimum, an alternative that avoids new road construction and an alternative that provides only young-growth harvest, and prioritizes restoration, and access management in order

²⁷² 40 C.F.R. § 1502.14(a) (1978); *Ilio ‘Ulaokalani Coal. v. Rumsfeld*, 464 F.3d 1083, 1095 (9th Cir. 2006).

²⁷³ DEIS at 3-4.

²⁷⁴ *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349-50 (1989).

²⁷⁵ DEIS at ii-iii, 13-15.

²⁷⁶ *Id.* at i-iii, 14.

²⁷⁷ *Id.* at iii, 15.

²⁷⁸ *Id.* at 3-4, 13-15.

²⁷⁹ 40 C.F.R. § 1502.14(a); *Ilio ‘Ulaokalani Coalition*, 464 F.3d at 1095.

to reduce cumulative effects to wildlife, climate, air, water, karst, and subsistence uses while still furthering the Project's stated economic purpose.²⁸⁰

D. As described throughout these comments, the DEIS does not take a hard look at environmental impacts.

The Ninth Circuit has repeatedly emphasized that NEPA is designed to ensure informed decisionmaking and informed public participation, and that an EIS must contain a “reasonably thorough discussion of the significant aspects of the probable environmental consequences.”²⁸¹ In *Bark v. U.S. Forest Service*, for example, the court held that the Forest Service acted arbitrarily by failing to “identify and meaningfully analyze the cumulative impacts” of a timber project.²⁸² Those same principles govern the Twin Mountain II Project. The legal question is not whether the agency has produced a lengthy document, but whether the document actually grapples with the real, place-based consequences of adding another old-growth sale, roads, and access changes to a landscape already shaped by decades of logging and road building.²⁸³

For that reason, the “hard look” problem in the Project is best understood through the substantive deficiencies discussed below: missing or underused information, a weak mitigation discussion, and an incomplete cumulative-effects analysis that treats major wildlife and subsistence concerns as acknowledged background conditions rather than constraints that should shape the Project itself.²⁸⁴

E. The DEIS does not deal adequately with missing information.

NEPA requires agencies to candidly disclose information gaps and to use reasonably obtainable information that bears on significant impacts.²⁸⁵ The Alaska District Court's 2020 decision vacating the Prince of Wales project is directly relevant on this point: the court held that the Forest Service's approach deprived decisionmakers and the public of meaningful, site-specific information and thereby undermined both informed participation and lawful analysis.²⁸⁶

The Twin Mountain II Project improves on the Prince of Wales project by providing site-specific units and a stand-alone EIS, but several gaps remain. First, the DEIS acknowledges that both action alternatives would reduce deer habitat capability, elevational connectivity, and deep-snow winter habitat, and that those effects would intensify as stands enter stem exclusion 25 to 30 years after harvest.²⁸⁷ Yet the agency does not fully connect those modeled effects to current evidence that deer availability in GMU 2 is already under stress. Figure 15 in the DEIS compares total annual GMU 2 deer harvest from 2005 to 2024 against a harvest objective of 2,700 deer,

²⁸⁰ DEIS at ch. 2; Southeast Alaska Conservation Council, *Twin Mountain II Timber Sale Project Scoping Comments* at 6–7 (Oct. 14, 2020).

²⁸¹ *WildEarth Guardians v. Mont. Snowmobile Ass'n*, 790 F.3d 920, 924 (9th Cir. 2015) *Alaska Ctr. for the Env't v. Armbrister*, 131 F.3d 1285, 1289 (9th Cir. 1997).

²⁸² *Bark*, 958 F.3d at 871.

²⁸³ See generally DEIS.

²⁸⁴ *Id.*; *Bark*, 958 F.3d at 872.

²⁸⁵ 40 C.F.R. § 1502.22 (1978).

²⁸⁶ See *Alaska Conservation Council v. U.S. Forest Serv.*, 443 F. Supp. 3d at 1014-15.

²⁸⁷ DEIS at v.

and the agency's own discussion recognizes that reported harvest has declined over time.²⁸⁸ The 2025 Southeast Alaska Subsistence Regional Advisory Council request states even more directly that Prince of Wales residents are not meeting their subsistence needs for deer and that reported GMU 2 harvest has "substantially" decreased since 2015.²⁸⁹ That information should have been squarely incorporated into the DEIS's cumulative and subsistence analysis rather than treated as a separate regulatory matter. In this context, any additional actions that could restrict subsistence are significant and inconsistent with ANILCA's direction to prioritize subsistence uses.

Second, the DEIS relies heavily on road closures, storage, and decommissioning as measures that temper harm, but it also states that temporary roads may remain open for up to three years after harvest and that some existing and proposed National Forest System roads may remain open for as long as five years after harvest to allow firewood or biomass gathering.²⁹⁰ However, the agency cannot count future closures as mitigation without a more concrete showing of timing, enforceability, and expected effectiveness.²⁹¹

Third, the DEIS's timber economics discussion is incomplete in a way that matters under NEPA. The agency uses FASTR and residual value methods and reports indicated advertised rates and estimated Forest Service costs, but it does not place those figures in the broader context of longstanding Tongass concerns over below-cost sales, chronic federal subsidies, and the legal significance of presenting an economically "efficient" project as a purpose-and-need justification.²⁹² Where economics are invoked to justify environmental harm, NEPA requires forthright disclosure of the project's likely financial reality.²⁹³ By discussing the modeled FASTR and residual value results without acknowledging the broader economic realities, the Forest Service's analysis omits important information about the sale's costs.

F. The DEIS's discussion of mitigation is inadequate.

NEPA does not require the Forest Service to eliminate all harm, but it does require the agency to discuss mitigation in enough detail that the public can evaluate whether it will actually reduce significant adverse effects.²⁹⁴

The DEIS identifies a familiar suite of mitigation and design features: reduced harvest and road construction in Alternative 3, attention to landscape connectivity, avoidance near potential wolf denning areas, protections for goshawks, best management practices, road storage and decommissioning, and resource-specific design features in unit cards and travel analysis materials.²⁹⁵ However, these measures offer, at best, generalized assurances not tailored to the Project or its impacts.

²⁸⁸ *Id.* at 98 Fig. 15 & Tbl. 30.

²⁸⁹ Federal Subsistence Board, Wildlife Special Action Request WSAR25-03, Southeast Alaska Subsistence Regional Advisory Council (2025).

²⁹⁰ DEIS at i, 13–15, 232.

²⁹¹ *Id.*; *Robertson*, 490 U.S. at 352–53.

²⁹² DEIS at 212–23.

²⁹³ *Robertson*, 490 U.S. at 349; *see* DEIS.

²⁹⁴ *Robertson*, 490 U.S. at 352; 40 C.F.R. § 1502.14(f).

²⁹⁵ DEIS at iii, vi, 15, ch. 3.

On deer and subsistence, the DEIS expressly concludes that both action alternatives present a “significant possibility of a significant restriction of subsistence uses on deer due to changes in abundance, distribution, and competition.”²⁹⁶ Once the agency reaches that conclusion, mitigation cannot be treated as a box-checking exercise. The Forest Service should explain, with greater specificity, whether proposed access controls, harvest reductions, corridor protections, and timing restrictions are expected to lessen those restrictions in measurable ways—and if so, by how much.²⁹⁷ It should also commit to adaptive triggers (such as additional closures, unit deferrals, or harvest reductions) if deer harvest and availability continue to decline during implementation.²⁹⁸

G. The DEIS does not adequately describe the baseline conditions on Prince of Wales Island.

In our review of publicly available Forest Service GIS data for Prince of Wales Island, we calculated that approximately 290,489 acres of forest have already been entered and converted to younger cover types.²⁹⁹ That calculation used the agency’s existing vegetation and harvest-by-cover-type shapefile for Prince of Wales, which classifies polygons by forest type, size-density class, and harvest history. Using standard GIS software, we filtered the dataset to polygons mapped as harvested old growth, clipped the layer to the island extent, and then summed polygon areas across Prince of Wales. The resulting total, 290,489 acres, represents the cumulative footprint of historical old-growth removal on the island that is recorded and currently available. This is the backdrop against which Twin Mountain II Project must be evaluated.

The ecological significance of that figure is that the vast majority of those 290,489 acres no longer function as old-growth habitat for wildlife, including subsistence species, and will not function as such again on any timescale relevant to this EIS or the 2016 Forest Plan. Old-growth stands on the Tongass typically reach the large-tree, multi-layered condition that provides optimal wildlife habitat, thermal cover, and complex predator–prey dynamics, carbon storage, and recreation value only over hundreds of years, not decades. By contrast, the clearcut and partial-cut stands created by historical logging on Prince of Wales Island have already transitioned, or are transitioning, into uniform, densely stocked stem-exclusion conditions that can persist for 100 to 150 years and that provide little forage, poor visibility for hunters, and limited deep-snow value for deer. The DEIS itself acknowledges that habitat capability in harvested stands declines as they enter stem exclusion approximately 25 to 30 years after harvest, and that those conditions constrain both deer and hunters over extended periods. For purposes of NEPA and NFMA, it is therefore appropriate to treat the 290,489 harvested acres as a largely non-renewable drawdown of functional old-growth habitat over at least the next several planning cycles. This is perhaps the most critical information about baseline environmental conditions for this Project. Yet, despite disclosing subsets of habitat loss through various species-

²⁹⁶ *Id.* at v.

²⁹⁷ *Id.*

²⁹⁸ *Id.* at vi, ch. 3.

²⁹⁹ U.S. Forest Service, “Tongass National Forest Past Harvest from CoverType,” ArcGIS Hub (accessed May 3, 2026), <https://usfs.hub.arcgis.com/datasets/usfs::tongass-national-forest-past-harvest-from-covertype/about>.

and Project-specific lenses,³⁰⁰ the DEIS does not anywhere acknowledge the total loss of old-growth habitat on the island due to past logging on the Tongass.

The Forest Service should explicitly incorporate the 290,489-acre historical harvest total into the environmental baseline for deer, wolves, and subsistence, identify the GIS datasets and methods used to derive that total, and acknowledge that these acres will not function as old-growth habitat within the planning horizon.

H. The DEIS does not adequately consider cumulative effects.

NEPA requires the Forest Service to consider the “foreseeable environmental effects” of proposed agency action.³⁰¹ These necessarily include “cumulative effects,” defined in the 1978 CEQ regulations as “effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions,” including actions of other agencies, private entities, and landowners. Prior to the 1978 regulations, courts interpreting NEPA likewise explained that environmental impact statements should consider the historical and foreseeable future context for proposed actions, as these are essential in assessing the proposed actions’ environmental impacts.³⁰² And, the Department of Agriculture’s current NEPA regulations make clear that analysis of the “[p]otentially affected area” in an EIS must account for the existing “condition of the physical, biological, social, and economic factors that may be impacted.”³⁰³ In a landscape like northern Prince of Wales Island, where legacy clearcutting, high road densities, and extensive stem-exclusion young growth already constrain deer habitat and subsistence use, cumulative effects analysis is not a formality. It is the legal mechanism that connects that history to the decision now before the agency.

i. Deer habitat and subsistence

Within that island-wide context, the Twin Mountain II DEIS documents substantial cumulative impairment of deer habitat capability and subsistence opportunity before any new Twin Mountain II harvest occurs. Using the Interagency Deer Habitat Capability Model, the DEIS reports that modeled deer density on National Forest System lands in the Project wildlife analysis areas has already declined from 1954 levels and that several WAAs have remaining high-volume productive old growth below the 50 percent level that the Forest Plan uses as an indicator for concern. When all ownerships are considered, the DEIS projects continued declines in deer habitat capability over time, even under the no-action alternative, as existing clearcuts age into long-lasting stem-exclusion stands. At the same time, the DEIS’s subsistence section presents GMU 2 harvest data showing that reported deer harvest has fallen below ADF&G’s harvest

³⁰⁰ E.g., DEIS at 68, tbl. 12 (summarizing changes to deer winter habitat within WAAs affected by the Project); *id.* at 72-73, tbl. 14 (summarizing changes to high-volume productive old growth within WAAs affected by the Project).

³⁰¹ 42 U.S.C. § 4332(2)(c)(i).

³⁰² See, e.g., *Greene Cty. Planning Bd. v. Fed. Power Comm’n*, 455 F.2d 412, 424 (agency may not “blind[] itself to potential developments” relevant to environmental impacts); *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.20 (1976) (noting impact statements “presumably will reflect earlier proposed [agency] actions and their effects.”).

³⁰³ 7 C.F.R. § 1b.11(35).

objective of 2,700 deer per year for the past nine years, and recognizes testimony that local residents are not meeting their subsistence needs for deer.

Those findings are not isolated observations, they are cumulative-effects indicators that reflect the combined consequences of the nearly 300,000 acres of historical harvest, high road densities, and other land uses across ownerships. In that light, the Project's incremental removal of additional old-growth acreage and corresponding deep-snow winter habitat cannot be treated as a trivial percentage change, even if the DEIS frames effects in some WAAs as "[one] percent or less" changes in modeled deer density.³⁰⁴ Individually minor effects can be collectively significant, and agencies must evaluate the significance of incremental effects in light of the overall context. On an island where over a quarter million acres of old growth have already been converted and where modeled deer capability and realized harvest are both declining, a small additional decrement in habitat capability can be the difference between a stressed but functioning system and one that can no longer support reliable subsistence harvests.

ii. Old-growth conversion timeframes

The cover-type and inventory data for Prince of Wales underscore why the 290,489 harvested acres must be treated as effectively non-renewable old-growth loss in the NEPA timeframe. Old-growth habitat on the Tongass is characterized not only by tree age, but by structural attributes such as large crowns, broken canopies, abundant down wood, diverse understory, and spatial heterogeneity that are critical for winter forage, snow interception, and escape cover for deer. The 2016 Forest Plan and associated technical appendices recognize that these attributes develop over centuries and that second-growth stands, even if left unmanaged, do not quickly regain comparable structure or function. In addition, the DEIS acknowledges that much of the post-harvest forest on Prince of Wales is moving into size-density classes that are poor for many old-growth dependent wildlife species, and will remain poor for decades in the absence of intensive and sustained restoration treatments.

From a NEPA perspective, this means that the historical 290,489 acres of harvested old growth represent a long-term, essentially irreversible loss of old-growth function over the life of the Forest Plan and far beyond. NEPA requires EISs to disclose when effects are "irreversible or irretrievable," and to consider the time period over which environmental consequences will persist.³⁰⁵ Here, the Twin Mountain II DEIS notes for example that winter habitat for deer and marten will continue to decline in many WAAs due to the aging of existing clearcuts into and through the stem-exclusion stage, but it does not fully acknowledge the corollary that additional Twin Mountain II harvest would ratchet the system still further away from any foreseeable recovery of landscape-scale old-growth habitat on northern Prince of Wales. That omission downplays the true magnitude of cumulative effects and understates the risk that the Project would lock in reduced deer and subsistence opportunities for multiple generations.

³⁰⁴ DEIS at 91-92.

³⁰⁵ 42 U.S.C. 4331(2)(C)(v).

iii. Roads, access, and foreseeable actions

Cumulative effects on deer and subsistence are driven by access as well as habitat. The DEIS documents that road densities in the Project WAAs already exceed the Forest Plan's recommended levels and that GMU 2 as a whole has high road densities below 1,200 feet, where most deer habitat and hunting occur. The DEIS notes that past timber sales have contributed to the development of the existing road system in the Project area and that additional logging on state, ANCSA corporation, and Alaska Mental Health Trust lands on Prince of Wales is reasonably foreseeable within the same time frame as Twin Mountain II. Appendix C further identifies a suite of National Forest System projects, Alaska Division of Forestry sales, and Alaska Mental Health Trust timber offerings that will add more harvest and road activity on and around Prince of Wales between 2025 and 2031.

Despite that information, the DEIS's cumulative-effects analysis treats Twin Mountain II's additional roads and access changes largely in unit-by-unit terms, without presenting a clear island-wide picture of how road densities, hunter access, and wolf mortality will look when the Project's roads are considered together with existing and foreseeable non-federal roads. NEPA requires more. In a unit where nearly 300,000 acres of old growth have already been logged, a road system that already exceeds recommended densities, and a subsistence deer harvest that is already below objective, the incremental miles of new and reopened roads in Alternatives 2 and 3 are not minor. They are part of the mechanism by which the remaining old-growth and winter habitat patches become increasingly accessible, and hence increasingly vulnerable to concentrated harvest pressure by both wolves and hunters. A robust cumulative-effects analysis would confront that reality directly and would examine whether any further increase in access is compatible with maintaining viable deer populations and reliable subsistence opportunities.

The DEIS also does not consider the sale's cumulative impacts in the context of impacts from another planned timber sale in the Staney Basin area, the West Wales Integrated Resource Management Project (West Wales).³⁰⁶ West Wales will be about three times the size of Twin Mountain II by both timber volume and acreage. Combined, these sales will have a considerable effect on the Staney Bay area, resetting the clock on both stem exclusion and tree maturity.³⁰⁷ Considering the impacts of both sales—for example, considering how much and what types of habitat will remain in the area afterward—in the Twin Mountain II EIS would provide clearest picture of those impacts and the best opportunity to mitigate them. If the Forest Service waits until Twin Mountain II is a forgone conclusion before taking this holistic look at Staney Bay, or if the Forest Service never takes such a holistic look, it will miss the chance to design alternatives to both sales that could work in concert to support multiple forest uses beyond logging.

³⁰⁶ Forest Service, *West Wales Integrated Resource Management Project, Project Summary* (updated May 6, 2026).

³⁰⁷ Earthjustice, *Upcoming and Recent Timber Sale Projects on the Tongass National Forest* (Apr. 15, 2026).

iv. Legal implications and recommendations

As currently written, the Twin Mountain II cumulative-effects discussion does not satisfy NEPA's requirements. CEQ's 1978 regulations require agencies to take account of the "incremental effects" of proposed actions when added to "other past, present, and reasonably foreseeable actions," and to disclose those effects in a manner that meaningfully informs the choice among alternatives. Prior to the 1978 regulations, courts interpreting NEPA likewise explained that an impact statement should consider the historical and foreseeable future context for the proposed actions, as these are essential in assessing the proposed actions' environmental impacts.³⁰⁸ And, the Department of Agriculture's current NEPA regulations make clear that analysis of the "[p]otentially affected area" in an EIS must account for the existing "condition of the physical, biological, social, and economic factors that may be impacted."³⁰⁹ By failing to integrate the empirically derived figure of 290,489 acres of historical old-growth harvest on Prince of Wales, and by failing to acknowledge that those acres will not regain old-growth characteristics or deer-habitat function for centuries, the DEIS understates the true scale and irreversibility of cumulative impacts. By framing additional Twin Mountain II effects as small percentage changes against an already degraded baseline, it further risks repeating the analytical error identified in prior Prince of Wales litigation, namely treating serious landscape-level impacts as background conditions rather than constraints that should narrow the range of acceptable timber actions.

To bring the cumulative-effects analysis into alignment with NEPA and NFMA, the Forest Service should, at a minimum, take the following steps in the Final EIS. First, explicitly incorporate the 290,489-acre historical harvest total into the cumulative-effects baseline for deer, wolves, and subsistence. Second, reevaluate the incremental loss of old-growth and deep-snow winter habitat in Alternatives 2 and 3 and the associated changes in modeled deer habitat capability, in light of that already diminished old-growth base and the documented subsistence shortfalls. Third, synthesize reasonably foreseeable federal, state, and ANCSA corporation timber activities on Prince of Wales Island, including their road components, into a comprehensive island-wide assessment of cumulative habitat loss, road density, and subsistence access pressure. Fourth, use those cumulative-effects findings to reconsider the range of alternatives, including a no-new-road alternative and restoration-focused alternative, and to explain whether any action alternative can be reconciled with Forest Plan objectives for deer, wolves, and subsistence under NFMA. Unless and until the agency undertakes that level of cumulative-effects analysis and integrates it into its choice among alternatives, the Twin Mountain II decision will remain vulnerable to challenge as an uninformed and unreasonable action within an already overharvested and over-roaded landscape.

³⁰⁸ See, e.g., *Greene Cty. Planning Bd. v. Fed. Power Comm'n*, 455 F.2d 412, 424 (agency may not "blind[] itself to potential developments" relevant to environmental impacts); *Kleppe*, 427 U.S. at 410 n.20 (noting impact statements "presumably will reflect earlier proposed [agency] actions and their effects.").

³⁰⁹ 7 C.F.R. § 1b.11(35).

CONCLUSION

For all the reasons described above, the Forest Service should choose the no action alternative. If the Forest Service proceeds with an action alternative, it must, at minimum, remedy the DEIS's deficiencies in the final environmental impact statement and adequately explain its decision.

Respectfully,

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**SOURCES IN SUPPORT OF CENTER FOR BIOLOGICAL DIVERSITY *ET AL.*'S
COMMENTS ON TWIN MOUNTAIN II TIMBER SALE
DRAFT ENVIRONMENTAL IMPACT STATEMENT**

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