Data Submitted (UTC 11): 12/16/2019 9:00:00 AM
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Title:
Comments: Attached are comments submitted by Alaska Wilderness League et al. concerning the Alaska Roadless Rule Petition.

Note from Robin Dale, Alaska Roadless Coordinator: Received thumb drive with the attachments to this letter. Attachments are too large to upload. They have been filed in the project record, DEIS Comments folder, and are available upon request.

The following text was copy/pasted from an attached letter. The system cannot display the formatting, graphics, or tables from the attached original.

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WOMEN'S EARTH AND CLIMATE ACTION NETWORK* GEOS INSTITUTE
CENTER FOR BIOLOGICAL DIVERSITY * DEFENDERS OF WILDLIFE
NATURAL RESOURCES DEFENSE COUNCIL * THE WILDERNESS SOCIETY
CENTER FOR LARGE LANDSCAPE CONSERVATION
SIERRA CLUB AND ITS ALASKA CHAPTER * EARTHJUSTICE
SOUTHEAST ALASKA CONSERVATION COUNCIL

December 16, 2019

VIA REGULATIONS.GOV, FOREST SERVICE COMMENT PORTAL, AND HAND-DELIVERY

Ken Tu, Interdisciplinary Team Leader
Alaska Roadless Rule

USDA Forest Service, Alaska Region
Ecosystem Planning and Budget Staff
P.O. Box 21628

Juneau, Alaska 99802-1628

Re: Alaska Roadless Rule Petition
Dear Mr. Tu:

The undersigned groups submit these comments regarding the Draft Environmental Impact Statement and proposed rule for the Rulemaking for Alaska Roadless Areas. These groups have long-standing interest in the social and ecological values of the Tongass National Forest. They have also consistently advocated for protecting the roadless areas of the Tongass through participation in administrative rulemaking proceedings, forest planning processes, and, in some cases, litigation. The undersigned groups urge the Forest Service to

select the No Action Alternative and maintain existing protection for the roadless areas of the Tongass and Chugach National Forests. The No Action Alternative is the only alternative that meets the purpose and need for the proposed rulemaking while protecting the globally and regionally important values of the Tongass.

The Tongass is one of only four temperate rainforests worldwide that is largely intact. Its network of old-growth forests and protected areas provide exceptional carbon stores of global importance, support vibrant subsistence lifestyles, harbor populations of old-growth dependent wildlife that are threatened in other states, protect healthy salmon streams and fisheries, and offer unparalleled opportunities for solitude, recreation, and tourism.

A wild and healthy Tongass is also the backbone of the regional economy. The fishing, tourism, and guiding industries are the primary economic drivers for the region. These growing industries

depend on an intact ecosystem, with healthy watersheds and undisturbed old growth forests, to thrive.

The Tongass has faced significant threats from logging and high grading. In some areas of the forest, only about 20 percent of the watersheds remain intact.1 This clearcutting of the most valuable areas of the Tongass has come at great taxpayer expense, costing an average of $30 million each year.2 In recognition of the dwindling acres of unfragmented national forest, the Roadless Rule was adopted in 2001 to ensure that these valuable forests remain protected. The Rule was applied to the Tongass specifically to protect its "extraordinary ecological values" and the Forest's "unique and sensitive ecological character," yet the Forest Service is now proposing to eliminate the Roadless Rule on the Tongass, putting those globally important values at risk with no clear, countervailing benefits.3

The Forest Service's proposal is contradictory. The purpose is to support the timber industry by providing flexibility to offer more economic timber sales, yet the analysis in the Draft Environmental Impact Statement (DEIS) assumes that logging levels will not increase and that, instead of using that "flexibility," logging will be evenly-distributed across the suitable timber base forest-wide. These assumptions, and the lack of any site-specific information about future timber sales, underpin the entire environmental analysis. Consequently, the DEIS significantly underrepresents the likely effects of the proposal to repeal the Roadless Rule for the entire Tongass National Forest and makes it impossible for the public and decisionmakers to accurately assess the adverse effects of the proposed action on wildlife, subsistence, ecosystem health and biodiversity, tourism, fisheries, and other forest resources.

Furthermore, in pushing forward with this proposal against widespread public opposition, the Forest Service has neglected its duty to the Alaska Native tribes who live in and depend on the forest and have done so for thousands of years. The Forest Service has not taken seriously its obligation to meet with tribes on a government-to-government basis. Nor has it taken into consideration their views and requests as cooperating agencies.

Moving ahead with the proposal to revoke the protections of the Roadless Rule from the Tongass would put the important social and ecological values of the Tongass at risk, ignore the repeatedly expressed views of communities and tribes that depend on an intact forest, and result in increased taxpayer subsidies to prop up a failing industry at the expense of other critical sectors of the regional economy. For the reasons discussed in detail in the comments that follow, we urge you to adopt the No Action Alternative.

1 Forest Service, Tongass National Forest, Land and Resource Management Plan Amendment at 3-197 (2016) (2016 Forest Plan). Any documents cited in this comment letter (with the exception of cases, statutes, and regulations) were hand-delivered to the Forest Service Alaska Regional Office in Juneau on December 16, 2019.

2 Taxpayers for Common Sense, Cutting Our Losses: 20 Years of Money-Losing Timber Sales in the Tongass at 1 (Oct. 2019) (Taxpayers for Common Sense).

3 66 Fed. Reg. 3244, 3254 (Jan. 12, 2001).

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THE DEIS LACKS ANALYSIS OF THE POTENTIAL EFFECTS OF THE PROPOSED RULE, AS WELL AS ANY RATIONAL BASIS FOR THE PROPOSED RULE OR ALTERNATIVES TO IT.

Three closely related and fundamental flaws pervade the Draft Environmental Impact Statement (DEIS) and require that the Forest Service revise it and re-circulate it for comment by sister agencies, other governments, and the public, if it presses ahead with its ill-advised proposal to do away with Roadless Rule protections for the Tongass National Forest. All three stem from the agency's simultaneous assertions that it urgently needs to jettison protections for the Tongass, but that doing so will have virtually no effect on the forest's unique values and the overwhelming majority of people in the region who use and depend on those values. That leads the DEIS to underreport potential adverse impacts vastly. It also leaves the agency devoid of a rational basis for its proposed change. And it gives rise to a DEIS bereft of a range of reasonable alternatives, which by law must be tied to a rational purpose and fact-based needs.

I. THE DEIS GROSSLY UNDERSTATES THE POTENTIAL IMPACTS OF THE PROPOSED EXEMPTION.

Contrary to a fundamental requirement of the National Environmental Policy Act (NEPA), the DEIS mischaracterizes or fails to disclose numerous, potentially significant, environmental impacts of the proposed action and alternatives to it. The Forest Service claims that the Proposed Rule/Exemption Alternative - and all other action alternatives[mdash]will have minimal environmental effects. Indeed, although the Proposed Rule would eliminate the Roadless Rule's prohibitions on road building and logging on all 9 million acres of the Tongass inventoried roadless areas, the preamble to the Federal Register notice goes so far as to claim that "the proposed rule would not cause a substantial loss of roadless protection."4

This counterfactual denial is found throughout the DEIS. For example, despite acknowledging that "roads pose the greatest risk to fish resources on the Tongass,"5 the DEIS claims that exempting the Tongass from the Roadless Rule (and all other alternatives) would have "negligible" effects on fish habitat.6 Consequently, according to the DEIS, under the Proposed Rule, "effects to fish and their habitat would be nearly identical to current plan conditions over the Tongass."7

Similarly, although the Exemption Alternative would remove protection from millions of acres of old-growth forest that are currently protected under the No Action alternative, the DEIS states that impacts of the Exemption Alternative on the old-growth forest ecosystem "are expected to be relatively low and slightly greater than projected under [the No Action alternative].8

4 Forest Service, Notice of Proposed Rulemaking, Alaska Roadless Rule, 84 Fed. Reg. 55,522, 55524 (Oct. 17, 2019).

5 DEIS at 3-112.

6 Id. at S-15.

7 Id. at 3-116.

8 Id. at 3-68.

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Likewise, the DEIS denies any negative impacts of the Exemption Alternative on climate change, long-term carbon stores, and sequestration: "There would be only negligible differences among the alternatives because the harvest levels and the mix of old growth and young growth to be harvested are expected to be very similar, and thus unaffected by implementation of the Alaska Roadless Rule. As a result, the alternatives would not differ in regard to their contributions to GHG emissions, changes in forest carbon stocks, carbon sequestration, or global climate change."9

The Forest Service's denial of environmental impacts rests on a series of fundamental fictions that infect its DEIS in wholesale fashion. The Forest Service justifies its Proposed Rule as needed to promote logging and road construction, but its environmental analysis is predicated on that effort largely or completely failing. The DEIS treats the nonbinding Probable Timber Sale Quantity (PTSQ) estimated for a time with the Roadless Rule in place as a maximum for possible logging without the Rule in place. The DEIS discloses no impacts from future plan amendments opening more roadless areas to logging, even though eliminating that possibility was a central reason for predicting benefits from the Roadless Rule. Insupportably, the DEIS treats roading and logging in roadless areas as the environmental equivalent of the same activity in previously roaded and disturbed landscapes. And, concomitantly, it treats only those acres logged or roaded as adversely affected, ignoring a large body of science about widespread ripple and indirect effects, including much the agency validated in adopting the Roadless Rule.

As discussed below, the Forest Service's refusal to disclose, take comment on, and consider significant potential environmental impacts of the Exemption Alternative[mdash]and all action alternatives is a fundamental flaw in the DEIS. Because this error pervades the entire document, it can only be remedied by completely revising the DEIS and reissuing it for public comment.

C. To Support its Mistaken Claim That Rolling Back the Roadless Rule Will Have Only Minor Adverse Impacts, the DEIS Assumes the Proposed Rule Will Fail.

A central failing of the DEIS is its repeated assumption that implementation of the Proposed Rule will not cause harm because it will not increase logging or road construction in the Tongass. Thus, the DEIS projects that: "Timber program output levels are expected to remain constant and involve a similar number of acres under all alternatives, varying only by location."10 And while the DEIS states there will be "implications for regional highway development,"11 it does not identify a single likely new road segment or any potential road-related impacts. Rather, it reports that ending constraints on roading will not increase mining, development of leasable minerals, or energy projects and infrastructure.12

In short, to assume the Proposed Rule will have negligible adverse impacts, the DEIS treats it as having negligible impact of any kind, thus predicting it will fail to achieve its stated goals. In

9 Id. at 3-126.

10 Id. at 3-49. The DEIS asserts that timber jobs and related income are expected to be similarly stagnant, id., as are payments to the State of Alaska. Id. at 3-51.

11 Id. at 3-51.

12 Id..

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2001, the Forest Service correctly found a direct correlation between allowing those activities in roadless areas and harm to National Forests. The agency concluded that the Roadless Rule was "necessary to protect the social and ecological values and characteristics of inventoried roadless areas from road construction and reconstruction and certain timber harvesting activities. Without immediate action, these development activities may adversely affect watershed values and ecosystem health in the short and long term."13 The Forest Service then concluded that the alternative providing immediate protection of roadless areas in the Tongass "is the environmentally preferred alternative" because it would result in the least amount of damage caused by road construction and logging.14

In proposing to undo protections of the 2001 Roadless Rule in response to Alaska's demand to increase logging, the Forest Service now seeks to promote the very activities the Roadless Rule prohibits, and contradicts, without explanation, its prior conclusions about the impacts of roadless area protection or lack thereof. As such, its goal is an increase in particularly harmful kinds of logging and road construction. To claim that a Tongass exemption will not cause harm is to argue it will not achieve a central purpose for adopting it.

It is no answer to this irrational assumption that the Proposed Rule only aims to change where activities take place, not their overall level. As detailed below, a great increase in logging and road construction would be permitted and could occur. Moreover, evidence shows that is reasonably foreseeable. Finally, even if location of activities were the only element affected, this allowance alone would significantly increase environmental harm. As noted above, that significant harm resulting from allowing timber sales and roading in roadless areas was a central reason for the Roadless Rule and is thoroughly established by the Rule's environmental documentation.

D. The Forest Service's Assumption That Exempting the Tongass From the Roadless Rule Will Not Result in Additional Logging is Arbitrary and Capricious.

A central, mistaken premise of the Forest Service's insupportable claim that the Proposed Rule will not have significant environmental or economic impacts is the assumption that essentially the same amount of timber harvesting and road construction will occur on the Tongass with or without the Roadless Rule. The DEIS's main explanation for this counter-intuitive assumption is that none of the alternatives, including the Exemption Alternative, would make any changes in the Forest Service's 2016 Tongass Forest Plan Amendment, including the amended plan's Projected Timber Sale Quantity (PTSQ) of 46 million board feet (mmbf) per year and the young growth transition. However, this explanation incorrectly assumes that PTSQ (1) is an effective cap on timber harvest and (2) will not change even when 185,000 acres of inventoried roadless

13 66 Fed. Reg. at 3247.

14 66 Fed. Reg. at 3263 (Jan. 12, 2001). See also Forest Service, Roadless Area Conservation Rule, Final Environmental Impact Statement, Vol. 1 at 3-378 (2000) (Roadless Rule FEIS) (roadless rule protections, "if applied to the Tongass, would lower risk to fish and wildlife species that are valued for recreational hunting,

fishing, and viewing opportunities and for subsistence.").

areas are added to the suitable timber base. It also ignores objective evidence to the contrary as to both roads and cut levels.

1. The Projected Timber Sale Quantity Is Not a Maximum Limit on Logging

First, contrary to some indications in the DEIS15 and associated regulatory documents,16 the PTSQ does not set a maximum limit or ceiling on timber harvest. In fact, the Forest Service's own national planning directives[mdash]which were developed to implement the agency's 2012 Planning Rule and were in effect at the time of the 2016 Tongass Plan Amendment[mdash]make it very clear that "PTSQ is not a target nor a limitation on harvest."17 Instead, the agency defines PTSQ as "[t]he estimated quantity of timber meeting applicable utilization standards that is expected to be sold during the plan period."18 PTSQ is different from the "allowable sale quantity," or ASQ, which in forest plans, revisions, and amendments previously developed under the 1982 Planning Rule[mdash]for the Tongass and all other national forests[mdash]set an upper limit on timber sale volumes. PTSQ is, instead, functionally just a prediction.

The only maximum limit on logging in the Tongass Forest Plan under the agency's current planning directives is the "sustained yield limit" of 248 mmbf per year.19 Since that limit is substantially based on total suitable forestland, it could be even higher if that were increased by 185,000 acres of roadless areas. Nor is industrial capacity a limit on possible logging levels. Timber industry mills in southeast Alaska have existing capacity to process 107.5 mmbf annually - more than double the Tongass PTSQ.20 On top of that, while export of unprocessed logs is generally banned from western national forests,21 the Forest Service has authorized, and aggressively pursues, export of unprocessed logs from the Tongass to overseas markets.22 Thus, for example, in 2016 it sold approximately 20 mmbf of Tongass timber for direct export, over

15 For example, presumably referring to the PTSQ, the DEIS states that "harvests are assumed to occur at the level authorized by the 2016 Forest Plan . . . ." DEIS at 3-2. Similarly, a chart in the DEIS refers to short- and long-term PTSQ levels as "Estimated Maximum Harvest under the 2016 Forest Plan Amendment." Id. at 3-4, Fig. 3-1.

16 The regulatory impact assessment accompanying the DEIS repeatedly refers to the PTSQ as a "ceiling" on timber harvest volume. See, e.g., Forest Service, Alaska Roadless Rulemaking, Regulatory Impact Assessment and Cost Benefit Assessment at 6 (RIA/CBA) ("harvest ceiling under the 2016 Forest Plan of 46 MMBF"; "upper-bound or ceiling of 46 MMBF, set forth in the 2016 Forest Plan").

17 Forest Service, Forest Service Handbook (FSH), FSH 1909.12, Chap. 60 (definition of Potential Timber Sale Quantity).

18 Id.

19 Forest Service, Tongass National Forest, Land and Resource Management Plan Amendment at A-5 (2016) (2016 Forest Plan).

20 DEIS at 3-34.

21 See, e.g., General Accounting Office, Federal Timber Sales: Forest Service and BLM Should Review Their Regulations and Policies Related to Timber Export and Substitution GAO-18-593 (August 2018).

22 See Forest Service, Tongass Limited Shipment Policy. The policy has been updated and expanded several times since 2010.

and above what was purchased for local processing,23 with no apparent upper bound in future years.

2. Forest Plan Amendments to Facilitate Logging and Roadbuilding are Reasonably Foreseeable.

Second, it is likely and foreseeable that the Forest Service will increase the PTSQ - and change other parts of the Tongass Forest Plan as well to facilitate further increased logging above and beyond the 165,000 acres of old growth forest opened by the proposed action or altering the young growth transition to account for the additional old growth[mdash]after adoption of an Alaska Roadless Rule/Tongass Exemption. The foreseeability of such future changes was an integral part of the rationale for the Roadless Rule when adopted.24 Alternative 6 would, by design, return the Tongass Plan to that likelihood of revision. And the other action alternatives would effectively do the same, through the provision allowing for roadless area boundary modifications without any substantive limitation.25

As a result of these features in all action alternatives, a new plan revision or amendment increasing the PTSQ could be approved by the local Tongass Forest Supervisor.26 Similarly, the Tongass Forest Supervisor could approve amendments, as part of a site-specific decision or otherwise, changing Land Use Designations or forest plan standards that currently limit logging in roadless areas. These changes, consistent with the stated purpose of providing "flexibility" to offer more economic timber sales, would allow logging in areas beyond the 185,000 acres projected in the DEIS or at higher levels than projected.

In fact, a change in the PTSQ as a result of changes to the land base open to logging is highly likely at the next plan amendment or revision. By rule, the PTSQ has to "be consistent with all plan components,"27 including, of course, the suitable timber base. Indeed, it would be

surprising if any other plan component had more effect on the PTSQ. That PTSQ is expected to change when the suitable timber base changes is evident from Forest Service direction that "the projected timber sale quantity should vary for each alternative considered in the environmental document."28

If the Forest Service actually intended to limit annual logging to the current PTSQ, thereby limiting the adverse impacts it needed to report in the DEIS, it would have been simple to cap the roadless area acres exposed to logging in this rulemaking, or to include in the alternatives a limit on volume that could be sold from roadless areas annually, or even to freeze the PTSQ. Instead

23 DEIS at 3-33.

24 See Roadless Rule FEIS at 1-15 (noting that while 40% of inventoried roadless areas then prohibited road construction "these prescriptions are subject to change at the next plan revision").

25 See DEIS at 2-3 to 2-4.

26 36 CFR 219.2(c) (specifying that the forest supervisor is normally the responsible official for developing and approving a forest plan amendment or revision).

27 FSH 1909.12.64.32.

28 Id.

of just creating flexibility to log within the acres and volumes it posits as limits, however, the proposed rule creates vastly more flexibility and more risk of significant environmental damage.

The State of Alaska's history of wholesale policy reversals makes those risks particularly plausible, and reasonably foreseeable. In 2015, along with timber industry representatives and other regional interests it joined in a federal advisory committee, Alaska adopted recommendations against any roadless area logging and a hard stop to old growth timber project planning by 2020.29 In 2018, Alaska did not just reverse itself on roadless area logging. In its successful petition requesting a process to undo Roadless Rule protections, the State also asked the Forest Service to change the Tongass Plan and revisit the State's objections to the 2016 Plan Amendment:

In addition to requesting the USDA commence a rulemaking to exempt the Tongass from the Roadless Rule, the State also requests that the USDA Secretary direct the Forest Service to commence a new amendment or revision process for the [Tongass Plan] as amended in 2016.... The Roadless Rule and the 2016 [Tongass Plan] now each independently restrict road construction and timber harvest to such an extent as to have devastating effects on Alaskans.30

The cover letter for the State's petition to the Forest Service confirms that "We see this as one of many significant opportunities to work with you to support a diverse and robust forest products sector in Southeast Alaska. Rebuilding this sector will create jobs and prosperity for our rural communities located in the Tongass National Forest."31

Similarly, Governor Dunleavy recently stated that exempting the Tongass from the Roadless Rule was "the first step to rebuilding an entire industry, putting Alaskans back to work, and diversifying Alaska's economy."32 And in pushing for a complete exemption from the Roadless Rule, Alaska Governor Mike Dunleavy told the President last spring:

This [repealing the Roadless Rule for the Tongass] would be a significant victory for the

timber industry in Southeast Alaska and their efforts to increase the annual timber harvest, which creates jobs and fosters economic opportunity.33

Given the State's aggressive and successful effort to reopen the Roadless Rule in Alaska, its hostility to the existing Tongass Plan, and the Forest Service's refusal to impose limits on how

29 Tongass Advisory Committee, Final Recommendations at 6 (2015) (TAC Final Recommendations) (noting advisory committee recommended that the Forest Service not seek young growth volume or changes to

standards and guidelines in roadless areas).

30 DEIS at A-8 to A-9.

31 Id. at A-1.

32 Office of Alaska Governor Mike Dunleavy, Press Release: Governor Applauds USDA Support to Lift Tongass Roadless Rule Exemption (Oct. 15, 2019).

33 M. Dunleavy, Alaska Governor, Letter to President Trump at 3 (Mar. 1, 2019) (emphasis added).

much logging could occur under the Proposed Rule, it is not rational to claim in the DEIS that the current PTSQ and forest plan somehow limit the potential adverse effects resulting from an exemption applicable to 9.3 million acres, all of them of special sensitivity to environmental impacts in virtue of their currently near-pristine condition. More logging and more road construction are reasonably foreseeable under the proposed action; indeed, the State and its allies have been clear that the very purpose of exempting the Tongass from the Roadless Rule is to promote more logging. And the Forest Service has been equally clear that it gives "substantial weight to the State's policy preferences."34

3. The DEIS's Development Estimates Ignore Recent Data Showing that Fewer Roadless Protections Resulted in More Road Construction and Logging.

It is not only the Proposed Rule's sweeping scope and flexibility, and the candid goals of the Forest Service's partner the State of Alaska, that show the amount of logging and related road construction will likely change from the status quo under the action alternatives. In addition, recent trends in both activities illustrate why increases in each are among the

"potential environmental consequences" that must be disclosed and examined in the DEIS.35

For example, in the EIS for the Tongass Plan, the Forest Service estimates that logging in young growth requires an additional mile of new road for every 400 acres cut, while logging old growth requires one mile of new road for every 150 acres cut[mdash]or more than 2.5 times as many miles of new roads.36 Similarly, where there are decommissioned roads, fewer miles or new road are required.37 Based on these numbers, the addition of 165,000 acres of old growth in roadless areas to the suitable timber base will clearly result in substantially more roads than logging in roaded areas. Other measures used by the Forest Service also indicate that more road miles will be required for logging in roadless areas. For example, in the cost-benefit analysis in the Regulatory Impact Assessment for the Proposed Rule, the Forest Service relies on a comparison of data for the years when the Roadless Rule was in effect on the Tongass (2011 to 2018) and when it was not in effect (2003 - 2010). For the reasons discussed in the economic critique discussed on page 74-76 of these comments, relying on this data is problematic. However, to the extent the data can be relied on, it suggests that, on average, only half as much logging-related road construction occurred during the eight years when the Roadless Rule was in effect on the Tongass (2011-2018) compared to eight years prior when the Rule was not in effect (2003[shy]2010).38 Specifically, these data show that 107 miles of logging roads were built between 2003 and 2010, versus 40 miles built between 2011 and 2018. Factoring in timber volume sold during these two periods, data shows that in the post-pulp contract era, the average amount of road construction declined from 0.4 mile of road per thousand

board feet (mbf) while the Roadless

34 84 Fed. Reg. 55,523.

35 Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt., 387 F.3d 989, 993 (9th Cir. 2004).

36 U.S. Forest Service, Tongass Land and Resource Management Plan Amendment, Final Environmental Impact Statement B-26 to 27 (June 2016) (2016 TLMP FEIS).

37 Id.

38 Forest Service,Timber Sale Summary Reports and Accomplishments, Region 10 RV (Residual Value) Appraisals of Record (1+ MMBF, from 2003 to 2018) (2019).

Rule was not in effect to 0.2 mile/mbf after the Rule was reinstated. In short, the Tongass built half the mileage of roads per similar volume of timber when the Roadless Rule was in effect.

These data should come as no surprise. It is logical that the 2001 Roadless Rule's prohibition on road construction in inventoried roadless areas has resulted in fewer new logging roads and more reliance on the Forest Service's existing road network on the Tongass. Therefore, the DEIS's assumption that all alternatives will have the same amount of road construction is seriously mistaken, and contrary to the agency's own data. Likewise, all of the effects analyses (and Regulatory Impact Analysis) that rest upon this inaccurate assumption are flawed and must be revised based on a more realistic estimate of the actual range of road construction levels among the alternatives.

Similarly, recent timber sale data show the necessity of acknowledging and reviewing the potential adverse impacts associated with an increase from the status quo. At no time in the past five years has the Tongass sold anywhere near the PTSQ, and the overall trend is sharply downward. In fiscal year 2015, the Tongass sold 22.6 million board feet.39 In fiscal year 2016, that total was down to 13.5 mmbf.40 The next year it rose, temporarily, to 30.8 mmbf.41 But in fiscal year 2018, it declined steeply to 9.2 mmbf.42 And this past year it sank even further, to 5.4 mmbf.43 What these numbers show, first and foremost, is that were the Forest Service correct that logging under the Proposed Alternative would be only 46 mmbf, that would still represent a grave increase in environmental consequences that the DEIS must, but fails to, disclose and solicit comment on. In addition, without exceeding these numbers, the Forest Service could alter the sale composition to offer a greater percentage of old growth, effectively gutting the young growth transition. Equally importantly, though, if the cut and sold report numbers reflect offer of sales that are not economic and, as the DEIS asserts, adopting the Proposed Rule would enable the agency to offer more economic sales, the DEIS offers no objective reason why 46 mmbf represents a limit on any resulting increase.

4. The DEIS Improperly Relies on the 2016 Tongass Plan Amendment EIS as

an Excuse for Not Disclosing Environmental Effects.

One of the consequences of the Forest Service's insistence that exempting the Tongass from the Roadless Rule will not change actual forest management is that the DEIS simply dismisses the need to address environmental issues or disclose environmental impacts in many instances because it assumes previous Tongass NEPA documents[mdash]especially the EIS for the 2016 Tongass Plan Amendment[mdash]have already adequately

addressed the issues and disclosed the impacts.

This problem is obvious in the "Issues Eliminated from Detailed Analysis" section of the DEIS, which states:

39 Forest Service, Region 10, Cut and Sold FY15 at 4 (Nov. 2, 2015).

40 Forest Service, Region 10, Cut and Sold FY16 at 4 (Nov. 22, 2016).

41 Forest Service, Region 10, Cut and Sold FY17 at 4 (Nov. 3, 2017).

42 Forest Service Region 10, Cut and Sold FY18 at 4 (Jul. 12, 2019).

43 Forest Service, Region 10, Cut and Sold FY19 at 4 (Nov. 25, 2019).

Many of the issues dismissed are anticipated to have similar resource effects for each of the various alternatives as those effects disclosed in the 2016 Forest Plan Final EIS. This is because implementation of Forest Plan standards and guidelines would be the same for all alternatives and none of the alternatives predict a projected timber sale quantity (PTSQ) greater than the amount disclosed in the 2016 Forest Plan FEIS (46 million board feet per year). Although road construction and /or timber harvest could potentially increase within some designated roadless areas, these effects would be evaluated at the project-level.44

A specific example of an issue dismissed on this basis is soil impacts. The DEIS states, "From a broad standpoint, the impacts to soil characteristics and composition from the proposed alternatives would be the same as disclosed in the 2016 Forest Plan Amendment FEIS due to similar harvest levels and Forest Plan standards and guidelines."45 Even though the DEIS mentions that a "preliminary review" of potential soil impacts found that Alternative 6 would increase the amount of land with "high hazard" soils that would be open for commercial logging by 38 percent, the DEIS denies that any further analysis is needed, saying "because none of the alternatives predict an increase in the PTSQ, this does not correlate to an increase in [timber] harvest on MM3 [i.e. high risk] soils."46

Similarly, for the environmental issues that the DEIS does purport to address, such as impacts on fish, the DEIS routinely and inappropriately refers the reader to the 2016 Tongass Plan Amendment EIS, rather than thoroughly discussing the impacts in the DEIS. Federal NEPA regulations allow agencies to "incorporate by reference" material such as information in the 2016 EIS only when it can be done "without impeding agency and public review of the action," and only where the EIS at issue describes the relevant content of the document which the agency is incorporating.47 In this case[mdash]where the Forest Service is proposing to remove regulatory protection for 9.2 million acres of pristine roadless areas[mdash]relying on the 2016 Plan Amendment EIS to disclose environmental effects definitely "imped[es] agency and public review of the action" because it misleadingly assumes that the proposed action will make no appreciable difference in how the Tongass is managed and how resources like fish habitat will be affected. Further, the DEIS often fails to describe the relevant content of the 2016 FEIS for the Tongass Forest Plan Amendment, simply (and unlawfully) directing the public to the FEIS. Discussion of significant environmental impacts must appear in the text of an EIS, not simply incorporated by reference, as this DEIS does far too often.48

E. Location Matters: Environmental Impacts in Roadless Areas Will Be Different and Significantly Greater Than Impacts in Roaded Areas.

Even assuming, as the DEIS erroneously does, that the total amount of logging and associated road building under all alternatives will not exceed the current PTSQ level specified in the 2016 Plan Amendment, the DEIS still grossly understates the environmental impacts of the proposed

44 DEIS at 1-7.

45 DEIS at 1-8.

46 DEIS at 1-8.

47 40 C.F.R. [sect]1502.21.

48 40 C.F.R. [sect] 1502.1.

Exemption Alternative by falsely assuming that impacts will be essentially the same regardless of whether they occur in currently naturally pristine roadless areas or in areas that are already roaded and otherwise developed. Simply put, location matters when it comes to environmental impacts.

The DEIS repeatedly brushes off the potential impacts of removing regulatory protection for Tongass roadless areas by explicitly or tacitly assuming that any harmful effects from increased logging and road building in roadless areas will be offset by reduced activities in previously roaded areas. For example, the DEIS says this about the impacts of the Exemption Alternative on fish and fish habitat:

While a potential slight increase in roads and potential harvest areas with associated effects to streams could occur, with the current project[ed] harvest remaining unchanged, harvest and road building in these areas would only occur, with minor exceptions, with an associated reduction in roads and harvest in other areas. Thus, there would be similar effects to fish and their habitat, though possibly in different areas, as under Alternative 1 [i.e. No Action Alternative].49

It makes similar conclusions about other wildlife and other natural resources.

Incredibly, the DEIS fails to recognize the obvious fact that shifting timber production from already roaded areas to roadless areas would inevitably result in more road building to access previously inaccessible timber, thereby causing greater damage to streams and fish and wildlife resources.50 It also fails to consider the distinct possibility that any additional logging in roadless areas would be additive to logging that would occur under the No Action alternative, if timber sales exceeded the current PTSQ or if the Tongass Plan was amended or revised to increase the PTSQ or change other limitations, as discussed above. Problems with the DEIS's analysis of impacts to wildlife and fishery resources are discussed in detail later in these comments.

In many cases, the DEIS improperly defers to the impact analysis of the 2016 Tongass Plan Amendment, simply assuming that those effects will be identical to, or only slightly different from, effects of all the Alaska Roadless Rule Alternatives, even the Exemption Alternative. Again, this approach ignores important differences between undeveloped roadless areas and lands that have already been affected by roads, logging, and or other development. It also ignores the unique environmental values of many roadless areas, discussed in subsequent sections of these comments.

F. The DEIS Ignores Impacts on Roadless Areas in Development LUDs.

The DEIS consistently ignores or understates the environmental impacts on inventoried roadless areas that are located in the two million acres that are designated as Development Land Use

49 DEIS at 3-116.

50 See infra, pp. 13-51(describing the importance of location for assessing impacts to wildlife and biodiversity

Designations (Development LUDs) on the Tongass Forest Plan.51 In particular, the DEIS leads the reader to believe that only the 185,000 acres of inventoried roadless areas that the Forest Service intends to reclassify as suitable for timber production could be affected. However, more than 10 times that amount of roadless land -- 2,168,000 acres - are located in Development LUDs.52 This fact is buried in a table in the DEIS along with the following footnote: "Note that ... roadless area designation on development LUDs provides the highest degree of protection, because these are areas that are mostly (sic) likely to be developed if they were not designated roadless."53

It is especially important to recognize the negative environmental effects of potential road construction and reconstruction within the Development LUDs if the Tongass is exempted from the Roadless Rule. For example, in order to access suitable timber land it may be necessary to build roads across non-suitable timber lands. Presently, the Roadless Rule does not allow roadbuilding on inventoried roadless areas regardless of whether they are within Development or Non-Development LUDs; however, if the Tongass is exempted from the Roadless Rule, roads could then be constructed across roadless areas if they are within a Development LUD.

The only portion of the DEIS that discloses impacts on roadless areas in the Development LUDs is the section on commercial outfitter/guide use, which acknowledges that "total development LUD acres without roadless designation would increase under all action alternatives, with net gains ranging from about 34,600 acres (Alternative 2) to 2.1 million acres (Alternatives 5 and 6), as areas are removed from roadless designation."54 The DEIS includes maps that show the different Development LUDs (described in the map legends as "Areas where Commercial Timber Harvest can Occur"55) within 15 selected Outfitter/Guide use areas on the Tongass. For each Outfitter/Guide use area, the DEIS also contains a table showing the acreage of inventoried roadless areas within Development LUDs that would lose Roadless Rule protection under each alternative.56 While the discussion of impacts to outfitter/guide use is inadequate for reasons discussed below, this information shows that the Forest Service could have provided a significantly more detailed analysis for every other resource.

It is unclear why the Forest Service only disclosed information about roadless areas and Development LUDs in this one section of the DEIS. However, it is clear that the agency could

51 Development LUDs are lands where the Tongass Forest Plan allows commercial timber harvesting and road building to occur, but the Roadless Rule currently does allow those management activities in the inventoried roadless areas within the Development LUDs.

52 DEIS at 2-25 (Table 2-11, acres of Roadless Areas in Development LUDs in No Action alternative).

53 Id. at 2-28, fn 3.

54 Id. at 3-172.

55 See, e.g., id. at 3-178, Fig. 3.10-7. The map legend includes an explanatory note saying, "Note that the mapped areas encompass entire land use designation polygons (e.g. entire development LUDs). If harvest occurs, it would only occur on forest lands suitable for timber production, which are smaller areas within these management polygons."

56 See, e.g. id. at 3-182, Tbl. 3.10-6.

have included similar analysis of the Development LUDs for other resources, such as fish and wildlife, and that the DEIS's failure to do so for other resources is arbitrary and capricious. If the Forest Service had done this, the DEIS would have presented a more realistic picture of the potential impacts of development activities in inventoried roadless areas.

G. The DEIS Must Provide an Analysis Based on Where Logging is Likely to Occur Under the Alternatives.

The analysis in the DEIS is further skewed because the agency arbitrarily assumes that logging will be evenly distributed forest-wide across the suitable timber base instead of providing an analysis based on a reasonable projection of where logging is most likely to occur, at a scale that is helpful to understanding the effects of the proposed rule.57 Under NEPA, even in a programmatic EIS, the Forest Service is required to provide site-specific analysis bearing on where the effects of the action are likely to be experienced so that the public has an opportunity to participate meaningfully in the process and that decisionmakers have accurate information on which to base their decisions.58 Here, the Forest Service relied on unsupported assumptions about even distribution of logging instead of analyzing the underlying data it has about where stand conditions would likely be targeted for future logging.

The Forest Service repeatedly states that changing management of roadless areas would provide flexibility to allow for more economic timber sale offerings.59 It also acknowledges, for example, that some areas, including those closer to existing roads or logging operations, are more likely to be economic than others.60 In fact, according to the DEIS, a third of the most economic areas are on Prince of Wales.61 In other words, opening roadless areas to logging will change where the Forest Service offers timber; it will not result in an even distribution of logging across suitable lands.

Because of the arbitrary assumption of evenly-distributed logging, the Forest Service's calculations of how much logging is expected in each biogeographic province over the course of 100 years is not realistic. In North Central Prince of Wales, and South Prince of Wales, for example, the amount of logging is projected to decline under the preferred alternative as

57 See, e.g., id. at 3; 114, Tbl. 3.3c-1 (estimating acres of suitable young growth harvest in Tongass 77 watersheds and TNC/Audubon Conservation Priority Areas); id. at 3-167 (recreation); id. at 3-173 (explaining that harvest projections "elsewhere in the EIS . . . assume an even Forest-wide distribution of harvest across suitable acres").

58 WildEarth Guardians v. Mont. Snowmobile Ass'n, 790 F.3d 920, 922-25 (9th Cir. 2015); see also Kern v. U.S. Bureau of Land Management, 284 F.3d 1062, 1072 (9th Cir. 2002) (agency was required to analyze

consequences of a rule when the impacts were "readily apparent at the time the EIS was prepared.").

59 Id. at 2-21, 3-44, 3-47, 3-48.

60 Id. at 3-44, 3-45.

61 Id. at 3-47, 3-48.

compared to the No Action Alternative.62 Based on the other information in the DEIS, however, Prince of Wales is one of the areas most likely to see an extensive increase in logging.

Instead of relying on this arbitrary assumption, the Forest Service could have projected areas that are likely to be logged. The Forest Service states that "projects identified in the most recent 5-year timber sale plan for the Tongass (2018 to 2022) are assumed to be made available to meet short-term (4 to 5) year demand under all alternative[s]."63 In addition, the Forest Service is in the process of completing an environmental impact statement for Central Tongass timber sales, and has issued a Record of Decision for the now enjoined Prince of Wales Watershed Landscape Level Analysis. The Prince of Wales, Wrangell, Petersburg ranger districts, which include the project areas for these decisions, include 60 percent of the old-growth that would become suitable for timber under the proposed alternative.64 Although additional NEPA analysis would be required to authorize logging in roadless areas under either of these timber sales, it is reasonably foreseeable that these are areas where logging in roadless areas is more likely if the Forest Service eliminates the protections of the Roadless Rule on the Tongass. Because of the importance of site-specific information to an informed decision, the Forest Service should issue a revised EIS that bases its analysis of effects on reasonable projections of likely areas of logging, not on a counterfactual assumption that logging will be evenly distributed across the forest.

In addition, the Forest Service should provide this analysis of effects based on Value Comparison Units (VCU), the geographic "language" the Forest Service has established for analyzing the effects of resource management decisions on the Tongass. VCUs were first developed for the 1979 Tongass Land Management Plan to compare the relative values of various forest resources by location. These VCUs generally encompass a drainage basin containing one or more large stream systems, with boundaries usually following easily recognizable watershed divides.

Although the DEIS relies on information that is based on VCUs, the DEIS does not disclose what VCUs are included in the millions of acres of roadless areas that at stake in the proposed rulemaking. For example, the proposed rule relies on a 1998 Tongass Fish and Wildlife Resource Report that summarized "[m]any of I the fish and wildlife resource values of Southeast Alaska watersheds, based on the VCU classification of the Tongass."65 The DEIS goes on to emphasize "[t]his report shows the relative value of areas for black bear, brown bear, deer, sport fishing, salmon production, and subsistence use [and ranks] the VCUs that have the highest community values."66 Other reports in the DEIS similarly rely on analysis conducted at the VCU scale. Yet, the Forest Service instead provides information about the effects of the action based on 110 Inventoried Roadless Areas (IRA), 7 Geographic Provinces, 21

62 See id. at 3-63; see also, e.g., id. at E-54, E-67 (explaining that projected harvest near Point Baker and Thorne Bay decreases under the proposed rule because of the assumption that harvest is evenly distributed).

63 Id. at 3-44.

64 See id. at 3-15.

65 See id. at 3-223.

66 Id.

Biogeographic Provinces, 190 Wildlife Analysis Areas and 6 Game Management Units.67 By analyzing alternatives in terms of roadless areas as separate blocks without incorporating the extensive VCU information available, the Forest Service precludes meaningful analysis and taking a hard look at the direct, indirect, and cumulative effects of the proposed rulemaking alternatives.

II. THERE IS NO RATIONAL BASIS FOR ELIMINATING ROADLESS PROTECTIONS ON THE TONGASS NATIONAL FOREST.

The Forest Service must provide a rational basis, supported by the facts, to justify its choice of action.68 Neither the DEIS nor the Notice of Proposed Rulemaking articulates a sufficient, rational basis for removing Roadless Rule protections from the Tongass.69 As a result, the proposal is arbitrary and unlawful.

A. The DEIS Does Not State a Clear Purpose for the Rulemaking.

The purpose and need statement in the DEIS is vague and confusing and lacks meaningful criteria for the formulation and comparison of alternatives. In fact, to the extent that functional criteria can be divined, only the No Action alternative meets the purpose and need for the proposed rulemaking.

As stated in the DEIS, the agency's purpose is to resolve "controversy surrounding the management of Tongass roadless areas" by developing a "long-term, durable approach to roadless area management that accommodates the unique biological, social, and economic situation found in and around the Tongass."70 With respect to the first part of the statement, all action alternatives would defeat the stated purpose in at least three ways. First, the existing Roadless Rule has already proven to be a "long-term, durable approach," weathering a series of legal and administrative challenges over the years, with a final district court ruling upholding it the sole remaining lawsuit;71 rolling it back now would restart the clock on such challenges, leading to additional years of uncertainty. Second, the record is unequivocal that efforts to develop roadless areas are "a major point of conflict in land management planning" and that controversy "accompani[es] most proposals to harvest timber, build roads, or otherwise develop inventoried roadless areas;"72 in 2001, the Forest Service found that this conflict is "costly in terms of both fiscal resources and agency relationships with communities of place and communities of interest."73 Thus, efforts to develop the roadless areas directly opened by the

67 See id. at 3-8 (IRAs); id. at 3-5 to 3-6 (other Land Divisions); id. at 3-226, Tbl. 3.12-1 (list of GMUs).

68 See, e.g., Earth Island Inst. v. Hogarth, 494 F.3d 757, 766 (9th Cir. 2007).

69 As discussed later in these comments, there is also no basis for modifying the Roadless Rule as it applies to the Chugach National Forest.

70 DEIS at 1-4.

71 See Alaska v. USDA, 273 F. Supp. 3d 102, 111-12, 126 (D.D.C. 2017).

72 Roadless Rule FEIS at 1-5.

73 66 Fed. Reg. at 3246.

action alternatives would predictably provoke controversy and uncertainty.74 And third, all action alternatives build in additional future uncertainty about development of other Tongass roadless areas, through either the unrestricted modification mechanism of Alternatives 2 through 5 or alternative 6's wholesale return of all roadless area management (outside of LUD IIs) to the local planning process.75

The second part of the stated purpose[mdash]accommodating the unique situation of the Tongass[mdash]is so vague and generalized that there is no basis for determining whether or not a set of management proposals would meet it. There are inarguably "biological, social, and economic" conditions unique to the Tongass, but virtually any alternative would "accommodate" them to some degree. As such, this part of the statement does not show what the agency is "responding [to] in proposing the alternatives,"76and does not make it possible to evaluate whether alternatives meet the Forest Service's objectives.

The "unique Alaska and Tongass-specific statutory considerations" mentioned in the DEIS section on purpose and need do not cure this problem. The DEIS mentions ANILCA specifically,77 but the only ANILCA consideration the DEIS elaborates on is subsistence. And it is well-established that the "presence of roads is extensively associated with reduced subsistence productivity."78 As a result, ANILCA does not provide a rationale for changing roadless area management. The DEIS also references the Tongass Timber Reform Act ("TTRA"), but that does not support changing the Roadless Rule, either. The TTRA exhorts the Forest Service to "seek to meet" demand for Tongass wood, but only "to the extent consistent with providing for the multiple use and sustained yield of all renewable forest resources."79 That language means that "the USDA retains discretion to . . . reach a balance among multiple-uses that does not fully satisfy timber demand on the Tongass."80 Nor does the agency assert that it has, since reinstatement of the Roadless Rule for the Tongass, been unable to seek to meet market demand or to meet it in fact.

In short, neither part of the purpose and need statement in the DEIS provides a rational basis for the Forest Service's proposal, or indeed any of the action alternatives.

74 See also M. Dombeck, Testimony, House Natural Resources Committee Oversight Hearing on the Alaska Roadless Rule at 5 (Nov. 13, 2019) ("to roll back roadless area protections on the Tongass or any of the National Forests is a big step backwards to the era of gridlock and costly litigation").

75 In adopting the Roadless Rule, U.S. Department of Agriculture noted that forest plans at the time prohibited road construction in almost half of all roadless areas but "protections in these existing plans may change after future forest plan amendments or revisions." 66 Fed. Reg. at 3246.

76 40 C.F.R. [sect] 1502.13.

77 Id. at 1-4.

78 Roadless Rule FEIS at 3-373.

79 16 U.S.C. [sect] 539d(a).

80 Alaska v. USDA, 273 F. Supp. 3d at 123.

B. Noting in the Notice of Proposed Rulemaking Supplies the Needed Rationale.

The Notice of Proposed Rulemaking arguably offers several possible rationales for the proposed rule. They are couched in terms of what the Forest Service "believes" rather than any factual assessment, and/or as results that might flow from abandoning the established protections of the existing rule. The claimed rationales are: 1) the State has a policy preference for rural economic development (and the Forest Service has a preference for what the State prefers); 2) the Tongass is unique and should be managed locally; 3) adding suitable timber lands will allow more flexibility to offer economic timber sales; 4) there is a need to clarify access standards for municipal water and wastewater utility systems, Alaska Native cultural sites, micro and small timber sales, aquaculture facilities, and experimental forests; and 5) the Forest Service wants to reduce expenditure of taxpayer dollars.81 As explained below, the facts do not support any of these asserted justifications.

1. Eliminating the Roadless Rule on the Tongass will not support rural economic development.

Nothing in the DEIS shows that eliminating the Roadless Rule would provide enhanced opportunities for rural economic development. Regardless of the effect of the proposed rule on logging levels, removing Roadless Rule protections from the Tongass would adversely affect the tourism and seafood industries, which are key economic drivers for the region. Tourism, fishing, and seafood processing provide a combined total of about 35 percent of regional employment, and the tourism and visitor industries are growing.82 The DEIS acknowledges that removing Roadless protection could have an adverse effect on the visitor industry, though one it characterizes as "minimal".83 This effect is likely understated.84 With the growth seen by the local tourism industry, guides and outfitters already have limited areas available for remote tours. As the DEIS recognizes, developing roadless areas will displace guides and outfitters.85 With many areas already at capacity, this will leave some operators with fewer or no places to operate tours, negatively affecting economic development immediately and restricting opportunities for continued expansion in this important economic sector. If the State and the Forest Service want

81 See 84 Fed. Reg. at 55,523-24.

82 Headwaters Economics, The Tongass National Forest and the Transition Framework: A New Path Forward? at 3-4 (Nov. 2014); see also Southeast Conference, Southeast Alaska By the Numbers 2019 (2019) (prepared by Rain Coast Data) (Southeast Conference 2019); A. C. Johnson et al., Quantifying the Monetary Value of Alaska National Forests to Commercial Pacific Salmon Fisheries, N. Am. Journal of Fisheries Management (2019) at 2.

83 DEIS at 2-25.

84 See infra, pp. 77-78 (describing the flaws in the analysis of the effects of the proposed action on the visitor

industry and communities).

85 See, e.g., DEIS at 2-21 (stating that "changes in roadless area designations" could displace outfitters and guides, and recognizing that some areas are already at capacity, creating conflicts where users are displaced); id. at 2-23 (explaining that action alternatives increase the potential for effects on communities with important visitor industry sectors of the economy).

to adopt policies that foster rural economic development, they should not adopt policies that will have adverse effects on growing industries.

The evidence in the DEIS does not show that any substantial beneficial effects are likely to result from eliminating Roadless Rule protection that could conceivably offset these negative economic effects (let alone the adverse environmental impacts). Instead, the DEIS states repeatedly that none of the action alternatives will lead to materially higher logging levels and are expected to "support a similar range of direct jobs and income." 86 At most, the DEIS projects a "minimal beneficial effect" on the forest products industry if the Roadless Rule is eliminated for all or some of the Roadless areas of the Tongass.87 Other recent reports likewise show that timber is not a major economic driver for the Southeast Alaskan economy. In 2018, timber industry employment provided fewer than one percent of the total number of jobs in the region. 88 Moreover, Tongass timber is an even more miniscule factor, accounting for fewer than half those jobs (61 Tongass-related to 109 attributable to other logging).89 Given the Forest Service's recognition that eliminating the Roadless Rule on the Tongass will not support an increase in employment through this declining industry, there is no support for the assertion that repealing the rule will spur rural economic development.

The majority of the rural communities and tribes that stand to be affected by the proposed rule have submitted letters, comments, and resolutions to the Forest Service urging the Forest Service to maintain Roadless Rule protection for the Tongass because they believe the rule is necessary to protect the natural resources that are critical to the fishing, guiding, and tourism industries and the subsistence economies that sustain them.90 As these communities have stated, removing Roadless protections would harm local economies, not increase opportunities for economic development.

2. The Tongass is unique, but it should be protected through a durable, national rule, not left to local rulemaking.

The Forest Service concludes, in the Notice of Proposed Rulemaking and in the DEIS, that, because the Tongass is unique, it should be managed through a local process rather than a national rule.91 This is similar to the Forest Service's conclusions supporting the invalid 2003

86 See, e.g., id. at 2-20, 3-49, 3-153.

87 See id. at 2-25.

88 Southeast Conference 2019 at 5 (timber industry average of 337 jobs out of a total of 45,642 jobs in the region in 2019).

89 DEIS at 3-28, Tbl. 3.2-2.

90 See City of Gustavus, Resolution CY 19-31; City of Tenakee Springs, Resolution 2020-07; Community Association of Elfin Cove, Resolution 19-01; City of Pelican, Resolution 2019-7; Municipality of Skagway,

Resolution No, 19-32R; Organized Village of Kake, Resolution No. 2018-24; Craig Tribal Association, CTA Resolution 2019-26; Organized Village of Kasaan, Resolution OVK-19-001; Organized Village of Saxman, Resolution #2018-10-223; Ketchikan Indian Community, Resolution KIC 19-29.

91 See DEIS at 1-1 to 1-2; 84 Fed. Reg. at 55,524.

rule that exempted the Tongass from the Roadless Rule.92 The assertion that the Tongass should be locally managed ignores the Forest Service's earlier conclusion that national rulemaking was needed to protect roadless areas because roadless areas have national significance in light of an increasingly developed landscape.93 In that decision, the Forest Service recognized that the unique ecological values of the Tongass and its "high degree of overall ecosystem health due to its largely undeveloped nature" were reasons to include the Tongass in the national rule, which would better protect those values.94 Nothing has changed to call that conclusion into question. If anything, recent facts demonstrate that protecting the Tongass is even more important. Long[shy]term changes in world timber markets have made the timber industry uneconomic on the

Tongass while rapid climate change, declining fish stocks, and threats to habitat and plants resulting from the increasing damage from pests make protection of remaining intact habitat critical.95 Eliminating the Roadless Rule and leaving decisionmaking up to local officials fails to protect the unique values that make the Tongass an important resource not only locally, but also nationally and internationally.

3. Opening Roadless areas to logging will not result in more economic timber sales.

Although the DEIS and the Notice of Proposed Rulemaking both state that eliminating the Roadless Rule on the Tongass would provide the flexibility to offer more economic timber sales, the facts do not support that assertion. Road construction costs are high, averaging $185,000 per mile on the Tongass.96 Currently, the Forest Service frequently uses taxpayer dollars to subsidize road construction either through credits or by building the roads in order to make timber sales more economic for logging companies. Between 1999 and 2018, more than 40 percent of the Forest Service's expenditures for timber sales on the Tongass were for roads.97 Those costs will increase if timber sales are offered in roadless areas, making roadless area timber sales less likely, not more likely, to be economic.

The DEIS also shows that logging in roadless areas is likely to be more expensive for logging companies and taxpayers. According to the DEIS, logging is most likely to be economically efficient in areas where there are already roads, not in areas where there are no roads.98 Road construction and maintenance costs are highest in remote areas that are further from existing infrastructure. 99 These costs have "the potential to strongly influence timber sale economics."100

92 See 68 Fed. Reg. 75,136, 75,137, 75,139 (Dec. 30, 2003).

93 See 66 Fed. Reg. at 3246.

94 66 Fed. Reg. at 3254.

95 See, e.g., infra pp. 23-33, 69-71; J. Viechnicki, Second summer sawfly outbreak browns hemlock trees around Southeast, KFSK (Jul. 16, 2019) (noting that damage from sawflies has been more extensive in the last two

years, possibly because of drought conditions on the Tongass).

96 2008 Tongass Plan FEIS at B-11.

97 Taxpayers for Common Sense at 4.

98 DEIS at 3-44.

99 Id.

100 Id.

With respect to alternatives four, five, and six, which eliminate roadless protections for the largest portion of the forest, the DEIS admits that logging is "less likely to be economic" in remote, roadless areas.101 Given the acknowledgment in the DEIS that timber logging is more expensive and less likely to be economic in areas further from roads, there is no basis for concluding that opening roadless areas to logging will allow the Forest Service to offer more economic timber sales. Though opening roadless areas will likely result in more timber sales, those sales will come at a higher price for taxpayers.

4. Clarification of access standards is not needed.

The DEIS clearly states that "the need for future road development is largely determined by the need to access timber resources." Eliminating the Roadless Rule on the Tongass is not about community access; it is about logging. There are several exceptions to the Roadless Rule that allow road construction in inventoried roadless areas for public safety, connecting communities, mining projects, and other purposes. The Notice of Proposed Rulemaking asserts that further clarification of community access standards is needed, but, in other documents, the Forest Service has explained that more than 50 projects, including timber sales, mining projects, hydropower projects, geothermal leases, and road reconstruction projects have all been approved in roadless areas with minimal review requirements.102 No justification is provided to support any additional exceptions.

The Roadless Rule provides that a road may be constructed or reconstructed in an inventoried roadless area if the Responsible Official determines that one of the following circumstances exists:

1. A road is needed to protect public health and safety in cases of an imminent threat of flood, fire, or other catastrophic event that, without intervention, would cause the loss of life or property;
2. A road is needed to conduct a response action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to conduct a natural resource restoration action under CERCLA, Section 311 of the Clean Water Act, or the Oil Pollution Act;
3. A road is needed pursuant to reserved or outstanding rights, or as provided for by statute or treaty;
4. Road realignment is needed to prevent irreparable resource damage that arises from the design, location, use, or deterioration of a classified road and that cannot be mitigated by road maintenance. Road realignment may occur under this

paragraph only if the road is deemed essential for public or private access, natural resource management, or public health and safety;

1. Road reconstruction is needed to implement a road safety improvement project on a classified road determined to be hazardous on the basis of accident experience or accident potential on that road;

101 Id. at 2-24.

102 U.S. Department of Agriculture, Frequently Asked Questions Regarding Inventoried Roadless Areas at 6 (Jan. 2018) (USDA Frequently Asked Questions 2018).

1. The Secretary of Agriculture determines that a Federal Aid Highway project, authorized pursuant to Title 23 of the United States Code, is in the public interest or is consistent with the purposes for which the land was reserved or acquired and no other reasonable and prudent alternative exists; or
2. A road is needed in conjunction with the continuation, extension, or renewal of a mineral lease on lands that are under lease by the Secretary of the Interior as of January 12, 2001 or for a new lease issued immediately upon expiration of an existing lease. Such road construction or reconstruction must be conducted in a manner that minimizes effects on surface resources, prevents unnecessary or unreasonable surface disturbance, and complies with all applicable lease requirements, land and resource management plan direction, regulations, and laws. Roads constructed or reconstructed pursuant to this paragraph must be obliterated when no longer needed for the purposes of the lease or upon

termination or expiration of the lease, whichever is sooner.103

These exceptions allow road construction for most of the purposes the Forest Service identifies as access needs. In fact, the Forest Service has recognized that the Roadless Rule allows construction of hydroelectric projects, construction of communications infrastructure, construction of transmission lines that do not require road construction, mining and constructing access roads for mining for locatable minerals, development of energy projects and regional transportation projects, and development of hydroelectric projects.104 The DEIS further states that, although the Roadless Rule prohibits building roads for leasable minerals, there is no current or anticipated demand for leasable minerals on the Tongass.105

The remaining "access standards" that the Forest Service considers to require clarification are standards for access to Alaska Native cultural sites, micro and small timber sales, aquaculture facilities, and experimental forests. The DEIS does not provide any evidence to show that there is a need for access for any of these purposes. In the case of Alaska Native cultural sites, several tribes have passed resolutions or submitted letters emphasizing that roadless areas contain sacred sites and areas used "for spiritual and religious practices and other customary uses and

activities. . . ."106 The tribes are asking the Forest Service to keep the Roadless Rule in place to protect their sacred sites; they do not want roads that increase public access.

103 36 C.F.R. 294.12(b).

104 U.S. Department of Agriculture, Frequently Asked Questions Regarding Inventoried Roadless Areas at 6 (Jan. 2018) (USDA Frequently Asked Questions 2018).

105 Id. at 2-22, 3-51.

106 Organized Village of Kake, Resolution No. 2018-24: Continued Tribal Support for Application of National Roadless Rule on the Tongass National Forest at 1; see also Craig Tribal Association, CTA Resolution 2019-26; Organized Village of Kasaan, Resolution OVK-19-001; Organized Village of Saxman, Resolution #2018-10-223.

5. Opening roadless areas to logging will increase, not reduce, taxpayer expenditures.

The Notice of Proposed Rulemaking states that the "proposed rule is a deregulatory action" and "would create an incremental reduction in the cost of conducting compliance reviews of permissible projects proposed in designated inventoried roadless areas, thus reducing expenditure of taxpayer dollars."107 This appears to relate to projects that fall under the exceptions to the Roadless Rule, discussed above. Neither the DEIS nor the Notice of Proposed Rulemaking attempt to quantify this potential reduction in expenses, and other facts show that reviews for projects in roadless areas do not impose a significant burden. According to the Forest Service's own information, more than 50 projects "including mines, hydropower and intertie, timber sale, road reconstruction, and a U.S. Coast Guard GPA antenna among others have been approved" in roadless areas.108 The Forest Service generally approves these projects within one month of the time the projects are submitted.109 The Forest Service has not provided any evidence to quantify the savings expected by eliminating these minimal reviews.

Furthermore, any "incremental" savings for reviewing these projects would be far outweighed by the additional expenses taxpayers will incur from expanding the Tongass timber program to include costly timber sales in roadless areas. Over the past 20 years, the Forest Service has lost an average of $30 million annually on Tongass timber sales.110 These losses will increase if the Forest Service offers timber sales in roadless areas, which the DEIS acknowledges are less likely to be economic.111 In fact, a recent report by Taxpayers for Common Sense projects that logging on the Tongass could result in a loss of more than $180 million over the next four years.112 These losses will surpass any possible savings from eliminating "compliance reviews of permissible projects."

III. THE DEIS DOES NOT CONSIDER A RANGE OF REASONABLE ALTERNATIVES

The DEIS violates NEPA because it does not present a range of reasonable alternatives. Only the No Action alternative arguably meets the vague and ambiguous purpose and need statement included in the DEIS. The action alternatives incorporate arbitrary and confusing features that obscure their nature and comparative effects, making it difficult for the public and decisionmakers to understand them and failing to provide a sound basis for a choice among them. In addition, the DEIS does not consider an alternative that would update the roadless inventory and protect more Tongass lands from logging and roadbuilding, nor does it include an alternative responding to requests by Tribes for more meaningful cooperative involvement in management of national forest lands within traditional tribal territory. The Forest Service can only resolve these fundamental flaws by preparing and circulating a new DEIS that complies with the purpose and need and alternatives requirements of NEPA.

107 84 Fed. Reg. at 55,524.

108 U.S. Department of Agriculture, Alaska Roadless Rulemaking Questions and Answers at 1, 6 (Apr. 16, 2019).

109 USDA Frequently Asked Questions 2018 at 6.

110 Taxpayers for Common Sense at 1.

111 See supra, p. 16.

112 Taxpayers for Common Sense at 1.

1. The alternatives considered confuse, rather than inform, the public and decisionmakers.

Under NEPA, the Forest Service is required to analyze a range of reasonable alternatives to meet the purpose and need described in an EIS. This requirement is the "heart" of the EIS. The purpose of analyzing alternatives is to "present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public."113 The alternatives presented in the DEIS do not provide a "clear basis for choice among the options."

The DEIS describes an arbitrary selection of land management designations under the five action alternatives, making it difficult for the public to understand the effects of the proposed alternatives. Acres are added and subtracted from roadless designation under each alternative, but the choices made are contradictory. For example, in Alternatives 2 and 4, LUD II areas that were not included as inventoried roadless areas under the 2001 Roadless Rule are added to the Alaska Roadless Area inventory, but in Alternative 3, LUD II areas are removed from the roadless inventory to "affirm[] congressional intent that LUD II areas be managed 'in a roadless state to retain their wildland character.'"114 This appears to artificially inflate the acres of roadless areas in two alternatives, without meaningfully increasing protection, while removing similar areas in another alternative based on a determination that roadless designation is not necessary. Alternative 4 also creates a new category of Alaska Roadless Area designated as "timber priority."115 Logging and roadbuilding are permitted in timber priority areas without restriction, yet these areas are included in the total number of acres designated as Alaska Roadless Areas. This misleadingly suggests that there is some protection against logging and roadbuilding in timber priority areas when there is no such protection. The result of these contradictory choices is that readers of the EIS are left with a meaningless comparison of acreage of roadless areas under the alternatives, where roadless acres in some alternatives prohibit logging and in others do not, and purported additions to roadless acreage is almost meaningless. This range of alternatives fosters confusion, not informed decisionmaking.

1. The DEIS should have considered an alternative in which the roadless inventory is updated to include roadless areas not currently included as IRAs.

The DEIS should consider an alternative that updates the roadless inventory to include all roadless areas that were not included as inventoried roadless areas under the 2001 Roadless Rule. Although Alternatives 2 and 4 in the DEIS add LUD II areas that were not designated as inventoried roadless areas, these alternatives do not add other roadless areas. In addition, under both alternatives, other roadless areas are removed from roadless designation. There is no alternative that adds roadless areas without removing others.

In the DEIS, the Forest Service declines to consider an alternative that would use the 2003 or 2008 roadless inventories as Alaska Roadless Areas because "those inventories contain many

113 40 C.F.R. [sect] 1502.14.

114 DEIS at 2-11 (describing Alt. 2); id. at 2-13 (describing Alt. 3); id. at 2-14 (describing Alt. 4).

115 Id. at 2-14.

unmanageable polygons" and notes that "unroaded areas greater than 5,000 acres from those inventories were incorporated into Alternatives 2 and 3."116 This reason is arbitrary. First, Alternative 3 does not add any roadless areas, and, although Alternative 2 adds LUD II areas that were not included as inventoried roadless areas, it also removes other areas from roadless designation. Secondly, the DEIS does not explain why the 2003 and 2008 inventories are "unmanageable," any more than polygons in the earlier inventories, or what the obstacles are in managing areas that are, by and large, left in an unmanaged state under the Roadless Rule.

C. The DEIS should have considered an alternative providing better involvement of tribes in managing traditional tribal territory.

In cooperating agency comments on the preliminary DEIS, the Organized Village of Kake asked the Forest Service to consider an alternative providing the Organized Village of Kake with a more meaningful role in management decisions affecting portions of the Tongass within Kake's traditional territory.117 The Forest Service declined to consider this alternative on the grounds that the alternative "does not comport with existing legal authorities."118 This justification is arbitrary because, as CEQ guidance explains, agencies must consider reasonable alternatives even when they are "outside the legal jurisdiction of the" agency.119 More fundamentally, the Organized Village of Kake did not ask the Forest Service to undertake a change in statutory authority; the request applies just as much to exercise of the Forest Service's existing authority. Development of such an approach would meet the agency's asserted purpose of accommodating the unique situation on the Tongass, where tribal members live and depend on its resources for subsistence. This alternative should have been considered in the DEIS. Further, federal agencies have considered or adopted measured for enhanced tribal participation in land management in numerous plans, including those for Canyon de Chelly National Monument and the Santa Rosa and San Jacinto Mountains National Monument, which the Forest Service manages in part.120

WILDLIFE AND BIOLOGICAL DIVERSITY

I. BIOLOGICAL DIVERSITY, OLD-GROWTH HABITAT, AND HABITAT FRAGMENTATION

116 Id. at 2-17.

117 See Letter from Organized Village of Kake to Sonny Perdue (Feb. 28, 2019).

118 DEIS at 2-17.

119 Council on Environmental Quality, Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations (1986) at 4.

120 BLM & Forest Service, Santa Rosa and San Jacinto Mountains National Monument, Approved Management Plan and Record of Decision (2004) at 5-7, available at https://eplanning.blm.gov/epl-front-office/projects/nepa/86596/115426/140961/SRSJ-ROD-5Feb04.pdf; National Park Service et al., Draft Joint Management Plan for Canyon de Chelly National Monument (Feb. 1989) at 14, 47, 93, available at

As discussed in previous sections, the DEIS claims that the same amount of timber harvest will take place regardless of the alternative, and regardless of whether any changes to the roadless rule are made on the Tongass.121 The DEIS claims that because the transition embodied in the 2016 Forest Plan will remain in place, habitat values and wildlife will continue to benefit from that transition, regardless of the alternative selected.122 For the reasons described above, this assertion is arbitrary and unsupported by the DEIS, with significant implications for wildlife and biodiversity, as described below. In addition, the DEIS does not account for high grading, which is selectively cutting the largest trees that grow in certain areas of the Tongass. High grading concentrates harvest in certain areas, including North Prince of Wales, and the DEIS does not clearly acknowledge this reasonably foreseeable impact; nor does it analyze the impacts to flora and fauna of concentrated logging in these areas.

Specifically, the DEIS does not analyze how increased timber harvest and related road building would affect forest health, habitat fragmentation, and wildlife, only noting that impacts will be analyzed at a later stage.123 The agency clearly has the necessary information to analyze those areas that are likely to be most heavily affected now, and fails to analyze how increased and concentrated harvest in those areas would affect the wildlife habitat and other environmental values there.

A. The DEIS fails to adequately analyze impacts to old growth habitat

A discussion of old growth habitat on the Tongass National Forest benefits from precise terminology. Productive Old growth (POG) is old growth forest that is capable of producing a certain annual unit of timber harvest, and contains seven size classes.124 The lower volume POG are small size classes made up of small trees that are relatively less suitable as wildlife habitat. High volume Productive Old growth (HPOG) is comprised of the three highest size classes and has relatively more value as wildlife habitat. Size class 67 (SD67) is also called "large tree old growth" and is comprised of the big old trees that most people bring to mind when they hear the term "old growth forests." Large tree old growth has the highest biological value, particularly to species like wolves, bears, flying squirrels, marten, goshawks, and other wildlife discussed in sections below. Likewise, contiguous POG and contiguous large tree old growth are even more critically important, as these wildlife species benefit from large unbroken tracts of forest that are connected across a landscape. Although it is important to consider the among of POG left in

121 DEIS at 2-23 ("Relative to old-growth habitat conservation, all of the alternatives would have old-growth harvest levels similar to the level authorized by the 2016 Forest Plan."). Note that the DEIS causes some confusion by stating that the harvest under Alt 3 "would affect roadless characteristics that are presently protected under Alternative 1." Id. at 3-18.

122 Id. at 3-10 ("Most endemic species would benefit from the transition to young-growth harvest permitted under all alternatives due to the reduced amount of scheduled productive old-growth harvest over the long term.").

123 Id. at 3-2 ("Specific effects that can be meaningfully measured and evaluated generally occur at the project and activity stage"). The fact that the agency may have another opportunity later to undertake NEPA analysis on site-specific projects does not permit the agency to ignore the rulemaking's reasonably foreseeable impacts.

124 See id. at 3-55.

biogeographic provinces in the Tongass National Forest, it is vitally important to consider the extent of contiguous POG and contiguous large tree old growth, particularly in provinces like North Prince of Wales Island that have been selectively targeted by the industry over the past decades.

B. The DEIS reliance on the Old-growth Habitat Conservation Strategy is flawed

The DEIS relies heavily on the Old-growth Habitat Conservation Strategy from the 1990s to support the conclusions of no impacts to wildlife. The DEIS states, "The Tongass Old-Growth Habitat Conservation Strategy was designed to maintain well-distributed, viable wildlife populations across the Forest in the context of past and anticipated old-growth timber harvest."125 Although the DEIS argues that the Conservation Strategy remains valid because the Forest Plan reduced overall harvest compared to the 1997 plan,126 scientists have questioned whether the Conservation Strategy itself is sufficient to conserve biodiversity in Southeast Alaska. In addition to the comments provided here, we have attached a comment letter submitted by Alaska Wilderness League and other conservation groups regarding the 2016 Tongass Plan Amendment. The comments further describe the problems with the Conservation Strategy relied on in the 2016 Tongass Plan and in this proposed rulemaking.127

In 1993, the Interagency Viable Population Committee (also called the "VPOP" Committee) conceived of a strategy for conserving viable well-distributed populations of wildlife on the Tongass. That strategy became the Old-growth Habitat Conservation Strategy, and was incorporated in the 1997 Tongass Land Management Plan. The Strategy has two components. The first is the Old-growth Reserve network. The OGR network is comprised of 1) Habitat Conservation Areas (large, medium, and small HCAs, which are also allocated to the Old-Growth Habitat LUD); and 2) all other non-development LUDs (including Wilderness, National Monument, LUD II, Wild River, Remote Recreation, Semi-Remote Recreation, Research Natural Area, Municipal Watershed, and others). The second component is termed the "matrix", i.e., where commercial timber harvest is allowed but where standards and guidelines impose restrictions on harvest with the intent to provide for connectivity among old growth forest habitats.128

The definition of viable well-distributed populations means providing enough habitat and connectivity among habitats such that populations continue to interact with each other:

The 1982 Planning Rule stated that the maintenance of a viable population requires providing habitat to support "at least a minimum number of reproductive individuals and that habitat must be well distributed so that those individuals can interact with others in the

125 Id. at 3-89.

126 Id. at 3-61.

127 See Alaska Wilderness League et al., Comments Regarding 2016 Tongass Land Management Plan DEIS at 40-53 (Feb. 22, 2016).

128 See Forest Service, Tongass National Forest, Land and Resource Management Plan, App. D at D-2 (2008)

(2008 Forest Plan).

planning area" (36 CFR 219.19). In the context of developing the Conservation Strategy, this was interpreted to mean that the condition of viable and well distributed allows for gaps within a species' distribution as long as the population segments of the species continue to interact and are distributed throughout the planning area. (Appendix N (p. N-3), USDA FS 1997). . . . It should be noted that the wildlife components of the Forest Plan remain under the 1982 Planning Rule . . .129

"The concept of 'well distributed' was based on the natural distribution and dispersal capabilities of individual species, and it included the full range of their current or historically recent distribution within southeast Alaska."130

From the beginning, the Strategy was characterized by scientists as not going far enough to conserve wildlife. The Strategy was peer-reviewed,131 but the agency did not incorporate all of the reviewers' suggestions into the 1997 Tongass Plan. In comments on the 1997 Plan, the peer reviewers later stated: "The final Land Management Plan for the Tongass National Forest does not incorporate the recommendations of the Peer Reviewers or other scientific input in fundamental ways. Consequently, we do not believe that this Plan will protect viable, well-distributed populations of vertebrate species on the Tongass National Forest."132 The original network of Reserves had to be revised soon after its conception due to various reasons including timber harvest, or to allow for more timber harvest.133

The Strategy has also been modified over time. OGRs are modified to account for timber sales. For example, the Big Thorne Timber Sale on Prince of Wales included modifying the small old-growth reserves in the area.134 The 2016 amended Tongass Plan changed the Strategy by allowing for entry into young-growth stands within the beach and estuary fringe and Riparian Management Areas. The original Strategy included a 1000 foot buffer where no timber harvest

129 2016 TLMP FEIS at App. D at D-3.

130 G. C. Iverson and B. Rene, Conceptual approaches for maintaining well-distributed viable wildlife populations: a resource assessment, in K.R. Julin, Assessments of wildlife viability, old-growth timber volume estimates, forested wetlands, and slope stability, U.S. Forest Service General Technical Report PNW-392 (1997) (Iverson & Rene 1997).

131 A.R. Kiester and E Eckhardt, Review of wildlife management and conservation biology on the Tongass National Forest: a synthesis with recommendations, Pacific Northwest Research Station, USDA Forest Service (1994).

132 R.A. Powell, et al., Joint Statement of Members of the Peer Review Committee Concerning the Inadequacy of Conservation Measures for Vertebrate Species in the Tongass National Forest Management Plan of Record at 10. (1997).

133 2008 Forest Plan, App. D at D-10 ("Modifications were made [to the original HCA] for several reasons: . . . The integrity of the original HCA was substantially compromised by recent timber harvest that was inconsistent with HCA objectives (Game Creek Large HCA; and the reserve location was adjusted to achieve multiple-use

objectives such as timber harvest.").

134 See 2016 TLMP FEIS, App. D at D-6.

could occur along the fringe of beach and estuary forest.135 The Strategy also included Riparian Management Areas. Together the Standards and Guidelines related to the beach fringe and RMAs contributed to the matrix, which is essentially the connectivity among the Habitat Reserves. But the 2016 Tongass Plan allowed for timber harvest in the beach fringe and RMAs.

Land exchanges have also affected the Strategy. In 2015, the transfer of 69,585 acres of Tongass National Forest lands to Sealaska Corporation included modifications to old-growth reserves on Prince of Wales and nearby islands. The Sealaska Land Exchange removed acreage from OGRs, requiring the agency to expand or establish new OGRs, which did not necessarily contain the same quality or contiguous forest as the lands that were exchanged away.136 Although this legislation passed in 2015, the bill was pending before Congress for years prior. At a hearing in 2009 on an essentially equivalent bill, the agency believed the land exchange would degrade the Habitat Conservation Strategy.137 The Alaska Mental Health Trust Land Exchange in 2017 also affected a small OGR on Price of Wales Island that was helping to provide connectivity to a large OGR complex from the coasts and islands.138 The replacement acres are north of the affected acres and do not provide the same level of connectivity between reserves on Prince of Wales Island and reserves on Tuxekan Island.

Finally, even in 1997 roadless protections were seen as connected to the Habitat Conservation Strategy. According to the 1997 Tongass Plan, "The Comprehensive Old-Growth Habitat Strategy in the Forest Plan also is responsive to the PNW Review recommendation to not further fragment existing blocks of high-volume old growth by incorporating many existing roadless areas in reserves."139 In 2001, the rationale for adopting the Roadless Rule and applying it to the

135 See 2008 TLMP FEIS, App. D at D-11 ("Accordingly, the Forest Plan establishes a Beach and Estuary Fringe Forest-wide Standard and Guideline that prevents timber harvest within 1,000 feet inland from mean high tide. The 1,000-foot beach fringe serves many functions: providing more effective landscape linkages between habitat reserves, protecting long-term bald eagle habitat capability, buffering the primary beach fringe zone (0 to 500 feet) from windthrow (Hodges 1982, Harris 1989), maintaining a functional interior forest habitat condition within the entire primary beach fringe (Concannon 1995), and sustaining very important habitat for goshawks (Iverson et al. 1996).

136 See 2016 TLMP FEIS, App. E at 35-40 (the land exchange removed acreage from the Old Thom's Medium OGR; the Forest Service selected new acreage nearby to establish the new Cholmondeley Medium OGR which was much more spread out than the Old Thom's OGR it was designed to replace).

137 Miscellaneous Lands Bills, Hearing on S. 522, S. 865, S. 881, S. 940, S. 1272, S. 1689, and H.R. 1442 Before Subcomm. on Public Lands and Forests, 111th Cong. App. I, 87-88 (Oct. 8, 2009) (responses of Jay Jensen) ("These lands represent a significant component of the [Tongass Plan] conservation strategy area for wildlife. Loss of these old-growth areas would likely undermine the conservation strategy in [the Tongass Plan] and potentially lead to threatened and endangered species listings [for the goshawk and wolf].").

138 See Forest Service, Draft Interagency OGR Review for POW LLA at 7 (2018).

139 Forest Service, Tongass National Forest Land Management Plan Revision, Final Environmental Impact Statement, App. N at N-25 (1997).

Tongass particularly recognized the importance of inventoried roadless areas to the overall ecosystem health of the Tongass, explaining that the natural fragmentation of the Tongass makes it uniquely sensitive to further fragmentation.140 The FEIS for the Roadless Rule stated that with intensive logging in some areas of the Tongass (like Prince of Wales and Chichagof), allowing further logging in roadless areas could pose a risk to species viability.141 Most recently, in a 2016 evaluation of the Old-Growth Habitat Conservation Strategy, the Forest Service recognized that the Roadless Rule contributed to the effectiveness of the conservation strategy: "[M]ost importantly, with the 2001 Roadless Rule in effect, inventoried roadless areas (approximately 2,143,000 acres of development LUDs in roadless areas containing about 823,000 acres of POG) make a major contribution to the maintenance and ecological function on the Tongass National Forest but do so outside of the elements of the conservation strategy."142 The review also stated that, "inventoried roadless areas maintain additional old-growth forest that augment the amount maintained by the contributing elements of the conservation strategy (USDA Forest Service 2008c, page 21)."143

The DEIS also fails to consider whether the matrix standards and guidelines adequately protect goshawk nesting habitat. The matrix standards require the agency to protect 100 acre buffers around nest sites and surrounding habitat, unless over two consecutive years of monitoring has revealed no evidence that goshawks are nesting in that area.144 But goshawks will move between nests in different years, leaving a nest vacant and seemingly abandoned.145 Moreover, a survey effort in the 1990s pointed out that the likelihood of detecting nests is low and that a nest-tree based approach to conservation could miss goshawk nests and result in poor conservation management.146 Finally, the 2016 Tongass Forest Plan modified the standards and guidelines

140 See 66 Fed. Reg. 3244, 3254 (Jan. 12, 2001); Forest Service, Roadless Area Conservation, Final Environmental Impact Statement, 3-371 to 3-372, 3-380 to 3-381 (2000) (2001 Roadless Rule FEIS).

141 2001 Roadless Rule FEIS at 3-380 to 3-381.

142 2016 TLMP FEIS, App. D at D-20.

143 2016 TLMP FEIS, App. D at D-7.

144 2016 Tongass Forest Plan at 4-95 to 4-96.

145 See 77 Fed. Reg. 45,870, 45,872 (Aug. 1, 2012) ("Individual nests are frequently not used in subsequent years as pairs often move to an alternate nest. Most alternate nests are clustered within a few hundred hectares (McClaren 2003, p. 13; Flatten et al. 2001, p. 9), although females have been documented leaving the nesting area altogether and nesting in subsequent years with a new mate in a different territory up to 95 miles (152 km) away. Males have been documented moving up to 2 miles (3.2 km) between subsequent nests, but apparently remain in their nesting area in subsequent years (Flatten et al. 2001, pp. 9-10)."

146 C. Flatten et al., Northern Goshawk Monitoring, Population Ecology and Diet on the Tongass National Forest, April 1991-Sept 2001, Alaska Department of Fish and Game Final research report (2001) (Flatten 2001)

("Our results indicate there is a high probability that not all active goshawk nests will be detected even when goshawk surveys are conducted before and during timber sale development. In addition, movements by goshawks to alternate nests in subsequent years confound survey difficulties. We conclude that a nest-based management approach to conserving goshawks would not be successful.").

applicable in the matrix by identifying as suitable young-growth in Old-growth Reserves, Riparian Management Areas, and the beach fringe. Potential entry into these areas will fragment habitat and impact goshawks that may be nesting or foraging in these areas. While the DEIS for the proposed rule notes the modified standards still qualify as "strong limitations," and that any increased harvest in these areas from the Roadless Rule rollback would not be "that much,"147 the DEIS should quantify this impact and otherwise cite to the science that supports its conclusion.

C. The DEIS fails to adequately analyze forest connectivity and habitat fragmentation

A critical component of the original Habitat Conservation Strategy was minimizing habitat fragmentation. This was also one of the purposes for adopting the 2001 Roadless Rule.148 The DEIS for the proposed rule notes that the amount of productive old-growth is an important factor for analyzing wildlife and biodiversity,149 but does not quantitatively analyze the amount of contiguous forest remaining on the Tongass.

The DEIS discusses forest fragmentation qualitatively, but does not quantify it. The DEIS describes that cumulative impacts will result in more patchy forest, more edge effects, and a reduction in biodiversity over time.150 The DEIS also notes the importance of connectivity for wildlife,151 especially for endemic species.152 But the agency fails to quantify forest habitat connectivity or the possible reduction in it. Instead, the DEIS states that connectivity and fragmentation analyses could be conducted at a later point, at the project level.153 Additionally, the cumulative analysis does not show its results by biogeographic province.154 The DEIS does include tables of remaining POG, HPOG, and large tree old growth (LTOG) left in biogeographic provinces on Forest Service land as well as across all land ownership types.155

147 DEIS, at 3-90.

148 66 Fed. Reg. at 3245.

149 DEIS at 3-61 ("The amount of POG remaining and its distribution across the landscape provides a method to estimate the effects of the alternatives on biological diversity and was analyzed in detail in the 2016 Forest Plan FEIS (USDA Forest Service 2016b).").

150 Id. at 3-68, 3-105.

151 Id. at 3-69 ("maintaining connectivity and roadless refugia will become increasingly important, particularly for wide-ranging species whose distribution depends on some level of connectivity across the landscape.").

152 Id. at 3-10 ("Although timber harvest levels are the same among all alternatives, Alternatives 4, 5, and 6 would have the greatest potential for effects on endemics because the degree of fragmentation is likely to be higher under these alternatives").

153 Id. at 3-57 ("Detailed analyses of landscape connectivity and fragmentation are typically conducted at the project level where individual patches of contiguous old-growth forest habitat and movement corridors can be identified. For this DEIS, landscape connectivity and fragmentation are discussed qualitatively at the biogeographic province scale.").

154 See id. at 3-104. Again, the agency may not postpone its NEPA analysis until a later date where it can disclose reasonably foreseeable impacts now.

155 DEIS at 3-58, 3-60, 3-63, App. C.

However, the agency should have, but failed to, include the amount of contiguous POG and contiguous LTOG remaining in those biogeographic provinces.

A new report, attached to these comments, documents biological value and ecological risk within Inventoried Roadless Areas on the Tongass National Forest, broken down by biogeographic province.156 The report examines large tree forests, contiguous old-growth forests, salmon floodplain habitat, bear summer habitat, and deer winter habitat, as well as a combined "biological value" that included all five factors. The report also assesses the extent to which the values within IRAs in each province have been lost or altered (an index of ecological condition), as well as how much the remaining values within IRAs are vulnerable to loss or modification (an index of relative vulnerability), and combines these into an overall index of cumulative ecological risk. The analyses on the five individual factors may be used to assess the importance of the Roadless Rule for conserving those particular values. Some factors, such as contiguous forest, may serve as a proxy for assessing importance of roadless areas for species that rely on that factor, such as goshawks rely on contiguous forest. Where appropriate, we refer to this report in individual wildlife sections below.

The report indicates that biological values have diminished both forest-wide as well as in particular biogeographical provinces, and these values are at risk from past cumulative logging impacts as well as from future logging stemming from a rollback of the Roadless Rule. Large-tree forests have overall been altered or lost by about 32% with an ecological risk factor of 54%.157 In particular, large-tree forests on North Prince of Wales have been altered by 45% and has a risk factor of 71%.158 When contiguous forest is analyzed, the forest as a whole is similar, having lost about 39%, and cumulative risk sits at 54%.159 But contiguous old-growth in particular provinces has been hammered, with North Prince of Wales having lost 77% of its contiguous old-growth forests, with a cumulative ecological risk factor of 85%.160 This indicates this province, and others, are at grave risk of ecological impacts due to both past impacts and vulnerability to future forest loss. Moreover, the Roadless Rule is an important tool for recognizing and conserving these values. Inventoried Roadless Areas across the Tongass contain about 46% of the remaining large-tree forests on the Tongass,161 and about 39% of contiguous old-growth forests.162 We urge the agency to utilize these data and incorporate these concepts and findings into its environmental analysis.

D. Biodiversity

Intact old growth habitat provides valuable habitat for a variety of species, including the goshawks and other species discussed below. Building roads and logging fragments habitat and decreases its value for wildlife. Eliminating Roadless Rule protections on the Tongass will

156 D. Albert, Conservation Significance of Large Inventoried Roadless Areas on the Tongass National Forest (2019) (Albert 2019).

157 Albert 2019 at 18, Tbl. 2.

158 Id.

159 Albert 2019 at 19, Tbl. 3.

160 Id.

161 Albert 2019 at 18, Tbl. 2.

162 Albert 2019 at 19, Tbl. 3.

increase concentration of logging and road building in certain areas, and therefore negatively affect biodiversity. The Forest Service has not met its obligation under NEPA to take a hard look at the effects of the proposed rule on biodiversity, because it does not disclose the effects of high-grading, the importance of maintaining habitat connectivity in the face of climate change, or the adverse effects of roads on habitat connectivity and biodiversity.

1. High-grading

With respect to high-grading, the DEIS correctly states that LTOG is important for maintaining biodiversity, and that this forest type is rare.163 The DEIS also states that Alternatives 4, 5, and 6 would have effects on biodiversity, but that Alternatives 2 and 3 would have very low effects.164 While it may be accurate that Alternatives 4, 5, 6 could have bigger effects, it is arbitrary to dismiss Alternatives 2 and 3 as having very low effects. Due to the potential of concentrated logging in certain areas, Alternatives 2 and 3 will likely have significant impacts on biodiversity as well, because further high-grading of large-tree old-growth will have an impact on viable, well-distributed populations of wildlife (as articulated in more detail in below sections).165

1. Habitat connectivity and climate change

This DEIS also fails to acknowledge the importance of habitat connectivity as the best strategy to allow wildlife to adapt in the face of climate change. The importance of wildlife corridors in maintaining permeability throughout the Tongass should be a paramount consideration in facilitating wildlife adaptation to climate change. Climate change affects natural systems and wildlife populations by exacerbating the negative effects of habitat loss, degradation, and fragmentation. Local climate disruptions are changing long-term patterns of fire, drought, and flood, as well as seasonal patterns of precipitation and temperature. To adapt and survive, many wildlife species will need to adjust their home ranges and movement patterns.166 Scientific reviews of the best strategies to protect biodiversity highlight the importance of maintaining landscape connectivity to ensure that species can move in response to climate-induced changes.167 A review of 25 years of peer-reviewed articles found that the most common recommendation for protecting biodiversity in the face of climate change was to increase connectivity.168 To bolster this argument, Gilbert-Norton et al., in their review of empirical studies of corridors, found that corridors increase movement between habitat patches by approximately 50% compared to patches that are not connected by corridors.169 Thus, conserving

163 DEIS at 3-55, 3-9.

164 Id. at 3-9.

165 See supra, p. 12 (explaining that logging is more likely to occur in certain areas).

166 I-C Chen et al., Rapid range shifts of species associated with high levels of climate warming. 333 Science 1024-1026 (2011).

167 J. R. Mawdsley et al., A review of climate-change adaptation strategies for wildlife management and biodiversity conservation, 23 Conservation Biology 1080-1089 (2009).

168 N. E. Heller, and E.S. Zavelata, Biodiversity management in the face of climate change: a review of 22 years of recommendations, 142 Biological Conservation 14-32 (2009).

169 L. R. Gilbert-Norton et al., A meta-analytic review of corridor effectiveness, 24 Conservation Biology 660-668 (2010).

corridors is not only strategic and climate-smart, but a proven method of allowing wildlife to move in response to environmental change. The DEIS fails to recognize wildlife's need to adapt to address the current and anticipated effects of climate change, and fails to identify and protect ecological connectivity for plants and animals and build resiliency on the Forest.

3. Road effects

Roads are one of the most pervasive impacts on the landscape as documented in numerous regional and global analyses.170 The DEIS fails to consider important information regarding the pervasive effects of road building on habitat. For example, road density is one of several stressors modeled in the U.S. Forest Service National Terrestrial Condition Assessment, indicating that roads are a significant stressor to wildlife.171 Large animals are thought to be more vulnerable to roads than small ones. They are more mobile and more likely to encounter roads and suffer their ill effects. Large animals also have inherently lower reproductive rates and recover from population declines relatively slowly.172 However, species of all sizes suffer negative impacts from roads primarily from noise and air pollution, wildlife-vehicle collisions, and the introduction of invasive species, among others. The DEIS fails to acknowledge these ill effects nor does it adequately address any wildlife mitigation measures that should always be associated with any road building, under any specific management land classification, on the Forest. The Forest Service's failure to consider information about the negative effects of roads on habitat and wildlife violates NEPA.

A recent study by, Ibisch et al. (2017), summarizes the negative effects of fragmentation caused by roads:

Roads fragment landscapes and trigger human colonization and degradation of ecosystems, to the detriment of biodiversity and ecosystem functions. The planet's remaining large and ecologically important tracts of roadless areas sustain key refugia for biodiversity and provide globally relevant ecosystem services. Applying a 1-kilometer buffer to all roads, we present a global map of roadless areas and an assessment of their status, quality, and extent of coverage by protected areas. About 80% of Earth's terrestrial surface remains roadless, but this area is fragmented into ~600,000 patches, more than half of which are <1 square kilometer and only 7% of

which are larger than 100 square kilometers. Global protection of ecologically valuable roadless areas is inadequate. International recognition and protection of roadless areas is urgently needed to halt their continued loss (emphasis added).173

170 See P. L. Ibisch et al., A global map of roadless areas and their conservation status, 354 Science 1423-1427 (2016) (Ibisch et al. 2016).

171 D. K. Cleland et al., Terrestrial Condition Assessment for the National Forests of the USDA Forest Service in the Continental US, 9 Sustainability 2144-2163 (2017).

172 L. W. Carr and L. Fahrig, Effect of road traffic on two amphibian species of different vagility 15 Conservation Biology 1071-1078 (2001).

173 Ibisch et al. 2016.

Ibisch et al. (2017), pictorially summarized road impacts in their illustration below. All of these impacts are expected at varying degrees on the Tongass by entering roadless areas and are underestimated in the DEIS.

In addition, a review of recent scientific studies discussing the effects of roads on wildlife, biodiversity, and habitat connectivity is attached to and incorporated with these comments.174 In order to comply with NEPA's mandate that the agency use "high quality data" and "best available scientific information," the Forest Service must review and incorporate the findings from these studies, which demonstrate that damage from road construction to the Tongass National Forest will be more damaging than the DEIS discloses.

II. THE DEIS DOES NOT ANALYZE KEY ASPECTS OF GOSHAWK CONSERVATION AND FAILS TO SHOW THE LIKELIHOOD OF VIABLE WELL-DISTRIBUTED GOSHAWK POPULATIONS

The Queen Charlotte Goshawk (Accipiter gentilis laingi) is a regional subspecies of the Northern Goshawk, found in Southeast Alaska and British Columbia. The Queen Charlotte Goshawk is generally smaller and darker than goshawks found elsewhere on the continent. The population

174 B. Bograd, Road Effects Literature Review (2019).

found in British Columbia is a distinct population segment that is listed as Threatened under the Endangered Species Act. The Southeast Alaska population is considered a distinct population segment.175

The DEIS fails to address several aspects of goshawk conservation. The DEIS relies on the Habitat Conservation Strategy but does not address new research showing a need to update goshawk standards. Nor does the DEIS analyze increased fragmentation and the potential for a higher concentration of harvest in certain areas. As a consequence, the DEIS does not adequately analyze the impacts of the alternatives on certain heavily logged areas, such as Prince of Wales Island. Finally, the DEIS relies on inadequate and outdated monitoring data but

does not explain the poor quality of data. These failures are a violation of the National Environmental Policy Act. Furthermore, these failures call into question the DEIS's conclusion that viable well-distributed populations will remain under each of the alternatives.

1. The DEIS relies on outdated and inadequate monitoring data

The DEIS makes much of inventories and monitoring of goshawks and other wildlife, in order to support its conclusions. The DEIS states, for example, "Continued inventories and monitoring of established nest protection buffers will help to inform future decisions."176 The DEIS also notes that "Monitoring on the Tongass has helped inform that the management actions taken under the standards and guidelines have protected wildlife resources in the Tongass."177 But monitoring data on goshawks, and other wildlife, are extremely limited. In 1996, scientists conducted 5 years of inventory across the Forest.178 Alaska Department of Fish and Game also conducted a survey in the late 1990s, but those researchers acknowledged in their publication that their methods may have been insufficient.179 Limited wildlife surveys are also conducted in connection with timber sales, but the agency has not presented those data in this DEIS. In fact, the last time the Monitoring Program was updated was in 2016, and the last Monitoring Report available to the public is from 2015.180 The agency should provide and compile these data and explain how these monitoring data have helped inform this DEIS.

1. The DEIS does not acknowledge deficiencies of the Old-growth Habitat Conservation Strategy for conserving Goshawks

As explained more fully in the sections above, the Old-growth Habitat Conservation Strategy ("Conservation Strategy" or "Strategy") is comprised of an Old-growth Reserve (OGR) network and the interstitial matrix. In turn, the OGR network is comprised of 1) Habitat Conservation Areas (large, medium, and small HCAs, which are also allocated to the Old-growth Habitat LUD); and 2) all other non-development LUDs (including Wilderness, National Monument,

175 See generally 77 Fed. Reg. 45,870.

176 DEIS at 3-93.

177 Id. at 3-89.

178 G. C. Iverson et al., Conservation assessment for the northern goshawk in Southeast Alaska, US Forest Service, General Technical Report PNW-387 (1996).

179 Flatten 2001.

180 Forest Service, Tongass National Forest, Monitoring & Evaluation Program.

LUD II, Wild River, Remote Recreation, Semi-Remote Recreation, Research Natural Area, Municipal Watershed, and others). The second component of the Strategy is termed the "matrix", i.e. where commercial timber harvest is allowed but where standards and guidelines impose restrictions on harvest with the intent to provide connectivity for old-growth forest habitat.181 Goshawks need both adequate OGRs and strong protective standards in the matrix areas.

The OGR system was not developed to protect the habitat needs of goshawks and is insufficient for goshawk conservation.182 As discussed above, the OGR system itself is becoming more fragmented. Goshawks need contiguous tracts of high-volume old-growth forests for nesting, foraging, and fledging. High-volume Productive Old-growth (HPOG) and large-tree Old-growth (also called SD67) are the most important for biological diversity.183 Goshawks are no exception, preferring medium and high-volume old-growth habitat, and in particular need large unbroken tracts of HPOG forests. The birds nest almost exclusively in productive old-growth forests; in one study all nests were found in this forest type.184 Productive old-growth is also very important for a goshawk's greater "nest area" that includes not just the nest tree but also the surrounding territory.185 Goshawks in particular need large areas of HPOG forest that are also contiguous forests.186 Contiguous forest means large areas of unbroken forest, rather than patchy forest with gaps in between patches. When originally considering the Habitat Conservation Strategy for its potential to conserve wildlife, scientists noted that contiguous forest is a critical factor for goshawks.187 But goshawk nest areas appear to have dwindling amounts of the optimal habitats, and of what is left, much of it is vulnerable to development.188

The DEIS fails to properly analyze the impacts to contiguous HPOG forest, and relies almost entirely on the Habitat Conservation Strategy to provide for goshawk habitat. The DEIS does acknowledge qualitatively that impacts to goshawks would increase under Alternatives 4, 5, and 6 "because of longer road developments and associated fragmentation expected under these alternatives . . ."189 But, the DEIS fails to add that logging would contribute to such

181 See 2008 Tongass Plan, App. D at D-2.

182 See W. P. Smith, Proposed Forest Plan Amendment Further Compromises Established Conservation Measures to sustain Viable Northern Goshawk Populations at 10 (2016) (Smith 2016) (explaining that the conservation strategy developed under the 1997 Tongass Plan does not incorporate measures designed to protect the nesting, post-fledging, and foraging habitat needs of goshawks).

183 See DEIS at 3-55; see also D. Albert et al., Old-growth & Second-growth Forest, in Ecological Atlas of Southeast Alaska (M. A. Smith ed., 2016).

184 W. P. Smith, Spatially Explicit Analysis of Contributions of a Regional Conservation Strategy Toward Sustaining Northern Goshawk Habitat, 37 Wildlife Society Bulletin 649 at 652 (2013) (2013); see also Smith 2016 at 6.

185 Smith 2013 at 652.

186 See Smith 2013.

187 G. C. Iverson et al., Conservation assessment for the northern goshawk in Southeast Alaska, US Forest Service, General Technical Report PNW-387 (1996) (Iverson et al. 1996).

188 Smith 2013 at 654.

189 DEIS at 3-9.

fragmentation, and the agency refuses to provide any quantitative analysis on connectivity and fragmentation, stating that such analysis is done at the project level.190 This failure leaves inadequate analysis of goshawks and other wildlife that rely on intact contiguous old-growth forests.

The matrix component of the Habitat Conservation Strategy is also insufficient for goshawk conservation. During the original crafting of the Strategy, scientists anticipated that large and medium OGRs would be too small to function as optimal goshawk habitat on their own, and this species' conservation would rely on the matrix and the standards and guidelines that apply there. The 2008 Forest Plan tried to address this by requiring analysis of forest cover in order to maintain the matrix as a major component of the Strategy while still providing for and implementing timber sales.191

Following the completion of the 2008 Forest Plan, new research called into question whether the standards and guidelines in the matrix are sufficient for conserving Goshawks. At the time when the Habitat Conservation Strategy was developed, the best available science on Queen Charlotte Goshawks relied on studies for Northern Goshawks found elsewhere in North America. Since that time, more studies have been conducted on the Queen Charlotte Goshawk that provide more information and cast serious doubt on whether the current strategy is sufficient for maintaining populations across the Tongass.192 A 2013 study used a dataset of goshawk nests from 2003 and 2005 to analyze the location of these nests compared to old-growth forests. This study notes that goshawks need nest areas with about 71% productive old-growth and almost 60% as medium or high-volume old-growth.193 The study concludes that goshawk nest areas appear to have dwindling amounts of the optimal habitats, and of what's left, much of it appears vulnerable to development.194

The matrix standards remain inadequate to protect goshawks under the 2016 Tongass Plan. The standards require the agency to protect 100 acre buffers around nest sites and surrounding habitat, unless over two consecutive years of monitoring has revealed no evidence that goshawks are nesting in that area.195 But goshawks will move between nests in different years, leaving a nest vacant and seemingly abandoned.196 Moreover, a survey effort in the 1990s pointed out that

190 DEIS at 3-57.

191 2008 Forest Plan at 4-90.

192 See e.g. Smith 2013 at 655.

193 Id. at 654.

194 Id.

195 2016 Tongass Forest Plan at 4-95 to 4-96.

196 See 77 Fed. Reg. 45,872 ("Individual nests are frequently not used in subsequent years as pairs often move to an alternate nest. Most alternate nests are clustered within a few hundred hectares (McClaren 2003, p. 13; Flatten et al. 2001, p. 9), although females have been documented leaving the nesting area altogether and nesting in subsequent years with a new mate in a different territory up to 95 miles (152 km) away. Males have been documented moving up to 2 miles (3.2 km) between subsequent nests, but apparently remain in their nesting area in subsequent years (Flatten et al. 2001, pp. 9-10)."

the likelihood of detecting nests is low and that a nest-tree based approach to conservation could miss goshawk nests and result in poor conservation management.197

Instead of relying solely on the Old Growth Habitat Conservation Strategy to measure the effects of the proposed rule on goshawks, the Forest Service should analyze the effects based on the remaining high-value habitat for goshawks and the threats the proposed rule presents to that habitat. We attach a white paper that includes calculations of remaining contiguous POG.198 The agency should incorporate these data, and additionally calculate the amount of contiguous HPOG remaining by biogeographic province. The agency could use underlying data on remaining HPOG contiguous forest to conduct a habitat modeling study, or use habitat models that were developed during the 2012 ESA listing decision.

The Alaska Roadless Rule DEIS fails to address either the failings of the matrix standards or the this newer information questioning the adequacy of the Habitat Conservation Strategy to protect nesting habitat, and instead continues to rely on assumptions made in the 1990s based on studies of Northern Goshawks in other parts of the country. The DEIS relies on analysis from the 2016 Tongass Plan amendment FEIS. But the 2016 FEIS only mentioned the Smith (2013) study in passing and did not consider new goshawk analysis:

"The system of OGRs and other non-development LUDs also maintains habitat for this species, although a recent study suggests that some uncertainty remains with respect to the ability of Forest Plan conservation measures to contribute sufficient habitat to sustain well-distributed, viable populations of northern goshawks throughout Southeast Alaska (Smith 2013). Continued inventories and monitoring of established nest protection buffers will help to inform future decisions."199

The Roadless Rule DEIS merely copies and pastes the exact same passage from the 2016 Tongass Plan FEIS:

"The system of OGRs and other non-development LUDs also maintains habitat for this species, although a recent study suggests that some uncertainty remains with respect to the ability of Forest Plan conservation measures to contribute sufficient habitat to sustain well-distributed, viable populations of northern goshawks throughout Southeast Alaska (Smith 2013). Continued inventories and monitoring of established nest protection buffers will help to inform future decisions."200

197 Flatten et al. 2001 ("Our results indicate there is a high probability that not all active goshawk nests will be detected even when goshawk surveys are conducted before and during timber sale development. In addition, movements by goshawks to alternate nests in subsequent years confound survey difficulties. We conclude that a nest-based management approach to conserving goshawks would not be successful.").

198 Albert, D.M., Conservation Significance of Large Inventoried Roadless Areas on the Tongass National Forest, Audubon Alaska and Defenders of Wildlife (2019).

199 2016 TLMP FEIS at 3-227.

200 DEIS at 3-92 to 3-93.

The agency should have considered the Smith (2013) study when it completed the amended 2016 Forest Plan. With a new environmental analysis for the Roadless Rule, the agency must now consider this study and its ramifications for goshawk conservation. In fact, in an analysis prepared for the 2016 Tongass Plan Amendment, Smith continued to question the viability of the Habitat Conservation Strategy for goshawks.201 This information is important to an assessment of the effects of the proposed rule on goshawks and must be analyzed in a revised EIS.

The DEIS fails to consider the downfalls of the Old-growth Habitat Conservation Strategy in relation to goshawks. The OGR system may no longer provide the same level of conservation, and was never intended to operate as a single conservation element. The standards operating in the matrix may also be insufficient for conserving habitat and protecting nests. Newer research suggests that more habitat may be needed than originally thought, and that there is dwindling habitat overall. Some of the additional habitat needed for goshawks is protected in roadless areas, but that protection would be eliminated under the proposed rule. The DEIS's failure to address these issues violates NEPA, and also falls short of demonstrating that viable well-distributed populations of goshawks are likely to remain on the Tongass, as discussed more in sections below.

C. The DEIS fails to adequately analyze impacts to goshawk populations on Prince of Wales Island

The DEIS correctly notes that "[b]iogeographic provinces with the greatest levels of past timber harvest . . . are at a higher risk of not maintaining a full range of natural biological

diversity . . ."202 Prince of Wales Island, particularly North Prince of Wales, stands out as a part of Tongass that originally had the highest amount of old-growth.203 This biogeographic province also stands apart as an area that has been selectively targeted over time in the logging of those forests.204 Research on the Queen Charlotte Goshawk in islands south of the Tongass, in British Columbia, shows that extensive clearcut logging can contribute to population declines.205

But the DEIS does not provide the type of data that would clearly indicate the extent to which contiguous old-growth forests, goshawk habitat, has been altered on Prince of Wales Island. The DEIS provides data on the remaining old-growth, high-volume old-growth, and large-tree old-growth. But what's missing from these tables is the amount of contiguous POG and contiguous

201 See Smith 2016.

202 DEIS at 3-57.

203 DEIS at 3-58, Tbl. 3.3a-2 (North Prince of Wales historically had the most Total POG, High-Volume POG, Large-tree POG, and High-Volume POG and Large-tree POG in elevations less than 800 ft).

204 See e.g. D. M. Albert and J. W. Schoen, Use of historical logging patterns to identify disproportionately logged ecosystems within temperate rainforests of Southeastern Alaska, 27 Conservation Biology 774 (2013) (Albert & Schoen 2013).

205 F. Doyle, Goshawks in Canada: population responses to harvesting and the appropriateness of using standard bird monitoring techniques to assess their status, 31 Studies in Avian Biology 135 (2006).

LTOG remaining in North Prince of Wales and other biogeographic provinces. A study from 2013 documented a 94% reduction of contiguous large-tree old-growth forests on Prince of Wales.206 A new analysis shows that 77% of contiguous POG has been lost on North Prince of Wales, and that 85% of these forests on North Prince of Wales have either been lost or are at risk of development.207 These types of analyses are possible and are necessary for analyzing the impacts to goshawk, particularly when the agency is considering changing or exempting the Roadless Rule on the Tongass.

Moreover, the DEIS fails to clearly explain that goshawk habitat on Prince of Wales could be further impacted by the action alternatives. The DEIS states that there may be more harvest occurring in the matrix.208 The DEIS also says that impacts from matrix harvest would be greatest in North Prince of Wales, and other biogeographic provinces, especially where older young-growth in the beach fringe, riparian areas, and OGRs are located.209 According to the DEIS, more than a third of the new suitable acres under Alternative 2 (the least permissive action alternative) would be on Prince of Wales.210 Yet, confusingly, the table showing projected harvest across the alternatives shows less old-growth harvested on both North and South Prince of Wales Island under the action alternatives compared to the status quo.211 This conflicts with other statements in the DEIS and provides a misleading assessment of the effects of the proposed rule.

D. The DEIS fails to establish that viable, well-distributed populations of goshawks will remain on the Tongass

The DEIS falls far short of demonstrating that viable well-distributed populations of goshawks are likely to remain on the Tongass. As articulated in the sections above, the DEIS lacks basic analysis on remaining contiguous old-growth forest, fails to address newer research showing that goshawks need more habitat than provided for in the Habitat Conservation Strategy, and fails to consider vulnerable populations like on Prince of Wales Island. These factors combine together to call into question the conclusion there will remain viable well-distributed populations of goshawks.

According to the definition available at the time of developing the 1997 Forest Plan, "well-distributed" means a species occupying its full and natural distribution:

206 See Albert & Schoen (2013).

207 Albert 2019 at 19, Tbl. 3.

208 DEIS at 3-61 ("Within matrix lands, there may be slightly more high-volume and large-tree POG harvested under the action alternatives than was predicted for the Forest Plan because of the increased options for creating positive timber sales.").

209 Id. at 3-93.

210 Id. at 3-47.

211 Id. at 3-63, Tbl. 3.3a-4 (Projected Harvest of Young Growth and Old Growth Over 100 Years by Biogeographic Province by Alternative.).

The concept of 'well distributed' was originally based on the natural distribution and dispersal capabilities of individual species, and it included the full range of their current or historically recent distribution within southeast Alaska.212

According to the agency, viable and well-distributed populations are connected to each other, and individuals must be able to span any gaps. The definition of viable well-distributed populations means providing enough habitat and connectivity such that populations continue to interact with each other:

The 1982 Planning Rule stated that the maintenance of a viable population requires providing habitat to support "at least a minimum number of reproductive individuals and that habitat must be well distributed so that those individuals can interact with others in the planning area" (36 CFR 219.19). In the context of the development of the conservation strategy, this was interpreted to mean that the condition of viable and well distributed allows for gaps within a species distribution as long as the population segments of the species continue to interact and are distributed throughout the planning area . . .213

The DEIS states that the likelihood of maintaining viable well-distributed populations of goshawks is "Very High" under every alternative.214 The DEIS claims that "all the alternatives considered would not result in a loss of viability of this species."215 But the DEIS makes these claims at the entire Forest level, and does not break the analysis down to the level of biogeographic province or VCU.216 Nor does the DEIS consider potential impacts to vulnerable populations, like those on Prince of Wales Island, in assessing whether gaps may exist and whether individuals are able to interact across those gaps. This information is not adequate to support a conclusion that goshawk populations will remain well-distributed.

III. SITKA BLACK-TAILED DEER

Sitka black-tailed deer are indigenous to the coastal regions of Southeast Alaska and northwest British Columbia. They are an important game hunting and subsistence species and the main prey of the Alexander Archipelago wolf, as well as a Management Indicator Species on the Tongass. Sitka black-tailed deer use lower elevation (below 800 feet) POG forest habitats during the winter period. Winter deer habitat capability as represented in the Interagency Deer Model is governed by forest type, elevation, aspect and winter snow depth. The quantity, quality, distribution and arrangement of winter habitat are considered the most important limiting factors for Sitka black-tailed deer in Southeast Alaska.217

212 Iverson & Rene 1997.

213 2016 TLMP FEIS, App. D at D-3.

214 DEIS at 2-28.

215 Id. at 3-93.

216 Id. at 2-27, Tbl. 2-11.

217 2016 TLMP FEIS at 3-230.

The Forest Plan and DEIS acknowledge that habitat capability sufficient to support 18 deer per square mile is necessary to provide for viable, well-distributed deer populations, accounting for human harvest and wolf depredation in addition to natural mortality and population fluctuations.218 That level of habitat capability is infrequent on the Tongass forestwide.219 Thus, despite the retention of a significant percentage of original winter deer habitat on NFS lands, most WAAs and biogeographic provinces fail to provide sufficient habitat, with the forestwide average providing habitat sufficient to support 10.1 deer per square mile.220

It is therefore important to evaluate the current proposal in terms of its foreseeable impact on deer habitat capability and to assess at a programmatic level which areas will be placed at risk of significant losses. But the DEIS fails to describe which areas affected by the proposed rule provide key deer habitat, or which areas may or would decrease below the 18 deer threshold, or otherwise incur significant losses, if logging and roadbuilding occur. Instead, the effects analysis for deer relies on a long-term projection for forestwide habitat capability:

Forest-wide, approximately 89 percent of the original (1954) habitat capability remains, ranging from 72 to 100 percent depending on the biogeographic province. The greatest reductions in deer habitat capability have occurred, and will continue to occur, in provinces where timber harvest has been concentrated (the North Central Prince of Wales, East Baranof, and Etolin Island biogeographic provinces) . . . . At the forest scale, the current Forest Plan maintains 89 percent of the existing deer habitat capability over the long term and this would not vary between Alaska Roadless Rule alternatives221

This analysis fails to describe impacts in terms of the capability of any particular habitat to support deer. More specifically, it fails to assess the impacts on deer habitat associated with the reasonably foreseeable logging and roadbuilding made possible by the preferred alternative (or any of the alternatives). It mentions some of the provinces suffering the greatest loss of deer habitat and notes that further impacts will occur there, but fails to quantify or assess the proposed action's effect on those impacts. The proposed rule will further fragment habitat, and call into question the ability of a number of provinces to meet the habitat capability standard of 18 deer per square mile. Currently, 83.3% of the original deer habitat remains forestwide, when non-Forest Service lands are taken into consideration.222 Almost half (49.8%) of what remains is located in IRAs and over one-third of that is in development LUDs, resulting in a cumulative risk of losing 45.3% of deer habitat forestwide.223 And the biogeographic provinces that provide most of the key deer habitat are at risk of losing even greater percentages of that habitat if the proposed action is taken.

218 DEIS at 3-83.

219 Id., Tbl. 3.3b-4.

220 Id.

221 Id. at 3-95.

222 Albert 2019 at 21, Tbl. 5.

223 Id.

For example, the Prince of Wales group of provinces have a cumulative risk of habitat loss of 62.3%, reflecting the existing loss of over 30%, and the fact that about half of remaining habitat is located in development LUDs.

These four provinces provided 30.2% of the original deer habitat forestwide, over 99,000 acres, a disproportionate contribution that has already been reduced to 71,187 acres. The North Prince of Wales province has already lost over 35% of deer habitat and is at risk of losing 71.1%.

Additionally, the five Central Island biogeographic provinces provide 78,644 acres, over 28%, of the remaining deer habitat capability on the entire forest.224 Over 60% of that remaining habitat is in IRAs, and 43.3% is in development LUDs, meaning that over half (51.9%) of deer habitat in these provinces is either already gone or placed at risk of loss by this proposal. The Central Island region is thus at disproportionate risk of losing deer habitat, in terms of acreage and as a percentage of the total. The EIS should disclose and discuss this reasonably foreseeable impact in these provinces.

The Kupreanof/Mitkof biogeographic province has already lost about 18% of its original deer habitat capability, and 54.4% of what remains is in development LUDs.225 Over 69% of what remains in this province is currently protected by the roadless rule and 54.4% is located in development LUDs. This particular province thus stands to see deer habitat capability reduced by over 62.6%, clearly a significant impact. The same percentage loss is foreseeable in North Kuiu province, though fewer acres are at stake, and losses of over 60% and over 47% are foreseeable in Etolin/Wrangell and Revilla/Cleveland Peninsula provinces, respectively, as well.

There are many other biogeographic provinces in the forest where there is a significant amount of deer habitat in IRAs that will likely be affected by the proposed rule and conversely, there are areas where impacts are less likely to occur. The point is that location matters; the Forest Service must identify the areas where impacts may be significant, and fully disclose those reasonably foreseeable impacts related to loss of deer habitat. The information provided in the DEIS is not sufficient to allow decisionmakers to determine whether areas of the forest will meet the deer habitat capability standard of 18 deer per square mile if the proposed rule is adopted.

In short, the impacts of the proposed action on deer habitat are significant when one considers the areas where logging and roadbuilding will likely ensue. The point and effect of eliminating the roadless rule on the Tongass is to allow logging and roadbuilding in specific areas where those activities are currently prohibited. The Forest Service must consider the impact of doing so on deer and deer habitat.

IV. BEARS

Black bears are an important species for hunting, recreation and tourism. In Southeast Alaska, black bears are present throughout the mainland and on the islands south of Frederick Sound. Black bears in Southeast Alaska are part of a population (Alexander Archipelago black bears) endemic to coastal British Columbia and Southeast Alaska. Black bears will use habitats from

224 Id.

225 Id.

sea level to the alpine but appear to prefer estuarine, riparian, and forested coastal habitats. Past timber harvest, especially in areas adjacent to salmon streams, has decreased black bear habitat suitability through the removal of POG forest.226

Southeast Alaska is home to one of the highest concentrations of brown bears (Ursus arctos) in the world. Brown bears are present on the mainland and on most of the islands north of Frederick Sound. Admiralty, Baranof,

Chichagof, Kruzof, Yakobi, and neighboring islands consistently support the highest densities of brown bears on the Tongass National Forest. Brown bears are important for hunting and to the recreation and tourism industry of Southeast Alaska. As tourism grows in the region, there is increasing demand for more bear viewing opportunities such as those provided by Pack Creek and Anan Creek.227

Brown bears use areas from sea level to the alpine and are habitat generalists. The late-summer season has been identified as the most critical or limiting period for brown bears when they must build up energy reserves that are adequate to survive the winter and successfully reproduce. During this season, many brown bears concentrate along low elevation valley bottoms and salmon streams, with most use occurring within 500 feet of streams where their efforts focus on consuming large quantities of fish in order rebuild their body condition and lay on essential fat reserves. These are often the same areas of highest human use and most intense resource development activities.228

Albert and Schoen (2007)229 employed a combination of key filters, including the late summer habitat described above that is the most critical or limiting period for brown bears, to identify prime bear habitat. That prime habitat originally totaled 17,101 acres on the Tongass and has already been reduced by over 37% to 10,795 acres.230

The Central Island provinces would see significant impacts to brown and black bears and their prime habitat if the Roadless Rule were eliminated. Over 44% of original prime bear habitat in these provinces has already been lost. Of the remaining habitat, 61% is located in large IRAs and 42% in development LUDs, resulting in a cumulative risk to over two-thirds (67.7%) of original prime bear habitat.

The Prince of Wales provinces have an even greater cumulative risk of losing 74.5% of their original prime bear habitat. This reflects both a greater percentage of habitat already lost (55.8%) and a similar 42.3% of remaining habitat in Development LUDs. The percentage of remaining bear habitat in IRAs in both the Central Island and Prince of Wales provinces (61.1% and 56.5%,

226 2016 TLMP EIS at 3-236.

227 Id.

228 Id. at 3-237.

229 D. M. Albert and J.W. Schoen, A conservation assessment for the coastal forests and

mountains ecoregion of southeastern Alaska and the Tongass National Forest, in A Conservation Assessment and Resource Synthesis for the Coastal Forests & Mountains Ecoregion in Southeastern Alaska and the Tongass National Forest (J. W. Schoen and E. Dovichin eds. 2007).

230 Albert 2019 at 20, Tbl. 4.

respectively) is higher than the forestwide average of 49.6%, so the proposal places these provinces at a comparatively greater risk of bear habitat loss.

The DEIS, however, identifies no risks or impacts to bear habitat and instead notes the continued existence of the Old-Growth Habitat Conservation Strategy, e.g., for black bears:

Effects to the contributing elements of the Old-growth Habitat Conservation Strategy would be localized and common to all alternatives, with the maximum expected young-growth harvest affecting 0.4 percent of forest land in the beach and estuary fringe, 0.3 percent of the forest land within RMAs, and approximately 0.2 percent of the forest land (young-growth, POG, and unproductive forest) within the Old-growth Habitat LUD. (See USDA Forest Service 2016b, Appendix

D for additional discussion of the Old-growth Habitat Conservation Strategy). Therefore, these areas would continue to function as habitat for black bears.231

The impacts assessment for brown bear habitat is even less illuminating:

Brown bears are associated with low-elevation POG forests, particularly along Class I salmon streams. These habitats are protected to some extent by Forest-wide standards and guidelines for beach and estuary fringe and RMAs. However, young-growth harvest under the Forest Plan would occur in these areas under all alternatives. Young-growth harvest within beach and estuary fringe and RMAs are discussed above under Black Bear.232

Simply noting that the anticipated young-growth harvest in key black and brown bear habitat would affect a tiny percentage of the land in the Old-growth Habitat LUD misses the point of this section of the EIS, which is to assess the impacts of the proposal on bears and bear habitat. Those impacts feature the roadbuilding and logging, especially old-growth logging, which will no longer be prohibited in known prime bear habitat areas, as described above.

Additionally, as discussed above on pages 25 to 29, scientists have concluded that the Conservation Strategy, even if executed as envisioned, does not ensure viable, well-distributed wildlife populations on the Tongass. Further, in practice the system of old growth reserves is in fact often not as envisioned on paper, and also has been routinely compromised by project-level Forest Plan amendments.

In any event, the DEIS fails to assess the reasonably foreseeable impacts to bears and bear habitat from the proposed action. Those impacts include reductions to prime bear habitat that would not otherwise be possible. The EIS must disclose and discuss the impacts to bears and

231 DEIS at 3-96 ("Preferred habitats for black bears, which include coastal, estuarine, and riparian areas, are protected by the Old-growth Habitat Conservation Strategy. None of the alternatives would remove these measures.").

232 Id. at 3-98.

their key habitats of eliminating the Roadless Rule and making significant amounts of prime bear habitat available for logging and roadbuilding.

V. ALEXANDER ARCHIPELAGO WOLF

The Alexander Archipelago wolf (Canis lupus ligoni) is an old-growth forest dependent subspecies of the gray wolf, endemic to Southeast Alaska, and a Management Indicator Species on the Tongass National Forest. The Alexander Archipelago wolf's range in Alaska occurs almost exclusively on Tongass National Forest lands, with the exception of small portions on National Park Service, state and private lands,233 meaning that management on the Tongass will determine the future viability of the Archipelago wolf in Alaska. Although wolf population

abundance and trends outside the Prince of Wales area are uncertain, the best available data indicate that wolves are concentrated in certain regions of the Tongass, with the largest population occurring (until recently) on Prince of Wales and surrounding islands of Game Management Unit (GMU) 2, supporting more than a third of the Alaska population; followed by the Central Islands of Kuiu, Kupreanof, Mitkof, Etolin and Zarembo of GMU 3 supporting more than a quarter of the Alaska population; and Revillagigedo Island, Cleveland Peninsula and the adjacent mainland area of GMU 1A supporting a fifth of the Alaska population.234 Therefore, forest management that minimizes threats to wolves in these regions[mdash]GMU 2, GMU 3, and GMU 1A[mdash]is particularly important for wolf viability. Yet, as detailed below, the Proposed Rule is likely to have particularly harmful impacts on GMU 2 (Prince of Wales) and GMU 3 (Central Islands).

Alexander Archipelago wolf populations are threatened by a long history of old-growth logging and associated road-building on the Tongass, as well as unsustainable hunting and trapping in some areas. The wolf population on Prince of Wales Island is in peril. It has declined significantly in recent years, falling to a low of 89 wolves in fall 2014, and wolf numbers remain low. The Prince of Wales and surrounding islands population appears to have fallen as much as 50% in the last 20-30 years; it was estimated at just 170 wolves in fall 2018, compared with 225 in fall 2017, 231 in fall 2016,235 and 300 to 350 in the 1990s and 2000s.236

As detailed below, the Proposed Rule will increase key threats to already vulnerable wolf populations through foreseeable, additional losses of habitat and deer prey due to opening roadless areas to logging; increasing legal and illegal hunting and trapping by allowing road-building in previously inaccessible areas; harmful increases in habitat fragmentation; and a greater likelihood of den disturbance with potential impacts on reproductive success. Importantly, the DEIS impermissibly fails to explain how the Alexander Archipelago wolf, as a management indicator species, will remain well-distributed and viable on the Tongass under the Proposed Rule.

233 U.S. Fish and Wildlife Service, Species status assessment for the Alexander Archipelago wolf (Canis lupus ligoni) at 46, Fig. 6 (Nov. 23, 2015) (USFWS Wolf Status Assessment).

234 Id. at 20, Tbl. 4.

235 Federal Subsistence Management Program, Wolf harvest season announced for GMU 2, new process explained (Oct. 30, 2019); G. H. Roffler et al., Estimating Abundance of a Cryptic Social Carnivore Using Spatially Explicit Capture-Recapture, 43 Wildlife Society Bulletin 31 (2019).

236 USFWS Wolf Status Assessment at 18, Tbl. 3.

1. The DEIS fails to incorporate important information on the vulnerable status of wolf populations, particularly in GMUs 2 and 3.

To adequately assess the direct, indirect and cumulative impacts of the Proposed Rule on the Alexander Archipelago wolf, the DEIS must incorporate important information from USFWS's 2015 Status Review highlighting the vulnerable status of wolf populations particularly in GMUs 2 and 3. Specifically, the 2015 Status Review determined that the GMU 2 wolf population faces "low resilience to stressors, specifically the synergistic effects of wolf harvest and timber harvest."237 Major stressors include high levels of legal and illegal hunting and trapping which reach unsustainable rates in some years; the highest levels of road access for hunters and trappers across the range; high rate of logging (23% of the forest logged) which has reduced habitat capability for its primary Sitka black-tailed deer prey; a substantial recent population decline; and a predicted decline in wolf abundance by another 8-14% of current levels over the next 30 years.238

For wolves in GMU 3, the Proposed Rule must incorporate information from the USFWS Status Review that determined that wolves face "intermediate" levels of stressors.239 Key sources of stress include: substantial prior logging (i.e., 14% of the region's forests had been logged) which has reduced deer habitat capability by 13% to 23% since 1954; the highest scheduled levels of future logging on the Tongass; wolf harvest levels higher than in any other GMU, with the mean reported annual harvest estimated at 21% of the population, not including unreported harvest; and the second highest ratio of shoreline to land area (0.62 compared with 0.81 for GMU 2), which allows more boat access for hunters and trappers and thus increases wolf mortality risks.240 In addition, USFWS warned of the threat from an approved deer management plan for GMU 3 that, if activated, would cull up to 20 percent of the region's wolves and would increase the vulnerability of wolves on Prince of Wales Island which are already in peril.241

1. The DEIS fails to assess how the foreseeable increases in logging and the opening of previously inaccessible areas to logging under the Proposed Rule will impact wolves.

The DEIS incorrectly concludes that the Proposed Rule will not impact the Alexander Archipelago wolf by asserting there would be no increase in overall harvest relative to the 2016 Forest Plan.242 As detailed above, exempting the Tongass from the Roadless Rule is likely to increase overall logging, and old-growth logging in particular, yet the DEIS fails to assess the impacts from increased logging on the wolf. As acknowledged by the DEIS, logging harms wolves in several key ways: old-growth logging decreases Sitka black-tailed deer habitat

capability and therefore reduces deer prey and wolf numbers; road-building allows more access for hunters and trappers and more opportunities for poaching; and logging and associated road-building can disturb wolf dens.243 Importantly, old-growth logging has very long-lived impacts on deer and wolf viability: the lack of deer forage in second growth typically lasts for more than a century following canopy closure during the long stem exclusion phase.244

237 Id. at v.

238 Id.at v.

239 Id. at 120.

240 Id. at 113, Tbl. 24.

241 Id. at 120.

242 DEIS at 3-99 ("None of the alternatives would be expected to change the model results as there would be no increase in the overall harvest relative to the 2016 Forest Plan.").

Inexplicably, the DEIS also fails to assess the likely effect of the Proposed Rule in concentrating old-growth logging in areas of the Tongass that are important for wolf populations, such as Prince of Wales and surrounding islands. The DEIS states that the Preferred Alternative will provide "maximum additional timber harvest opportunity."245 As noted above, the DEIS indicates that certain areas would be targeted for logging based on proximity to roads, markets, and logging operations, specifying that a third of the most economic areas are on Prince of Wales Island.

The location of logging is significant because it affects how much high or moderately high value deer winter habitat will be lost, and determines whether areas will be pushed under the deer habitat capability threshold needed for sustainable wolf populations. The actual impacts of logging and associated road-building on wolf mortality and reproductive success, wolf habitat, habitat connectivity, and deer prey could vary widely depending on the location of logging projects and roads. Wolf experts have previously faulted the Forest Service for failing to be site-specific, explaining that the distribution of forest stands and connectivity between stands "can have dramatic effects on the survivorship" of wolves because they have large home range territories.246 For these reasons, they explained that the site-specific "geography of the proposed logging . . . is essential to evaluating the impact[s]" on wolves.247

The DEIS recognizes that the Forest Plan Standards and Guidelines set a deer habitat capability threshold of a minimum of 18 deer per square mile to sustain wolf populations.248 However, the

DEIS fails to assess the deer habitat capability in the roadless areas that would be opened to logging by the Proposed Rule, or to assess whether those areas would likely fall below the 18-deer threshold or otherwise decrease in habitat capability as a result of the proposed action. This is particularly important because a relatively small portion of the Tongass meets the deer habitat capability threshold sufficient to sustain wolves, and further losses of sustainable areas for wolves could cause significant, long-lasting harms to wolf populations. The forest-wide average for deer habitat capability is 10.1 deer per square mile.249 Of the 191 Wildlife Analysis Areas (WAAs) within the forest boundary, only 41 WAAs in the wolf range support a deer habitat capability of 18 deer per square mile or more.250 Most of the WAAs in the wolf range with deer habitat capability sufficient for sustaining wolf populations occur on Prince of Wales and surrounding islands, followed by the Central Islands of GMU 3 and GMU 1A.251 As a result, old-growth logging that is concentrated in these regions under the Proposed Rule could push WAAs below the 18-deer threshold, with harmful effects on wolf populations, but the DEIS fails to assess these foreseeable impacts.

Moreover, a recent analysis estimated that the large inventoried roadless areas that would be affected by the Proposed Rule contain approximately half of the remaining winter deer habitat.252 In GMU 2 (Prince of Wales and surrounding islands), 52% of forest lands are in large roadless areas and 47% in development areas, while in GMU 3, 61% of forest lands are in large roadless areas and 43% in development areas.253 The regions identified at highest cumulative risk (risk of being altered by management under the proposed rule) are important areas for wolves: N. Prince of Wales (71.1%), Dall Island Complex (64.9%), N. Kuiu (62.6%) and Kupreanof / Mitkof Islands (62.6%).254

243 DEIS at 3-84, 3-98, and 3-100.

244 G. H. Roffler et al., Resources Selection by Coastal Wolves Reveals the Seasonal Importance of Seral Forest and Suitable Prey Habitat, 409 Forest Ecology and Management 190 (2018); U.S. Forest Service et al., Wolf Technical Committee, Interagency Wolf Habitat Management Program: Recommendations for Game Management Unit 2, Management Bulletin R10-MB-822 (2017).

245 DEIS at ES-9 ("Alternative 6 is the preferred alternative and provides maximum additional timber harvest opportunity as the full exemption alternative, which was requested by the State of Alaska's petition").

246 See generally J. Cook et al. Statement on DEIS Prince of Wales Landscape Level Analysis, and attachments, at PDF 7 (Jun. 11, 2018) (Cook Comments).

247 Id. at 7.

248 DEIS at 3-83 ("Forest Plan standards and guidelines state that, where possible, sufficient deer habitat capability should first be maintained to sustain wolf populations, and then to consider meeting estimated human deer harvest demands. This is generally considered to equate to the habitat capability to support a minimum of 18 deer per square mile (using interagency deer habitat capability model outputs; USDA Forest Service 2008a).").

C. The DEIS fails to assess how opening previously inaccessible acres to road-building will increase wolf harvest from legal and illegal hunting and trapping.

The DEIS acknowledges that road-building makes wolves more vulnerable to legal and illegal harvest by increasing access to hunters and trappers.255 Studies have documented that higher road densities lead to unsustainable harvest levels for wolves.256 Based on these studies, the 2016 Forest Plan Standards and Guidelines recommend a total road density of 0.7 to 1.0 mile per square mile or less to reduce harvest-related mortality risk. Importantly, the current suite of roadless areas on the Tongass provides a critical refuge from hunting and trapping.

249 DEIS at 3-83, Tbl. 3.3b-4.

250 Id. (there are 57 Forest-wide WAAs with modeled deer density of 18 deer per square mile or more, minus the 16 WAAs on Admiralty, Baranof, and Chichagof Islands outside the wolf range, leaving 41 WAAs in the wolf range).

251 Id.; WAAs may overlap across biological provinces.

252 Albert 2019 at 14.

253 Albert 2019 at 21, Tbl. 5.

254 Albert 2019 at 14; id. at 21, Tbl. 5.

255 DEIS at 3-84 ("harvest-related wolf mortality (both legal and illegal) is correlated with roads and other habitat features, which influence their vulnerability to harvest")

256 See e.g., D. K/ Person and A. L. Russell, 72 Correlates of mortality in an exploited wolf population. Journal of Wildlife Management 1540-1549 (2008).

In its brief assessment of road-building, the DEIS incorrectly asserts that the amount of roads under all action alternatives would be similar (although acknowledging the Preferred Alternative would lead to the most road-building), and that the Proposed Rule would cause "at most, localized increases in hunter access."257 Inexplicably, the DEIS fails to assess the impacts of the foreseeable increase in road-building under the Proposed Rule; how the concentration of road-building in certain areas could push those areas below the sustainable road density threshold for wolves; and how road-building in previously inaccessible roadless areas increases the risk of unsustainable harvest levels. The threats to wolves from road-building under the Proposed

Rule are particularly concerning on Prince of Wales Island, which already has an extensive network of roads, leaving little secure habitat for wolves and deer.258

1. The DEIS fails to assess how increased fragmentation under the Proposed Rule would impact wolves.

The DEIS highlights the importance of roadless areas for the Alexander Archipelago wolf in creating refugia from disturbance, and acknowledges that the Preferred Alternative would result in the largest adverse effects because of greater habitat fragmentation compared with the no-action alternative:

Remote roadless areas often represent optimum habitats for them and may serve as important refugia for populations under harvest and development pressures. Of greatest concern on the Tongass is the Alexander Archipelago wolf, particularly on Prince of Wales and surrounding islands. Although the alternatives would be similar in terms of overall harvest levels, Alternatives 4, 5, and 6 would result in the largest adverse effects on these species because of greater road lengths, penetration into remote roadless areas, and habitat fragmentation that they would produce relative to Alternatives 1, 2, and 3.259

Yet, apart from this observation, the DEIS fails to assess how the increased fragmentation resulting from the Proposed Rule would impact wolf populations. The Forest Service must assess the reasonably foreseeable effects of its action, including the effects of logging and roadbuilding in areas where those activities are currently prohibited.

1. The DEIS fails to assess how the Proposed Rule will increase the likelihood of den disturbance with associated impacts to reproductive success.

257 DEIS at 3-99.

258 This road network is likely to grow should the Prince of Wales Landscape Level project, approved earlier this year but presently enjoined, be implemented.

259 DEIS at 3-10.

The DEIS fails to assess how opening roadless areas to road-building, logging, and other human activities is likely to increase disturbance to wolf dens.260 The DEIS briefly refers to261 but does not incorporate published research that emphasizes the importance of undisturbed areas for denning and recommends larger buffer distances between dens and roads and other human development. Specifically, research by Roffler and Gregovich (2019) determined that Alexander Archipelago wolves use larger core areas during the breeding season than previously assumed. The study reported that the distance from active Alexander Archipelago wolf den sites to the edge of core habitat ranged from 1,186 to 6,326 meters (~3,900 to 21,000 feet), and for breeding wolves the core use area ranged from 734 to 2,308 meters (~2,400 to 7,600 feet) from the den site. Significantly, the study concluded that "all distances exceeded the existing recommended den buffer distance" and further that "[w]olf managers should recognize the current protection buffer around dens constitutes only a portion of the core area used by breeding wolves, and habitat alterations near den sites may force breeding wolves to use sub-optimal habitat they would normally avoid."262 The study recommended that the wolf den buffer be expanded to at least 2,400 feet (734 meters).263 The study makes clear that the current Forest Plan Standards and Guidelines, which recommend establishing a 1,200-foot forested buffer and avoiding road construction within the

established buffer where feasible, are inadequate to protect wolves.

In order to comply with NEPA's mandates that the agency use high quality data and the best available science, and that the agency address opposing expert viewpoints, the Forest Service must, at a minimum, address this new information and respond to it.

F. The DEIS's cumulative impacts analysis for wolves is inadequate.

Finally, the DEIS's cursory cumulative impacts analysis for wolves fails assess the potential for cumulative impacts from the recently approved (but currently enjoined) Prince of Wales logging project and the Central Tongass logging project (for which a final EIS and ROD are in preparation), both of which are likely to have harmful impacts on wolves. The DEIS for the Roadless Rule fails to mention the Central Tongass project, and it is unclear whether the agency assumes impacts from either project in its analysis of any alternative or resource.

VI. MARBLED MURRELETS

The marbled murrelet, Brachyramphus marmoratus, is a small seabird that nests in old growth forest. The bird is found coastally from norther California to the western Aluetian Islands, but

the vast majority of this population is found in Southeast Alaska.264 It is estimated that the Tongass National Forest supports 60-70% of the global marbled murrelet population.265 Murrelets nest in mature conifers within 30K of the coast.266 It is clear therefore that the Tongass, more specifically old growth habitat within the Tongass, is vital for this species. Increased fragmentation of old growth habitat due to activities such as logging and road building could seriously threaten the marbled murrelet, and yet the DEIS fails to sufficiently analyze these impacts

260 The DEIS makes a brief mention that "energy, transportation, or other projects that may become permissible in new areas could affect wolves directly during construction through disturbance at den and rendezvous sites" but states that these effects would only be evaluated at the project level; id. at 3-100. This violates NEPA. Because some impacts from such projects are reasonably foreseeable, they must be disclosed in the EIS for this proposed action.

261 Id. at 3-82.

262 G. H. Roffler and D. P. Gregorovich, Wolf space use during denning season on Prince of Wales Island, Alaska, Wildlife Biology at 1 (2019).

263 Id. at 11.

A. The DEIS fails to sufficiently analyze the impacts of the proposed rule on the marbled murrelet

As is stated above, the DEIS fails to acknowledge that the new plan will lead to increased logging and fails to adequately analyze impacts to old growth habitat. Given the reliance of the marbled murrelet on old growth forest, this failure results in an inadequate analysis of the environmental impacts to the marbled murrelet population. Logging in old-growth coniferous forests has contributed to substantial declines in marbled murrelet

populations in the Pacific Northwest, and harvest of old growth through the Tongass and adjacent private lands poses a significant risk to murrelets.267 By failing to recognize that the proposed plan will lead to increased old growth harvest, and increased habitat fragmentation, the Forest Service overlooks significant and harmful impacts to the marbled murrelet.

To the extent that the DEIS does examine impacts to the murrelet, this analysis is insufficient. The Forest Service acknowledges that timber harvest, through the removal of POG forest, can directly remove nest trees, and also increases habitat fragmentation and associated edge effects, such as increased rates of nest predation (Andren 1994; Chalfoun et al. 2002). This recognition that timber harvest results in habitat fragmentation simply does not amount to an impact analysis. Instead the Forest Service, must look at the impacts of road development and timber harvest on marbled murrelet habitat.

The Forest Service further states that habitat protection is provided by standards and guidelines that require a 600-foot radius no cut buffer zone around identified murrelet nests. However, because murelets are difficult to locate, buffer zones around identified nests are not adequate.268 As these buffers are not sufficient, increased timber harvests will increase the risk of nest destruction, an impact that must be analyzed and disclosed. The Forest Service further states that protection will also be afforded by the overall system of OGRs and other non-development LUDs. However, as is discussed in great detail above, there is no evidence that the system of OGRs will sufficiently protect old growth habitat. The Forest Service must sufficiently acknowledge the impacts of the proposed rule on the marbled murrelet population.

264 P. Cotter and M. Kirchhoff, Marbled Murrelet (Brachyramphus marmoratus)

265 Forest Service, Other forest nesting birds (including Marbled Murrelet). Presentation at Conservation Strategy Review Workshop April 12, 2006, Ketchikan Alaska.

266 A. E. Burger, Using radar to estimate populations and assess habitat associations of marbled murrelets, 65 Journal of Wildlife Management 696-715 (2001).

267 Id., S. K. Nelson, Marbled Murrelet (Brachyramphus marmoratus), in The Birds of North America. No. 276 (A. Poole and F. Gill, eds.1997).

268 Cotter & Kirchhoff.

VII. ENDEMIC SPECIES

The DEIS incorrectly depicts a moderate to high probability of maintaining viable, well-distributed wildlife populations for all species identified for the DEIS. Without providing any scientific analyses except referral to the Habitat Conservation Strategy in the 2016 Tongass Plan, the agency uses no scientific rationale for their findings. On the contrary, many of the species, including endemic mammals and Management Indicator Species such as the American marten, illustrate declines on the Tongass since large-scale, industrial logging began in the 1950s. The agency ignores the best available science that illustrates the complexities of island ecology that will make the maintenance of viable, well-distributed populations very difficult under all alternatives in the DEIS. These recent population declines are also not reflected in the 2016 Tongass Plan, which was deficient in addressing impacts to endemic mammals and reflected incorrect taxonomy of species including the marten (see below). Therefore, the agency cannot rely on the 2016 Tongass Plan documentation to estimate potential impacts to wildlife species on the Tongass and must analyze the potential impacts to species using accurate habitat

numbers which illustrate future habitat losses on some islands such as Prince of Wales increasing beyond the threshold for maintaining viable, well-distributed wildlife populations for endemic species such as the Queen Charlotte goshawk and others.269 Below is a list of inaccuracies in the 2019 DEIS and the 2016 Tongass Plan amendment since it is used as scientific rationale for the basis of including no new analyses in the current DEIS.

The 2016 Tongass Plan amendment does not provide a rational basis for concluding that future Forest Service actions would maintain viable, well-distributed populations of endemic species on the Tongass and cannot be relied upon as the scientific rationale for this DEIS. The 2016 Tongass Plan directs the agency to "[u]se existing information on the distribution of endemic mammals to assess project-level effects", but cautions that "[i]f existing information is lacking, surveys for endemic mammals may be necessary prior to any project that proposes to substantially alter vegetative cover." However, the surveys for endemic species were concluded in 2014, and on-the-ground surveys of these species ended in 2012 on many islands. No subsequent, agency-supported research to investigate long-term population health of species has occurred, and where analyses have occurred, the trend has been in population declines for endemic species on some islands (Pacific marten, Alexander Archipelago wolves, coastal black bears). The Forest Service recently acknowledged that it has "increasing" viability concerns for endemic populations:

"There are roughly 24 mammal species or subspecies considered endemic to Southeast Alaska. The long-term viability of these endemic populations is unknown, but of increasing concern since island endemics are extremely susceptible to extinction because of [their] restricted ranges, specific habitat requirements, and sensitivity to human activities such as species introductions (http://msb.unm.edu/isles/)."270

269 See Albert 2019 (describing remaining habitat conditions on the Tongass).

270 W. P. Smith et al., The northern flying squirrel as an indicator species of temperate rainforest: Test of an hypothesis, 15 Ecological Applications 689-700 (2005).

The Forest Service has not implemented any of the requirements for endemic mammal surveys under the 2016 Tongass Plan, so it cannot rely on this document as verification for population viability statistics in this current DEIS. Rather, the 2016 Tongass Plan amendment protects the existing 1997 requirements for endemic mammal surveys, yet the agency has done none of these surveys to date. As a result, this DEIS's analysis of the impacts on endemic terrestrial mammals (especially ermine, flying squirrel, Pacific marten, and wolves) is unsubstantiated and inadequate.

The DEIS contains taxonomic errors for marten (Martes americana).271 Contrary to the analysis in the DEIS, other Forest Service documents (e.g. Central Tongass Project) 272 and best available science, recognize that there are two species of marten are present on the Tongass National Forest and one species has an extremely limited range.273 American marten (Martes americana) and Pacific marten (Martes caurina) are both found on the Tongass National Forest.274 These two species of marten represent distinct genetic variability found only in southeast Alaska on the Tongass National forest.275 Pacific marten populations have declined by 95% across their global distribution276 and in Southeast Alaska, are only found on three islands. Because of this distinctiveness and the global significance of the Pacific marten populations in southeast Alaska, the Forest Service and the Alaska Department of Fish and Game put research effort into understanding these two species from 2003-2014. In 2012, the Alaska Department of Fish and Game reported that Pacific marten and American marten populations on Kuiu Island were in decline.277 The trapping season is still closed for these two species, the two species are of conservation concern, and the State of Alaska maintains that the species are in decline and therefore the trapping season is still closed. Research indicates that mortality rates of marten on Kuiu Island

can exceed 60 percent.278 This study alone confirms that the Forest Service's claims on maintaining viable, well-distributed populations for marten is not feasible under all current alternatives because populations are already in decline.

Spatial and temporal scales are imperative for understanding the maintenance of viable, well-distributed wildlife populations, and although the Forest Service has addressed this need in other

recent analyses of impacts,279 it is completely absent from this DEIS.

271 DEIS at 3-80.

272 See U.S. Forest Service, Central Tongass Project, Draft Environmental Impact Statement, Vol. 1 (Jul. 2019) (Central Tongass DEIS).

273 N. G. Dawson et al., Historical biogeography sets the foundation for contemporary conservation of martens (genus Martes) in northwestern North America, 98 Journal of Mammalogy 715-730 (2017).

274 Id.

275 J. P. Colella et al., Implications of introgression for wildlife translocations: the case of North American martens. 20 Conservation Genetics 153-166. (2018).

276 W. J. Zielinski et al., Status of American Martens in Coastal Forests of the Pacific States, 82 Journal of Mammalogy 478-490 (2001).

277 R. W. Flynn et al., Population dynamics, movements, and habitat selection of martens on Kuiu Island, Southeast Alaska. Interim wildlife research report (2012).

278 Id.

The Forest Service defined Units of Measure that should be addressed as relevant to maintaining viable, well-distributed populations are: bioregional province, game management unit, and wildlife analysis area. The DEIS gives no definition of spatial and temporal scales used in their analyses of impacts to wildlife. These spatial and temporal scales allow for island-specific habitat modification to accurately illustrate the individual impacts of the alternatives on the islands. Please refer to the attached Wildlife Report280 for accurate totals of habitat losses on islands given the preferred alternative. When acreages are accurately reported, habitat losses greater than 80 percent occur in some biogeographic provinces, such as North Prince of Wales Island. This means that species such as marten, goshawks, spruce grouse, and flying squirrels may not be able to maintain viable, well-distributed populations in some locations, and given these species are endemic to specific islands, extinction may occur. This extinction risk should be reflected accurately in the tables that report 100-year projections for "endemic animals," and otherwise discussed and disclosed in any subsequently prepared NEPA document

The Forest Service ignores the science of the impacts of island ecology in the DEIS and grossly minimizes the diversity of endemic animals and plants. The Forest Service Inventory and Monitoring program spent twenty years collecting information on endemic animals on the Tongass through academic research and agency

report.281 Additional research studied endemism in plants.282 Invertebrates283 and fishes284 are also present on the Tongass, yet they are not addressed in the DEIS for maintaining viable, well-distributed populations of endemic species. The high rate of endemism on the Tongass National Forest was identified as an important conservation concern, yet the DEIS does not address the alternatives' impacts on endemism as a process and on the 82 lineages of endemic species found on the forest. Maintaining viable, well-distributed wildlife populations on the Tongass requires application of conservation measures for island systems.285 The Alexander Archipelago is one of the planet's most extensive island archipelagos, and the Tongass National Forest is actually a series of thousands of islands dispersed across the North Pacific Coast. The best available science continues to illustrate the importance of recognizing this distinction in forest management.286 The sheer number and

variability of island endemics on this island system is completely absent from the DEIS and needs to be included in all measures of overall biological diversity to adequately address potential impacts. In order to ensure viable, well-distributed populations of endemic species, island size, distance from mainland, fragmentation of habitats within each island, total population size per island relative to entire regional population size, and genetic variability must also be incorporated into land management planning, and into the disclosure of impacts of increased logging (including old growth logging) made possible by the proposed action.287

279 See Central Tongass DEIS.

280 Albert 2019 at 17-23.

281 Cook J.A. and S.O. MacDonald. 2013. ISLES project final report September 2013. Museum of Southwestern Biology, University of New Mexico, Albuquerque. 29 p.

282 P. E. Hennon et al., Influence of forest canopy and snow on microclimate in a declining yellow-cedar forest of Southeast Alaska, 84 Northwest Science 73-87 (2010).

283 T.E. Clarke et al., Rapid Evolution in the Nebria Gregaria Group (Coleoptera : Carabidae) and the Paleogeography of the Queen Charlotte Islands. 55 Evolution 1408-1418 (2001).

284 C. M. Kondzela et al., Genetic-relationships among chum salmon populations in Southeast Alaska and northern British Columbia, 51 Canadian Journal of Fisheries and Aquatic Sciences 50-64 (1994).

285 J. A. Cook et al., Conservation of highly fragmented systems: The north temperate Alexander Archipelago. 133 Biological Conservation 1-15 (2006) (Cook et al. 2006).

286 Y. E. Sawyer et al., Living on the edge: Exploring the role of coastal refugia in the Alexander Archipelago of Alaska, 9 Ecol Evol. 1777- 1797 (2019).

The temporal scales used in the DEIS rationale for maintaining viable, well-distributed wildlife populations are not correct for projecting the loss of old-growth habitat and its impact on species. The analyses refer to "100 year" projections, yet it takes 250 years for Tongass forest lands to reflect characteristics of old-growth forest structure. So, population viability analyses should include a time horizon of at least 250 years (Table 3.9.4). For habitat changes, both past and present, temporal scales should reflect: immediate, post-implementation habitat

modification, stem exclusion, and development of old-growth conditions to accurately reflect the states of forest development and overall impacts to species.

The Forest Service incorrectly overestimates available habitat for species using non-discriminate habitat characteristics that do not reflect the best available science. The Forest Service inaccurately uses an estimate of snow cover below 800 feet as a proxy for habitat suitability for marten even though the estimate was used to define winter habitat for deer. As a small predator, marten are more restricted by prey availability and cover from larger predators.288 Prey species for marten include small mammals, some species of which are endemic to specific islands.289 Small mammal abundance has been correlated with percent forest cover and understory complexity found in late-seral stage forests. These forests, aged >400 years across the Pacific Northwest, also include resting and denning structures important for Pacific marten.290 Although limited studies exist for Pacific marten in southeast Alaska, we can assume similar habitat requirements for the species throughout the entire coastal forest ecoregion. Therefore, in order to adequately assess the maintenance of viable, well-distributed populations, the Forest Service cannot utilize one limited study on a portion of one island to estimate percent habitat as snow cover measurements that were designed for deer, not marten. In addition, Forest Service ignores its own research and monitoring findings that illustrate the Pacific marten ranges have shrunk in the last five decades due to changes in management with some populations (e.g. Admiralty Island) experiencing population contraction and subsequent expansion that has been detected in genetic signatures.

287 E. Lagabrielle et al., Identifying and mapping biodiversity processes for conservation planning in islands: A case study in Reunion Island (Western Indian Ocean) 142 Biological Conservation 1523-1535 (2015).

288 C. E. Eriksson et al., Biotic factors influencing the unexpected distribution of a Humboldt marten (Martes caurina humboldtensis) population in a young coastal forest. PLoS ONE 14(5): e0214653 (2019) (Eriksson et al. 2019).

289 A. L. Bidlack et al., Reduced genetic variation in insular northern flying squirrels (Glaucomys sabrinus) along the North Pacific Coast, 4 Animal Conservation 283-29 (2001) (Bidlack et al.).

290 K. M. Slauson et al., Habitat selection by American Martens in coastal California, 71 Journal of Wildlife Management 458-468 (2007).

The Forest Service cannot rely on the 2016 Tongass Plan amendment for the scientific analyses of effects in the DEIS for the proposed rule. The Final Tongass National Forest Monitoring and Evaluation Report on marten is summarized in 2014, yet refers to research that was completed by independent, academic researchers prior to 2014. It references future monitoring efforts that have not been completed, even though the Forest Service continued to identify marten (and other endemic species) in its proposed changes to the monitoring program in 2016. Instead, the Forest Service chose to stop implementing the inventory and monitoring program for species and now attempts to estimate population viability with no current data. The assumptions that population viability will be maintained are therefore completely arbitrary and based on no current data. When asked about this issue, the Forest Service referred to the 2016 Tongass Plan amendment which also does not contain adequate population viability analyses and refers to original studies done prior to the 1997 Tongass Plan. The 2016 Tongass Plan amendment has many flaws and does not provide sufficient protection for habitat. For example, the 2016 Tongass Plan Amendment incorrectly states viability for marten across their range in southeast Alaska even though research indicates clear evidence that Pacific marten are in decline across their range in Southeast Alaska and on the Tongass National Forest. Therefore, the Forest Service cannot rely on the 2016 Tongass Plan Amendment, but must instead undertake new surveys and monitoring prior to preparing a subsequent NEPA

document.

Connectivity between populations of island endemics is particularly important for the maintenance of viable, well-distributed populations. For example, species such as the Pacific marten are limited by habitat corridors that promote connectivity through overstory trees and dense shrub cover.291 The Tongass National Forest has used the Habitat Conservation Strategy old-growth reserves as a rationale for maintaining connectivity to support wildlife populations across the forest, including the viability of endemic species292 but, this rationale has also required testing and study of the old-growth reserve strategy, and the Forest Service has failed to update the old-growth conservation strategy as the old-growth reserves have been moved and now include many areas of unsuitable habitat for many wildlife species (e.g. old-growth reserves located in Staney Creek, Prince of Wales Island, and the old-growth reserves on North Kuiu island). A correct evaluation of the impacts of the proposed rule on endemic animals needs to include a thorough evaluation of current locations and acreages of old-growth reserves, including updates since 2016 as recent land exchanges have resulted in net loss acreage of old-growth reserves.

The best available science from islands systems across the globe has repeatedly demonstrated that island ecosystems are extremely vulnerable to human disturbance because they frequently support flora and fauna, or species that are found nowhere else on Earth (i.e., endemic to only these regions). In particular, the endemic flora and fauna on islands are highly susceptible to extirpation (local extinction) and ultimately extinction. Globally, more than 50% of all documented vertebrate extinctions in the last 400 years have occurred on islands. These are

landforms that must be managed very carefully because mistakes have implications that cannot be reversed (e.g., extinction). Vulnerability to extinction due to island processes has been addressed throughout the Tongass' recent land management planning processes, yet management has made no efforts to address conservation requirements. The issue of endemic conservation on the Tongass and the need to manage this forest using island biogeographic principles has been acknowledged by multiple independent scientific reviews of the Tongass Land Management Plan and in numerous publications specific to the Tongass National Forest, yet the Forest Service continues to fail to adequately manage these public resources using approaches that rely on best available scientific information.

291 Eriksson et al. 2019.

292 T. A. Hanley et al., Maintaining wildlife habitat in southeastern Alaska: implications of new knowledge for forest management and research, 72 Landscape and Urban Planning 113-133 (2005)

Prince of Wales Ermine, Mustela erminea celenda. The DEIS also fails to account for the best available information regarding this endemic mammal. As a result, the Forest Service has failed to adequately assess the impacts of lost Roadless Areas on Prince of Wales for this species. Ongoing work on the Prince of Wales ermine293 highlights the distinct evolutionary origin and unique genetic properties of this mammal that, to the best of our knowledge, is only found on Prince of Wales Island, and potentially a very few nearby islands (not yet fully assessed). Genetic data suggest the Prince of Wales ermine, currently recognized as subspecies Mustela erminea celenda, is distinctive, but closely related to the subspecies Mustela erminea haidarum, which occurs on a few islands of the Haida Gwaii Archipelago (Queen Charlotte Islands), ~70 km south. The Haida Gwaii subspecies is currently listed under the Canadian Federal Species at Risk Act (SARA) and COSEWIC (Committee on the Status of Endangered Wildlife in Canada; S2--Imperiled or Rare) and is subject to protections and prohibitions under the British Columbia Wildlife Act and all harvesting of the subspecies is prohibited.

The Forest Service lacks understanding of the distribution, habitat needs, or viability requirements of the Prince of Wales ermine and this knowledge gap has not been fully acknowledged in the DEIS. The Forest Service's request for "flexibility" with the DEIS means the agency is refusing to explain when and where it will be logging and building roads. The lack of information regarding the spatial and temporal scale of the logging and road construction renders the analysis in the DEIS severely lacking. It is not possible to determine the direct, indirect, or cumulative impacts to wildlife habitat or connectivity that could result from the logging. Given the Forest Service's lack of knowledge regarding this species and its habitat requirements on Prince of Wales Island and the fact that the lands including roadless areas on Prince of Wales encompasses 1.8 million acres of National Forest System land, the agency must conduct a population survey, as prescribed by the 2016 Amended Tongass Plan, to assess the impacts of the proposed timber harvest on the Prince of Wales ermine. Given the intensity of the historical logging on Prince of Wales, these survey efforts should be extensive, as 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."294

293 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, 41 Journal of Biogeography 464-475 (2014).

294 U.S. Department of Agriculture, R10 Tongass NF, Endemic Species (Dec. 2016) (USDA Endemic Species).

Prince of Wales Flying Squirrel (Glaucomys sabrinus griseifrons). Genetic assessment of this subspecies295 showed that this subspecies is distinctive from other flying squirrel populations to the east. This old growth associated species likely will be heavily affected by the proposed alternatives in the DEIS. Recent habitat analyses illustrate the need for at least 70% contiguous habitat in order for the species to exist. Contiguous habitat is rare on the Tongass, and most of the remaining contiguous habitat exists within the Inventoried Roadless Areas.296

Alexander Archipelago Wolf (Canis lupus ligoni). The morphological distinctiveness of this wolf was recognized years ago when the coastal wolf populations were described as a distinctive subspecies. Subsequently, research has shown that this wolf subspecies is genetically distinctive from other wolves on the continent and populations on Prince of Wales Island have dropped to perilously low numbers in recent years.297 Although wolves are thought to be resilient to population fluctuations, the low numbers seen on Prince of Wales recently suggest the potential for negative effects due to loss of genetic variability. Impacts to prey (deer) and denning site loss from historic logging on Prince of Wales and increased access for legal and illegal trapping have been implicated in the decline of these wolves. Further logging will only exacerbate these problems for these endemic wolves.

The Forest Service's reliance on habitat thresholds for endemic mammals has no basis in the contemporary science of conservation biology of island endemics. The DEIS's suggestion that so long as 20-50% of the old-growth habitat remains, then the impacts on any given species are minor is unsubstantiated based on the available science.298 Critically, the distribution of these forests and their connectivity can have dramatic effects on the survivorship of a species. Particularly for mammals, some of which (e.g., wolf) have large home range territories, the geography of the proposed logging on POW is essential to evaluating the impact of the plan on native faunas.

In addition to the surveys required under the 2016 Tongass Plan, the Forest Service should assess the impacts of the proposed logging "relative to the distinctiveness of the taxa, population status, degree of isolation, island size, and habitat associations relative to the proposed management activity".299 "Where distinct taxa are located," the Forest Service is directed to "design projects to provide for their long-term persistence on the island".300 The DEIS fails to explain and analyze any of these considerations with regard to Prince of Wales ermine (or other endemic terrestrial mammals).

295 Bidlack et al. 2001.

296 See Albert 2019 at 27.

297 See e.g. B. V. Weckworth et al., Genetic distinctiveness of Alexander Archipelago wolves (Canis lupus ligoni): reply to Cronin et al., 106 Journal of Heredity 412-414 (2015).

298 See also Southeast Alaska Conservation Council et al., Comments on Central Tongass Project DEIS at 45-51 (Sept. 26, 2019).

299 USDA Endemic Species.

300 Id.

In summary, the DEIS fails to account for the best available science regarding several important concepts about islands, endemic animals, and cumulative impacts for island endemics that will need to be addressed in the EIS:

1. Individual islands often support distinctive forms,301 hence, consequences of Tongass commercial activities must be addressed on an individual island and species basis. This has not been fully addressed in the DEIS.
2. The Tongass is an island archipelago and, as such, it is highly susceptible to a host of impacts to wildlife that are amplified in island systems.302 In addition to loss of habitat and fragmentation, greater human access through additional road construction often means increased potential for invasion by exotic invasive species and pathogens. One only has to travel to Hawaii, where the introduction of invasive species has resulted in the permanent loss of many species, to recognize the problems inherent to wildlife management in island archipelagos. Human impacts, such as habitat conversion (e.g., logging), but also the introduction of exotic species,303 are the greatest drivers of global extinctions.304
3. Consistent with island biogeography theory, island archipelagos have higher rates of extinction than nearby mainland areas.305 There is a large body of peer-reviewed scientific evidence from the Alexander Archipelago and elsewhere (e.g., Hawaiian archipelago) that recognizes extinction as a possible outcome of habitat manipulation (e.g., logging) and consideration of this should be a central tenet of responsible habitat management (i.e., planning timber sale projects) on islands in the Tongass.
4. The impacts of climate warming on island populations are predicted to be dire in some archipelagos, as movement by wildlife to better conditions is geographically limited in these systems.
5. Island archipelagos, like the Tongass, contribute unique elements (i.e., endemics) comprising the biological diversity on our planet.306 As such, islands are key regions for sustaining the evolutionary processes related to diversification. Endemism, the evolutionary result of organisms being confined to islands over the long-term, is reflected in many species across the Hawaiian archipelago (i.e., Hawaiian

honeycreepers, Hawaiian hoary bats, Hawaiian ducks). Similarly, research found that "the islands of the North Pacific Coast of North America...include about one-half of all known mammals endemic to North American islands north of Mexico".307The Alexander Archipelago (most of the Tongass National Forest) contains a significant portion of endemic mammals for the entire continent with specific hotspots on islands such as Prince of Wales Island and Kuiu Island.

301 C. Darwin, On the Origin of Species by Means of Natural Selection Or ThePreservation of Favoured Races in the Struggle for Life (1859).

302 Cook et al. 2006.

303 F. Courchamp et al., Mammal invaders on islands: impact, control and control impact, 78 Biological Review 347-383 (2003).

304 R. G. Davies et al., Human impacts and the global distribution of extinction risk, 273 Proceedings of the Royal Society Biological Sciences 2127-2133 (2006).

305 H. R. Mills et al., Conservation significance of island versus mainland populations: a case study of dibblers (Parantechinus apicalis) in Western Australia, 7 Animal Conservation 387-395 (2004).

306 N. Myers, Biodiversity hotspots for conservation priorities, 403 Nature 853-858 (2000).

1. Related to that point, available science illustrates that many populations vary genetically and morphologically from island to island on the Alexander Archipelago, so the wildlife of individual islands can be distinctive.308 Therefore, a particular species' requirements and potential endemicity as well as individual island characteristics need to be accommodated in proposed logging of old-growth habitat.
2. Available science indicates that genetic information (DNA based studies) can reveal a population's distinctiveness (endemism) and susceptibility to extinction, as has been hypothesized for the Pacific martens (Martes caurina) on Kuiu Island and flying squirrels (Glaucomys sabrinus) on Prince of Wales Island, both of which show very low levels of genetic diversity. Low genetic diversity (i.e., variation) means these populations have fewer options to respond or adapt to change in the future. This is one reason island populations are so susceptible to changing conditions. More information is needed for most organisms on the Alexander Archipelago.
3. Available science indicates that anthropogenic activities (such as logging) on specific islands can drastically change the composition of the biota found on those islands, hence, consequences of Tongass activities must be addressed on an individual island basis prior to proposed habitat modification.309

VIII. FISH AND WATER QUALITY

A. The Forest Service failed to disclose and analyze significant information about the effects of the proposed rule on fish and watersheds.

The DEIS states that effects to fish are "unlikely to be large or differ from current Forest Plan projected conditions."310 However, the DEIS fails to take into account significant information describing the adverse effects of increased logging and road building on fish and watershed health. The attached analysis by Dr. Chris Frissell,

which we incorporate by reference, provide a detailed assessment of the foreseeable effects of the proposed rule on fish and watersheds. Dr. Frissell is a consulting aquatic ecologist and watershed scientist with expertise in land

management and conservation and restoration strategies for fishes and amphibians.

307 J. A. Cook, and S.O. MacDonald, Should endemism be a focus of conservation efforts along the North Pacific Coast of North America? 97 Biological Conservation 207-213 (2001).

308 A. G. Hope et al., Revision of widespread red squirrels (genus: Tamiasciurus) highlights complexity of speciation within North American forests, 100 Molecular Phylogenetics and Evolution 170-182 (2016).

309 J. Blondel, On humans and wildlife in the Mediterranean islands, 35 Journal of Biogeography 509-518 (2008).

310 DEIS at 3-114 to 3-115.

Dr. Frissell also serves as Affiliate Research Professor at the University of Montana's Flathead Lake Biological Station. The following are excerpts from Dr. Frissell's comments:

* [T]he conservation of salmon and the manifold roles of salmon in the natural ecosystem and the human economy of southeast Alaska are directly dependent on protection and, where past degradation has occurred, restoration of the full natural diversity of aquatic habitats across the region.
* [T]he DEIS is premised on a covert, unstated, and utterly undocumented assumption that road building and logging can occur in currently roadless watersheds with no risk of significant harm to aquatic habitat and fisheries. History and the available scientific literature establish clearly that this assumption is wholly untenable.
* [T]he proposed action is in fact is a massive, regional-scale step backward from the level of conservation that salmon enjoy under present forest plans, including the regulatory protection provided by the Roadless Rule.
* Effective conservation of salmon on those forests will require comprehensive protections that assure no net loss of watershed condition relative to current conditions.
* Leaving unlogged riparian forests is insufficient to mitigate for the effects of upland logging on streams, contrary to the implications in the DEIS.
* The DEIS arbitrarily and capriciously dismisses, and fails to substantively and accurately address, the environmental effects [associated with] ... edge effects on windthrow or blowdown, mass erosion and channel erosion resulting from hydrologic changes caused by logging, the effects of roads altering hydrology and erosion processes, and alteration of groundwater temperature by logging. Each of these categories of impact poses consequences for fish habitat and water quality that need to be analyzed on a regional scale to account for potential cumulative impacts of multiple logging projects that we know, from past experience and common sense, can result from a systematic forest plan policy change, such as proposed removal of roadless areas from protection forest-wide.
* The DEIS fails to consider and disclose how logging in currently protected roadless areas will impact mass-erosion-prone slopes, hence altering the frequency, magnitude, and distribution of landslides relative to salmonid habitats across the Tongass National Forest.
* Post-logging fluvial erosion, gullying and channel expansion is a scientifically recognized cumulative impact of logging that affects sediment supply and could potentially degrade salmonid habitat quality in connected waters

downstream of headwaters if roadless areas of the Tongass National Forest are logged. This environmental impact has not been addressed or disclosed in the DEIS.

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* The DEIS utterly fails to consider, explain or disclose what the impact will be of road system expansion into currently roadless areas, many of which contain extensive areas of landslide-prone terrain.
* Watersheds with a high proportion of roadless area tend to be relatively high in fish abundance, salmonid diversity and production, and roadless areas thus are of extreme value in the long-term conservation of salmon and trout populations throughout their ranges. Despite the fact that the proposed suspension of the Roadless Rule is explicitly intended to allow the expansion of the logging road network into presently roadless areas in Tongass National Forest watersheds, the DEIS utterly fails to explain how road system expansion will not be associated with more widespread impacts of salmon streams and more extensive deterioration of high-quality salmonid habitat.
* Because road systems span multiple watersheds across large areas of national forest, because their adverse impacts cannot be completely avoided or remediated, and because harms to aquatic ecosystems accrue over many decades and are often triggered or exacerbated by natural events like winter storms and summer drought, as well as by climate change that affects storms and drought at regional scales, the cumulative impacts of expansion of road systems must be addressed at the scale of the national forest or a major portion of a national forest.
* The DEIS ignores and fails to consider or disclose the known relationships between logging and alteration of temperature regime in streams that can cause substantial adverse effects on fish life history and population productivity, especially in Pacific salmon.
* Watersheds with a large proportion of primary forest and roadless area are likely to be among the most resilient salmonid habitats to the stresses imposed by ongoing and future climate change.... One principal category of recurring and lasting impact from roads and logging is to introduce stressors that reduce resilience and increase the volatility of watershed responses to climatic stresses like flood and drought. Examples include the increased incidence of landsliding in the face of winter storms or rain-on-snow events, and the potential depletion of stream base flows by a combination of increased water demand by second growth forest and increased drought stress.
* The dominant vectors of expected change in climate ... and the effects of road development and logging in roadless watersheds inexorably increase the vulnerability of freshwater habitats, and the fish populations dependent upon them to recurring climatic stresses like floods and drought. Their inherent resilience to climate variability and extreme weather events is one of the reasons that watersheds associated with roadless areas are considered "safe havens," refugia, or core areas for conservation of salmonid fishes and other sensitive species (Bryant 2011, Dellasala et al 2011, Frissell and Carnefix 2007, Baxter et al. 2000, USDA Forest Service 2000, Bryant and Everest 1998).

The DEIS critically fails to consider or analyze the likely effects of road development and

logging on the response of currently roadless watersheds to future climate change.

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The Forest Service must complete a new NEPA analysis that considers all of the information discussed in Dr. Frissell's report. In so doing, the Forest Service must consider the effects of the proposed rule at a scale that allows the public and decisionmakers to assess the risk presented to different watersheds and floodplains. A new report by David Albert, also attached to these comments, documents the extent of anadromous fish floodplain habitat remaining on the

Tongass by biogeographic province.311 This new report indicates that this habitat type has been reduced by about 21%, with some provinces like North Prince of Wales reduced by about 37%.312 The report also indicates that a substantial portion of the remaining floodplain forests are in roadless areas, and that this habitat type is at risk of future impact. The Forest Service must incorporate the data from both Dr. Frissell's analysis and the Albert report, consider the past impact of logging and road building on watersheds and fish, and assess the potential for future impact in any subsequently prepared NEPA document.

IX. CEDAR

The DEIS fails to mention the impact of removing Roadless Rule protections on Yellow cedar (Callitropsis nootkatensis). Yellow cedar is an important economic and cultural tree species across the Tongass. Despite compelling evidence of the fragility of yellow cedars in the Tongass in the face of threats including climate change and logging the U.S. Fish and Wildlife Service recently denied a petition was submitted requesting that the species be listed under the Endangered Species Act.313 The primary rationale for not listing the species was a current decline of less than 10% of the species across its entire range, even though the species is declining as much as 50% in some regions. The Species Assessment rationale, which was used to refute listing criteria, also definitively stated that more information was necessary to accurately portray the impacts of climate change on the species: "The future status of yellow-cedar in Alaska will be affected by the species' limited regeneration capacity and the potential for range expansion. Recent research suggests that natural regeneration is minimal in many post-decline stands, resulting in successional change toward communities with reduced importance of yellow-cedar (Oakes et al. 2014). This suggests that stands that have been affected by decline may remain lacking in yellow-cedar indefinitely." 314

The decision to not list the species includes the summation that the species will continue to expand into new ranges because it is still colonizing available habitat. However, recent studies

illustrate that even when available habitat exists, the species is present in less than 1% of its available niche space.315 Therefore, the ability of the species to persist may be overestimated, while die-off and total species loss on the Tongass may be underestimated based on survey methods.316

311 Albert 2019 at 22, Tbl. 6.

312 Id.

313 84 Fed. Reg. 53336 (Oct. 7, 2019).

314 ABR, Inc.-Environmental Research & Services, Population status, Threats and Persistence of Yellow-cedar in Alaska[mdash]Information Synthesis, Prepared Alaska Department of Fish and Game at 17 (2018).

New information reports that Yellow cedar decline is more widespread than previously understood (both north and south of the core range of the species) and decline occurs at higher rates than estimated previously in young-growth stands. More than a half-million acres of decline have been mapped in Southeast Alaska through aerial detection surveys.317 These surveys include roadless areas, which have high concentrations of Yellow cedar since Yellow cedar thrives at mid-elevations across hill slopes in Southeast Alaska. Therefore, it is presumable that a significant portion of Yellow-cedar range occurs in roadless areas on the Tongass National Forest, and therefore, an adequate analysis of maintaining viable, well-distributed populations of Yellow cedar should be done before any conclusions can be made about the persistence of the species. This is especially true

since the primary threat to the species, climate change, is projected to increase the severity of decline across the range of Yellow cedar.318 Recent research found that Yellow-cedar exhibits significantly higher mortality across all size classes and locations when compared to other conifer species in the region. The results of this recent research highlight the long-term implications of ecological shift on the Tongass and within roadless areas due to climate change:

Widespread mortality of tree species due to changing climate is a major concern in forests worldwide, but the potential for resilience is rarely assessed during an ongoing mortality event, a gap we have attempted to fill here. Species' responses to climate change-induced mortality will vary widely based on species-specific traits, sensitivity to climatic extremes, biotic stressors, and abiotic conditions of the establishment environment, thus requiring autecological studies on factors limiting versus promoting success. In C. nootkatensis forests, there is no increase in C. nootkatensis regeneration abundances to offset canopy mortality. As a result, this forest type is not resilient to mortality associated with ongoing snow loss, and a type change appears to be underway. This example of climate change-driven mortality in a single species highlights how species-specific sensitivity can lead to shifts in community composition and stand dynamics following canopy mortality via the same mechanism[mdash]death of mature seed trees.319

The ecological shift due to climate change should also be included under the Cumulative Impacts section of the DEIS and needs to address the loss of Yellow cedar and establishment of new

ecological regimes and the species composition changes that will have cascading impacts on the future of all species across these cedar ecosystems.

315 J. Krapek, J., and B. Buma., Yellow-cedar: climate change and natural history at odds. Natural History Notes: 280-281 (2015).

316 P. E. Hennon et al., Climate adaptation strategy for conservation and management of yellow-cedar, General Technical Report PNW-GTR-917 (2016)7.

317 See Forest Service, Map: Yellow-cedar Decline in Southeast Alaska (2018) (Yellow-cedar Decline Map).

318 S. Bisbing et al., From canopy to seed: Loss of snow drives directional changes in forest composition. 9 Ecology and Evolution 8157-8174 (2019).

319 Id. at 8157

Due to high market demand for Yellow cedar, and based on recent timber harvest data, it is likely much of the harvestable timber accessible if the proposed alternative is adopted will include large selections of Yellow cedar. Scientific surveys using multiple methods illustrate 18,000-47,000 acres of active Yellow cedar decline, with more decline plausible with recent information about lack of seedling survival. Therefore, simple acreage totals conclude up to a third of the 185,000 acres of the lands to be designated suitable for logging could be Yellow cedar, and the Forest Service needs to address the direct and cumulative impacts of removing a significant portion of a species across its global range at the same time it is actively declining due to climate changes that are projected to continue into the foreseeable future.

In summary, the most recent research illustrates that Yellow cedar is in decline due to climatic factors that will increase decline across its range in the foreseeable future.320 Meanwhile, previous assumptions about Yellow cedar populations not experiencing decline at the south and north ends of its distribution have been refuted by research, and as much as 120,000 acres of the species. In 2004, a collaborative aerial survey with the British

Columbia Forest Service found that yellow-cedar decline extended at least 100 miles south into British Columbia. Since that time, continued aerial mapping around Prince Rupert and areas farther south have confirmed more than 120,000 acres of yellow-cedar decline in BC.321 In addition, recruitment studies overestimated seedling success by as much as 70%, and current studies show low recruitment of the species, and therefore low climate resilience which will make future projections difficult. In order to establish the impact of Yellow cedar, an important species for the ecological integrity of roadless areas on the Tongass, the Forest Service should complete the following studies as part of any NEPA analysis of the proposed rule to adequately address these impacts:

1. Provide specific harvest data of Yellow cedar across core areas of its range, with a specific study for Prince of Wales Island, where most of the old-growth Yellow cedar logging occurs.
2. Produce a detailed map of climate envelope maps for Yellow cedar for the next 400 years (the beginning of the "old-growth" phase for the species). These maps will provide the climate vulnerability context for the species. These maps should use multiple scales of warming trends (1.5, 3, 5 degrees C).
3. Analyze range shifts over time using the new and most updated information about species recruitment that illustrates the species only regenerates on 1-20% of areas where there is "suitable habitat".

These studies will provide an understanding of the true impacts of climate change on the vulnerability of roadless area species such as Yellow cedar.

320 Scenarios Network for Alaska Planning, Alaska Regional Climate Projections (2009).

321 See Yellow-cedar Decline Map.

Figure 1: Map of Yellow-cedar decline across Southeast Alaska with location of some roadless areas added. Base map provided by Forest Service.

THE FOREST SERVICE FAILS TO TAKE A HARD LOOK AT THE TONGASS'S IMPORTANCE FOR CARBON SEQUESTRATION

The Tongass stores more carbon than any other national forest in the country, and its primary, unlogged forests store substantially more carbon than its young growth forests.322 The forest may also function as a climate refuge for species that face increasing climate-related stresses in interior Alaska and in the coastal rainforests of British Columbia and the Pacific Northwest.323 In the DEIS for the proposed rule, the Forest Service misrepresents and understates the importance of the intact roadless areas of the Tongass for carbon sequestration and fails to disclose the significant economic value of Tongass roadless areas for carbon storage. These flaws are described in more detail in the attached analysis prepared by Dr. Dominick DellaSala and Dr. Brian Buma.324 The Forest Service's failure to take a hard look at these impacts and values violates NEPA's hard look mandate as well as the NFMA.

I. THE DEIS MISREPRESENTS THE IMPORTANCE OF THE INTACT ROADLESS AREAS OF THE TONGASS FOR CARBON SEQUESTRATION.

NEPA and NFMA require the Forest Service to use high quality, accurate, scientific information to assess the effects of a proposed action on the environment.325 The Forest Service violated this requirement by failing to 1) recognize the global importance of the Tongass for carbon storage, 2) use an inappropriate scale of analysis that understates the value of the Tongass and the effects of the action, and 3) disclose and analyze credible information showing that old growth forests in the roadless areas of the Tongass store substantially more carbon than saw logs and young growth.326 In the FEIS for the 2016 Tongass Plan,327 the Forest Service recognized that the Tongass is "a critical component in the global carbon cycle" and that management actions on the Tongass can "affect climate change at a local, regional, and global scale," yet the DEIS for the proposed rule entirely ignores this conclusion and states that logging and roadbuilding in roadless areas will have minimal effect on carbon sequestration or climate change.328 The Forest

Service does not explain why it no longer considers the Tongass to be an important resource for climate sequestration, nor does it address the multitude of credible, scientific studies, described in detail in the attached report by Dr. DellaSala and Dr. Buma, that support the conclusion that temperate rainforests in general, and the Tongass particular, are globally important carbon sinks.329 With these forests dwindling quickly on an international scale, scientists recommend protecting remaining intact areas, not logging them. Contrary to the statements in the DEIS, the International Panel on Climate Change has similarly recommended avoiding land sector emissions[mdash]in other words, keeping trees standing[mdash]not logging unroaded areas.330

322 W. Leighty et al., Effects of Management on Carbon Sequestration in Forest Biomass in Southeast Alaska, 9 ECOSYSTEMS 1051 (2006); H. Keith et al., Re-evaluation of forest biomass carbon stocks and lessons from the world's most carbon dense forests, PNAS (2009).

323 D. DellaSala et al., Climate Change May Trigger Broad Shifts in North America's Pacific Coastal Rainforests (2015).

324 D. DellaSala and B. Buma, Analaysis of Carbon Storage in Roadless Areas of the Tongass National Forest (2019) (DellaSala and Buma 2019).

325 See 40 C.F.R. [sect] 1500.1(b); 36 C.F.R. [sect] 219.3.

326 See 40 C.F.R. [sect] 1502.9(b) (requiring agencies to disclose, discuss, and respond to "any responsible opposing view"); Center for Biological Diversity v. Nat'l Highway Traffic Safety Admin., 538 F.3d 1172, 1227 (9th Cir. 2008) (holding environmental assessment was unlawful where agency's conclusion that rule's climate impacts would not be significant lacked adequate record support).

327 The analysis of climate change in the 2016 Tongass Plan FEIS is inadequate for the reasons discussed in the attached comments submitted by Alaska Wilderness League et al., on the 2016 Tongass Plain DEIS, which we incorporate by reference and attach hereto.

328 See 2016 Tongass Plan FEIS at 3-13 and 3-19; DEIS at 3-126 to 3-127.

The Forest Service also assumes, counter to scientific consensus, that saw logs and young growth will store just as much carbon as standing old-growth forests.331 This not only contradicts scientific consensus, it also contradicts the Forest Service's own conclusions in the 2016 Tongass Plan Amendment FEIS, which acknowledged that logging old growth results in increased emissions because some wood is lost to sawdust, and furniture and other wood products degrade or are destroyed and release stored carbon.332 The attached report prepared by Dr. DellaSala and Dr. Buma confirms this analysis and shows that the contiguous old growth in roadless areas of the Tongass stores significantly more carbon than saw logs or young growth. The Forest Service failed to address this information in the DEIS.

In addition, the analysis in the DEIS minimizes the importance of the Tongass for carbon storage by using an inappropriate scale of comparison. The DEIS concludes that the proposed action would not have a significant effect on climate change by comparing potential emissions resulting from logging under the proposed rule to greenhouse gas emissions for the entire world.333 This comparison does not provide a relevant scale for analysis. The Forest Service should provide a comparison of the emissions of each alternative so that the public and decisionmakers can compare the greenhouse gas contributions of each alternative. These emissions should be compared to regional or local emissions, not global or total US power sector emissions, to

provide a more meaningful basis of comparison.334 In fact, Dr. DellaSala and Dr. Buma estimate that over 70 percent of the carbon stored in old growth forests and soils on the Tongass could be at risk under the preferred alternative if all suitable acres are logged.335 This analysis shows that the old growth in roadless areas of the Tongass is particularly significant to the carbon storage capacity of the Tongass.

329 DellaSala and Buma (2019).

330 See id. (discussing recommendations of scientists and the IPCC).

331 See DEIS at 3-126 to 3-127; see also 2016 Tongass Plan FEIS at 3-16 (citing studies concluding that cutting old growth on the Tongass would reduce the carbon sequestering ability of the forest).

332 See 2016 Tongass Plan FEIS at 3-19 to 3-20.

333 DEIS at 3-126.

II. THE DEIS FAILS TO DISCLOSE THE ECONOMIC VALUE OF ROADLESS AREAS

OF THE TONGASS ON THE CARBON MARKET AND THE SOCIAL COST OF CARBON EMISSIONS RESULTING FROM LOGGING.

The Forest Service does not estimate or disclose the economic value of standing old growth in intact roadless areas for its carbon sequestration. This information is relevant to the analysis of alternatives and should have been disclosed.336 In the attached report, Dr. DellaSala and Dr. Buma estimate that the additional acres of Tongass National Forest lands that would be added to the suitable timber base under the proposed alternative could be worth over $240 million for their carbon storage capacity. Further, they estimate that the carbon storage value of all of the suitable timber on the Tongass could be worth over $2 billion.337 The Forest Service must disclose the significant economic values attributed to intact forest in terms of carbon storage in any subsequently prepared NEPA document.

In addition, the DEIS does not disclose the social cost of carbon emissions that will result from logging in

roadless areas of the Tongass. Carbon emissions have significant adverse effects on human health and the environment that result from climate change. As Dr. DellaSala and Dr. Buma explain in their report, the DEIS must express emissions as carbon dioxide equivalents in order to provide an estimate of the socioeconomic costs of the projected carbon emissions.338

Because the DEIS does not include an analysis of either the potential value of carbon storage on the Tongass or the socioeconomic costs of carbon emissions, it does not allow the public or decisionmakers to evaluate these economic tradeoffs and therefore violates NEPA.

334 See High Country, 52 F. Supp. 3d at 1190 ("Beyond quantifying the amount of emissions relative to state and national emissions and giving general discussion to the impacts of global climate change, [the agencies] did not discuss the impacts caused by these emissions."); Mont. Envtl. Info. Ctr. v. U.S. Office of Surface Mining, 274 F. Supp. 3d 1074, 1096-99 (D. Mont. 2017) (rejecting the argument that the agency "reasonably considered the impact of greenhouse gas emissions by quantifying the emissions which would be released if the [coal] mine expansion is approved, and comparing that amount to the net emissions of the United States"); WildEarth Guardians v. Zinke, 368 F. Supp. 3d 41, 76-78 (D.D.C. 2019) (holding BLM's conclusion that the emissions from oil and gas leases "represent an incremental contribution to the total regional and global GHG emissions level" was arbitrary and capricious because it was not supported by any data).

335 See DellaSala and Buma 2019.

336 See Natural Resources Defense Council v. U.S. Forest Service, 421 F.3d 797 (9th Cir. 2005).

337 See DellaSala and Buma 2019.

338 See DellaSala and Buma 2019 at 15-16.

THE FOREST SERVICE DID NOT MEET ITS OBLIGATION TO CONSULT WITH TRIBES OR COMPLY WITH THE REQUIREMENT TO MAKE SUBSISTENCE FINDINGS UNDER THE ALASKA NATIONAL INTEREST LANDS CONSERVATION ACT.

The Forest Service has a legal duty to consult meaningfully with Alaska Native tribes that are affected by Forest Service actions and to protect subsistence uses of the Tongass. The Forest Service did not meet either of these obligations.

I. THE FOREST SERVICE DID NOT MEET ITS OBLIGATION TO CONSULT WITH ALASKA NATIVE TRIBES ON A GOVERNMENT-TO-GOVERNMENT BASIS OR AS COOPERATING AGENCIES.

Executive Order 13175 requires all federal agencies to consult with Indian tribes, on a government-to-government basis, regarding any policies with tribal implications.339 The consultation must be meaningful, and it must take place "early in the process of developing the proposed regulation."340 Consultation is also required, as a matter of right, under the United Nations Declaration on the Rights of Tribes.341 This is particularly true in the case of matters protecting subsistence, which are also protected under the United Nations Declaration on the Rights of Tribes.342 Although the Declaration has not been ratified by the U.S. Senate, the Forest Service recognized, when it adopted its directives on American Indian and Alaska Native relations, that the Declaration

represents "an ideal the Federal Government should strive toward in its dealings with indigenous peoples and an important international perspective."343 The proposed action would affect tribal interests in protecting lands, cultural sites, and subsistence resources in traditional territories and the Forest Service has an obligation to consult meaningfully with tribes. Instead of initiating consultation early in the process, as required under Executive Order 13175, the Forest Service stated that "government-to-government consultations will occur by request of any of the 19 tribal governments across Southeast Alaska."344 This does not meet the obligation to consult early in the process. Moreover, although the Organized Village of Kake requested that the Forest Service meet with tribal leaders, the Forest Service did not meet with tribal leaders until after it had already issued the DEIS.345 Although Forest

339 65 Fed. Reg. 67,249 (Nov. 9, 2000).

340 Id. at 67,250.

341 See UN Declaration on the Rights of Indigenous Peoples, art. 19.

342 See UN Declaration on the Rights of Indigenous Peoples, art. 20.

343 See 81 Fed. Reg. 12,447, 12,449 (Mar. 9, 2016); see also Forest Service Manual 1500,

[sect] 1563.02(4) (recognizing the rights of indigenous peoples to the conservation and protection of

the environment in their lands and territories).

344 84 Fed. Reg. at 55, 528.

345 See Letter from Joel Jackson, President, Organized Village of Kake, to Forest Supervisor Earl Stewart RE: Scoping Period for the Roadless Rule (Sept. 7, 2019); Organized Village of Kake, Resolution No. 2018-24, Continued Tribal Support for Application of National Roadless Rule on the Tongass National Forest; Letter from Joel Jackson, President, Organized Village of Kake to the Hon. Sen. Murkowski, the Hon. Sen. Sullivan, the Hon. Congressman Young (May 8, 2019); see also United States Forest Service, Alaska Roadless Rulemaking Consultation, Collaboration and Outreach (Draft) (May 5, 2019) (showing no consultation with Organized Village of Kake).

Service officials met with the State of Alaska and representatives of the timber industry before issuing the DEIS, they did not discuss consultation visits with Kake until August 23, 2019, and did not meet with tribal leaders until after the DEIS was released.346 This does not meet the Forest Service's obligation to consult early[mdash]in other words, before making decisions. In fact, the Forest Service has disregarded the concerns and recommendations the Organized Village of Kake has provided through written comments and oral testimony at public and Congressional hearings.

Even when the Organized Village of Kake elected to act as a cooperating agency in an effort to make its voice heard, the Forest Service refused to consider alternatives and information that Kake provided, including Kake's community use map. The Forest Service is required, under 40 C.F.R. [sect] 1501.6, to "[u]se the environmental analysis and proposals of cooperating agencies with jurisdiction by law or special expertise, to the maximum

extent possible," and to "[m]eet with a cooperating agency at the latter's request." The Organized Village of Kake has proposed alternatives, policy preferences, and mitigation measures, and offered traditional knowledge, maps, and other information for consideration in the rulemaking process and DEIS, but all of that information has been ignored. The Organized Village of Kake has also repeatedly requested meetings with the Forest Service, but those requests have not been honored.

To meet its obligations to Kake, the Forest Service was required to initiate meaningful

consultation and take Kake's views into account before developing the proposed action and to take Kake's views into account as a cooperating agency. The Forest Service has not met those obligations, and must therefore start the process again and consult with Kake in a meaningful way.

II. THE FOREST SERVICE VIOLATED ANILCA, NFMA, AND NEPA BY FAILING TO MAKE A SUBSISTENCE FINDING AND ANALYZE FACTORS NECESSARY TO MAKE THE FINDNG

ANILCA requires the Forest Service to make a subsistence determination in the DEIS, but the Forest Service has not done so. Further, the Forest Service did not provide sufficiently site-specific information to analyze the effects of the proposed rule on subsistence and refused to consider an accurate map of subsistence use areas provided by the Organized Village of Kake. The Forest Service's failure to disclose and analyze this information violates both ANILCA and NEPA.

A. The Forest Service violated ANILCA and NFMA by failing to make a required subsistence determination.

Under ANILCA, federal agencies are required to make subsistence findings in an environmental impact statement.347 Therefore, the Forest Service's statement in the DEIS that it "may [make

required ANILCA determinations] in the record of decision, if appropriate," is arbitrary and violates Section 810 of ANILCA and NFMA.

346 See supra, n. 345.

347 16 U.S.C. [sect] 3120(b) ("If the Secretary is required to prepare an environmental impact statement, . . . he shall provide the notice and hearing and include the findings required by subsection (a) as part of such environmental impact statement.").

"In determining whether to withdraw, reserve, lease, or otherwise permit the use, occupancy, or disposition of public lands," ANILCA requires agencies to "evaluate the effects of such use, occupancy, or disposition on subsistence uses and needs, the availability of other lands for the purposes sought to be achieved, and other alternatives which would reduce or eliminate the use, occupancy, or disposition of public lands needed for subsistence purposes."348 Moreover, prior to any action that will significantly restrict subsistence uses, the agency must also give notice to the appropriate state agencies and local committees and councils, hold hearings in the vicinity of the area involved, and make a determination 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.349

The 2016 Tongass Plan also requires that the Forest Service comply with ANILCA and evaluate the effects of its management activities on subsistence. Thus, in undertaking this change to roadless areas, the Forest Service must comply with both ANILCA and the 2016 Tongass Plan requirements, as required under NFMA, for evaluating impacts to subsistence uses and needs, providing public participation opportunities, and making required determinations.

The agency did none of those things here, even though the rulemaking would significantly restrict subsistence uses. The likelihood of significant restriction on subsistence uses from managing the forest pursuant to the 2016 Tongass Plan is well settled. Every programmatic analysis addressing Tongass Forest management since 1997 has concluded that implementation of the plan may result in a significant restriction to subsistence use of deer. This proposed rulemaking would withdraw existing Roadless Rule protections from roadless areas on the Tongass, resulting in increased habitat fragmentation and risks to deer that are critical for subsistence.350 It would also displace subsistence users from important subsistence use areas if those areas are logged. Because the proposed action would exacerbate the factors that lead to a finding of a significant possibility of a restriction on subsistence in the Tongass Plan, the proposed action would also have create a significant restriction on subsistence.

348 16 U.S.C. [sect] 3120(a).

349 Id.

350 See supra pp. 40-43 (describing effects of increased old growth logging on deer).

1. The Forest Service's failure to provide site-specific information and consider the OVK map violates ANILCA and NEPA.

Impacts to wildlife and habitat resources are highly particularized based on location, and community use of subsistence resources is just as particularized, so it is crucial that the Forest Service base its findings on adequate site-specific information. The DEIS does not provide this site-specific information. Instead, the DEIS assumes, just as it does with respect to other effects, that logging will be evenly distributed Forest-wide across the suitable land base, skewing the analysis of effects.351 In the case of subsistence, the lack of site-specific information is compounded by the Forest Service's refusal to consider relevant information about community use areas and patterns. This violates ANILCA because the Forest Service has not provided adequate information to make a subsistence finding, and it violates NEPA because the Forest Service has not disclosed factors relevant to the decision.

As the DEIS reflects, the Forest Service has largely neglected to gather data needed to identify current subsistence patterns beyond baseline studies that are now 20 to 30 years old. The so-called subsistence hearings held around Southeast Alaska this fall[mdash]where the agency could have engaged with communities to acquire updated information[mdash]failed to meet Tongass Plan standards for Section 810 hearings. The Organized Village of Kake attempted to address this failure with the Forest Service. When the Organized Village of Kake reviewed the Preliminary DEIS as a cooperating agency in February 2019, both its cover letter and accompanying edits to the Preliminary DEIS, pointed out that the map of Kake's community use area found in Appendix E did not accurately portray Kake's traditional use area. Specifically, it identified lands that should have

been included within that area, and submitted a corrected map. This map included all roadless portions of Kuiu Island, including Port Camden, Saginaw, Kadake Bay and Creek, Three-mile Arm, Rocky Pass, and East Kuiu. It further explained that evaluation of these lands was essential for the Organized Village of Kake to comment adequately on the draft statement's analysis of significant site-specific effects. Nonetheless, the DEIS makes no mention of these comments, and fails to incorporate the updated Kake Community Use Area into its analysis. Without accurate information about community use areas and subsistence patterns, the Forest Service cannot meet its obligations to avoid restrictions on subsistence under ANILCA and it cannot meet its obligations under NEPA to take a hard look at the effects of the proposed action.

1. The Forest Service violated ANILCA and NEPA by refusing to consider mitigation measures proposed by Kake.

Under ANILCA, the Forest Service must take reasonable steps to minimize adverse impacts on subsistence resulting from its land management decisions.352 NEPA also requires consideration of appropriate mitigation measures.353 The Organized Village of Kake asked the Forest Service to consider specific measures to mitigate the effects of the proposal on subsistence use of Kake's

traditional use area, including protecting all the remaining productive, intact, old-growth habitat in Kake's traditional use area, updating the Tongass roadless inventory to capture all roadless lands important to Kake, and allowing Organized Village of Kake an improved role in management of lands in Kake's traditional territory. The Forest Service failed to disclose and consider these measures in the DEIS or explain why they were not considered. This Forest Service must complete a revised EIS that includes this information and makes the required findings under ANILCA.

351 See, e.g., DEIS at E-17 (describing changes in suitability acre designations and harvest near Angoon).

352 16 U.S.C. [sect] 3120(a)(3).

353 40 C.F.R. [sect] 1504.14(f).

THE DEIS AND REGULATORY IMPACT ANALYSIS SKEW THE ECONOMIC ANALYSIS OF THE PROPOSED RULE

The economic analysis in the Regulatory Impact Assessment and the DEIS skew the analysis of costs and benefits in violation of NEPA by failing to account for significant costs that accrue to taxpayers as a result of Tongass timber sales. The attached critique prepared by Dr. Evan Hjerpe, which we incorporate by reference, provides a detailed analysis of the flaws in the economic analysis.354 Dr. Hjerpe is an economic consultant with extensive professional experience with economic issues in the Tongass National Forest and southeast Alaska. The following is an excerpt from Dr. Hjerpe's analysis:

[The] economic valuations and trends associated with Tongass timber production and roadless protections clearly indicate that both national and Southeast Alaskan residents will incur greater benefits by keeping the Roadless Rule in place in Alaska. In fact, removing roadless protections from the Tongass will result in tremendous costs and damages to other economic sectors, national taxpayers, ecosystem services, and biodiversity. Because of the obvious economic perils and government waste that would result from removing Tongass roadless protections, the only reasonable alternative is the No Action alternative.

The Tongass Roadless Rule DEIS, released on October 17, 2019, is lacking any credible economic analysis and falls well short of appropriate NEPA economic requirements. In the DEIS, USDA has ignored the best available economic science, which clearly illustrates that from almost every economic angle, the U.S. and southeast Alaskans are better off keeping the Roadless Rule intact. Not only has USDA ignored the best available science, they also did not provide any economic analysis to show how exempting the Roadless Rule on the Tongass would help Alaska or the nation. The disregard for incorporating the best available science, combined with providing no supporting economic analysis, undermines the validity of appropriate NEPA analysis. These economic issues were flagged in detailed scoping comments,355 yet were not addressed in the DEIS.

The overarching economic theme presented in the DEIS is that Tongass roadless timber production can occur in a vacuum without damaging the primary economic drivers of the region or the ecological integrity of the Tongass, and without any additional costs to the agency. This is perhaps the biggest flaw of the NEPA analysis and illustrates a poor understanding of real-world

economics.

354 E. Hjerpe, Tongass Roadless Economic Comments (2019). We further the request that the Forest Service respond to each and every point made in Dr. Hjerpe's comments.

355 See scoping comments submitted by Dr. Evan Hjerpe.

The DEIS is severely lacking in economic facts and provides zero economic reasoning on why the Roadless Rule should be lifted from the Tongass.

The major deficiencies regarding economics in the DEIS include:

* USDA did not validate the State of Alaska's claims of economic harm from the Roadless Rule, which are meritless and unsupported.
* USDA's purpose and need in the DEIS is irrational and they have provided no logical rationale, economic or otherwise, to justify the proposed rule.
* USDA's distributional effects analysis shows the proposed rule will result in zero increases in regional employment, output, or income. USDA has thus validated that there is no logical rationale for the proposed rule, as the entire rationale for the proposed rule is predicated on providing further economic development to Southeast Alaska.
* The Cost-Benefit Assessment required for this rulemaking is does not pass scientific or legal muster.
* USDA included timber harvesting costs in Tongass IRAs that are erroneously projected to decrease under the proposed rule, but inexplicably did not include any increased road construction, decommissioning, or maintenance costs.
* In the Cost-Benefit assessment, USDA has mistaken distributional effects of changes in industry revenues for costs and benefits to be used in economic efficiency analysis.
* USDA has not quantified any costs or benefits to the US Forest Service (USFS) or society at large, despite numerous cost increases that will result from the proposed rule.
* USDA's net present valuation (NPV) of costs and benefits appears to be wildly inaccurate.
* USDA has provided almost no supporting economic data to support their claims of harvest cost savings, nor any supporting engineering or economic analysis to project road needs and costs for timber production in Tongass IRAs.
* USDA has omitted most of the Tongass economics literature illustrating the severe economic inefficiency of Tongass timber production and peer-reviewed research illustrating social conservation values held for Tongass old growth.

* When including increased road costs and lost conservation values, credible cost-benefit analysis illustrates that the proposed rule will result in losses ranging from $26 million to $48 million, at a minimum.
* USDA has not illustrated how existing economic inefficiencies and large subsidies for the Tongass timber program will only be exacerbated by the proposed rule.
* USDA has not included synthesized economic research showing that the Tongass timber program has an average cost-benefit ratio of 25--- or, for every $1 million received by the U.S. Treasury for stumpage fees, U.S. taxpayers pay $25 million in federal agency costs to subsidize timber harvests.
* In the Agency and Regulatory Costs section, USDA has failed to quantify a single cost to the agency, despite many costs to choose for analysis.
* USDA did not provide an ecosystem services perspective of the proposed rule, despite its current prominence as the USFS's dominant management paradigm.

THE DEIS DOES NOT INCLUDE AN ADEQUATE ANALYSIS OF THE EFFECTS OF THE PROPOSED RULE ON THE VISITOR INDUSTRY AND RURAL COMMUNITIES

The visitor industry, which added over 1,000 new jobs to the region between 2014 and 2018, is a major economic driver in Southeast Alaska.356 While the timber industry provided fewer than 340 jobs in Southeast Alaska in 2018, the visitor industry provided over 8,000 jobs.357 Tourists are expected to spend over $790 million in Southeast Alaska in 2020, contributing significantly to the regional economy.358 This industry includes a variety of outfitters, guides, and small boat tour operators that depend on inventoried roadless areas to provide remote recreation opportunities to their clients. These operators are also likely to make stops in small, remote communities, resulting in economic benefits for these rural areas.359 Opening roadless areas to development will have adverse effects on both tour operators and rural communities. Under NEPA, the Forest Service must disclose these effects.360 The Forest Service failed to provide an adequate analysis of the effects of the proposed rule on the visitor industry and rural communities because the DEIS underestimates the effect on the visitor industry, and does not assess the corresponding effect on rural communities.

A. The DEIS underrepresents the effects of eliminating the Roadless Rule on the visitor industry.

Just as place matters with respect to wildlife, subsistence, and communities, place matters with respect to the visitor industry. As discussed above, the DEIS is legally inadequate because it does not disclose the locations where future logging is likely to occur.361 To describe the effects of the proposed Roadless Rule repeal on outfitters and guides, the Forest Service provides maps of guide use areas and estimates the increase in acres designated suitable for logging in each of the mapped areas.362 The calculations do not represent where the Forest Service projects that logging is likely to occur; they simply show the number of acres added to the suitable timber lands base in large geographic areas. This is not sufficient to allow the public and decisionmakers to determine how logging and roadbuilding will affect this important sector of the regional economy. Without detailed analysis of the specific locations where development is likely to occur, outfitters cannot, for example, determine whether they will have to reroute tours to avoid new clearcuts.

In addition, the calculations underrepresent the effects of removing the Roadless Rule in two ways. First, the calculations do not include all of the two million acres of inventoried roadless areas that are in development LUDs and could be designated suitable for timber under future

Tongass Plan amendments. With respect to the proposed alternative, for example, the calculations are based on the designation of 185,000 acres of land as suitable for logging. This substantially underestimates the potential effects of the proposed rule.

356 Southeast Alaska by the Numbers at 4.

357 Id. at 5.

358 Id. at 6.

359 See Alaska Division of Economic Development, Trends and Opportunities in Alaska's Small Cruise Vessel Market (Jan. 2016) at 23 - 24.

360 See Natural Resources Defense Council v. U.S. Forest Service, 421 F.3d 797, 812 (9th Cir. 2005) (reliance on inaccurate economic information in an EIS violates NEPA).

361 See supra p.12.

362 DEIS at 3-173; RIA/CBA at 31.

Second, the calculations are used to estimate the effect of displacement on outfitters, guides, and recreational users.363 Because the calculations are based solely on timber suitability acres, they leave out several important factors and consequently underrepresent the true area of displacement. Clearcuts and roads affect a much larger area than the area that is logged. The viewshed may be affected over a large area, causing tour operators to reroute boat tours or select other areas for remote recreation to avoid the affected viewshed. Wildlife may also be dispersed, causing guides to seek other areas for wildlife viewing. Noise from roads or active logging projects will also displace users from a wider area. Because there is already competition over the use of a limited number of remote areas, these effects compound existing conflicts and could make it difficult for tour operators to find new locations for the remote tours they offer.364

B. The DEIS does not analyze corresponding effects on rural communities.

As tour operators change course to avoid clearcut areas, they may also stop visiting communities as a result of those areas. This results in a loss of tourism dollars and employment in these rural communities. For example, Kake, Thorne Bay, Kasaan, Metlakatla, and Craig, all small, rural communities, each receive visits from small cruise boats or otherwise benefit economically from the visitor industry.365 If logging is increased in these areas, boats, guides, and outfitters may avoid stopping in these towns, resulting in a loss of income and employment opportunity associated with the visitor industry for these communities. These adverse effects show that eliminating the Roadless Rule on the Tongass does not meet the stated purpose of enhancing rural development opportunities. The Forest Service must disclose and analyze these effects in the EIS.

THE FOREST SERVICE CAN ONLY CHANGE TIMBER SUITABILITY DESIGNATIONS THROUGH A PLAN REVISION OR AMENDMENT.

According to the DEIS and the Notice of Proposed Rulemaking, the Forest Service is proposing to change suitability designations in the Tongass Land Management Plan through an "administrative change," a directive that the Forest Service recognizes differs from previous

rulemaking proceedings.366 Under the Forest Service's planning regulations, however, only a plan revision or amendment can be used to change "plan components." The timber sale program is a required provision of a forest plan under the National Forest Management Act, 16 U.S.C. [sect] 1604(f) and the designation of lands as suitable for logging is a "plan component" under 36 C.F.R. [sect] 219.7(e)(1)(v).367 Therefore, these designations cannot be changed administratively. Because timber suitability designations are fundamental to the Tongass Plan, they should be made through a plan revision, but, at a minimum, an amendment is required. In fact, in its petition for rulemaking, the State also recognized that an amendment was required to change suitability designations in the Tongass Plan.368

363 See RIA/CBA at 31.

364 See Trends and Opportunities in Alaska's Small Cruise Vessel Market at 21 (describing access a limiting factor for the visitor industry).

365 Id. at 27 (showing ports of call for small cruise vessels); DEIS at 3-164 (estimating guide/outfitter service days in a selection of southeast communities).

Under 36 C.F.R. [sect] 219.13(c), an

administrative change is any change to a plan that is not a plan amendment or

plan revision. Administrative changes include corrections of clerical errors to any part of the plan, conformance of the plan to new statutory or regulatory

requirements, or changes to other content in the plan ([sect] 219.7(f)).

By contrast, a plan amendment "is required to add, modify, or remove one or more plan components, or to change how or where one or more plan components apply to all or part of the plan area . . . ."369 In adopting the 2012 planning regulations, the Forest Service further explained that "[a]dministrative changes are made to correct clerical errors to plan components, to alter content in the plan other than the plan components, or to achieve conformance of the plan to new statutory or regulatory requirements."370 Similarly, "[a]ny change to plan components related to timber harvesting level requires a plan amendment under" the 2012 Planning Rule.371 Thus, under the Forest Service's planning regulations, administrative changes may be used to correct clerical errors, but plan amendments, at a minimum, are required to modify any plan

components, particularly those that are "related to timber harvesting levels," such as timber suitability designations.

Although administrative changes may, in some cases, be appropriate to conform to statutory or regulatory changes, in this case, changing suitability designations goes beyond conforming to regulatory changes. The Notice of Proposed Rulemaking states that the Forest Supervisor would be directed to change designations for areas "deemed unsuitable . . . solely due to the application

of the 2001 Roadless Rule," but the 2016 Tongass Plan does not identify any lands as unsuitable solely because of the application of the Roadless Rule.372 The Tongass Plan independently protects roadless areas, regardless of the Roadless Rule. The decision to protect roadless areas follows the recommendations of the Tongass Advisory Committee, which stated that both young and old growth logging should be limited to areas outside of

inventoried roadless areas and other conservation priority areas.373

366 84 Fed. Reg. at 55,525 ("The proposed rule would direct the Tongass Forest Supervisor to provide notice of an administrative change (36 CFR 219.13(c)) concerning lands that were deemed unsuitable in the 2016 Tongass Forest Plan . . . solely due to the application of the 2001 Roadless Rule."); see also DEIS at 2-2 ("Alternatives 2, 3, 4, 5, and 6 would result in an administrative change to the timber land suitability determinations made in the 2016 Forest Plan. Specifically, lands identified as suitable for timber production that were deemed unsuitable solely due to roadless designation in the Plan would be designated as suitable for timber production.").

367 See also 2016 Forest Plan at 5-1.

368 See DEIS at A-8 to A-9.

369 36 C.F.R. [sect] 219.13(a).

370 77 Fed. Reg. 21,162, 21,239 (April 9, 2012) (emphasis added).

371 Id. at 21,228.

In addition, in responding to objections to the 2016 Tongass Plan amendment, the Regional Forester explained:

[N]o timber harvest or associated road construction or reconstruction would occur in these IRAs regardless of the status of the Roadless rule.

If the status of the Roadless Rule were to change with regard to its applicability to the Tongass National Forest, a forest plan amendment would be necessary if the Forest decided to pursue modifications to the suitable timber base to include IRAs.374

The DEIS for the Alaska Roadless Rulemaking does not explain why the Forest Service no longer believes a plan amendment is required to change the suitability designations of Roadless areas. Eliminating the Roadless Rule in Alaska, as proposed under alternative 6, would make it possible for the Forest Service to designate roadless areas as suitable for logging[mdash]if the Forest Service pursues a future plan revision or amendment[mdash]but the decision to eliminate Roadless Rule protections does not eliminate the independent protection provided under the Tongass Plan.375

Changing suitability designations under any of the other action alternatives would likewise require a revision or amendment to the Tongass Plan. In fact, the land management decisions made under the other alternatives include a variety of management categories, with broad direction to the Forest Supervisor to issue a "ministerial Notice of Administrative Change . . . identifying plan changes made in conformance with the regulatory requirements of" the proposed regulations.376 These other alternatives require a sweeping set of changes to establish new categories or roadless areas and suitability designations over millions of acres of the forest. These changes must also be made through a revision or amendment.

The 2012 Planning Regulations make it clear that if the Forest Service decides to pursue changes to the suitability designations, the Forest Service must, at a minimum, do so through an amendment. In this case, because of the significance of changing suitability designations, the Forest Service should make any such changes through a revision. Changes to the suitability designations are significant to the operation of the entire Tongass Plan because they affect the

Sustained Yield Limit and PTSQ, as well as the conservation strategy for the forest.377

372 84 Fed. Reg. at 55,525.

373 See TAC Final Recommendations at 6, 13.

374 Forest Service, Tongass National Forest Land and Resource Management Plan Amendment: Reviewing Officer Response to Eligible Objections at 56 (Nov. 28, 2016).

375 See DEIS at G-38 (proposed regulatory language).

376 See, e.g., DEIS at G-20 (proposed language for Alternative 3).

In

addition, there have been significant changes in conditions in the Tongass planning area since the Tongass Plan was last revised over 20 years ago, including changes in timber economics, a significant drop in timber related employment, an increase in tourism and other economic activities that depend on forest resources, increasing recognition of the importance of the Tongass in light of dramatic climate change, and many other changes.378 These changes influence the determination of which lands should be open to logging and which lands should be protected for other purposes. If the Forest Service changes suitability designations for Roadless areas, the Forest Service must take all of these factors into account through a plan revision, and must comply with all the substantive and procedural requirements for revisions mandated by NFMA.

PROCESS ISSUES AND PUBLIC SUPPORT

I. PRESIDENT TRUMP HAS ARBITRARILY PREDETERMINED THE OUTCOME OF THE RULEMAKING

President Trump reportedly has instructed Secretary Perdue to exempt the Tongass from the Roadless Rule, thereby predetermining the outcome of this rulemaking process. According to the Washington Post story published on August 27, 2019, Trump personally intervened in the rulemaking process after meeting with Alaska Governor Dunleavy on June 26.379 No one in the administration has either verified or denied this report. The Federal Register notice for the proposed Alaska roadless rule/Tongass exemption simply states that "the [Agriculture] Department has given substantial weight to the State's policy preferences as expressed in the incoming Petition."380

The President's effort to dictate the outcome of the rulemaking process is the epitome of arbitrary and capricious executive action. It totally subverts the public notice and comment process if the agency's hands are effectively tied by the President's insistence that the Forest Service accede to the State of Alaska's demand to exempt the Tongass from the Roadless Rule.381

377 It appears that the State of Alaska also believes a plan revision is necessary to change timber suitability designations. See

State of Alaska, Petition for USDA Rulemaking to Exempt the Tongass National Forest from Application of the

Roadless Rule and Other Action at 7-8 (Jan. 19, 2018) (Alaska Exemption Petition).

378 See 36 Fed. Reg. [sect] 219.7 (stating that forest plans must be revised at least every 15 years, or "any time that conditions have changed significantly" in the planning area).

379 J. Eilperin and J. Dawsey, Trump pushes to allow new logging in Alaska's Tongass National Forest, THE WASHINGTON POST (Aug. 27, 2019).

380 84 Fed. Reg. at 55523.

381 Cf. Metcalf v. Daley, 214 F.3d 1135, 1142 (9th Cir. 2000) (The "hard look" required by NEPA "must be taken objectively and in good faith, not as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made.").

1. THE FOREST SERVICE AND THE STATE HAVE MISUSED CONGRESSIONAL FIRE APPROPRIATIONS AND CREATED A CONFLICT OF INTEREST.

Reports suggest that the Forest Service may have illegally used federal appropriations in making

a $2 million grant to the State of Alaska to support the State's involvement in the Alaska roadless rulemaking process. Notably, no similar grants were awarded to tribes acting as cooperating agencies. In a letter dated November 18, 2019, the Chairman of the House Natural Resources Committee and the Ranking Member of the Senate Committee on Agriculture, Nutrition & Forestry have requested the Inspector General of the Department of Agriculture to investigate this issue.382 As explained in the letter, the State of Alaska allegedly used a federal fire assistance grant for non-fire purposes, including a subgrant to the Alaska Forest Association to help advance efforts by the timber industry and the State to promote logging in Tongass National Forest roadless areas. This apparent violation of federal appropriations is further evidence that the Trump Administration has illegally colluded with the State of Alaska and the timber industry to exempt the Tongass from the Roadless Rule.

According to the DEIS, the State of Alaska requested "cooperating agency" status and entered into a MOU with the Forest Service on August 2, 2018, explaining that the State "has special knowledge and expertise relative to natural resources, economic growth and development, resource planning, transportation, and other matters that may be affected by Forest Service management."383 However, the DEIS never mentions the $2 million grant or explains why the State was allowed to use the funding for non-fire uses, including a subgrant to the timber industry to generate information that the State and industry can use to help pressure the Forest Service to exempt the Tongass from the Roadless Rule. This is clearly a conflict of interest that further undermines the credibility and legality of this rulemaking process. At a minimum, the Forest Service must disclose the conflict in a revised DEIS.

1. THE FOREST SERVICE ILLEGALLY FUNDED AND CONTROLLED A FEDERAL ADVISORY COMMITTEE

The Forest Service also appears to have violated the Federal Advisory Committee Act by providing all of the funding for a state-run advisory committee that was charged with developing alternatives for the Forest Service to consider in the Alaska Roadless Rule EIS. The DEIS briefly discusses the Alaska Roadless Rule Citizens

Advisory Committee (CAC) in the section on Cooperating Agencies, stating that the CAC "was charged with providing recommendations to assist the State in fulfilling its role as a cooperating agency."384 However, it does not explain that[mdash]in reality[mdash]the AC's function was specifically to develop "options" for the Forest Service to evaluate in the EIS.385 Indeed, the CAC's four "land base options" closely resemble four of the alternatives in the Forest Service's DEIS. For example, both the CAC's land base option A and the Forest Service's DEIS alternative 2 remove "roaded roadless areas" from the Roadless

Rule. Likewise, CAC land base option D and Forest Service DEIS alternative 5 both remove the same types of Land Use Designations from the Roadless Rule. In addition, the CAC's proposed exceptions for road building and logging in inventoried roadless areas are nearly identical to the Forest Service's proposed exceptions in "Roadless Priority" areas.

382 Sen. D. Stabenow and Rep. R. Grijalva, U.S. Congress, Letter to P. Fong, U.S. Department of Agriculture, Re. Investigation into U.S. Forest Service Grant (Nov. 18, 2019).

383 DEIS at 1-5.

384 DEIS at 1-5.

385 See Alaska Roadless Rule Citizen Advisory Committee, Final Report to the Governor and State Forester, State of Alaska (Nov. 21, 2018) (CAC Final Report).

The problem is that the CAC was selected and operated in violation of the procedural requirements of the Federal Advisory Committee Act (FACA). First, the membership of that CAC, which was entirely selected by the Governor, was not "fairly balanced in terms of the points of view represented" as required by FACA.386 Most of the CAC members were hostile to the Roadless Rule, as indicated by the ridiculous statement in the report that "the 2001 Roadless Area Conservation Rule characteristics do not align with the unique characteristics found in Alaska." 387 Second, the CAC process was extremely rushed: the entire process was completed in less than four months between the time that the Governor formally established the CAC on September 6, 2018, until the CAC submitted its final report on November 21, 2018. Contrary to the FACA,388 advance notice of the CAC's three in-person meetings was not published in the Federal Register, thus depriving the interested public of adequate notice.

The Forest Service apparently sought to avoid FACA compliance by letting the State of Alaska handle establishment and administration of the CAC. However, the fact that the CAC was entirely funded through a special grant from the Forest Service to the State meant that the CAC was effectively under the control of the Forest Service and therefore was being "utilized" by the agency, in violation of FACA requirements.389 Since the CAC's recommendations were deeply embedded in the DEIS alternatives, it is difficult to see how the Forest Service can proceed with the current NEPA process without violating FACA.

IV. DEIS FAILS TO DISCLOSE OVERWHELMING PUBLIC OPPOSITION TO THE PROPOSED ACTION

The DEIS fails to disclose that public scoping comments were overwhelmingly opposed to the Forest Service's proposal to change the Roadless Rule in Alaska. The DEIS only briefly mentions that "144,000 entries were logged" during the public comment scoping period in the fall of 2018.390 It provides no sense of what these public scoping comments said, despite the fact that the Forest Service conducted a detailed content analysis of the scoping comments. According to the agency's content analysis report, "[t]he majority of comments received

opposed changing the 2001 Roadless Area Conservation Rule."391 Likewise, it found that "[t]he majority of comments received supported the existing 2001 Roadless Rule as expressed by support for a no action alternative or as opposition to the Alaska-Specific Roadless Rule or full exemption

alternatives."392 Our own review of the scoping comments indicates that more than 95% of the scoping comments supported leaving the 2001 Roadless Rule in place.

386 5 U.S.C. [sect] 5(b)(2).

387 CAC Final Report at 4.

388 5 U.S.C. [sect] 10(a)(2).

389 FACA defines an advisory committee as any committee which is "established or utilized by one or more agencies." See 5 U.S.C. [sect] 3(2)(C).

390 DEIS at 1-4.

391 Forest Service, Alaska Roadless Rule Scoping Period: Written Public Comment Summary at 2 (Feb. 2019).

The DEIS also fails to disclose that oral public comments made during the 17 public meetings were overwhelmingly opposed to changing the Roadless Rule. While the Forest Service refused to record or otherwise memorialize these oral comments, virtually all media coverage of the public meetings reported that the public was strongly supportive of keeping the Roadless Rule and opposed to any changes.393 For example, according to the article about the Petersburg meeting, "[r]ural residents from around Southeast sent a clear message that they didn't want more development in the Tongass National Forest." Another article reported that people who spoke in opposition to changing the Roadless Rule at the Juneau meeting outnumbered those who spoke in favor by more than twelve to one. A full description of the public scoping comments[mdash]both written and oral[mdash]must be included in a revised DEIS.

THE DRAFT PROPOSAL TO EFFECTIVELY REPEAL THE ROADLES RULE FOR THE CHUGACH NATIONAL FOREST LACKS A RATIONAL BASIS, AND THE DRAFT EIS FAILS TO ANALYZE ITS IMPACTS.

The draft Alaska Roadless Rule contains a provision, proposed 36 C.F.R. [sect] 294.51(a)(2), that would permit the Alaska Regional Forester to redraw the boundaries of any and all 5.4 million acres of roadless land within the Chugach National Forest, thus permitting the agency to make project-by-project decisions approving road construction and commercial logging. This provision would effectively repeal Roadless Rule's ban on such destructive activities.

This proposal is unsupported by the record, and diverges from other, allegedly similar proposals in the Colorado or Idaho Roadless Rules. Further, the Draft EIS fails to disclose the proposal's environmental effects, violating NEPA.

We therefore request that the Forest Service withdraw proposed provision, and not adopt any provision permitting the modification of roadless area boundaries except for mapping errors and the like. If the Forest

Service declines to withdraw proposed 36 C.F.R. [sect] 294.51(a)(2), the Forest Service must reinitiate scoping on the Alaska Roadless Rule and fully analyze the proposal's environmental impacts, as NEPA requires.

I. THE CHUGACH NATIONAL FOREST

The Chugach National Forest is characterized by extensive coastal shorelines, rugged mountains, spectacular snow and ice covered peaks, expansive glaciers, countless lakes, rivers, and streams, and unparalleled scenery. Over half the population of Alaska lives near the Chugach National Forest, with a portion of the national forest accessible within a day's drive of Anchorage.

392 Id. at 3.

393 Copies of several news articles about the public meetings were appended to scoping comments submitted on October 15, 2018, by The Wilderness Society, Defenders of Wildlife, and Natural Resources Defense Council.

The Chugach National Forest contributes significantly to the socioeconomic sustainability of southcentral Alaska. The national forest supports approximately 3,100 jobs tied to the commercial salmon harvest, valued at more than $19 million per year, and an additional estimated 1,000 jobs tied to recreational activities, including sportfishing. Recreation use on the Chugach National Forest provides an annual contribution of $12.3 million to the State of Alaska. Visitors come from all over the world to experience the numerous recreation opportunities the national forest offers, such as viewing mountainous glacial scenery and abundant wildlife, participating in sportfishing in rivers and lakes, kayaking, rafting, hiking, heli-skiing, hunting, horseback riding, and camping.

The Chugach National Forest is characterized by largely intact ecosystems. Inventoried roadless areas comprise 99 percent of the national forest which are generally managed to allow natural processes to shape the landscape. Culturally important resources for subsistence and traditional uses are derived from healthy watersheds and clean water and contribute substantially to social well-being and economic sustainability in southcentral Alaska. The Chugach National Forest supports all five species of Pacific salmon, as well as other fish and wildlife species, which provide local economic benefits through fishing and hunting. The Chugach is the second-largest national forest. 45 percent of the area is non-vegetated rock and ice, and approximately 20 percent is forested.

II. THE PROPOSED CHUGACH RULE

The proposed Alaska Roadless Rule contains the following provision for the Chugach.

(a) Administrative correction or modification of inventoried roadless area designations on the Chugach National Forest may be made as follows:

1. Administrative corrections to boundaries. The Regional Forester for the Alaska Region may issue administrative corrections to the boundaries of an Inventoried Roadless Area after a 30-day public notice and opportunity to comment period. Administrative corrections are limited to adjustments that remedy clerical errors, typographical errors, mapping errors, improvements in mapping technology, conformance to statutory or regulatory changes, or incorporation of changes due to land exchanges.
2. Administrative modifications to Classifications and Boundaries. The Regional Forester for the Alaska Region may issue modifications to the classifications and boundaries of an Inventoried Roadless Area after a 45-day public notice and opportunity to comment period.394

The preamble to the draft Alaska Roadless Rule describes the two provisions as follows:

The 2001 Roadless Rule would remain applicable to the Chugach National Forest. However new administrative provisions for correcting and modifying inventoried roadless area boundaries would be applied to the Chugach National Forest to

allow for limited adjustments to remedy clerical errors, improvements in mapping technology, conformance to statutory changes, or incorporation of changes due to land adjustments.395

394 36 C.F.R. [sect] 294.51 (proposed), 84 Fed. Reg. at 55,529 (emphasis added).

The Draft EIS describes the proposed rule similarly:

a single administrative provision concerning boundary corrections and

modifications [that] would be made applicable to IRAs designated by the 2001 Roadless Rule on the Chugach National Forest to align practices with other states that have state-specific roadless rules (Idaho and Colorado). This provision is administrative in nature and does not have any environmental effects.396

A. The Forest Service Provides No Rational Basis for Adopting the Chugach Proposed Modifications Provision.

The Forest Service provides two rationales for adopting the Chugach provisions. First, the draft rule preamble alleges that the provisions are limited to authorizing the agency to make "adjustments to remedy clerical errors" and the like. Second, the Draft EIS asserts that the provisions were proposed in order "to align practices with other states that have state-specific roadless rules (Idaho and Colorado)."

Neither of these rationales support the proposed modifications provision.

1. The Proposed Chugach Provision Authorizes a Single Forest Service Employee to Rewrite or Eliminate the Boundaries of Any Roadless Area.

The draft rule preamble states that the Chugach provisions "allow for limited adjustments to remedy clerical errors, improvements in mapping technology, conformance to statutory changes, or incorporation of changes due to land adjustments."397 That is an accurate description of (and in some cases a direct quotation from) proposed 36 C.F.R. [sect] 294.51(a)(1), concerning "administrative corrections to boundaries."

But the preamble description does not accurately describe proposed 36 C.F.R. [sect] 294.51(a)(2), concerning "administrative modifications to classifications and boundaries." That subsection does not limit the purpose of any "modification" to any roadless area boundary (in contrast to the proposal for "administrative corrections"). The only procedural limitation is that the public must receive 45-days notice and an opportunity to comment before the boundary modification can occur. In short, this subsection provides the Alaska Regional Forester with apparently unfettered discretion to modify the boundary of any roadless area within the Chugach National Forest for any reason, or no reason at all.

The preamble thus fails to accurately describe the Chugach "modifications" provision.

395 84 Fed. Reg. at 55,523 (emphasis added).

396 DEIS at 1-12 (emphasis added).

397 84 Fed. Reg. at 55,523 (emphasis added).

2. The Forest Service Does Not Explain Differences Between the Chugach Administrative Corrections Provision and Prior Similar Provisions.

The "administrative corrections" provision of the Chugach rule does not perfectly "align" with the practices set out in regulations for state-specific roadless rules (Idaho and Colorado), as the DEIS asserts, and neither the preamble not the DEIS explain the discrepancies. See Table 1, below.

Most importantly, the proposed Chugach rule authorizes the Alaska Regional Forester to make administrative corrections, whereas the Idaho and Colorado roadless rules vest that authority with a higher ranking official: the Forest Service Chief. The Forest Service must explain this discrepancy in any subsequent rulemaking proposal or NEPA document.

We urge the Forest Service to modify its proposal to authorize only the Chief to make this kind of decision. The Regional Forester is less likely than the Chief to consider national implications, is less likely to have identified a consistent national policy or practice concerning such corrections, and is more likely subject, and responsive, to local political pressure, thus making it more likely that the Regional Forest will approve "corrections" that the Chief would not.

3. The Chugach Modifications Provision Does Not Align with the Colorado and Idaho Provisions, and Is Poorly Drafted.

The Chugach modifications provision does not "align" with the similar provisions in the Colorado and Idaho roadless rules, again contradicting the DEIS's inaccurate assertion. In at least one case where the Chugach provision arguably "aligns" with the Idaho (but not the Colorado) roadless rule, reliance on the Idaho rule makes no sense.

Subsection (a)(2) of the proposed Chugach rule would permit the Regional Forester, on 45-days' notice and comment, to zero out any or all roadless areas on the Chugach by eliminating their "boundaries." It also would authorize the Regional Forester to allow any road anywhere on a project-by-project basis by modifying those boundaries.

There are at least five significant differences between the Colorado and Idaho roadless rules' modifications provisions on the one hand and the Chugach proposed modifications provision on the other.

First, both the Idaho and Colorado modifications provisions designate the Chief as the official deciding whether modifications can occur, which would likely result in some weighing of the national implications of such a decision.398 By contrast, the Chugach proposed rule designates a lower-level decision-maker, the Regional Forester for the Alaska Region, as the decision-maker.399 As discussed above concerning the administrative corrections provisions, the Regional Forester is less likely to consider national implications, and more likely to respond to local political pressure, making it more likely that that person will approve "modifications" to eliminate protection for Chugach roadless areas. The Forest Service provides no explanation for this difference.

The decision to place the Regional Forester in charge of decisions that could eliminate protection of any or all roadless areas on the Chugach also represents an unexplained, 180-degree turn from the Forest Service's position in adopting the 2001 Roadless Rule. There, the Forest Service specifically explained why decisions about the agency should make decisions about the protection of roadless areas at the national level:

At the national level, Forest Service officials have the responsibility to consider the "whole picture" regarding the management of the National Forest System, including inventoried roadless areas. Local land management planning efforts may not always recognize the national significance of inventoried roadless areas and the values they represent in an increasingly developed landscape. If management decisions for these areas were made on a case-by-case basis at a forest or regional level, inventoried roadless areas and their ecological characteristics and social values could be incrementally reduced through road construction and certain forms of timber harvest.400

The Forest Service's abandonment of this position for the Chugach, without explanation, is arbitrary and capricious.

Second, both the Idaho and Colorado modifications provisions authorize the Chief to modify roadless area classifications only in certain specific circumstances. The Idaho rule authorizes the Chief to make modifications "based on changed circumstances or public need."401 The Colorado rule permits the Chief to make changes "based on changed circumstances."402 These words provide some criteria that limit the Chief's ability to act, and would, at a minimum, require the Chief to make certain findings before issuing a modification decision. By contrast, the Chugach provision contains no criteria of any kind, giving the Alaska Regional Forester arguably

unbounded, limitless discretion to revise boundaries for any reason, or no reason at all. This is a dramatic, and unexplained, divergence from prior provisions.

398 36 C.F.R. [sect] 294.27(b) (Idaho rule); 36 C.F.R. [sect] 294.47(a) (Colorado rule).

399 Proposed 36 C.F.R. [sect] 294.51(a)(2).

400 66 Fed. Reg. at 3,246 (emphasis added).

401 36 C.F.R. [sect] 294.27(b).

402 36 C.F.R. [sect] 294.47(a).

Third, the Idaho and Colorado rules provide more time for public review of any proposal to modify boundaries. The Colorado rule requires that the Chief provide the public "with a minimum 90-day comment period;"403 the Idaho rule mandates that the Chief provide "at least a 45-day public notice" period.404 While these two rules provide a floor for the time provided for public input, the Chugach proposed rule provides a ceiling that is at the lower boundary of the Idaho rule, and half as much as the lower boundary of the Colorado rule. The Regional Forester can provide no more than 45 days for comment. Again, the Forest Service fails to provide any rationale for this difference, or for why roadless areas on the Chugach merit less public input than those in Colorado or Idaho.

Fourth, the Idaho and Colorado rules explicitly provide that the Chief can expand the boundaries of a roadless area though the modifications provisions,405 whereas the Chugach proposed rule does not. The Colorado rule authorizes the Chief to "add new Colorado Roadless Areas," and the Idaho rule empowers the Chief to "add to" roadless area designations.406 The Chugach proposed rule contains no such explicit authority to expand roadless area boundaries. The Forest Service fails to explain this divergent approach.

Fifth, the context of the Chugach rulemakings is completely different from those of the two states. In adopting the state-specific roadless rules in Colorado and Idaho, the Forest Service went through lengthy processes that evaluated and categorized each of the roadless areas at issue, and that created new management prescriptions for many of them, some more arguably more protective than the 2001 Roadless Rule. There was a general expectation that the reworking of roadless protection state-wide would settle roadless management issues for years, and that any "modifications" would occur rarely. That is not the case with the Chugach, where the proposal simply kicks the door open to degrading every roadless area, without any discussion of the values of any of those places.

In short, in virtually every key area, the Chugach proposed rule does not "align" with the modifications provision of the Colorado and/or Idaho modifications rule.

In addition, in one place where the Chugach proposed rule aligns with the Idaho rule (but diverges from the Colorado modifications provision), that alignment makes no sense, and is arbitrary and capricious. The Chugach proposed rule contains language that appears borrowed from the Idaho rule, but which is arguably irrelevant here, perhaps the result of a sloppy cut-and-paste job. The Idaho rule states that "[t]he Chief may add to, remove from, or modify the designations and management classifications listed in [sect] 294.29 based on changed circumstances or public need."407 (The Colorado rule contains no similar language.) In the Idaho rule, the

reference to "classifications" makes sense because that rule established five separate categories of roadless areas and specified different management rules based on the nature of those classifications.408

403 Id.

404 36 C.F.R. [sect] 294.27(b).

405 Id. (Idaho rule); 36 C.F.R. [sect] 294.47(a) (Colorado rule).

406 Id.

407 36 C.F.R. [sect] 294.27(b).

The Chugach proposed rule states that "[t]he Regional Forester for the Alaska Region may issue modifications to the classifications and boundaries of an Inventoried Roadless Area . . . ."409 The proposed rule does not explain to what "classifications" of roadless area it refers. The 2001 Roadless Rule, which currently governs the Chugach, does not distinguish between types of roadless areas, and doesn't use the word "class" or "classification" to refer to them. Roads are "classified" or "unclassified" in the 2001 Roadless Rule, but not IRAs.410 Most importantly, the Chugach proposed rule, unlike Idaho's, does not designate different "classifications" of roadless areas. The only conceivable "classification" the Chugach proposed rule could refer to is the designation of a roadless area, meaning that that proposed rule authorizes the elimination of all roadless protection, whereas the Idaho rule could be read to allow the Chief to move a roadless area from one type of roadless area designation to another.

The Chugach provision thus appears to allow the Forest Service to simply "classify" an area as no longer an inventoried roadless area, and thus terminate the area's protection.

In sum, the Forest Service fails to provide any rational basis for the provisions allowing the Alaska Regional Forester to modify roadless area boundaries on the Chugach National Forest.

B. The Forest Service Must Disclose the Environmental Impacts of the Effectively

Repealing Roadless Rule Protections for the Chugach National Forest.

The DEIS asserts that the Chugach modifications provision "is administrative in nature and does not have any environmental effects."411 But this is false because the provision acts as an effective repeal of the Roadless Rule.

The Forest Service adopted the Roadless Rule because decisions approving road construction and commercial logging at a regional, forest, and district level were destroying the tremendous wildlife, water quality, recreational, scenic, and other values of roadless forests on a piecemeal basis, and concluded that a blanket prohibition (with a narrow set of exceptions) on road construction and timber removal would best protect natural resources, water quality, and the Forest Service's budget, among other values.412 The Roadless Rule ended the case-by-case practice with the goal of protecting all inventoried roadless areas from commercial logging and road construction due to their overwhelming values and threats to them.

408 See 36 C.F.R. [sect] 294.22(b) (identifying classification categories); id. at [sect] 294.29 (identifying each roadless area by classification).

409 Proposed 36 C.F.R. [sect] 294.51(a)(2).

410 See 36 C.F.R. [sect] 294.11.

411 DEIS at 1-12 (emphasis added).

412 66 Fed. Reg. at 3,246 (explaining why the agency was explicitly abandoning its prior "case-by-case" approach); id. at 3,251, 3,253, 3,263 (making same argument).

The proposed rule allowing the Alaska Regional Forester to modify Chugach National Forest roadless area boundaries for any reason (or no reason at all) would eliminate the across-the-board protection provided by the Roadless Rule, and resurrect the case-by-case evaluation of damaging road construction and logging within any Chugach roadless area, and all of the controversy, conflict, uncertainty, and cost that entails.

Federal courts have recognized that the change from a management regime where road construction and timber removal can occur at the whim of a lower-level agency official to a regime where such actions are generally prohibited is likely to have a significant benefit to the environment. The Ninth Circuit has found that "the Roadless Rule provided greater substantive protections to roadless areas than the individual forest plans it superseded."413 The court also found that "the reduction in human intervention that would result from the Roadless Rule actually does alter the environmental status quo . . . . By altering how the Forest Service manages inventoried roadless areas, the Roadless Rule will have a demonstrable impact on the physical environment."414 Because the Chugach modifications provision effectively repeals Roadless Rule protections there, it is likely to have environmental impacts. The Chugach provision allows piecemeal decision-making by the Alaska Regional Forester, which is similar to the status quo before the Forest Service adopted the Roadless Rule - simply allowing a Forest Service official to authorize the degradation of roadless areas at their whim.

In its public meeting in Anchorage, Forest Service staff admitted that the agency anticipates decisions that could result in the destruction of roadless values, namely the construction of roads not otherwise exempt from the 2001 Roadless Rule.415

In addition, the Forest Service has recently affirmed that the Roadless Rule, and thus the current boundary of inventoried roadless areas, is a key factor limiting the development of a timber program on the Chugach. In its Final EIS on the Chugach Forest Plan revision, the Forest Service declined to analyze in detail an alternative to "Implement a Commercial Timber Harvest Program" in large part because 99% of the Chugach is designated roadless, and so given "the general prohibition on road building and timber harvest over such a vast extent of the national forest, a commercial timber harvest program would be extremely difficult to implement."416 The Forest Plan revision final acknowledges that "[m]any miles of road in inventoried roadless areas would be needed to access additional timber volume."417 By authorizing the Regional Forester to rewrite roadless area boundaries at will, the proposed modifications provision removes a key

obstacle to road construction and logging within what are now protected landscapes, and thus opens a door once closed to such development.

413 Cal. ex rel. Lockyer v. USDA, 575 F.3d 999, 1014 (9th Cir. 2009).

414 Kootenai Tribe v. Veneman, 313 F.3d 1094, 1115 (9th Cir. 2002). See also Cal. ex rel. Lockyer, 575 F.3d at 1015 (quoting same).

415 Andy Moderow, pers. comm. (attendee at Nov. 2019 Anchorage public meeting on Alaska Roadless Rule DEIS recounting Forest Service's argument that the modifications provision is necessary to permit construction of "viaduct access road" otherwise prohibited by the Roadless Rule).

416 Forest Service, Chugach National Forest Land Management Plan Final Enivornmental Impact Statement at 35 (2019) (Chugach Forest Plan FEIS); see also id. at 133 (making similar statements).

417 Id. at 35.

Such logging and development projects are not theoretical. Several entities are actively pressing for road bulldozing and logging - and all of the damaging impacts those activities cause - on the Chugach. The Alaska Roadless Rule modifications provision brings these proposals much closer to implementation. For example, the Chugach Alaska Corp., the Alaska Native Regional Corporation for the Chugach Region, alleges that the Roadless Rule unduly burdens economic development, including logging.418 To address these limitations, and to support development, the Corporation in October 2018 "submitted public comments supporting the proposed [Alaska Roadless Rule] and requesting the [Chugach National Forest] be included along with the Tongass National Forest."419

The Cook Inlet Region, Inc. (CIRI), another Alaska Native Regional Corporation, also sought repeal of the Roadless Rule for the Chugach in order to promote logging and other development. In late 2018, the corporation wrote that:

CIRI once again would like to express support for an Alaska-specific exemption from the 2001 Roadless Rule. We note with disappointment that the Chugach is not currently under consideration for exemption. As the [Forest] Service is aware, the Chugach is the second-largest Forest in the nation. However, present policies including the Roadless Rule and a zero Allowable Sale Quantity (ASQ) of timber under the Draft Plan make development of resources on these lands nearly impossible. Consequently, adjacent landowners like CIRI are precluded from enjoying the economies and support infrastructure of scale which would otherwise arise from multiple-use management of these public lands. The roadless rule limits access to, and across, CIRI lands and minimizes opportunities in timber, mining, renewable energy, and other industries. We request that the Service provide a process to exempt the Chugach from the 2001 Roadless Rule, similar to the one presently underway for the Tongass.420

CIRI, a neighboring landowner, clearly has an interest and intent to develop the Chugach, development that the proposed modifications provision will make more likely.

The State of Alaska has also made clear that it seeks more logging on the Chugach. In comments on that forest's plan revision, the State argued:

While the plan states that only a few thousand acres are suitable for commercial timber harvest and that roughly 99 percent of the forest is subject to the roadless

rule, as the nation[']s second largest national forest, the [Forest] Service could be

doing more to foster a productive commercial timber harvest program on the Forest.421

418 Letter of S. Buretta, Chugach Alaska Corporation to T. Marceron, Forest Service (2018), reprinted in Chugach Forest Plan FEIS, App. C and D at 185, 193.

419 Id. at 193.

420 Letter of J. Brune, Cook Inlet Region, Inc. to T. Marceron, Forest Service (Nov. 1, 2018), reprinted in Chugach Forest Plan FEIS, App. C and D at 199.

In short, several entities and neighbors of the Chugach have recently pressed that forest to allow more logging

within roadless forest, something that the proposed Alaska Roadless Rule's proposed modifications provision will make possible. The Forest Service thus must disclose the potential impacts of a provision authorizes the Regional Forester to modify inventoried roadless area boundaries to spur more logging or other development sought by local corporations and others.

Federal courts have ruled that the conservation groups may sue the Forest Service, where, as here, that agency declined to disclose any potential impacts of a rulemaking on the grounds that the rulemaking was administrative in nature and will therefore have no environmental impacts.

In Citizens for Better Forestry v. United States Department of Agriculture, environmental groups challenged a Forest Service promulgation of new national forest planning rules.422 The Forest Service argued: that the planning rules were programmatic in nature and that no NEPA review was required because the rules could have no on-the-ground impacts; that challenges to the rule's provisions would be better addressed in the context of a site-specific action; and that because there were no on-the-ground impacts, the plaintiffs could not show harm sufficient to establish standing. The Ninth Circuit reject the Forest Service's reasoning on each count.423 Most importantly, the court held that plaintiffs in Citizens could show harm from the proposed change in forest planning regulations because those rules would result in less substantive protection for national forests.

Citizens simply assert that regional [Forest Plans] and, thus, site-specific plans will follow the requirements of national rules (as they must), such that decreased substantive national rules will likely result in less environmental protection at the regional and site-specific levels. Therefore, the chain of causation and the likelihood of injury, while indirect, are far less attenuated and much more likely to occur.

Therefore we reaffirm, as we have repeatedly done in the face of USDA arguments to the contrary, that environmental plaintiffs have standing to challenge not only site-specific plans, but also higher-level, programmatic rules that impose or remove requirements on site-specific plans.424

The Forest Service here proposes to modify a rule in a way that will result in less environmental protection, because now a Forest official can waive at any time the Roadless Rule's protective provisions by redrawing roadless area boundaries to permit non-conforming, destructive

activities. The Chugach modifications rule, like the rule at issue in Citizens, thus represents a higher-level rule that removes a requirement on site-specific plans. Court precedent would support a challenge to the Forest Service's proposal.

421 Letter of C. Pinckney, State of Alaska Department of Natural Resources to T. Marceron, Forest Service (Nov. 1, 2018), reprinted in Chugach Forest Plan FEIS, App. C and D at 201, 208.

422 Citizens for Better Forestry v. U.S. Dep't. of Agric., 341 F.3d 961 (9th Cir. 2003).

423 Id. at 970-77.

424 Id. at 974-75 (emphasis added).

Further, courts have held that the Forest Service violated NEPA where it declined to disclose environmental impacts of a programmatic rulemaking that reduced environmental protection. In another case involving forest planning regulations, Citizens for Better Forestry II, a U.S. District Court held that the agency violated NEPA by failing to disclose impacts of those regulations, which the agency purported to categorical exclude.425 Here, the Forest Service does not even invoke a CE; it simply asserts in two sentence that effectively repealing the

Roadless Rule for the Chugach "is administrative in nature and does not have any environmental effects."426 As noted above, such an assertion is not only unsupported but without merit.427

425 Citizens for Better Forestry v. U.S. Dep't of Agric., 481 F. Supp. 2d 1059, 1085-90 (N.D. Cal. 2007) (Citizens for Better Forestry II).

426 DEIS at 1-12 (emphasis added).

427 As in Citizens for Better Forestry II, the Forest Service here cannot invoke a categorical exclusion because numerous criteria demonstrate that the proposal may have significant impacts. Citizens for Better Forestry, 481 F. Supp. 2d at 1089-90. Even if a proposed action appears to fit a specific category for exclusion for exclusion from NEPA review, an agency may not use a that category when "extraordinary circumstances" exist. California v. Norton, 311 F.3d 1162, 1168 (9th Cir. 2002) (citing 40 C.F.R. [sect] 1508.4). "Extraordinary circumstances" has been defined as those "in which a normally excluded action may have a significant environmental effect." Id. Further, Forest Service regulations state that in cases where "extraordinary circumstances" exist, and where there is a relationship between the impacts of the proposed action and the extraordinary circumstance, the proposed action requires preparation of an EA or an EIS. 36 C.F.R. [sect] 220.6(b)(2). The agency defines the presence of an "[i]nventoried roadless area" as a "resource condition[]" that may constitute an extraordinary circumstance. Because the proposed Chugach modifications rule's purpose is to authorize non-conforming activities within areas protected by the Roadless Rule, a clear relationship exists between the extraordinary circumstance (the presence of roadless areas) and the proposed action. Thus, the Forest Service cannot rely on a categorical exclusion. Further, the modifications provision meets several of the NEPA regulation's significance factors requiring preparation of an EIS. For example, the proposal sets a precedent that a lower-level line office can rewrite roadless area boundaries for any (or no) reason, a provision not aligned with any prior Roadless Rule provisions, and one that could be replicated across dozens of other states. See 40 C.F.R. [sect] 1508.27(b)(6) (defining one criteria for "significant impact" requiring preparation of an EIS: "The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration."). The proposed modifications provision is also "highly controversial' because there is a "substantial dispute about the size, nature, or effect of the major Federal action," with the Forest Service alleging zero potential impacts and others concluding the impacts will likely be massive. 40 C.F.R. [sect] 1508.27(b)(4); Blue Mountains Biodiversity Project v. Blackwood, 161 F.3d 1208, 1212 (9th Cir. 1998). Further, the rulemaking involves areas with "unique characteristics" - the 5.4 million roadless acres of the Chugach. See 40 C.F.R. [sect] 1508.27(b)(3).

Further, the Forest Service cannot fail to forecast potential impacts from effectively repealing the Roadless Rule on the Chugach on the grounds that any proposal to modify roadless area boundaries to permit roading and/or logging will be subject to NEPA review at a later time. It is reasonably foreseeable now that the Forest Service will utilize the proposed provision to allow destructive activities in Chugach roadless areas, and those impacts must be disclosed. Courts have long held that "[r]easonable forecasting and speculation is . . . implicit in NEPA, and we must reject any attempt by agencies to shirk their responsibilities under NEPA by labeling any and all discussion of future environmental effects as 'crystal ball inquiry.'"428 "If it is reasonably possible to analyze the environmental consequences in an [EIS], the agency is required to perform that analysis."429 "NEPA analysis necessarily involves some 'reasonable forecasting,' and . . . agencies may sometimes need to make educated assumptions about an uncertain future."430 "While foreseeing the unforeseeable is not required, an agency must use its best efforts to find out all that it reasonably can."431 The Forest Service must use its best efforts here to

disclose the use of the Chugach modifications provision to authorize logging and road construction within that forest.

Further, the Forest Service cannot claim that provisions of the Chugach Forest Plan will likely restrict roadbuilding and logging within roadless areas, even should boundaries be modified. Forest plans can be amended "at any time" or revised to make the plan conform to the damaging site-specific project.432 As noted above, the Chugach Plan's proposed limits on logging and other activities in roadless areas are based in large part on the Roadless Rule itself, which the Forest Service has proposed to effectively repeal given that the agency can redraw roadless area boundaries at will.

In sum, the law and facts compel the Forest Service to disclose the potential impacts of a provision authorizes the Regional Forester to modify inventoried roadless area boundaries to spur more logging and road construction.

428 Scientists' Inst. for Pub. Info., Inc. v. Atomic Energy Comm'n, 481 F.2d 1079, 1092 (D.C. Cir. 1973). See also City of Davis v. Coleman, 521 F.2d 661, 676 (9th Cir. 1975) (because "the basic thrust of an agency's responsibilities under NEPA is to predict the environmental effects of proposed action before the action is taken and those effects fully known . . . . [r]easonable forecasting and speculation is . . . implicit in NEPA.").

429 Kern v. U.S. Bureau of Land Mgmt., 284 F.3d 1062, 1072 (9th Cir. 2002) (finding both EIS and later EA inadequate under NEPA).

430 Sierra Club v. FERC, 867 F.3d 1357, 1374 (D.C. Cir. 2017) (quoting Del. Riverkeeper Network v. FERC, 753 F.3d 1304, 1310 (D.C. Cir. 2014)).

431 Barnes v. United States Dep't of Transp., 655 F.3d 1124, 1136 (9th Cir. 2011) (internal quotation marks omitted)).

432 36 C.F.R. [sect] 219.13(a)-(c) (rules regarding plan amendments); id. at [sect] 219.15(c)(3) (where project is inconsistent with a forest plan, the agency may "[a]mend the plan so that the project or activity will be consistent with the plan as amended.").

C. The Chugach Provision Requires the Forest Service to Re-Initiate the NEPA Process for the Alaska Roadless Rule.

The provision that eliminates across-the-board protection for roadless areas on the Chugach National Forest was not addressed in the State of Alaska's 2018 petition nor disclosed by the Forest Service in scoping. Vastly expanding the potential scope of the rule to include the 5.4 million acres of Chugach roadless areas requires the agency to conduct a new scoping process.

In January 2018, the State of Alaska submitted a petition to the U.S. Forest Service asking "that the USDA promptly commence[] a rulemaking proposing a rule to permanently exempt the Tongass National Forest from application of the Roadless Rule."433 The petition mentioned only the Tongass National Forest, not the Chugach.

In response to that petition, the Forest Service initiated a rulemaking process and invited public input. That scoping notice stated that:

The U.S. Department of Agriculture (USDA) is initiating an environmental impact statement (EIS) and public rulemaking process to address the management of inventoried roadless areas on the Tongass National Forest within the State of Alaska.434

The notice provided background on the Roadless Rule's history and its applicability on the Tongass, and opined that "controversy surrounding the management of roadless areas on the Tongass National Forest may be resolved through state-specific rulemaking."435 Its discussion of the "purpose and need" for the rulemaking referred exclusively to the Tongass. The notice mentioned the Chugach National Forest only twice, both times to indicate that the national Roadless Rule applies and would continue to apply on the Chugach.436

Forest Service materials published for the scoping process in the fall of 2018 further focused solely on the Tongass. A Forest Service "Question and Answer" stated that the proposal "is about opening opportunities to support rural communities on the Tongass National Forest."437 The Forest Service also prepared a PowerPoint presentation that introduced the public to the rulemaking and National Environmental Policy Act (NEPA) process that stated: "Chugach National Forest -currently outside area of focus."438 The Forest Service held meetings in a dozen

communities in or adjacent to the Tongass National Forest, but just one in a city close to the Chugach (Anchorage).439

433 State Exemption Petition at 8.

434 83 Fed. Reg. 44,252 (August 30, 2018).

435 Id.

436 Id. at 44,252, 44,253.

437 Forest Service, Alaska Roadless Rulemaking Questions and Answers at 3 (Sep. 13, 2018) (emphasis added).

438 Forest Service. Alaska Roadless Rulemaking, Public Scoping Meeting PowerPoint at 7 (Sept. 2018).

At the September 27, 2018 Anchorage scoping meeting for the proposed rule, participants asked whether the Forest Service intended for the proposed rule to apply to the Chugach. When the answer was not definitive, participants including representatives from conservation groups and Native corporations expressed the view that including the Chugach would require a substantially different scoping process than what the Forest Service had planned. They told agency staff that issues, stakeholders, communities impacted and ensuing ecological and economic impacts to consider, as well as subsistence users and impacts, would all be completely different on the Chugach, and the 5.4 million acres of roadless areas found there.

In the spring of 2019, after the close of public comment on scoping, the Forest Service issued a newsletter re-affirming that "[a] state-specific roadless rule would determine which currently designated roadless areas in the Tongass National Forest require a unique management designation that could further Alaska's economic

development or meet other needs while maintaining roadless areas and characteristics for future generations."440 The newsletter did not mention the Chugach National Forest.

As discussed above, the proposed Chugach modifications proposal effectively operates as a repeal of the Roadless Area Conservation Rule for the Chugach, thus massively expanding the proposed Alaska rule's scope. The proposed rule allowing the Alaska Regional Forester to modify Chugach National Forest roadless area boundaries for any reason (or no reason) would eliminate the across-the-board protection provided by the Roadless Rule and open the door to logging and bulldozing on any Chugach roadless area, and all of the controversy, conflict, uncertainty, and cost that entails.

This proposal is thus outside, and beyond the scope, of the rule as initially sought by the State of Alaska and as articulated by the Forest Service throughout and after the scoping process. As such, the Forest Service must initiate a new scoping process.

By law, the significant issues addressed by a NEPA process must be identified in "an early and open [scoping] process."441 Tribes, governmental bodies, and other interested parties must be invited to participate in the process if they are potentially affected, based on the scope of the process.442 And the EIS's alternatives,443 description of the affected environment,444 and environmental consequences disclosures,445 must all reflect significant issues determined by the scoping process. Here, the agency's scoping and those ensuing consequent steps in the

rulemaking process are all fatally defective because they omitted the inarguably significant potential loss of protections for the Chugach's 5,439,000 inventoried roadless acres.

439 Forest Service, Alaska Roadless Rulemaking, Public Meetings Notice, September 2018(2018).

440 Forest Service, Alaska Roadless Rule March/April 2019 Newsletter at 2 (Mar. 2019).

441 40 C.F.R. [sect] 1501.7.

442 Id. [sect] 1501.7(a)(1).

443 Id. [sect] 1502.14.

444 Id. [sect] 1502.15.

445 Id. [sect] 1502.16.

Accordingly, the Forest Service must initiate a new NEPA process, including a new scoping process in order to lawfully notify impacted communities and stakeholders of the greatly expanded scope of this proposal and invite their participation, including through public hearings and, as appropriate, participatory status.

The Forest Service must develop an EIS that evaluates the potential impacts of its proposal on the resources and stakeholders of the Chugach region. And it should hold hearings on the resulting draft EIS that encompasses those impacts to the Chugach as well as the Tongass National Forest.446

D. Conclusion

The Roadless Area Conservation Rule was adopted in 2001 because of the tremendous values of roadless forests were being destroyed piecemeal by forest-by-forest decisions approving roads and logging. The Roadless Rule ended that practice with blanket protections for all roadless areas from commercial logging and road construction.

The Chugach proposed "modifications" provision would effectively repeal the Roadless Rule by allowing a Forest Service official in Alaska to approve any boundary change to a roadless area with little public input.

While the acreage of harvestable timber on the Chugach, and the commercial pressure to harvest it, may not be as great as on the Tongass, the fact remains that this provision opens the door for logging and bulldozing in any roadless area across the Chugach.

We oppose this effective repeal. We request that the Forest Service withdraw proposed provision, and not adopt any provision permitting the modification of roadless area boundaries except for mapping errors and the like. If the Forest Service declines to withdraw proposed 36 C.F.R. [sect] 294.51(a)(2), the Forest Service must reinitiate scoping on the Alaska Roadless Rule and fully analyze the proposal's environmental impacts, as NEPA requires.

CONCLUSION

For the reasons described above, we urge you to select the No Action Alternative. The proposal to eliminate the Roadless Rule on the Tongass National Forest puts the globally unique and important values of the Tongass National Forest at risk and ignores national and regional support for protecting those intact values. If the Forest Service is truly interested in creating a durable solution for managing roadless areas that takes into consideration the unique situation in and around the Tongass, the Forest Service should listen to the views of the people who live in the Tongass, who have repeatedly asked the Forest Service to keep the Roadless Rule in place.

446 The Forest Service has proposed to hold meetings in 17 Alaska communities on the DEIS. Of those, only one (Anchorage) is near the Chugach. See Forest Service, Alaska Roadless Rulemaking, Public Meetings Notice (Oct. 2019).

In addition, the Forest Service has proposed to gut Roadless Rule protections for the Chugach National Forest with no analysis, for no purpose, and without adequately informing the public.

The Forest Service cannot adopt the proposed rule unless it completes a new EIS that corrects the deficiencies described in this letter and presents an accurate analysis of the environmental effects of the proposed rule.

Sincerely,

[signature]

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[Position]

Note from Robin Dale, Alaska Roadless Coordinator: Received thumb drive with the attachments to this letter. Attachments are too large to upload. They have been filed in the project record, DEIS Comments folder, and are available upon request.

264 total attachments have been filed in the project record and are described below.

[Attachment contains Alaska Roadless Consultation, Collaboration, and Outreach notes from several meetings]

[Attachment contains a report titled [ldquo]Population Status, Threats and Persistence of Yellow-Cedar in Alaska-Information Synthesis[rdquo]]

[Attachment contains a report titled [ldquo]Trends and Opportunities in Alaska[rsquo]s Small Cruise Vessel Market[rdquo]]

[Attachment contains a report titled [ldquo]Trends and Opportunities in Alaska[rsquo]s Small Cruise Vessel Market[rdquo]]

[Attachment contains a report titled [ldquo]Tongass Fish and Wildlife Resource Assessment 1998[rdquo]]

[Attachment contains a report titled [ldquo]Alaska Roadless Rule Citizen Advisory Committee Final Report to the Governor and State Forester State of Alaska[rdquo]]

[Attachment contains a journal article titled [rdquo]Use of Historical Logging Patterns to Identify Disproportionately Logged Ecosystems within Temperate Rainforests of Southeastern Alaska[rdquo]]

[Attachment contains a report titled [ldquo]The Coastal Forests and Mountains Ecoregion of Southeastern Alaska and the Tongass National Forest; A conservation Assessment and Resource Synthesis[rdquo]]

[Attachment contains an Ecological Atlas of Southeast Alaska]

[Attachment contains a journal article titled [ldquo]Conservation Significance of Large Inventoried Roadless Areas on the Tongass National Forest[rdquo]]

[Attachment contains a review article titled [ldquo]Linkages between unpaved forest roads and streambed sediment: why context matters in directing road restoration[rdquo]]

[Attachment contains a PDF of a website titled [ldquo]The Tongass National Forest American Salmon Forest[rdquo] with images and of fish and maps]

[Attachment contains a journal article titled [ldquo]Watershed complexity increases the capacity for salmon-wildlife interactions in coastal ecosystems[rdquo]]

[Attachment contains a journal article titled [ldquo]Windthrow and recruitment of large woody debris in riparian stands[rdquo]]

[Attachment contains an abstract of a journal article titled [ldquo]Post-harvest windthrow and recruitment of large woody debris in riparian buffers on Vancouver Island[rdquo]]

[Attachment contains a journal article titled [ldquo]Geomorphology, Hyporheic Exchange, and Selection of Spawning Habitat by Bull Trout (Salvelinus Confluentus)[rdquo]]

[Attachment contains a journal article titled [ldquo]Reduced genetic variation in insular northern flying squirrels (Glaucomys sabrinus) along the North Pacific Coast[rdquo]]

[Attachment contains a journal article titled [ldquo]From canopy to seed: Loss of snow drives directional changes in forest composition[rdquo]]

[Attachment contains a journal article titled [ldquo]On humans and wildlife in Mediterranean islands[rdquo]]

[Attachment contains a recent literature summary of road impacts and roadless area importance using 3 search engines]

[Attachment contains a journal article titled [ldquo]Multifunctionality and biodiversity: Ecosystem services in temperate rainforests of the Pacific Northwest, USA[rdquo]]

[Attachment contains an abstract of a journal article titled [ldquo]Shifting habitat mosaics and fish production across river basins[rdquo]]

[Attachment contains a journal article titled [ldquo]Spatial and topographic trends in forest expansion and biomass change, from regional to local scales[rdquo]]

[Attachment contains a journal article titled [ldquo]Management and Condition of Watersheds in Southeast Alaska: The Persistence of Anadromous Salmon[rdquo]]

[Attachment contains a journal article titled [ldquo]Global climate change and potential effects on Pacific salmonids in freshwater ecosystems of southeast Alaska[rdquo]]

[Attachment contains a report titled [ldquo]The Case for Salmon Conservation at the Watershed Scale in Southeast Alaska: An annotated bibliography[rdquo] by Trout Unlimited Alaska]

[Attachment contains a journal article titled [ldquo]Management and Condition of Watersheds in Southeast Alaska: The Persistence of Anadromous Salmon[rdquo]]

[Attachment contains a journal article titled [ldquo]Long-term exposure to more frequent disturbances increases baseline carbon in some ecosystems: Mapping and quantifying the disturbance frequency-ecosystem C relationship[rdquo]]

[Attachment contains a journal article titled [ldquo]Emergent freeze and fire disturbance dynamics in temperate rainforests[rdquo]]

[Attachment contains a journal article titled [ldquo]Using Radar to Estimate Populations and Assess Habitat Associations of Marbled Murrelets[rdquo]]

[Attachment contains a journal article titled [ldquo]Effect of Road Traffic on Two Amphibian Species of Differing Vagility[rdquo]]

[Attachment contains [ldquo]a Memorandum to Agencies: Forty Most Asked Questions Concerning CEQ[rsquo]s National Environmental Policy Act Regulation[rdquo]s by Council on Environmental Quality]

[Attachment contains a journal article titled [ldquo]Rapid Range Shifts of Species Associated with High Levels of Climate Warming[rdquo]]

[Attachment contains 2018 letter written by the city of Gustavus with the subject: [ldquo]Roadless Rule Exemption Proposal for Alaska[rdquo] that includes A Resolution City of Gustavus[rdquo]]

[Attachment contains City of Pelican Resolution 2019-7 commenting on the proposed Alaska Roadless Rule]

[Attachment contains City of Tenakee Springs Resolution 2019-7 commenting on the proposed Alaska Roadless Rule]

[Attachment contains a journal article titled [ldquo]Rapid Evolution in the Nebria Gregaria Group (Coleoptera: Carabidae and the Paleogeography of the Queen Charlotte Islands[rdquo]]

[Attachment contains a journal article titled [ldquo]Terrestrial Condition Assessment for National Forests of the USDA Forest Service in the Continental US[rdquo]]

[Attachment contains a journal article titled [ldquo]Implications of introgression for wildlife translocations: the case of North American martens[rdquo]]

[Attachment contains a journal article titled [ldquo]Whole-genome analysis of Mustela erminea finds that pulsed hybridization impacts evolution at high latitudes[rdquo]]

[Attachment contains a statement on DEIS Prince of Wales Landscape Level Analysis from June 2018]

[Attachment contains a journal article titled [ldquo]Conservation of highly fragmented systems: The north temperate Alexander Archipelago[rdquo]]

[Attachment contains a journal article titled [ldquo]Should endemism be a focus of conservation efforts along the North Pacific Coast of North America?[rdquo]]

[Attachment contains a scanned book titled [ldquo]North Pacific Temperate Rainforests Ecology & Conservation[rdquo]]

[Attachment contains an article on the Marbled Murrelet]

[Attachment contains a journal article titled [ldquo]Mammal invaders on island: impact, control and control impact[rdquo]]

[Attachment contains Craig Tribal Resolution 2019-26 titled [ldquo]Authorization of Tribal Support for the Application of the 2001 Roadless Area Conservation Rule ([lsquo]Roadless Rule[rsquo]) on the Tongass National Forest and the Authorization of Strong Support for Lasting Protection and Implementation of the Roadless Rule.[rdquo]]

[Attachment contains a journal article titled [ldquo]Assessing the value of roadless areas in a conservation reserve strategy: biodiversity and landscape connectivity in the northern Rockies[rdquo]]

[Attachment contains a journal article titled [ldquo]Southeast Alaska economics A resource-abundant region competing in a global marketplace[rdquo]]

[Attachment contains a journal article titled [ldquo]Human impacts and the global distribution of extinction risk[rdquo]]

[Attachment contains a journal article titled [ldquo]A multilocus evaluation of ermine (Mustela erminea) across the Holarctic, testing hypotheses of Pleistocene diversification in response to climate change[rdquo]]

[Attachment contains a journal article titled [ldquo]Historical biogeography sets the foundation for contemporary conservation of martens (genus Martes) in northwestern North America[rdquo]]

[Attachment contains a letter sent from the USDA to announce the availability of the Tongass Land and Resource Management Plan Amendment (Forest Plan Amendment)[rdquo]]

[Attachment contains a report titled [ldquo]The Tongass Rainforest As Alaska[rsquo]s First Line of Climate Change Defense and Importance to the Paris Climate Change Agreements[rdquo]]

[Attachment contains a report titled [ldquo]Analysis of Carbon Storage in Roadless Areas of the Tongass National Forest

[Attachment contains a scabbed book titled [ldquo]Temperate and Boreal Rainforests of the World: Ecology and Conservation[rdquo] with chapter 1: Just What Are Temperate and Boreal Rainforests?]

[Attachment contains a scabbed book titled [ldquo]Temperate and Boreal Rainforests of the World: Ecology and Conservation[rdquo] with chapter 2: Temperate and Boreal Rainforests of the Pacific Coast of North America]

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[Attachment contains a journal article titled [ldquo]Roadless areas and clean water[rdquo]]

[Attachment contains a chapter titled [ldquo]Fire-mediated Biological Legacies in Dry Forested Ecosystems of the Pacific Northwest, USA[rdquo]]

[Attachment contains a journal article titled [ldquo]Public land, timber harvests, and climate mitigation: Quantifying carbon sequestration potential on U.S. public timberlands[rdquo]]

[Attachment contains a testimony of Mike Dombeck at the House Natural Resources Committee Oversight Hearing on the Alaska Roadless Rule]

[Attachment contains a journal article titled [ldquo]Goshawks in Canada: Population Responses to Harvesting and the Appropriateness of Using Standard Bird Monitoring Techniques to Assess their Status[rdquo]]

[Attachment contains a letter from Governor Michael J. Dunleavy to President Donald Trump containing a synopsis of matters important to Alaskans]

[Attachment contains a news article from October 2019 titled [ldquo]Governor Applauds USDA Support to Lift Tongass Roadless Rule Exemption[rdquo]]

[Attachment contains a letter from multiple agencies from February 2016 with comments opposing the Forest Service adopting the Draft Forest Plan as proposed in 2016]

[Attachment contains Tongass Roadless Rule DEIS Economic Review from the Conservation Economics Institute]

[Attachment contains a news article from August 27, 2019 titled [ldquo]Trump pushes to allow new logging in Alaska[rsquo]s Tongass National Forest[rdquo]]

[Attachment contains Community Association of Elfin Cove Resolution 19-01 titled A Resolution By the Community of Elfin Cove Commenting on the Proposed Alaska Roadless Rule]

[Attachment contains a paper presented at the Symposium on Soil Quality and Erosion Interaction in July 1996 titled [ldquo]The Effects of Forest Management on Erosion and Soil Productivity[rdquo]]

[Attachment contains a journal article titled [ldquo]Biotic factors influencing the unexpected distribution of a Humoldt marten (martes caurina humboldtensis) population in a young coastal forest[rdquo]]

[Attachment contains a report titled [ldquo]Evaluation of the Use of Scientific Information in Developing the 1997 Forest Plan for the Tongass National Forest[rdquo]]

[Attachment contains an article from the U.S. Department of the Interior titled [ldquo]Wolf harvest seasons announced for GMU 2, new process explained[rdquo]]

[Attachment contains a research final performance report published by Alaska and the USDA Forest Service, US Fish and Wildlife Service]

[Attachment contains a report titled [ldquo]Population Dynamics, Movements, and Habitat Selection of Martens on Kuiu Island, Southeast Alaska[rdquo]]

[Attachment contains FSH 1909.12 [ndash] Land Management Handbook Chapter 60 [ndash] Forest Vegetation Resource Management by the US Forest Service]

[Attachment contains a review titled [ldquo]Genetics and extinction[rdquo]]

[Attachment contains a book titled [ldquo]The Measurement of Environmental and Resource Values: Theory and

Methods[rdquo]]

[Attachment contains a journal article titled [ldquo]Spatial models reveal the microclimatic buffering capacity of old-growth forests[rdquo]]

[Attachment contains a journal article titled [ldquo]Sediment Concerns in Headwater Streams on State and Private Forests in the Pacific Northwest: A Brief Review of Directly Pertinent Science[rdquo]]

[Attachment contains a journal article titled [ldquo]The Geography of Freshwater Habitat Conservation: Roadless Areas and Critical Watersheds for Native Trout[rdquo]]

[Attachment contains a report from Frissell and Raven titled [ldquo]Comments on Fisheries and Water Quality Issues in the US Forest Service Draft Environmental Impact Statement for the Alaska Roadless Rule, December 2019[rdquo]]

[Attachment contains a journal article titled [ldquo]Roadless in the Pacific Northwest: Ecology and History[rdquo]]

[Attachment contains a scanned book chapter titled [ldquo]Chapter 8 Road Construction and Maintenance[rdquo]]

[Attachment contains a report titled [ldquo]Federal Timber Sales: Forest Service and BLM Should Review Their Regulations and Policies Related to Timber Export and Substitution[rdquo]]

[Attachment contains an environmental impact assessment review titled [ldquo]Biodiversity Impact Assessment of roads: an approach based on ecosystem rarity[rdquo]]

[Attachment contains a review titled [ldquo]A Meta-Analytic Review of Corridor Effectiveness[rdquo]]

[Attachment contains a news article titled [ldquo]The Steel Mill That Helped Build the American West Goes Green[rdquo]]

[Attachment contains a journal article titled [ldquo]Suspended Sediment Dynamics in Small Forest Streams of the Pacific Northwest[rdquo]]

[Attachment contains a journal article titled [ldquo]Description and Molecular Differentiation of a New Stpahylocystoides (Cyclophyllidea: Hymenolepididae) from the Dusky Shrew Sorex monticolus in Southeast Alaska[rdquo]]

[Attachment contains a journal article titled [ldquo]Natural climate solutions[rdquo]]

[Attachment contains a journal article titled [ldquo]Supporting Information Appendix from Natural climate solutions[rdquo]]

[Attachment contains a journal article titled [ldquo]Conservation of Population Diversity of Pacific Salmon in Southeast Alaska[rdquo]]

[Attachment contains a journal article titled [ldquo]Maintaining wildlife habitat in southeastern Alaska: implications of new knowledge for forest management and research[rdquo]]

[Attachment contains a journal article titled [ldquo]Have product substitution carbon benefits been overestimated? A sensitivity analysis of key assumptions[rdquo]]

[Attachment contains a journal article titled [ldquo]Effects on Carbon Storage of Conversion of Old-Growth Forests to Young Forests[rdquo]]

[Attachment contains a journal article titled [ldquo]Modeling Carbon Stores in Oregon and Washington Forest Products: 1900-1992[rdquo]]

[Attachment contains a research paper titled [ldquo]The Tongass National Forest and the Transition Framework: A New Path Forward?[rdquo]]

[Attachment contains a journal article titled [ldquo]Biodiversity management in the face of climate change: A review of 22 years of recommendations[rdquo]]

[Attachment contains a journal article titled [ldquo]Willingness to pay for ecosystem conservation in Alaska[rsquo]s Tongass National Forest: a choice modeling study[rdquo]]

[Attachment contains a journal article titled [ldquo]Roadless Areas as Key Approach to Conservation of Functional Forest Ecosystems[rdquo]]

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[Attachment contains a journal article titled [ldquo]Meeting GHG reduction targets requires accounting for all forest sector emissions[rdquo]]

[Attachment contains a journal article titled [ldquo]A global map of roadless areas and their conservation status[rdquo]]

[Attachment contains a journal article titled [ldquo]Supplementary Materials for A global map of roadless areas and their conservation status[rdquo]]

[Attachment contains a journal article titled [ldquo]Measuring Forest Carbon: Strengths and of Available Tools[rdquo]]

[Attachment contains a report titled [ldquo]Climate Change and Land: An IPCC Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems[rdquo]]

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[Attachment contains a journal article titled [ldquo]Conservation Assessment for the Northern Goshawk in Southeast Alaska[rdquo]]

[Attachment contains a journal article titled [ldquo]Landslide Initiation, Runout, and Exposition Within Clearcuts and Old-Growth Forests of Alaska[rdquo]]

[Attachment contains a journal article titled [ldquo]Quantifying the Monetary Value of Alaska National Forests to Commercial Pacific Salon Fisheries[rdquo]]

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Disturbances Patches in Stream Networks[rdquo]]

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[Attachment contains a journal article titled [ldquo]Re-evaluation of forest biomass carbon stocks and lessons from the world[rsquo]s most carbon-dense forests[rdquo]]

[Attachment contains a journal article titled [ldquo]Sediment Production in a Coastal Watershed: Legacy, Land Use, Recovery, and Rehabilitation[rdquo]]

[Attachment contains a resolution from Ketchikan Indian Community]

[Attachment contains a review titled [ldquo]Review of Wildlife Management and Conservation Biology on the Tongass National Forest: A Synthesis with Recommendations[rdquo]]

[Attachment contains a journal article titled [ldquo]Belowground carbon trade among tall trees in a temperate forest[rdquo]]

[Attachment contains a journal article titled [ldquo]Geographic and Host Range of the Nematode Soboliphyme Baturini Across Beringia[rdquo]]

[Attachment contains a journal article titled [ldquo]Phylogeography of a Holarctic nematode, Soboliphyme baturini, among mustelids: climate change, episodic colonization, and diversification in a complex host-parasite system[rdquo]]

[Attachment contains a journal article titled [ldquo]Genetic Relationships Among Chum Salmon Populations in Southeast Alaska and Northern British Columbia[rdquo]]

[Attachment contains a journal article titled [ldquo]High-Biomass Forests of the Pacific Northwest: Who Manages Them and How Much is Protected?[rdquo]]

[Attachment contains a journal article titled [ldquo]Yellow-cedar: climate change and natural history at odds[rdquo]]

[Attachment contains a journal article titled [ldquo]Identifying and mapping biodiversity processes for conservation planning in islands: A case study in Reunion Island (Western Indian Ocean)[rdquo]]

[Attachment contains a journal article titled [ldquo]Land use and climate change impacts on lake sedimentation rates in western Canada[rdquo]]

[Attachment contains a journal article titled [ldquo]A global strategy for road building[rdquo]]

[Attachment contains a journal article titled [ldquo]Supporting Information for Land Use Strategies to mitigate climate change in carbon dense temperate forests[rdquo]]

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[Attachment contains a journal article titled [ldquo]Global Decline in Large Old Trees[rdquo]]

[Attachment contains a journal article titled [ldquo]New policies for old trees: averting a global crisis in a keystone ecological structure[rdquo]]

[Attachment contains a journal article titled [ldquo]Estimating Diesel Fuel Consumption and Carbon Dioxide Emissions from Forest Road Construction[rdquo]]

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[Attachment contains a journal article titled [ldquo]Spatial and Temporal Patterns in Erosion from Forest Roads]

[Attachment contains a journal article titled [ldquo]Old-growth forests as global carbon sinks[rdquo]]

[Attachment contains an abstract of a journal article titled [ldquo]The Effects of Forest Harvesting and Best Management Practices on Streamflow and suspended Sediment Concentrations During Snowmelt in Headwater Streams in Sub-boreal Forests of British Columbia, Canada[rdquo]]

[Attachment contains a report titled [ldquo]Mammals and Amphibians of Southeast Alaska[rdquo]]

[Attachment contains a journal article titled [ldquo]Untangling the confusion around land carbon science and climate change mitigation policy]

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[Attachment contains a journal article titled [ldquo]Policy Options for the World[rsquo]s Primary Forests in Multilateral Environmental Agreements[rdquo]]

[Attachment contains a journal article titled [ldquo]Counting trees, carbon and climate change[rdquo]]

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[Attachment contains a report titled [ldquo]A synthesis of current knowledge on forests and carbon storage in the

United States[rdquo]]

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[Two Attachments contain a journal article titled [ldquo]Morphological Evolution Is Accelerated among Island Mammals[rdquo]]

[Attachment contains a journal article titled [ldquo]Conservation significance of island versus mainland populations: a case study dibblers (Parantechinus apicalis) in Western Australia[rdquo]]

[Attachment contains a journal article titled [ldquo]Intact Forests in the United States: Proforestation Mitigates Climate Change and Serves the Greatest Good[rdquo]]

[Attachment contains a journal article titled [ldquo]Natural disturbances and forest management in riparian zones: comparison of effects at reach, catchment, and landscape scales[rdquo]]

[Attachment contains a journal article titled [ldquo]Soil networks become more connected and take up more carbon as nature restoration progresses[rdquo]]

[Two Attachments contain a journal article titled [ldquo]Biodiversity hotspots for conservation priorities[rdquo]]

[Attachment contains a journal article titled [ldquo]The Birds of North America, Marbled Murrelet[rdquo]]

[Attachment contains a journal article titled [ldquo]Long-term vegetation changes in a temperate forest impacted by climate change[rdquo]]

[Attachment contains a letter from May 2019 from Organized Village of Kake]

[Attachment contains a resolution from Organized Village of Kake from 2018 titled [ldquo]Continued Tribal Support for Application of National Roadless Rule on the Tongass National Forest[rdquo]]

[Attachment contains a journal article titled [ldquo]Correlates of Mortality in an Exploited Wolf Population[rdquo]]

[Attachment contains a USDA report titled [ldquo]Assessment of the Competitive Position of the Forest Products Sector in Southeast Alaska, 1985-94[rdquo]]

[Attachment contains a journal article titled [ldquo]Stream Temperature Relationships to Forest Harvest in Western Washington[rdquo]]

[Attachment contains a joint statement of members of the peer review committee concerning the inadequacy of conservation measures for vertebrate species in the Tongass National Forest Land Management Plan of Record[rdquo]]

[Attachment contains an excel sheet 2003-2018 Awarded Timber Sale 1000+ MBF]

[Attachment contains a PDF file of a website on Yellow-Cedar Decline]

[Attachment contains a journal article titled [ldquo]The incidence and role of gullies after logging in a coastal redwood forest[rdquo]]

[Attachment contains a resolution from Organized Village of Kassaan titled [ldquo]A Resolution of the Organized Village of Kasaan in support of the [lsquo]no-action alternative[rsquo] as the as the preferred alternative in the Tongass National Forest Roadless Rulemaking process.[rdquo]]

[Attachment contains a journal article titled [ldquo]A review of environmental impacts of winter road maintenance[rdquo]]

[Attachment contains a journal article titled [ldquo]World Scientists[rsquo] Warning of a Climate Emergency[rdquo]]

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[Attachment contains a journal article titled [ldquo]Wolf space use during denning season on Prince of Wales Island, Alaska[rdquo]]

[Attachment contains a journal article titled [ldquo]Riparian Windthrow [ndash] Northern Vancouver Island[rdquo]]

[Attachment contains a journal article titled [ldquo]Historic hybridization and persistence of a novel mito-nuclear combination in red-backed voles (genus Myodes)[rdquo]]

[Attachment contains a journal article titled [ldquo]Implementing the 2012 Forest Planning Rule: Best Available Scientific Information in Forest Planning Assessments[rdquo]]

[Attachment contains a journal article titled [ldquo]Living on the edge: Exploring the role of coastal refugia in the Alexander Archipelago of Alaska[rdquo]]

[Attachment contains a journal article titled [ldquo]Phylogeographic structure in long-tailed voles (rodentia: Arvicolinae) belies the complex Pleistocene history of isolation, divergence, and recolonization of Northwest North America[rsquo]s fauna[rdquo]]

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[Attachment contains a journal article titled [ldquo]Population Diversity and the Portfolio Effect in An Exploited Species[rdquo]]

[Attachment contains a journal article titled [ldquo]Scientists Call on the Forest Service to Uphold the National Roadless Area Rule that Protects Over 9 Million Acres on the Tongass Naitonal Forest, one of the World[rsquo]s Last Intact Temperate Rainforests[rdquo]]

[Attachment contains a journal article titled [ldquo]Southeast Alaska by the numbers 2019[rdquo]]

[Attachment contains a September 16, 2019 letter on comments on Central Tongass Project Draft Environmental Impact Statement from multiple groups]

[Attachment contains a chapter of a report titled [ldquo]Why Keep Areas Road-Free? The Importance of Roadless Areas[rdquo]]

[Attachment contains a journal article titled [ldquo]Roadless and Low-Traffic Areas as Conservation Targets in Europe[rdquo]]

[Attachment contains a journal article titled [ldquo]Description of Caurinus tlagu, new species, from Prince of Wales Island, Alaska (Mecoptera, Boreidae, Caurininae)[rdquo]]

[Attachment contains a resolution from Municipality of Skagway, Alaska titled [ldquo]A resolution of the municipality of Skagway, Alaska expressing the municipality of Skagway[rsquo]s support for Alternative 1 of the draft environmental impact statement for the managmenet of inventoried roadless areas within the Tongass National Forest[rdquo]]

[Attachment contains an abstract of a journal article titled [ldquo]Habitat Selection by American Martens in Coastal California[rdquo]]

[Attachment contains a journal article titled [ldquo]Alaska Regional Climate Projections[rdquo]]

[Attachment contains a 2019 letter from U.S. congressmen to the U.S. Department of Agriculture Inspector General requesting an investigation regarding the potential misuse of USFS grant to State of Alaska]

[Attachment contains a 2018 letter from the State of Alaska governor Bill Walker to Secretary Perdue to consider a petition for rulemaking on the applicability of the 2001 Roadless Rule to the Tongass National Forest in Alaska]

[Attachment contains a journal article titled [ldquo]Rate of tree carbon accumulation increases continuously with tree size[rdquo]]

[Attachment contains a journal article titled [ldquo]Post-glacial colonization of northwestern North America by the forest-associated American marten (Martes Americana, Mammalia: Carnviora: Mustelidae[rdquo]]

[Attachment contains a section in a report titled [ldquo]Man-caused Problems and Their Control[rdquo]]

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[Attachment contains a report titled [ldquo]Cutting our Losses: 20 Years of Money-Losing Timber Sales in the

Tongass[rdquo]]

[Two Attachments contain a map titled [ldquo]Tongass National Forest Timber Sale Program Adaptive Management Strategy[rdquo]]

[Attachment contains a USDA Summary of Final Environmental Impact Statement Plan Amendment]

[Attachment contains a USDA Summary of Final Environmental Impact Statement Plan Amendment volume 2]

[Attachment contains a USDA Summary of Final Environmental Impact Statement Plan Amendment volume 1 part 1]

[Attachment contains a USDA Summary of Final Environmental Impact Statement Plan Amendment volume 1 part 2]

[Attachment contains a USDA Summary of Final Environmental Impact Statement Plan Amendment volume 1 part 3]

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[Attachment contains a map titled [ldquo]Tongass National Forest Land and Resource Management Plan Final EIS Alternative 1 Suitable Lands[rdquo]]

[Attachment contains a map titled [ldquo]Tongass National Forest Land and Resource Management Plan Final EIS Alternative 2 Suitable Lands[rdquo]]

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[Attachment contains a map titled [ldquo]Tongass National Forest Land and Resource Management Plan Final EIS Alternative 5 Suitable Lands[rdquo]]

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[Attachment contains a report from USDA titled [ldquo]Errata for the Final Environmental Impact Statement Plan Amendment Tongass National Forest[rdquo]]

[Attachment contains a summary of Final Environmental Impact Statement Plan Amendment]

[Attachment contains a summary of Tongass National Forest Watershed Restoration Program, 2018]

[Attachment contains a 2015 report of the Tongass Advisory Committee Final Recommendations]

[Attachment contains a journal article titled [ldquo]Review of Ecological Effects of Roads on Terrestrial and Aquatic Communities[rdquo]]

[Attachment contains a journal article titled [ldquo]Conservation Science and Forest Service Policy for Roadless Areas[rdquo]]

[Attachment contains the United Nations Declaration on the Rights on Indigenous Peoples]

[Attachment contains Interagency OGR Review for POW LLA]

[Attachment contains Alaska Roadless Rulemaking Questions and Answers from USDA]

[Attachment contains frequently asked questions regarding inventoried roadless areas from USDA]

[Attachment contains an article of Endemic Species of the Tongass by USDA]

[Attachment contains Alaska Roadless Rule Scoping Period: Written Public Comment Summary]

[Attachment contains Tongass Limited Shipping Policy by USFS]

[Attachment contains a USDA report titled [ldquo]Interagency Wolf Habitat Management Program: Recommendations for Game Management Unit 2[rdquo]]

[Attachment contains a USDA Land and Resource Management Plan]

[Attachment contains Alaska Rulemaking Regulatory Impact Assessment and Cost-Benefit Assessment]

[Attachment contains a list of dates and locations of USDA Forest Service Alaska Roadless Rulemaking Public Meetings in September 2018]

[Attachment contains a list of dates and locations of USDA Forest Service Alaska Roadless Rulemaking Public Meetings in November 2019]

[Attachment contains a slideshow from USDA titled [ldquo]Alaska Roadless Rulemaking]

[Attachment contains a USDA publication on the Alaska Roadless Rule summary]

[Attachment contains a USDA Forest Service Alaska Roadless Rulemaking Questions and Answers]

[Attachment contains a Central Tongass Project Draft Environmental Impact Statement Volume I by USDA]

[Attachment contains a USFS report of cut and sold tree sales from 2015]

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[Attachment contains a Land and resource Management Plan from 2016]

[Attachment contains a PDF of a website titled Monitoring and Evaluation Program]

[Attachment contains a report from U.S. Fish and Wildlife Service titled [ldquo]Species Status Assessment for the Alexander Archipelago Wolf (Canis lupus ligoni]

[Attachment contains a PDF of a website titled [ldquo]Second summer sawfly outbreak browns hemlock trees around Southeast[rdquo]]

[Attachment contains a journal article titled [ldquo]Catastrophic Declines in Wilderness Areas Undermine Global Environment Targets[rdquo]]

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[Attachment contains a journal article titled [ldquo]Risk of Landslides in Shallow Soils and Its Relation to Clearcutting in Southeastern Alaska[rdquo]]

[Attachment contains a journal article titled [ldquo]On the variable effects of climate change on Pacific salmon[rdquo]]

[Attachment contains a journal article titled [ldquo]Status of American Martens in Coastal Forests of the Pacific States[rdquo]]

Note from Robin Dale, Alaska Roadless Coordinator: Received thumb drive with the attachments to this letter. Attachments are too large to upload. They have been filed in the project record, DEIS Comments folder, and are available upon request.

264 total attachments have been filed in the project record and are described below.

[Attachment contains Alaska Roadless Consultation, Collaboration, and Outreach notes from several meetings]

[Attachment contains a report titled [ldquo]Population Status, Threats and Persistence of Yellow-Cedar in Alaska-Information Synthesis[rdquo]]

[Attachment contains a report titled [ldquo]Trends and Opportunities in Alaska[rsquo]s Small Cruise Vessel Market[rdquo]]

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Market[rdquo]]

[Attachment contains a report titled [ldquo]Tongass Fish and Wildlife Resource Assessment 1998[rdquo]]

[Attachment contains a report titled [ldquo]Alaska Roadless Rule Citizen Advisory Committee Final Report to the Governor and State Forester State of Alaska[rdquo]]

[Attachment contains a journal article titled [rdquo]Use of Historical Logging Patterns to Identify Disproportionately Logged Ecosystems within Temperate Rainforests of Southeastern Alaska[rdquo]]

[Attachment contains a report titled [ldquo]The Coastal Forests and Mountains Ecoregion of Southeastern Alaska and the Tongass National Forest; A conservation Assessment and Resource Synthesis[rdquo]]

[Attachment contains an Ecological Atlas of Southeast Alaska]

[Attachment contains a journal article titled [ldquo]Conservation Significance of Large Inventoried Roadless Areas on the Tongass National Forest[rdquo]]

[Attachment contains a review article titled [ldquo]Linkages between unpaved forest roads and streambed sediment: why context matters in directing road restoration[rdquo]]

[Attachment contains a PDF of a website titled [ldquo]The Tongass National Forest American Salmon Forest[rdquo] with images and of fish and maps]

[Attachment contains a journal article titled [ldquo]Watershed complexity increases the capacity for salmon-wildlife interactions in coastal ecosystems[rdquo]]

[Attachment contains a journal article titled [ldquo]Windthrow and recruitment of large woody debris in riparian stands[rdquo]]

[Attachment contains an abstract of a journal article titled [ldquo]Post-harvest windthrow and recruitment of large woody debris in riparian buffers on Vancouver Island[rdquo]]

[Attachment contains a journal article titled [ldquo]Geomorphology, Hyporheic Exchange, and Selection of Spawning Habitat by Bull Trout (Salvelinus Confluentus)[rdquo]]

[Attachment contains a journal article titled [ldquo]Reduced genetic variation in insular northern flying squirrels (Glaucomys sabrinus) along the North Pacific Coast[rdquo]]

[Attachment contains a journal article titled [ldquo]From canopy to seed: Loss of snow drives directional changes in forest composition[rdquo]]

[Attachment contains a journal article titled [ldquo]On humans and wildlife in Mediterranean islands[rdquo]]

[Attachment contains a recent literature summary of road impacts and roadless area importance using 3 search engines]

[Attachment contains a journal article titled [ldquo]Multifunctionality and biodiversity: Ecosystem services in temperate rainforests of the Pacific Northwest, USA[rdquo]]

[Attachment contains an abstract of a journal article titled [ldquo]Shifting habitat mosaics and fish production

across river basins[rdquo]]

[Attachment contains a journal article titled [ldquo]Spatial and topographic trends in forest expansion and biomass change, from regional to local scales[rdquo]]

[Attachment contains a journal article titled [ldquo]Management and Condition of Watersheds in Southeast Alaska: The Persistence of Anadromous Salmon[rdquo]]

[Attachment contains a journal article titled [ldquo]Global climate change and potential effects on Pacific salmonids in freshwater ecosystems of southeast Alaska[rdquo]]

[Attachment contains a report titled [ldquo]The Case for Salmon Conservation at the Watershed Scale in Southeast Alaska: An annotated bibliography[rdquo] by Trout Unlimited Alaska]

[Attachment contains a journal article titled [ldquo]Management and Condition of Watersheds in Southeast Alaska: The Persistence of Anadromous Salmon[rdquo]]

[Attachment contains a journal article titled [ldquo]Long-term exposure to more frequent disturbances increases baseline carbon in some ecosystems: Mapping and quantifying the disturbance frequency-ecosystem C relationship[rdquo]]

[Attachment contains a journal article titled [ldquo]Emergent freeze and fire disturbance dynamics in temperate rainforests[rdquo]]

[Attachment contains a journal article titled [ldquo]Using Radar to Estimate Populations and Assess Habitat Associations of Marbled Murrelets[rdquo]]

[Attachment contains a journal article titled [ldquo]Effect of Road Traffic on Two Amphibian Species of Differing Vagility[rdquo]]

[Attachment contains [ldquo]a Memorandum to Agencies: Forty Most Asked Questions Concerning CEQ[rsquo]s National Environmental Policy Act Regulation[rdquo]s by Council on Environmental Quality]

[Attachment contains a journal article titled [ldquo]Rapid Range Shifts of Species Associated with High Levels of Climate Warming[rdquo]]

[Attachment contains 2018 letter written by the city of Gustavus with the subject: [ldquo]Roadless Rule Exemption Proposal for Alaska[rdquo] that includes A Resolution City of Gustavus[rdquo]]

[Attachment contains City of Pelican Resolution 2019-7 commenting on the proposed Alaska Roadless Rule]

[Attachment contains City of Tenakee Springs Resolution 2019-7 commenting on the proposed Alaska Roadless Rule]

[Attachment contains a journal article titled [ldquo]Rapid Evolution in the Nebria Gregaria Group (Coleoptera: Carabidae and the Paleogeography of the Queen Charlotte Islands[rdquo]]

[Attachment contains a journal article titled [ldquo]Terrestrial Condition Assessment for National Forests of the USDA Forest Service in the Continental US[rdquo]]

[Attachment contains a journal article titled [ldquo]Implications of introgression for wildlife translocations: the case

of North American martens[rdquo]]

[Attachment contains a journal article titled [ldquo]Whole-genome analysis of Mustela erminea finds that pulsed hybridization impacts evolution at high latitudes[rdquo]]

[Attachment contains a statement on DEIS Prince of Wales Landscape Level Analysis from June 2018]

[Attachment contains a journal article titled [ldquo]Conservation of highly fragmented systems: The north temperate Alexander Archipelago[rdquo]]

[Attachment contains a journal article titled [ldquo]Should endemism be a focus of conservation efforts along the North Pacific Coast of North America?[rdquo]]

[Attachment contains a scanned book titled [ldquo]North Pacific Temperate Rainforests Ecology & Conservation[rdquo]]

[Attachment contains an article on the Marbled Murrelet]

[Attachment contains a journal article titled [ldquo]Mammal invaders on island: impact, control and control impact[rdquo]]

[Attachment contains Craig Tribal Resolution 2019-26 titled [ldquo]Authorization of Tribal Support for the Application of the 2001 Roadless Area Conservation Rule ([lsquo]Roadless Rule[rsquo]) on the Tongass National Forest and the Authorization of Strong Support for Lasting Protection and Implementation of the Roadless Rule.[rdquo]]

[Attachment contains a journal article titled [ldquo]Assessing the value of roadless areas in a conservation reserve strategy: biodiversity and landscape connectivity in the northern Rockies[rdquo]]

[Attachment contains a journal article titled [ldquo]Southeast Alaska economics A resource-abundant region competing in a global marketplace[rdquo]]

[Attachment contains a journal article titled [ldquo]Human impacts and the global distribution of extinction risk[rdquo]]

[Attachment contains a journal article titled [ldquo]A multilocus evaluation of ermine (Mustela erminea) across the Holarctic, testing hypotheses of Pleistocene diversification in response to climate change[rdquo]]

[Attachment contains a journal article titled [ldquo]Historical biogeography sets the foundation for contemporary conservation of martens (genus Martes) in northwestern North America[rdquo]]

[Attachment contains a letter sent from the USDA to announce the availability of the Tongass Land and Resource Management Plan Amendment (Forest Plan Amendment)[rdquo]]

[Attachment contains a report titled [ldquo]The Tongass Rainforest As Alaska[rsquo]s First Line of Climate Change Defense and Importance to the Paris Climate Change Agreements[rdquo]]

[Attachment contains a report titled [ldquo]Analysis of Carbon Storage in Roadless Areas of the Tongass National Forest

[Attachment contains a scabbed book titled [ldquo]Temperate and Boreal Rainforests of the World: Ecology and

Conservation[rdquo] with chapter 1: Just What Are Temperate and Boreal Rainforests?]

[Attachment contains a scabbed book titled [ldquo]Temperate and Boreal Rainforests of the World: Ecology and Conservation[rdquo] with chapter 2: Temperate and Boreal Rainforests of the Pacific Coast of North America]

[Two Attachments contain a journal article titled [ldquo]Climate Change May Trigger Broad Shifts in North America[rsquo]s Pacific Coastal Rainforests[rdquo]]

[Attachment contains a journal article titled [ldquo]Roadless areas and clean water[rdquo]]

[Attachment contains a chapter titled [ldquo]Fire-mediated Biological Legacies in Dry Forested Ecosystems of the Pacific Northwest, USA[rdquo]]

[Attachment contains a journal article titled [ldquo]Public land, timber harvests, and climate mitigation: Quantifying carbon sequestration potential on U.S. public timberlands[rdquo]]

[Attachment contains a testimony of Mike Dombeck at the House Natural Resources Committee Oversight Hearing on the Alaska Roadless Rule]

[Attachment contains a journal article titled [ldquo]Goshawks in Canada: Population Responses to Harvesting and the Appropriateness of Using Standard Bird Monitoring Techniques to Assess their Status[rdquo]]

[Attachment contains a letter from Governor Michael J. Dunleavy to President Donald Trump containing a synopsis of matters important to Alaskans]

[Attachment contains a news article from October 2019 titled [ldquo]Governor Applauds USDA Support to Lift Tongass Roadless Rule Exemption[rdquo]]

[Attachment contains a letter from multiple agencies from February 2016 with comments opposing the Forest Service adopting the Draft Forest Plan as proposed in 2016]

[Attachment contains Tongass Roadless Rule DEIS Economic Review from the Conservation Economics Institute]

[Attachment contains a news article from August 27, 2019 titled [ldquo]Trump pushes to allow new logging in Alaska[rsquo]s Tongass National Forest[rdquo]]

[Attachment contains Community Association of Elfin Cove Resolution 19-01 titled A Resolution By the Community of Elfin Cove Commenting on the Proposed Alaska Roadless Rule]

[Attachment contains a paper presented at the Symposium on Soil Quality and Erosion Interaction in July 1996 titled [ldquo]The Effects of Forest Management on Erosion and Soil Productivity[rdquo]]

[Attachment contains a journal article titled [ldquo]Biotic factors influencing the unexpected distribution of a Humoldt marten (martes caurina humboldtensis) population in a young coastal forest[rdquo]]

[Attachment contains a report titled [ldquo]Evaluation of the Use of Scientific Information in Developing the 1997 Forest Plan for the Tongass National Forest[rdquo]]

[Attachment contains an article from the U.S. Department of the Interior titled [ldquo]Wolf harvest seasons announced for GMU 2, new process explained[rdquo]]

[Attachment contains a research final performance report published by Alaska and the USDA Forest Service, US Fish and Wildlife Service]

[Attachment contains a report titled [ldquo]Population Dynamics, Movements, and Habitat Selection of Martens on Kuiu Island, Southeast Alaska[rdquo]]

[Attachment contains FSH 1909.12 [ndash] Land Management Handbook Chapter 60 [ndash] Forest Vegetation Resource Management by the US Forest Service]

[Attachment contains a review titled [ldquo]Genetics and extinction[rdquo]]

[Attachment contains a book titled [ldquo]The Measurement of Environmental and Resource Values: Theory and Methods[rdquo]]

[Attachment contains a journal article titled [ldquo]Spatial models reveal the microclimatic buffering capacity of old-growth forests[rdquo]]

[Attachment contains a journal article titled [ldquo]Sediment Concerns in Headwater Streams on State and Private Forests in the Pacific Northwest: A Brief Review of Directly Pertinent Science[rdquo]]

[Attachment contains a journal article titled [ldquo]The Geography of Freshwater Habitat Conservation: Roadless Areas and Critical Watersheds for Native Trout[rdquo]]

[Attachment contains a report from Frissell and Raven titled [ldquo]Comments on Fisheries and Water Quality Issues in the US Forest Service Draft Environmental Impact Statement for the Alaska Roadless Rule, December 2019[rdquo]]

[Attachment contains a journal article titled [ldquo]Roadless in the Pacific Northwest: Ecology and History[rdquo]]

[Attachment contains a scanned book chapter titled [ldquo]Chapter 8 Road Construction and Maintenance[rdquo]]

[Attachment contains a report titled [ldquo]Federal Timber Sales: Forest Service and BLM Should Review Their Regulations and Policies Related to Timber Export and Substitution[rdquo]]

[Attachment contains an environmental impact assessment review titled [ldquo]Biodiversity Impact Assessment of roads: an approach based on ecosystem rarity[rdquo]]

[Attachment contains a review titled [ldquo]A Meta-Analytic Review of Corridor Effectiveness[rdquo]]

[Attachment contains a news article titled [ldquo]The Steel Mill That Helped Build the American West Goes Green[rdquo]]

[Attachment contains a journal article titled [ldquo]Suspended Sediment Dynamics in Small Forest Streams of the Pacific Northwest[rdquo]]

[Attachment contains a journal article titled [ldquo]Description and Molecular Differentiation of a New Stpahylocystoides (Cyclophyllidea: Hymenolepididae) from the Dusky Shrew Sorex monticolus in Southeast Alaska[rdquo]]

[Attachment contains a journal article titled [ldquo]Natural climate solutions[rdquo]]

[Attachment contains a journal article titled [ldquo]Supporting Information Appendix from Natural climate solutions[rdquo]]

[Attachment contains a journal article titled [ldquo]Conservation of Population Diversity of Pacific Salmon in Southeast Alaska[rdquo]]

[Attachment contains a journal article titled [ldquo]Maintaining wildlife habitat in southeastern Alaska: implications of new knowledge for forest management and research[rdquo]]

[Attachment contains a journal article titled [ldquo]Have product substitution carbon benefits been overestimated? A sensitivity analysis of key assumptions[rdquo]]

[Attachment contains a journal article titled [ldquo]Effects on Carbon Storage of Conversion of Old-Growth Forests to Young Forests[rdquo]]

[Attachment contains a journal article titled [ldquo]Modeling Carbon Stores in Oregon and Washington Forest Products: 1900-1992[rdquo]]

[Attachment contains a research paper titled [ldquo]The Tongass National Forest and the Transition Framework: A New Path Forward?[rdquo]]

[Attachment contains a journal article titled [ldquo]Biodiversity management in the face of climate change: A review of 22 years of recommendations[rdquo]]

[Attachment contains a journal article titled [ldquo]Willingness to pay for ecosystem conservation in Alaska[rsquo]s Tongass National Forest: a choice modeling study[rdquo]]

[Attachment contains a journal article titled [ldquo]Roadless Areas as Key Approach to Conservation of Functional Forest Ecosystems[rdquo]]

[Attachment contains a journal article titled [ldquo]Revision of widespread red squirrels (genus: Tamiasciurus) highlights the complexity of speciation within North American forets[rdquo]]

[Attachment contains a journal article titled [ldquo]Meeting GHG reduction targets requires accounting for all forest sector emissions[rdquo]]

[Attachment contains a journal article titled [ldquo]A global map of roadless areas and their conservation status[rdquo]]

[Attachment contains a journal article titled [ldquo]Supplementary Materials for A global map of roadless areas and their conservation status[rdquo]]

[Attachment contains a journal article titled [ldquo]Measuring Forest Carbon: Strengths and of Available Tools[rdquo]]

[Attachment contains a report titled [ldquo]Climate Change and Land: An IPCC Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems[rdquo]]

[Attachment contains a journal article titled [ldquo]Assessments of Wildlife Viability, Old-Growth Timber Volume Estimates, Forested Wetlands, and Slope Stability[rdquo]]

[Attachment contains a journal article titled [ldquo]Conservation Assessment for the Northern Goshawk in Southeast Alaska[rdquo]]

[Attachment contains a journal article titled [ldquo]Landslide Initiation, Runout, and Exposition Within Clearcuts and Old-Growth Forests of Alaska[rdquo]]

[Attachment contains a journal article titled [ldquo]Quantifying the Monetary Value of Alaska National Forests to Commercial Pacific Salon Fisheries[rdquo]]

[Attachment contains a journal article titled [ldquo]Effects of Roads on Hydrology, Geomorphology, and Disturbances Patches in Stream Networks[rdquo]]

[Attachment contains a letter and resolution from Organized Village of Kake]

[Attachment contains a journal article titled [ldquo]Re-evaluation of forest biomass carbon stocks and lessons from the world[rsquo]s most carbon-dense forests[rdquo]]

[Attachment contains a journal article titled [ldquo]Sediment Production in a Coastal Watershed: Legacy, Land Use, Recovery, and Rehabilitation[rdquo]]

[Attachment contains a resolution from Ketchikan Indian Community]

[Attachment contains a review titled [ldquo]Review of Wildlife Management and Conservation Biology on the Tongass National Forest: A Synthesis with Recommendations[rdquo]]

[Attachment contains a journal article titled [ldquo]Belowground carbon trade among tall trees in a temperate forest[rdquo]]

[Attachment contains a journal article titled [ldquo]Geographic and Host Range of the Nematode Soboliphyme Baturini Across Beringia[rdquo]]

[Attachment contains a journal article titled [ldquo]Phylogeography of a Holarctic nematode, Soboliphyme baturini, among mustelids: climate change, episodic colonization, and diversification in a complex host-parasite system[rdquo]]

[Attachment contains a journal article titled [ldquo]Genetic Relationships Among Chum Salmon Populations in Southeast Alaska and Northern British Columbia[rdquo]]

[Attachment contains a journal article titled [ldquo]High-Biomass Forests of the Pacific Northwest: Who Manages Them and How Much is Protected?[rdquo]]

[Attachment contains a journal article titled [ldquo]Yellow-cedar: climate change and natural history at odds[rdquo]]

[Attachment contains a journal article titled [ldquo]Identifying and mapping biodiversity processes for conservation planning in islands: A case study in Reunion Island (Western Indian Ocean)[rdquo]]

[Attachment contains a journal article titled [ldquo]Land use and climate change impacts on lake sedimentation

rates in western Canada[rdquo]]

[Attachment contains a journal article titled [ldquo]A global strategy for road building[rdquo]]

[Attachment contains a journal article titled [ldquo]Supporting Information for Land Use Strategies to mitigate climate change in carbon dense temperate forests[rdquo]]

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[Attachment contains a journal article titled [ldquo]Effects of Management on Carbon Sequestration in Forest Biomass in Southeast Alaska[rdquo]]

[Attachment contains a journal article titled [ldquo]Evaluating the Impacts of Logging Activities on Erosion and Suspended Sediment Transport in the Caspar Creek Watersheds[rdquo]]

[Attachment contains a journal article titled [ldquo]Global Decline in Large Old Trees[rdquo]]

[Attachment contains a journal article titled [ldquo]New policies for old trees: averting a global crisis in a keystone ecological structure[rdquo]]

[Attachment contains a journal article titled [ldquo]Estimating Diesel Fuel Consumption and Carbon Dioxide Emissions from Forest Road Construction[rdquo]]

[Two Attachments contain a report titled [ldquo]USDA Forest Service Roadless Areas: Potential Biodiversity Conservation Reserves[rdquo]]

[Attachment contains a journal article titled [ldquo]Effects on Traffic and Ditch Maintenance on Forest Road Sediment Production[rdquo]]

[Attachment contains a journal article titled [ldquo]Spatial and Temporal Patterns in Erosion from Forest Roads]

[Attachment contains a journal article titled [ldquo]Old-growth forests as global carbon sinks[rdquo]]

[Attachment contains an abstract of a journal article titled [ldquo]The Effects of Forest Harvesting and Best Management Practices on Streamflow and suspended Sediment Concentrations During Snowmelt in Headwater Streams in Sub-boreal Forests of British Columbia, Canada[rdquo]]

[Attachment contains a report titled [ldquo]Mammals and Amphibians of Southeast Alaska[rdquo]]

[Attachment contains a journal article titled [ldquo]Untangling the confusion around land carbon science and climate change mitigation policy]

[Two Attachments contain a journal article titled [ldquo]Assessing the risk to the conservation status of temperate rainforest from exposure to mining, commercial logging, and climate change: A Tasmanian case study[rdquo]]

[Attachment contains a journal article titled [ldquo]Policy Options for the World[rsquo]s Primary Forests in Multilateral Environmental Agreements[rdquo]]

[Attachment contains a journal article titled [ldquo]Counting trees, carbon and climate change[rdquo]]

[Attachment contains a journal article titled [ldquo]Biodiversity, roads, and landscape fragmentation: Two Mediterranean cases[rdquo]]

[Attachment contains a USDA Forest Service Roadless Area Conservation Final Environmental Impact Statement from November 2000]

[Attachment contains a review titled [ldquo]A Review of Climate-Change Adaptation Strategies for Wildlife Management and Biodiversity Conservation[rdquo]]

[Attachment contains a journal article titled [ldquo]Influence of Headwater Streams on Downstream Reaches in Forested Areas[rdquo]]

[Attachment contains a report titled [ldquo]A synthesis of current knowledge on forests and carbon storage in the United States[rdquo]]

[Attachment contains a journal article titled [ldquo]Land Use Strategies to mitigate climate change in carbon dense temperate forests[rdquo]]

[Attachment contains a journal article titled [ldquo]Large, climate-sensitive soil carbon stocks mapped with pedology-informed machine learning in the North Pacific coastal temperate rainforest[rdquo]]

[Two Attachments contain a journal article titled [ldquo]Morphological Evolution Is Accelerated among Island Mammals[rdquo]]

[Attachment contains a journal article titled [ldquo]Conservation significance of island versus mainland populations: a case study dibblers (Parantechinus apicalis) in Western Australia[rdquo]]

[Attachment contains a journal article titled [ldquo]Intact Forests in the United States: Proforestation Mitigates Climate Change and Serves the Greatest Good[rdquo]]

[Attachment contains a journal article titled [ldquo]Natural disturbances and forest management in riparian zones: comparison of effects at reach, catchment, and landscape scales[rdquo]]

[Attachment contains a journal article titled [ldquo]Soil networks become more connected and take up more carbon as nature restoration progresses[rdquo]]

[Two Attachments contain a journal article titled [ldquo]Biodiversity hotspots for conservation priorities[rdquo]]

[Attachment contains a journal article titled [ldquo]The Birds of North America, Marbled Murrelet[rdquo]]

[Attachment contains a journal article titled [ldquo]Long-term vegetation changes in a temperate forest impacted by climate change[rdquo]]

[Attachment contains a letter from May 2019 from Organized Village of Kake]

[Attachment contains a resolution from Organized Village of Kake from 2018 titled [ldquo]Continued Tribal Support for Application of National Roadless Rule on the Tongass National Forest[rdquo]]

[Attachment contains a journal article titled [ldquo]Correlates of Mortality in an Exploited Wolf Population[rdquo]]

[Attachment contains a USDA report titled [ldquo]Assessment of the Competitive Position of the Forest Products

Sector in Southeast Alaska, 1985-94[rdquo]]

[Attachment contains a journal article titled [ldquo]Stream Temperature Relationships to Forest Harvest in Western Washington[rdquo]]

[Attachment contains a joint statement of members of the peer review committee concerning the inadequacy of conservation measures for vertebrate species in the Tongass National Forest Land Management Plan of Record[rdquo]]

[Attachment contains an excel sheet 2003-2018 Awarded Timber Sale 1000+ MBF]

[Attachment contains a PDF file of a website on Yellow-Cedar Decline]

[Attachment contains a journal article titled [ldquo]The incidence and role of gullies after logging in a coastal redwood forest[rdquo]]

[Attachment contains a resolution from Organized Village of Kassaan titled [ldquo]A Resolution of the Organized Village of Kasaan in support of the [lsquo]no-action alternative[rsquo] as the as the preferred alternative in the Tongass National Forest Roadless Rulemaking process.[rdquo]]

[Attachment contains a journal article titled [ldquo]A review of environmental impacts of winter road maintenance[rdquo]]

[Attachment contains a journal article titled [ldquo]World Scientists[rsquo] Warning of a Climate Emergency[rdquo]]

[Attachment contains a journal article titled [ldquo]World Scientists[rsquo] Warning of a Climate Emergency[rdquo]]

[Attachment contains a journal article titled [ldquo]World Scientists[rsquo] Warning to Humanity: A Second Notice[rdquo]]

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[Attachment contains a journal article titled [ldquo]Resource selection by coastal wolves reveals the seasonal importance of seral forest and suitable pretty habitat[rdquo]]

[Attachment contains a journal article titled [ldquo]Estimating Abundance of a Cryptic Social Carnivore Usuing Spatially Explicit Capture-Recapture[rdquo]]

[Attachment contains a journal article titled [ldquo]Wolf space use during denning season on Prince of Wales Island, Alaska[rdquo]]

[Attachment contains a journal article titled [ldquo]Riparian Windthrow [ndash] Northern Vancouver Island[rdquo]]

[Attachment contains a journal article titled [ldquo]Historic hybridization and persistence of a novel mito-nuclear combination in red-backed voles (genus Myodes)[rdquo]]

[Attachment contains a journal article titled [ldquo]Implementing the 2012 Forest Planning Rule: Best Available Scientific Information in Forest Planning Assessments[rdquo]]

[Attachment contains a journal article titled [ldquo]Living on the edge: Exploring the role of coastal refugia in the Alexander Archipelago of Alaska[rdquo]]

[Attachment contains a journal article titled [ldquo]Phylogeographic structure in long-tailed voles (rodentia: Arvicolinae) belies the complex Pleistocene history of isolation, divergence, and recolonization of Northwest North America[rsquo]s fauna[rdquo]]

[Attachment contains a journal article titled [ldquo]Diversification of deermice (Rodentia: genus Peromyscus) at their north-western range limit: genetic consequences of refugial and island isolation[rdquo]]

[Attachment contains a 2018 resolution from the Organized Village of Saxman]

[Attachment contains a journal article titled [ldquo]Population Diversity and the Portfolio Effect in An Exploited Species[rdquo]]

[Attachment contains a journal article titled [ldquo]Scientists Call on the Forest Service to Uphold the National Roadless Area Rule that Protects Over 9 Million Acres on the Tongass Naitonal Forest, one of the World[rsquo]s Last Intact Temperate Rainforests[rdquo]]

[Attachment contains a journal article titled [ldquo]Southeast Alaska by the numbers 2019[rdquo]]

[Attachment contains a September 16, 2019 letter on comments on Central Tongass Project Draft Environmental Impact Statement from multiple groups]

[Attachment contains a chapter of a report titled [ldquo]Why Keep Areas Road-Free? The Importance of Roadless Areas[rdquo]]

[Attachment contains a journal article titled [ldquo]Roadless and Low-Traffic Areas as Conservation Targets in Europe[rdquo]]

[Attachment contains a journal article titled [ldquo]Description of Caurinus tlagu, new species, from Prince of Wales Island, Alaska (Mecoptera, Boreidae, Caurininae)[rdquo]]

[Attachment contains a resolution from Municipality of Skagway, Alaska titled [ldquo]A resolution of the municipality of Skagway, Alaska expressing the municipality of Skagway[rsquo]s support for Alternative 1 of the draft environmental impact statement for the managmenet of inventoried roadless areas within the Tongass National Forest[rdquo]]

[Attachment contains an abstract of a journal article titled [ldquo]Habitat Selection by American Martens in Coastal California[rdquo]]

[Attachment contains a journal article titled [ldquo]Alaska Regional Climate Projections[rdquo]]

[Attachment contains a 2019 letter from U.S. congressmen to the U.S. Department of Agriculture Inspector General requesting an investigation regarding the potential misuse of USFS grant to State of Alaska]

[Attachment contains a 2018 letter from the State of Alaska governor Bill Walker to Secretary Perdue to consider a petition for rulemaking on the applicability of the 2001 Roadless Rule to the Tongass National Forest in Alaska]

[Attachment contains a journal article titled [ldquo]Rate of tree carbon accumulation increases continuously with

tree size[rdquo]]

[Attachment contains a journal article titled [ldquo]Post-glacial colonization of northwestern North America by the forest-associated American marten (Martes Americana, Mammalia: Carnviora: Mustelidae[rdquo]]

[Attachment contains a section in a report titled [ldquo]Man-caused Problems and Their Control[rdquo]]

[Attachment contains a journal article titled [ldquo]Benefits and impacts of road removal[rdquo]]

[Two Attachments contain a journal article titled [ldquo]Revision of widespread red squirrels (genus: Tamiascirus) highlights and the complexity of speciation within North American forests[rdquo]]

[Attachment contains a report titled [ldquo]Cutting our Losses: 20 Years of Money-Losing Timber Sales in the Tongass[rdquo]]

[Two Attachments contain a map titled [ldquo]Tongass National Forest Timber Sale Program Adaptive Management Strategy[rdquo]]

[Attachment contains a USDA Summary of Final Environmental Impact Statement Plan Amendment]

[Attachment contains a USDA Summary of Final Environmental Impact Statement Plan Amendment volume 2]

[Attachment contains a USDA Summary of Final Environmental Impact Statement Plan Amendment volume 1 part 1]

[Attachment contains a USDA Summary of Final Environmental Impact Statement Plan Amendment volume 1 part 2]

[Attachment contains a USDA Summary of Final Environmental Impact Statement Plan Amendment volume 1 part 3]

[Attachment contains a map titled [ldquo]Tongass National Forest Land and Resource Management Plan Final EIS Alternative 1 Land Use Designations[rdquo]]

[Attachment contains a map titled [ldquo]Tongass National Forest Land and Resource Management Plan Final EIS Alternative 1 Suitable Lands[rdquo]]

[Attachment contains a map titled [ldquo]Tongass National Forest Land and Resource Management Plan Final EIS Alternative 2 Suitable Lands[rdquo]]

[Attachment contains a map titled [ldquo]Tongass National Forest Land and Resource Management Plan Final EIS Alternative 3 Suitable Lands[rdquo]]

[Attachment contains a map titled [ldquo]Tongass National Forest Land and Resource Management Plan Final EIS Alternative 4 Suitable Lands[rdquo]]

[Attachment contains a map titled [ldquo]Tongass National Forest Land and Resource Management Plan Final EIS Alternative 5 Suitable Lands[rdquo]]

[Attachment contains a map titled [ldquo]Tongass National Forest Land and Resource Management Plan Final EIS Alternatives 2,3,4, and 5 Land Use Designations[rdquo]]

[Attachment contains a report from USDA titled [ldquo]Errata for the Final Environmental Impact Statement Plan Amendment Tongass National Forest[rdquo]]

[Attachment contains a summary of Final Environmental Impact Statement Plan Amendment]

[Attachment contains a summary of Tongass National Forest Watershed Restoration Program, 2018]

[Attachment contains a 2015 report of the Tongass Advisory Committee Final Recommendations]

[Attachment contains a journal article titled [ldquo]Review of Ecological Effects of Roads on Terrestrial and Aquatic Communities[rdquo]]

[Attachment contains a journal article titled [ldquo]Conservation Science and Forest Service Policy for Roadless Areas[rdquo]]

[Attachment contains the United Nations Declaration on the Rights on Indigenous Peoples]

[Attachment contains Interagency OGR Review for POW LLA]

[Attachment contains Alaska Roadless Rulemaking Questions and Answers from USDA]

[Attachment contains frequently asked questions regarding inventoried roadless areas from USDA]

[Attachment contains an article of Endemic Species of the Tongass by USDA]

[Attachment contains Alaska Roadless Rule Scoping Period: Written Public Comment Summary]

[Attachment contains Tongass Limited Shipping Policy by USFS]

[Attachment contains a USDA report titled [ldquo]Interagency Wolf Habitat Management Program: Recommendations for Game Management Unit 2[rdquo]]

[Attachment contains a USDA Land and Resource Management Plan]

[Attachment contains Alaska Rulemaking Regulatory Impact Assessment and Cost-Benefit Assessment]

[Attachment contains a list of dates and locations of USDA Forest Service Alaska Roadless Rulemaking Public Meetings in September 2018]

[Attachment contains a list of dates and locations of USDA Forest Service Alaska Roadless Rulemaking Public Meetings in November 2019]

[Attachment contains a slideshow from USDA titled [ldquo]Alaska Roadless Rulemaking]

[Attachment contains a USDA publication on the Alaska Roadless Rule summary]

[Attachment contains a USDA Forest Service Alaska Roadless Rulemaking Questions and Answers]

[Attachment contains a Central Tongass Project Draft Environmental Impact Statement Volume I by USDA]

[Attachment contains a USFS report of cut and sold tree sales from 2015]

[Attachment contains a USFS report of cut and sold tree sales from 2016]

[Attachment contains a USFS report of cut and sold tree sales from 2017]

[Attachment contains a USFS report of cut and sold tree sales from 2018]

[Attachment contains a USFS report of cut and sold tree sales from 2019]

[Attachment contains a Forest Service Roadless Area Conservation Final Environmental Imapct Statement Volume I by USDA]

[Attachment contains a Land and resource Management Plan from 2016]

[Attachment contains a PDF of a website titled Monitoring and Evaluation Program]

[Attachment contains a report from U.S. Fish and Wildlife Service titled [ldquo]Species Status Assessment for the Alexander Archipelago Wolf (Canis lupus ligoni]

[Attachment contains a PDF of a website titled [ldquo]Second summer sawfly outbreak browns hemlock trees around Southeast[rdquo]]

[Attachment contains a journal article titled [ldquo]Catastrophic Declines in Wilderness Areas Undermine Global Environment Targets[rdquo]]

[Attachment contains a journal article titled [ldquo]Mapping vulnerability and conservation adaptation strategies under climate change.[rdquo]]

[Attachment contains a journal article titled [ldquo]The exceptional value of intact forest ecosystems[rdquo]]

[Two Attachments contain a journal article titled [ldquo]Genetic Distinctiveness of Alexander Archipelago Wolves (Canis lupus ligoni)[rdquo]]

[Attachment contains a journal article titled [ldquo]Forest roads and geomorphic process interactions, Cascade Range, Oregon[rdquo]]

[Attachment contains an abstract of a journal article titled [ldquo]Strength of tree roots and landslides on Prince of Wales Island, Alaska[rdquo]]

[Attachment contains a journal article titled [ldquo]Risk of Landslides in Shallow Soils and Its Relation to Clearcutting in Southeastern Alaska[rdquo]]

[Attachment contains a journal article titled [ldquo]On the variable effects of climate change on Pacific salmon[rdquo]]

[Attachment contains a journal article titled [ldquo]Status of American Martens in Coastal Forests of the Pacific States[rdquo]]