Data Submitted (UTC 11): 10/19/2020 8:00:00 AM
First name: Edward
Last name: Zukoski
Organization: Center For Biological Diversity
Title: Attorney
Comments: To the Forest Service:

On behalf of Southeast Alaska Conservation Council et al., please accept these comments on the South Revilla Draft EIS.

Due to the size and number of exhibits, we will be making multiple uploads.

Here, find our letter and the first 10 of 45 exhibits.

Thank you for your attention to this matter.

Edward B. Zukoski

Center for Biological Diversity

The U.S. Forest Service is analyzing the South Revillagigedo Integrated Resource Project (S. Revilla Project) and has prepared a Draft Environmental Impact Statement (DEIS). The undersigned organizations submit these comments on the S. Revilla DEIS. These groups have a long-standing interest in the social and ecological values of the Tongass National Forest and any developments that may affect those values. For the reasons described below, the Forest Service should not pursue the logging aspects of the S. Revilla Project.

The project area covers about 44,371 acres of National Forest System lands, encompasses 31 watersheds, and includes an 8,224 acre parcel slated for exchange with the Alaska Mental Health Trust Authority under the Alaska Mental Health Trust Land Exchange Act of 2017 (Public Law 115-31). The project includes logging, road building, restoration, and cabin construction. The proposed action Alternative 2 would cut an estimated 70 MMBF of old-growth timber from 5,115

acres and 22 MMBF of young-growth timber from 1,087 acres for a total volume of 92 MMBF over 15 years. Should the Mental Health Trust exchange include the entire 8,224-acre parcel, 7.9 MMBF would be removed from the volume estimated to be made available under Alternative 2. The project would construct 14.4 miles of new roads, 34 miles of new temporary roads and reopen another 34.1 miles of closed roads. In addition, the proposed action would require a forest plan amendment of Scenic Integrity Objectives (SIOs) to permit larger

clearcuts than the Tongass Forest Plan currently allows in order to reduce logging costs. The project would also downgrade the recreational opportunity class for 126 acres from primitive non-motorized to roaded modified. A number of recreational features would be constructed or improved, including trails, camping sites, parking, boat ramps and a cabin, and the project would include stream restoration work and wildlife habitat management.

We oppose all the action alternatives due to their irretrievable impacts on old growth forests, terrestrial wildlife habitat, essential fish habitat, scenery and recreation values, and the carbon benefits these forests provide in mitigating against climate change. Each of the alternatives projects dire economic losses for the Forest Service and the American taxpayer, and as a result will fail to achieve the project[rsquo]s purpose and need because the timber industry will be deterred from bidding on future sales under this project. None of the action alternatives quantify and account for the real and measurable economic benefits of other uses of the forest for subsistence, recreation and tourism, and commercial fishing. Finally, the forest plan amendment proposed under this project fails to comply with NFMA and NEPA.

I. The Forest Service Fails to Demonstrate How the Project Will Deliver on the Purpose and Need.

According to the DEIS, the purpose and need of this project is to:

1.
* contribute to jobs and labor income and opportunities in local and regional communities associated with timber, recreation, tourism, and aquatic and terrestrial resource management;
* sustain and improve aquatic and terrestrial habitat conditions that support commercial, sport, and subsistence resources; and
* provide access to forest resources by commercial, subsistence, and recreation users.1

The DEIS describes [ldquo][hellip]a need to provide a sustainable level of forest products to contribute to the economic sustainability of the region. Providing old-growth timber and currently merchantable young-growth timber would maintain the timber industry during the transition to young-growth management and would provide jobs and other economic opportunities.[rdquo]2 While the DEIS estimates the number of jobs created as a result of the timber made available under the project, the Forest Service has failed to analyze how the project will contribute [ldquo]to jobs and labor income and opportunities in local and regional communities associated with [hellip] recreation tourism, and aquatic and terrestrial resource management.[rdquo]

In order for the public to ascertain whether this project will deliver on the purpose and need, the Forest Service must do the same due diligence as for timber by estimating the number of jobs created and economic impacts/benefits for recreation, tourism, and aquatic and terrestrial resource management. In conducting this analysis, the Forest Service should consider recent economic studies and data on these sectors, including jobs and economic data available from the Alaska Department of Labor, McDowell Group, and others, as well as the 2020 Social and Economic Monitoring of the Tongass National Forest and Southeast Alaska communities: Monitoring Plan and Baseline Report, produced by the Ecosystem Workforce Program, University of Oregon, which quantifies the economic benefits of restoration and natural resource work.3

In addition, the action alternatives offered by the Forest Service only vary slightly from one another, almost exclusively in the volume of timber offered. In fact, they are so similar that the relative positives and negatives are negligible. These are not true alternatives. Based on the purpose and need, the Forest Service should have offered an alternative that prioritized recreation, tourism, and aquatic and terrestrial resource management so that the public could evaluate an alternative that truly contrasts with the proposed action alternative. Furthermore, despite the statement in the purpose and need that this timber sale is necessary in order to provide jobs while the transition to young growth occurs, all the action alternatives proposed under this timber sale offer far more old growth than young growth, thereby continuing to stymie the transition from succeeding. According to the FEIS for the Tongass Forest Plan, the Forest Service should be offering nearly 60% young growth beginning in year 11 of the transition, 2027, which will be year six of the S. Revilla project.4 This increases to about 90% in 2032. This project offers 67% old growth. We already know that no young growth will be offered as part of the recently proposed Twin Mountain II Timber Sale; and now these alternatives continue the trend of offering nearly all old growth.

Stated differently, the anticipated YG/OG harvest ratio forest-wide for the 15 years of this project, 2022-2036, is 405:285, or about 1.4:1. (12/34 x 5; 28/18 x 5; 41/5 x 5). The DEIS incorrectly states that 435 MMBF of old-growth are expected from the forest over the next 15 years (p.7, apparently failing to account for the years elapsed between the 2016 Forest Plan amendment and the approximate S. Revilla project implementation date). The proposed project presents a much higher old-growth component than directed by the Forest Plan for the relevant 15-year period. The DEIS fails to explain why that harvest composition is necessary or how it is consistent with the transition timeframe.

II. The Project[rsquo]s Economics Do Not Pencil Out.

A large area of the proposed S. Revilla project, identified on the Shelter Cove map for Alternative 2, is recycled from the proposed action alternative for an earlier timber sale, the Saddle Lakes Timber Sale from 2015. We note that the Forest Supervisor ultimately elected not to proceed with the timber harvest and forest plan amendments proposed in that sale (Saddle Lakes ROD). As the Alaska Forest Association succinctly put it in their 2019 scoping comments for this project, [ldquo]The west half of this project area [hellip] is the same project area as the Saddle Lakes EIS which was aborted when it became apparent that the 2,237 acre, 47 million board foot (mmbf) project would result in a significant financial loss to the average purchaser. Consequently, designing this current project in a manner similar to the 2015 Saddle Lakes project will also result in a financially deficit appraisal.[rdquo]5

It is further difficult to see how this project meets the purpose and need when none of the alternatives indicate that future sales offered under the project will appraise positive. Under the Further Consolidated Appropriations Act of 2020, timber sales that do not appraise positive using the current Region 10 RV (Residual Value) appraisal cannot be offered.6 The FS must acknowledge this legal requirement, and must explain to the public why it is continuing to consider only options that the Forest Service, under law, is barred from implementing.[rdquo] The DEIS states that for the proposed action for Alternative 2: [ldquo]The Indicated Advertised Rates for High and Low markets are

$(89.57)/MBF and $(43.81)/MBF, respectively.[rdquo]7 This illustrates that the proposed project would occur at a

considerable expense to the taxpayer and be a money loser for the timber industry as well.

This is despite a proposal to adopt a forest plan amendment to downgrade Scenic Integrity Objectives ostensibly to lower logging costs by allowing a greater number and larger areas for old- growth clearcuts. In fact, with the SIO amendment, the proposed action alternative still projects a higher overall cost, making it the most expensive of all the alternatives and so lacking in economic viability as to be dead on arrival for consideration by regional timber operators. Indeed, comments from industry, both during the scoping process and upon the release of the DEIS corroborate this. [ldquo]Why waste time analyzing and marking harvest units that have no hope of being financially viable?[rdquo] asked Owen Graham, then-president of Alaska Forest Association in the group[rsquo]s scoping comments on the project in 2019.8 [ldquo]You can[rsquo]t buy it just to lose money on it,[rdquo] stated Eric Nichols, head of Alcan Forest Products and treasurer for the Alaska Forest Association in September 2020.9 More importantly, the costs underscore how the timber industry in Southeast Alaska is not sustainable. The [ldquo]USFS could end up losing nearly $190 million in the Tongass over the next five years from planned sales[rdquo] and [ldquo][i]n fiscal year 2019, the USFS lost $16.1 million.[rdquo]10 Compelling the American public to fund timber sales like this is simply throwing good money after bad at best and at worst, a violation of the public trust.

III. The Forest Service Has Failed to Account for All Reasonably Foreseeable Costs.

In presenting the costs of each alternative, the Forest Service has failed to fully account for costs that are incurred as a result of the proposed logging and road building. These include future costs to restore habitat and to decommission approximately 60 miles of roads under this project.11 Deferred maintenance costs on the Tongass were estimated at more than $89 million in FY2018, of which the vast majority is for roads and bridges.12 In 2013, the Forest Service estimated that over $100 million is needed to address the backlog of watershed restoration work.13 These costs are a direct result of historic logging and roadbuilding. After 50 years of managing the Tongass, the Forest Service has sufficient data to be able to reasonably estimate these future costs. Therefore, the Forest Service must analyze and disclose the future costs of watershed and wildlife habitat restoration and road decommissioning that will be required as a result of the logging and roadbuilding under this project, and factor those costs into the total estimated costs for each alternative so that the public can fairly evaluate the true costs of this timber sale to the American taxpayer.

The logging unit identification discussion on DEIS page 48 indicates that the estimated timber volumes are overestimated and will be refined based on groundtruthing and timber cruises at a later date, which will likely result in smaller timber plots. The reduced size of these plots may result based on evidence of lower volume in old growth as a result of defect, streams that need protections, rare plants (at least one endemic plant has been identified for Revilla Island), forest edges, wetlands, unstable slopes, wolf dens, and raptor nests, as well as karst features.

The DEIS notes that mitigation measures will be needed to limit logging damage, and many of these measures will place further financial costs on the taxpayer. [ldquo]Areas identified for shovel yarding generally only occur on slopes less than 35 percent and outside riparian management areas. Slash or puncheon mats would be used to protect soils by distributing the weight of the mechanized harvest equipment in exposed soil areas. The leading end of logs would be suspended during yarding operations, reducing the footprint of logs as they are dragged on the soil surface. Helicopter yarding would provide full suspension of logs. Fine organic matter and coarse woody debris from cull logs and broken tops and branches remaining on the ground would provide nutrient recycling.[rdquo]14 Although these measures help limit the impacts from logging, they are contingent upon Tongass timber administration staff to monitor and enforce these requirements on operators, which is a

significant oversight cost for the Forest.15 The Forest Service needs to provide evidence that it has the budgetary capacity to monitor and enforce these mitigation measures pursuant to the Tongass Forest Plan.

IV. The DEIS Fails to Take a Hard Look at the Project[rsquo]s Potential Air and Climate Pollution Impacts.

The climate crisis is the preeminent environmental issue of our time, threatening to drastically modify ecosystems, alter coastlines, worsen extreme weather events, degrade public health, and cause massive human displacement. Its impacts are already being felt in the United States, and particularly and increasingly in Alaska, which has warmed twice as quickly as the global average since 1950.16

A. NEPA Requires Agencies to Disclose the Climate Impacts of Proposed Actions.

The Forest Service must analyze the direct, indirect, and cumulative impacts of a proposed action.17 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.18 Meaningful consideration of greenhouse gas emissions (GHGs) and carbon sequestration is clearly within the scope of required NEPA review.19 As the Ninth Circuit has held, in the context of fuel economy standard rules:

The impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct. Any given rule setting a CAFE standard might have an [ldquo]individually minor[rdquo] effect on the environment, but these rules are [ldquo]collectively significant actions taking place over a period of time[rdquo]20

Courts have ruled that federal agencies must consider indirect GHG emissions resulting from agency policy, regulatory, and fossil fuel leasing decisions. For example, agencies cannot ignore the indirect air quality and climate change impact of decisions that would open up access to coal reserves.21

NEPA requires [ldquo]reasonable forecasting,[rdquo] which includes the consideration of [ldquo]reasonably foreseeable future actions [hellip] even if they are not specific proposals.[rdquo]22 That an agency cannot [ldquo]accurately[rdquo] calculate the total emissions expected from full development is not a rational basis for cutting off its analysis. [ldquo]Because speculation is ... implicit in NEPA,[rdquo] agencies may not [ldquo]shirk their responsibilities under NEPA by labeling any and all discussion of future environmental effects as crystal ball inquiry.[rdquo]23 The D.C. Circuit has echoed this sentiment, rejecting the argument that it is [ldquo]impossible to know exactly what quantity of greenhouse gases will be emitted[rdquo] and concluding that [ldquo]agencies may sometimes need to make educated assumptions about an uncertain future[rdquo] in order to comply with NEPA[rsquo]s reasonable forecasting requirement.24

The 2016 final CEQ Guidance on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Review provide useful direction on the issue of federal agency review of greenhouse gas

emissions as foreseeable direct and indirect effects of the proposed action.25 The CEQ guidance provides clear direction for agencies to conduct a lifecycle greenhouse gas analysis because the modeling and tools to conduct this type of analysis are available:

If the direct and indirect GHG emissions can be quantified based on available information, including reasonable projections and assumptions, agencies should consider and disclose the reasonably foreseeable direct and indirect emissions when analyzing the direct and indirect effects of the proposed action. Agencies should disclose the information and any assumptions used in the analysis and explain any uncertainties. To compare a project[rsquo]s estimated direct and indirect emissions with GHG emissions from the no-action alternative, agencies should draw on existing, timely, objective, and authoritative analyses, such as those by the Energy Information Administration, the Federal Energy Management Program, or Office of Fossil Energy of the Department of Energy. In the absence of such analyses, agencies should use other available information.26

The guidance further specifies that estimating GHG emissions is appropriate and necessary for actions such as federal logging projects.

In addressing biogenic GHG emissions, resource management agencies should include a comparison of estimated net GHG emissions and carbon stock changes that are projected to occur with and without implementation of proposed land or resource management actions. This analysis should take into account the GHG emissions, carbon sequestration potential, and the changes in carbon stocks that are relevant to decision making in light of the proposed actions and timeframes under consideration.27

Although the 2016 CEQ guidance has been withdrawn,28 the underlying requirement to consider climate change impacts under NEPA, including indirect and cumulative combustion impacts and loss of sequestration foreseeably resulting from commercial logging decisions, has not changed.29

B. Logging Old Growth Forests Has Significant, Negative Carbon Storage and Pollution Impacts.

The S. Revilla Project is likely to have significant climate pollution impacts because the Tongass National Forest is one of the planet[rsquo]s critical carbon sinks. As the Forest Service has recognized:

The Tongass National Forest stores more forest carbon than any other national forest in the United States As such, a critical ecosystem service sustained by this

forest is carbon sequestration (i.e., the removal of carbon dioxide from the atmosphere and keeping that carbon inactive by storing it in live or dead biomass as well as organic soil matter). This makes the Tongass National Forest a critical component in the global carbon cycle.30

The Forest Service has stated that [ldquo]the carbon stored in the Tongass National Forest makes up about 8 percent of the carbon currently stored in the forests of the United States.[rdquo]31 Other Forest Service experts have concluded that prior studies have underestimated the Tongass[rsquo]s ability to sequester carbon in soils; as a result they estimate that the Tongass may store up to 12 percent of the carbon of all U.S. forests.32 Whatever the number, the Tongass [ldquo]plays an important role in [the] amount of carbon that is stored globally as well as the global climatic condition [hellip] land management and other actions taken on the Tongass National Forest can affect climate change at a local, regional, and global scale.[rdquo]33 The Tongass[rsquo]s moist, old forests, and the soil they protect, are particularly efficient at sequestering carbon.34 A 2020 Forest Service technical report reinforced the conclusion that old- growth forests sequestered an outsized volume of carbon on the Tongass.35

Logging old-growth forests in particular worsens climate change by releasing significant amounts of carbon and by preventing such forests from continuing to sequester carbon.36 [ldquo][M]ature forests on the Tongass National Forest likely store considerably more carbon compared to younger forests in this area (within the individual trees themselves as well as within the organic soil layer found in mature forests).[rdquo]37 A 2019 paper concluded that the [ldquo][p]rimary (unlogged) forests on the Tongass store much more carbon than logged forests because of the relatively high percentage of old growth and long stable residence times of carbon stored in these forests, and in fact old growth forests are accruing biomass at a rate of approximately a Teragram a year.38 When old-growth on the Tongass is cut down, the vast majority of the stored carbon in the forest is released over time as CO2, thereby converting forests from a sink to a [ldquo]source[rdquo] or [ldquo]emitter.[rdquo]39 According to a 2019 International Panel on Climate Change (IPCC) report, deforestation causes climate pollution, and avoiding deforestation will reduce climate pollution.40 The IPCC has similarly recommended avoiding land sector emissions[mdash]in other words, keeping trees standing[mdash]not logging old-growth.41

Further, to address the climate crisis, agencies cannot rely on the re-growth of cleared forests to make up for the carbon removed when old-growth is logged. One prominent researcher explains: [ldquo]It takes at least 100 to 350+ years to restore carbon in forests degraded by logging (Law et al. 2018, Hudiburg et al. 2009). If we are to prevent the most serious consequences of climate change, we need to keep carbon in the forests because we don't have time to regain it once the forest is logged (IPCC, 2018).[rdquo]42

This science thus demonstrates that the proposed S. Revilla project will worsen climate emissions by cutting down and eliminating between 4,411 acres (Alternative 3) and 5,115 acres (Alternatives 2 and 4) of old-growth forest, destroying the ability of those stands and that land to sequester carbon.43 Chainsawing forests, building roads and other facilities, and moving wood to mills or overseas markets will result in fossil fuel emissions, adding to climate pollution.44 The project also proposes to increase opportunities for motor vehicle use on newly constructed roads, which will cause additional fossil fuel combustion, and thus GHG impacts.45

And this logging will occur at the same time that climate change is accelerating,46 making the need to protect carbon stores even more urgent than it was just a few years ago.

C. The S. Revilla DEIS Fails to Take a Hard Look at the Project[rsquo]s Climate Impacts.

The DEIS fails to provide any quantitative analysis of climate impacts, fails to explain why it cannot provide such projections, and its qualitative analysis provides no way to distinguish among alternatives. Climate pollution will be worsened because of this project, and the effects are capable of estimation. The DEIS[rsquo]s failure to do so violates NEPA[rsquo]s hard look mandate.

The DEIS acknowledges the Tongass forest[rsquo]s role in capturing carbon, and thus mitigating climate pollution. [ldquo]Forest ecosystems, such as those managed on the Tongass National Forest, represent a large terrestrial sink for carbon, such that the United Nations Framework Convention on Climate Change has recognized forest management as an effective strategy for off-setting greenhouse gas emissions (Wilson et al. 2013). A widely recognized ecosystem service provided by the Tongass is carbon flux regulation.[rdquo]47

Despite addressing in passing the Tongass[rsquo]s role as a carbon sink, the DEIS declines to quantify the climate impacts of eliminating old growth over an eight square mile area, or the greenhouse gas emissions that all the burning of fossil fuels that logging and shipping will cause. The DEIS makes two assertions apparently attempting to justify its approach. First, the agency alleges that addressing the climate impacts of logging is difficult. [ldquo]How carbon storage, carbon sequestration, timber harvest, vegetative regrowth and carbon emissions interact over time is very complex, making it unrealistic to define a temporal scope of analysis.[rdquo]48 Second, the DEIS contends that there is no way to assess carbon flux effects, stating [ldquo]most Forest Service projects are considered unmeasurable in terms of global carbon flux.[rdquo]49 Both of these assertions are false.

The Forest Service[rsquo]s approach violates NEPA. There is no loophole in NEPA allowing agencies to turn a blind eye to potential impacts because doing so is [ldquo]complex[rdquo] or [ldquo]complicated.[rdquo] To the contrary, federal courts have long ruled that NEPA requires agencies to make reasonable estimates of potential impacts. [ldquo]Reasonable 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 [lsquo]crystal ball inquiry.[rsquo][rdquo]50 [ldquo]If it is reasonably possible to analyze the environmental consequences in an [EIS], the agency is required to perform that analysis.[rdquo]51 [ldquo]NEPA analysis necessarily involves some [lsquo]reasonable forecasting,[rsquo] and ... agencies may sometimes need to make educated assumptions about an uncertain future.[rdquo]52 [ldquo]While foreseeing the unforeseeable is not required, an agency must use its best efforts to find out all that it reasonably can.[rdquo]53

Here, the Forest Service did not use its [ldquo]best efforts[rdquo] to address climate impacts. Rather it invested no effort, instead summarily concluding [ndash] without evidence or analysis [ndash] that it need perform no quantitative analysis at all. The agency[rsquo]s conclusion is arbitrary and capricious.

The only example the Forest Service provides for complexity relates to the effects of carbon stored in wood products. The DEIS notes that [ldquo]carbon is stored in building materials, but the storage value does not last as

long as a living old-growth tree, as carbon stored in buildings generally outlives its usefulness or is replaced within decades (Law et al. 2018).[rdquo]54 But the article by Dr. Law that the Forest Service cites disproves the agency[rsquo]s point. Dr. Law concludes that those carbon storage impacts can be estimated, accounted for, and factored into a model that calculated the net amount of carbon lost due to forest logging in Oregon over two five-year periods.55 This is precisely the type of analysis the Forest Service should, and could, have undertaken for the DEIS.56

Similarly, Dr. DellaSala[rsquo]s 2016 report addressed carbon stores from wood products and concluded that logging Tongass old-growth forest under the 2016 Forest Plan would result in net annual CO2 emissions totaling between 4.2 million tons and 4.4 million tons, depending on the time horizon chosen.57 More than a decade ago, the Bureau of Land Management completed an EIS for its Western Oregon Resource Management Plan in which that agency also predicted the net carbon emissions from its forest and other resource management programs.58 Because agencies and academics have quantified and compared the carbon emissions of alternative logging proposals, the Forest Service cannot fail to undertake a similar analysis here on the basis that it is too [ldquo]complex[rdquo] or [ldquo]complicated.[rdquo]

The Forest Service failure to address or acknowledge that there are peer-reviewed scientific approaches to estimating net climate damage caused by logging temperate forests is an independent NEPA violation. NEPA requires agencies to explain opposing viewpoints and their rationale for choosing one viewpoint over the other.59 Courts will set aside an EIS where the agency fails to respond to scientific analysis that calls into question the agency[rsquo]s assumptions or conclusions.60 Here, while the DEIS cites Dr. Law[rsquo]s report, the agency fails to address the report[rsquo]s key finding that the life-cycle impacts of forest logging can be estimated and quantified. The agency[rsquo]s failure to address these studies violates NEPA.

The 2016 Tongass Forest Plan Amendment admitted that a [ldquo]quantitative (i.e., numeric) assessment [of climate impacts] is feasible.[rdquo]61 But the Forest Service declined to undertake such an analysis because [ldquo]the quantitative results would include a large amount of error or uncertainty, such that the calculated differences between the alternatives would be difficult to discern.[rdquo]62 While we reject that EIS[rsquo]s contention that some uncertainty renders quantification useless, we note that the Forest Service declined to address climate impacts at the Forest Plan level in part because [ldquo]it is unknown when forests will be harvested or the extent of harvest that would occur at any particular time ... for any alternative.[rdquo]63 That uncertainty is not present here. The S. Revilla Project proposes alternatives that identify specific amounts of logging (between 79 and 92 million board feet, depending on the alternative) including up to 70 million board feet of old-growth, in specific units on a specific schedule.64 Now that the agency has the information it lacked at the Plan level, it cannot kick the can down the road based on uncertainty about the scope and pace of logging.

We note that the DEIS carefully quantifies the employment benefits of logging [ndash] a complex task [ndash] while ignoring the climate costs. The DEIS tallies the [ldquo][a]nnualized timber industry and associated jobs[rdquo] and the precise number of [ldquo]jobs supported[rdquo] by each alternative.65 Yet the Forest Service fails not only to estimate the volume of climate emissions, it fails to weigh the economic and job-related benefits of the project against the costs of climate change, which can be estimated using the Interagency Working Group[rsquo]s global estimate of the social cost of carbon.66 Once an agency chooses to [ldquo]trumpet[rdquo] a set of benefits, it also has a duty to disclose the related costs.67 [ldquo]There can be no hard look at costs and

benefits unless all costs are disclosed.[rdquo]68

The Forest Service does not, and cannot, allege that it need not quantify the climate impacts of logging, hauling, and road construction by relying on NEPA regulations concerning [ldquo]incomplete or unavailable information.[rdquo]69 Those NEPA provisions require the agency to identify the information as such, to [ldquo]make clear that such information is lacking,[rdquo] and nonetheless include the information in the EIS if the overall costs of obtaining it are not [ldquo]exorbitant[rdquo] and the information is [ldquo]essential to a reasoned choice among alternatives.[rdquo]70 The DEIS makes none of these required findings. Further, given the importance of the Tongass for carbon storage, it is essential for the Forest Service to disclose such impacts in order to understand whether the climate damage caused by logging outweighs any alleged economic or employment benefits of logging. Only then can the no action and action alternatives be placed in sharp relief, which is essential to the comparison and analysis of alternatives.

Further, there are climate pollution impacts [ndash] apart from clearcutting[rsquo]s impacts on sequestration [ndash] that agencies, including the Forest Service regularly quantify and that the agency must quantify here: the climate pollution from building roads, clearing forest, and transporting timber to market. The Forest Service admits that such activities will result in climate pollution, but fails to even estimate the quantity of those emissions.71 In assessing projects such as coal mine expansions, the Forest Service and the Office of Surface Mining have recently estimated pollution from internal combustion engines necessary to mine, process, and ship coal to market.72 The Forest Service has no reasonable basis for failing to do the same here for road construction, logging, transport to mill or overseas market, and the potential increase in recreational vehicle miles traveled due to road construction.

Rather than quantify impacts, the DEIS alleges that it provides a qualitative analysis of climate pollution impacts.

Analysis of the effects of climate and air resources is qualitative, comparing differences in the amount of old- and young-growth timber harvest as well as road building activities between alternatives. A qualitative discussion of air pollution sources, greenhouse gas emissions, and carbon sequestration was taken for disclosing air pollution and climate change implications. This qualitative discussion includes an evaluation of how climate change may modify conditions in the project area and how the proposed actions may influence levels of greenhouse gases and therefore, climate change. Although most Forest Service projects are considered unmeasurable in terms of global carbon flux, this qualitative comparison of alternatives provides insight into how proposed actions for each alternative could impact the carbon flux.73

However, the DEIS then fails to provide even the most basic qualitative analysis, lumping the impacts of all action alternatives together and declining to disclose which action alternative is likely to have larger or smaller climate pollution impacts, and how that will compare in scale to the no action alternative. By refusing to provide any comparison among alternatives, the Forest Service cuts out the heart of the environmental analysis.

For example, the DEIS states: [ldquo]All of the action alternatives involve old-growth and young-growth timber harvest along with road construction which would result in a net release of greenhouse gases and other

pollutants into the atmosphere through varying amounts of road construction, timber harvest, use of administrative vehicles of all kinds, mining, recreation development and use, and other land management actions.[rdquo]74 The DEIS avers that various construction and logging activities will [ldquo]increase greenhouse gases and other fossil fuel combustion emissions.[rdquo]75 Saying that each of the action alternatives would involve a release of, and therefore, [ldquo]increase[rdquo] greenhouse gas emissions, provides neither the public nor the decision-maker with any useful information at all as it gives the public no basis for distinguishing among alternatives, nor does it even try to provide the public or the decision-maker with a sense of the scale of the climate harm. It is the opposite of the hard look NEPA mandates. The DEIS does not even address whether a greater amount of logging and road construction will lead to more emissions, nor does it identify measures to mitigate those emissions. Further, this qualitative analysis is even more insufficient because it does not address at all the issue of carbon sequestration. The Forest Service[rsquo]s failure to take a hard look at this critical impact violates NEPA.

D. The S. Revilla DEIS Fails to Take a Hard Look at the Project[rsquo]s Air Pollution Impacts.

As with climate pollution, the DEIS declines to perform any quantitative analysis for any other air pollutant, and its alleged qualitative analysis is non-existent. Again, this violates NEPA[rsquo]s hard look mandate.

The DEIS asserts that its [ldquo][a]nalysis of the effects of [hellip] air resources is qualitative.[rdquo]76 But that document contains no discussion of the types of pollutants (beyond the fact that they will include [ldquo]fossil fuel combustion emissions[rdquo]) that road construction, logging, product transport and other activities may cause, or the scale of emissions, merely stating that all action alternative [ldquo]result in a net release of air pollution into the atmosphere through varying amounts[rdquo] of these activities.77

The DEIS supports its failure to undertake even the barest of qualitative analysis by dismissing all of the air quality impacts as temporary and insignificant.

[D]ue to the short-lived nature of these activities coupled with the dynamic weather patterns throughout Southeast Alaska continually circulating airsheds within the project area [hellip], no significant adverse effects on air quality are anticipated from these activities under any of the alternatives considered.78

The DEIS does not explain how the Forest Service can reach this conclusion without any estimation of the emissions at issue. Its assertion that air pollution will be [ldquo]short-lived[rdquo] is contradicted by the fact that the project is anticipated to require logging, trucking, barging, bulldozing, and chainsawing over a 15-year period.79 As noted above, other agencies have estimated climate as well as other air pollution emissions from similar industrial activities.

The DEIS also proffers a pair of additional reasons why it need not disclose air pollution impacts. First, the Forest Service asserts that it can monitor pollution impacts.80 But monitoring sensitive vegetation in wilderness areas

will only provide information about the potentially damaging impacts of air pollution too late [ndash] after the damage has occurred. NEPA requires that agencies estimate impacts before-hand, so that potential damage can be mitigated or at least accounted for before a decision is made.

Second, the DEIS excuses its failure to disclose air pollution on the grounds that federal and state regulators [ldquo]have regulatory responsibility under the Clean Air Act to manage emissions from permanent point sources. The enforcement of the applicable regulations by these agencies is anticipated to keep any potential adverse effects within the standards for air quality; therefore, no significant indirect effects are expected to occur.[rdquo]81 To the contrary, it is black-letter law that [ldquo]the existence of permit requirements overseen by another federal agency or state permitting authority cannot substitute for a proper NEPA analysis.[rdquo]82 NEPA requires the disclosure of foreseeable impacts, including air pollution. The mere fact that permits may be required for related air emissions does not allow the Forest Service to avoid taking the required hard look at those impacts. Further, the mere fact of compliance with a state or federal permit does not mean that there can be no impacts, or that impacts cannot be significant. Many air pollutants are not safe at any level, and permit levels set by state and federal may be more a matter of policy balancing than a statement as to what levels are safe. Further, permitted level may not address the potential for cumulative impacts, such as the interaction between COVID19 and air pollution. Because it attacks lung functions, the COVID19 virus appears to be harmful to those living in areas with increased air pollution.83

In sum, the S. Revilla DEIS fails to take the required hard look at air or climate impacts.

V. The Forest Service Has Not Provided a Justification for nor Analyzed and Fully Disclosed the Effects of the Proposed Plan Amendment

According to the DEIS, [ldquo]Alternative 2 would allow the use of the very low scenic integrity objectives of 1,752 acres within the project area, approximately 28 percent of all harvest acres.[rdquo]84 In addition, the DEIS lists eleven visual priority routes (VPRs) within the project area, for which scenic integrity objectives should apply.85 The DEIS alleges that the proposed amendment will permit more economic logging by allowing clearcuts instead of uneven-aged management. [ldquo]A very low SIO would allow larger even-aged old-growth timber harvest units, and additional acres of even- aged management than is currently allowed. This would generate more timber harvest volume from a unit, and reduce logging costs by allowing the use of conventional logging systems, such as cable or shovel logging, rather than helicopter logging.[rdquo]86 In fact, the logging costs per mbf under Alternative 2 are the most expensive of all three alternatives even with the SIO amendment.87 The Forest Service fails to acknowledge or explain this inconsistency, as it must in any subsequently prepared NEPA analysis. Even if the plan amendment makes the alternative more economic for the logging company, it would not be more economic if the numbers included all of the relevant costs, as discussed in Section II., above. Therefore, the decision to change the scenic integrity objectives through a plan amendment is irrational or arbitrary, in violation of the APA, because the justification is not supported by the facts.88

In addition, the Forest Service has failed to meet its NEPA obligation to disclose the effects of the proposed change in scenic integrity objectives. The DEIS lacks any map showing the locations of these VPRs superimposed with the locations of planned cutting units and road construction, except clear cuts for the Saddle Lakes Recreation area. This makes it impossible for the public to understand what the specific impacts will be on

all of the VPRs. The Forest Service must supply a map or maps showing the locations of these VPRs superimposed with the locations of planned timber harvests and road construction.

The highest scenic integrity objectives for this project (moderate) are found around the Saddle Lakes Recreation Area, Shelter Cove Connection Road, and Shelter Cove Boat Launch, close to visual priority routes. The SIO amendment would lower scenic integrity objectives to enable greater clearcuts, for a total estimated acreage of 5,710 acres in Alternative 2 (includes both old growth and young growth).89 Clearcuts allowed under the SIO amendment in VCUs 7460 and 7470, specifically cut units 16-19, 22-28, would occur around Saddle Lakes Recreation Area and the Shelter Cove Area, both of which are listed in the 2016 Tongass Forest Plan as Visual Priority Routes (VPRs).90 This would dramatically degrade the viewsheds in these major recreational use areas. Within the Saddle Lakes area, 724 acres would be clearcut. In multiple cases, the cutting blocks extend to 100 feet of the lakeshore of these water bodies. Some of the blocks (such as units 22-27)91 would remove some of the last remaining Large Tree Old Growth in the Saddle Lakes area.92 [ldquo]Forest visitors in these areas would be seeing landscapes where harvest activities dominate the scenery.[rdquo]93

The DEIS contains a digital rendering of the changes to the Saddle Lakes viewshed if the SIO amendment was implemented for this project:

The SIO amendment would visibly mar the viewshed for the Saddle lakes recreation area, dramatically spoiling the experience for visitors and users.95 This not only undermines a key purpose of the soon-to-be-completed Ketchikan to Shelter Cove road, which was to afford access to and enjoyment of the recreational opportunities of these areas, but also the Purpose and Need for this project.96 Programming clearcuts in a recreation area directly conflicts with NMFA, which mandates [ldquo]coordination of multiple use and sustained yield opportunities.[rdquo]97 Indeed, the DEIS acknowledges that [ldquo][t]he Saddle Lakes Recreation Area viewshed has mostly very high and high ESI. Harvest proposed under Alternatives 2 and 3 would change the scenic integrity of the viewshed to very low. This reduction of scenic integrity is an adverse effect to the scenery of the area. The scenic integrity of the viewshed would change from one where the scenery is or appears visually intact, to one where harvest activities would dominate the viewshed.[rdquo]98 [ldquo]Long term impacts to recreation opportunities would be primarily related to changes in scenery.99

In the discussion of Irreversible and Irretrievable Commitments of Resources, the Forest Service defines irretrievable commitments of resources as [ldquo]those that are lost for a period of time.[rdquo] The proposed scenery degradation impacts on recreation values meets this definition of an irretrievable commitment of resources. As the DEIS states, [ldquo]there will be long-term effects to scenery as it takes up to 40 years for a harvested unit to naturalize back into its surroundings.[rdquo]100 That[rsquo]s more than half a lifetime for the average person.101 In addition, the patches of old growth proposed for logging will further reduce the areas of primary old growth habitat that remain in this ecosystem, such that primary old growth forest conditions will remain out of reach for this area for centuries.

The Forest Service should not proceed with the proposed forest plan amendment because it has not provided sufficient reasoning and analysis to justify it or the large clearcuts that it would allow, which will create a lasting, irretrievable commitment of resources.

VI. The Forest Service Fails to Comply with NFMA and NEPA In Proposing to Amend the Forest

Plan[rsquo]s Scenic Integrity Objectives

A Forest Plan amendment to lower scenic integrity objectives in this area was proposed in an earlier project, the 2015 Saddle Lakes Timber Sale. Logging under that project was slated to impact Saddle Lakes Recreation Area, Harriet Hunt to Shelter Cove Connection Road (hereafter referred to as the Connection Road), Shelter Cove Boat Ramp, Carroll Inlet, and George Inlet. However, according to the 2015 FEIS for the Saddle Lakes timber sale, [ldquo]Internal concerns were expressed regarding the effects that timber harvest would have on areas visible from visual priority routes and use areas (VPRs).[rdquo]102 Forest Service staff expressed these concerns because the Saddle Lakes Recreation Area [ldquo]is the most likely place in the project area for dispersed camping, kayaking and canoeing.[rdquo]103 The Forest Supervisor ultimately decided to [ldquo][defer] any decision on timber harvest, the road construction associated with timber harvest, and the two Forest Plan amendments discussed in the draft ROD.[rdquo] 104 In fact, had the SIO amendment been implemented, the area of visual disturbance in the 2015 Saddle Lakes Timber Sale (2,027 acres or 16% of the project area) would have been less than half the 4,390 acres (41% of the project area) that will be disturbed under the S. Revilla project if Scenic Integrity Objectives are lowered.105

This action to downgrade the Scenery Integrity Objectives that were already publicly vetted and agreed upon in the 2016 Forest Plan is not only a repeat of what was proposed in the 2015 Saddle Lakes Timber Sale FEIS, but also for the Central Tongass Project, which also proposed a project specific amendment to remove the visual priority route designations in order to meet less restrictive Forest Plan Scenery Standards.106 This incremental erosion of the guidelines and elements of a publicly-vetted forest plan negates the whole purpose of forest land management planning, and in turn, contributes to the steady and relentless degradation of the environment the plan was supposed to protect. Continued amendments exempting areas from the scenic integrity standards erode the plan and ultimately prevent compliance with the standards and guidelines, which are required plan components protecting scenic integrity.

In fact, the Forest Service addresses repeated amendments of a specific plan provision in the Forest Service[rsquo]s Land Management Planning Handbook: [ldquo]Multiple or frequent project-specific plan amendments of the same type may suggest a need to change a plan component. The Responsible Official should recognize when there are multiple project-specific plan amendments and evaluate the presence of any systemic need to change the plan that should be addressed by a plan amendment.[rdquo]107

This [ldquo]amendment[rdquo] fails to comply with NFMA[rsquo]s planning in the following ways.

The 2012 planning regulations require that the agency must [ldquo][b]ase an amendment on a preliminary identification of the need to change the plan [that] may be based on a new assessment; a monitoring report; or other documentation of new information, changed conditions, or changed circumstances.[rdquo]108 The agency provides only a single basis for downgrading scenic integrity objectives throughout the more than 41,000-acre project area: to reduce logging costs. The Forest Service cites no new assessment, monitoring or other new information; deficit appraisals for timber sales are not a [ldquo]changed condition[rdquo] or [ldquo]changed circumstance[rdquo] on the Tongass.109 In fact, the Forest Service was well aware when it adopted SIOs that provide direction and objectives for landscapes that the objectives would restrict logging to protect the scenic

integrity of particular areas. Because the DEIS fails to provide any valid basis for the proposed plan amendment, the agency must withdraw it.

In addition, the Forest Service has failed to comply with the planning regulations[rsquo] public involvement and notification requirements because the amendment itself is an undefined, moving target. NFMA[rsquo]s regulations mandate that in developing plan amendments, the Forest Service must [ldquo]provide opportunities to the public for participating in the assessment process[rdquo] and [ldquo]engage the public.[rdquo]110 The Forest Service cannot do so effectively because it has failed to provide the public with the text of any amendment. We note that other forests have understood compliance with the planning regulations to require the agency to provide specific text for a proposed amendment, which enables the public to understand the amendment and provide effective input.111 This DEIS fails to do so.

The agency concludes that [ldquo]The existing condition of the South Revilla project area makes it unlikely that the visible effects of the proposed old-growth harvest would be absorbed while complying with the current 2016 Forest Plan direction without using silvicultural prescriptions that have little visible impact.[rdquo]112 But [ldquo]unlikely[rdquo] does not mean [ldquo]impossible.[rdquo] Unfortunately, the agency completely fails to evaluate the effects of silvicultural prescriptions other than clearcutting, including two-aged or uneven-aged management (Scene2.III.).113 The Forest Service must first determine, with careful siting and an appropriate silvicultural objective, whether and how it could meet the Forest Plan rather than changing the plan to ignore existing standards.

Further, the DEIS fails to acknowledge that additional provisions are [ldquo]directly related to the plan direction being added, modified, or removed.[rdquo]114 For example, NFMA provisions require that plans and amendments include components that ensure [ldquo][logging] would be carried out in a manner consistent with the protection of . . . aesthetic resources.[rdquo]115 The DEIS fails to explain how gutting scenic integrity objectives over thousands of acres through a plan amendment will be [ldquo]consistent with the protection[rdquo] of scenic values, and we do not believe that the Forest Service can do so. Any subsequently prepared NEPA document must explicitly address this provision. Because the Forest Service has failed to do so thus far, its analysis violates both NFMA and NEPA.

Forest Service planning regulations also mandate that plans and amendments contain components to [ldquo]maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area.[rdquo]116 By amending the scenic integrity standards, the plan amendment will directly permit the destruction of thousands of acres of old growth forest and in turn, habitat for Sitka black-tailed deer, bear, wolves, marten, goshawks and other old growth dependent species. This amendment therefore fails to comply with the ecological integrity provisions of the planning regulations.

Further, planning regulations mandate that in developing plans and amendments, the Forest Service [ldquo]shall consider [hellip] [r]easonably foreseeable risks to [hellip] economic sustainability.[rdquo]117 Yet the DEIS contains virtually no disclosure of the impact of thousands of acres of clearcuts on the millions of visitors who visit southeast Alaska each year to view wild, not degraded, forests. Failure to disclose the reasonably foreseeable

impacts from degrading viewsheds with clearcuts violates NEPA[rsquo]s hard look requirement as well, especially given the wealth of information demonstrating that tourism and scenery viewing are much more important economically than timber to Southeast Alaska[rsquo]s economy.118 The DEIS fails to provide specific numbers for both Alternative 2 and Alternative 3 concerning the number of acres of foreground and middle ground views that will be modified, yet surely the Forest Service can estimate these numbers, given the identification of each logging plot area in the unit cards. To take the required hard look, the Forest Service must do more than disclose acres impacted at [ldquo]popular[rdquo] or [ldquo]high profile[rdquo] routes; all tourists on all routes to which these clearcuts are visible are likely to be negatively impacted.

VII. The Forest Service Must Not Proceed with This Project Due to Significant Adverse Impacts on Subsistence.

The S. Revilla project area is an important area for subsistence deer hunting, particularly for the nearby communities of Ketchikan, Saxman, and Metlakatla, and as such requires subsistence analysis under the Alaska National Interest Lands Conservation Act (ANILCA).119 These communities rely on Revillagigedo Island and Wildlife Analysis Areas 405, 406, and 407 for deer hunting.120 Yet, in part due to past logging and roadbuilding activities within old-growth habitat in the project area, the deer populations on Revillagigedo Island are understood to be [ldquo]very low.[rdquo]121 The local Alaska Department of Fish and Game biologist has also concluded the current deer populations on Revillagigedo Island is moderate to low.122 Troublingly, the Forest Service also admits that there is a lack of current subsistence use information.123 Such information is needed to determine impacts of the project.

From the information that is available, it is clear that the S. Revilla project would adversely affect subsistence resource distribution and abundance, access to subsistence resources, and competition for use of subsistence resources. Indeed, the DEIS admits the project [ldquo]may have a significant possibility of a significant restriction of subsistence uses on deer.[rdquo]124 The DEIS indicates almost 22% of the existing high value deer winter range within the project area is planned for harvest under two of the three proposed action alternatives.125 These same two alternatives would eliminate almost 40 wildlife travel corridors, causing increased fragmentation.126 Deer habitat capability would be reduced under each of the action alternatives, and this would occur in an area (Game Management Unit 1A) where the DEIS admits there is an [ldquo]ongoing decline in deer numbers.[rdquo]127 The DEIS also admits that [ldquo]the project may result in higher risk that there will be insufficient number of deer to sustain both wolves and hunter demand.[rdquo]128 The Forest Service should not approve another project that would exacerbate deer habitat decline with deer habitat capability numbers in many areas already below the 18 deer per square mile threshold needed to support wolves and deer hunter demand on a sustainable basis.129

The Forest Service must also more thoroughly consider the effect of decreased habitat capability in areas used most heavily by Ketchikan residents[mdash]if harvest becomes limited in those areas, it could increase competition in areas used by rural residents or other communities as Ketchikan residents are forced to look outside their usual hunting areas for deer. The Forest Service has unacceptably deferred analyzing this.130

Additionally, there are reasonably foreseeable cumulative impacts to subsistence users and resources from logging and roadbuilding near the project area that the Forest Service must consider in its subsistence analysis. One such project that would contribute to cumulative impacts is the Ketchikan to Shelter Cove Road, which is expected to increase access to deer and might affect demand and competition in the project area.131 It is also unclear whether the Forest Service has considered the cumulative longer-term effect of recent clearcut harvest around Leask Lakes on deer habitat capability. The agency recognizes these clearcut areas will no longer be available for bear forage as stem exclusion begins,132 but does not then address how deer would experience the same forage habitat loss.

In conclusion, the Forest Service underestimates the threat to subsistence in its DEIS for this project. As described above, the chosen alternative would threaten the distribution and abundance of deer for the continued use of these areas by subsistence hunters. The analysis of impacts in the DEIS is incomplete and there is inadequate information on which to base a decision. The habitat reductions caused by the implementation of this project would adversely affect subsistence users and resources. Thus, the Forest Service should not approve this project because it would reverse any improvement by destroying and fragmenting vital old-growth habitat. It should instead support deer populations and endeavor to understand the local communities[rsquo] subsistence practices and concerns.

VIII. The DEIS[rsquo]s Analysis of the Alexander Archipelago Wolf Violates NEPA and NFMA, and Is Arbitrary and Unlawful.

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[rsquo]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,133 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.134 Therefore, forest management that minimizes threats to wolves in these regions [ndash] GMU 2, GMU 3, and GMU 1A [ndash] is particularly important for wolf viability.

The S. Revilla project, which authorizes up to 5,115 acres of old-growth forest logging as well as road construction and reconstruction over the next 15 years, will substantially threaten the Alexander Archipelago wolf in GMU 1A which overlaps the project area. As described below, the DEIS omits critical information relevant to the Project[rsquo]s harms to the wolf. What information the DEIS does contain indicates the impacts may be severe and that the action alternatives appear to violate the Tongass Forest Plan and NFMA.

A. The DEIS fails to address important information indicating that Alexander Archipelago wolf populations in the Project Area already face substantial threats.

While the DEIS acknowledges that the Center for Biological Diversity, Defenders of Wildlife, and Alaska Rainforest Defenders in July 2020 petitioned the U.S. Fish and Wildlife Service to protect the Archipelago wolf under the Endangered Species Act,135 the DEIS fails to address new information that the petition contains indicating that the wolf[rsquo]s fate is even more uncertain than previously known.136

Specifically, any subsequently prepared EIS must address and respond to the new information that the 2019-2020 trapping season resulted in an unprecedented level of wolf mortality in GMU 2, which, given the importance

of the Prince of Wales Island wolf population, threatens the viability of the species on the Tongass. On Prince of Wales Island, trapping and hunting is contributing to the observed large-scale population decline, and illegal unreported killing may account for as much as half of total trapping and hunting mortality. Adding to this precarious situation, during the 2019- 2020 trapping season, an unprecedented number of wolves were killed on Prince of Wales, totaling 165 wolves legally trapped from a population last estimated at 170 wolves in fall 2018, and not including additional wolves killed illegally. This alarming level of killing occurred after the state eliminated trapping and hunting limits and in-season mortality monitoring for this vulnerable population and failed to follow the recommendations of the Wolf Habitat Management Program it developed with the Forest Service and U.S. Fish and Wildlife Service. 137 As a result of this unprecedented level of wolf killing, conservation groups called on the Forest Service to implement its Wolf Habitat Management Program, which so far, the Forest Service has apparently failed to do.138

Further, Archipelago wolves in Southeast Alaska are vulnerable to loss of genetic diversity and associated inbreeding depression due to small population size, minimal movement among some island populations, and the magnified effects of anthropogenic threats to island ecosystems. New genetic evidence indicates that wolves on the islands of GMU 1A show evidence of inbreeding, putting them at risk for loss of genetic diversity.139

Specifically, a new genetics study by Zarn (2019) concluded that wolves primarily from the islands of GMUs 3 and 1A had the highest level of total genomic inbreeding, followed by Prince of Wales wolves.140 Zarn also stated that their study results refute the 2016 U.S. Fish & Wildlife Service[rsquo]s prior conclusion that inbreeding is likely not affecting the Prince of Wales wolf population, and instead cautioned that the consideration of inbreeding risks must be integrated into the management of Prince of Wales wolves to avoid the population entering an extinction vortex.141 The threat to Prince of Wales wolves is a threat to all Alexander Archipelago wolves given the critical role that population plays for the subspecies. The study attributed the loss of genetic diversity and vulnerability to inbreeding depression on Prince of Wales to geographic isolation paired with high levels of habitat loss from logging and high levels of trapping and hunting mortality, threats that also occur on Revilla Island.142

The study concluded that inbreeding [ldquo]can pose significant threats[rdquo] to small, isolated populations (such as wolves on South Revilla), and that inbreeding must be considered when managing these populations to avoid spiraling into an extinction vortex.143

The Forest Service must address this new information in any subsequently-prepared NEPA analysis for the S. Revilla project, because clearcut logging and thinning contemplated in the project[rsquo]s action alternatives will destroy wolf habitat and habitat used by the wolf[rsquo]s primary prey (deer), and is likely to support the need to list the Alexander Archipelago wolf in Southeast Alaska as endangered or threatened.

B. The DEIS fails to incorporate the recommendations from the Wolf Habitat Management Program and 2018 research findings.

The Wolf Habitat Management Program was developed for GMU 2 wolves but the recommendations are

intended to provide utility in other areas of the forest as well.144 The DEIS claims that it may rely on elements of the Wolf Habitat Management Program in its action alternatives.145 However, the DEIS incorporates recommendations from that Program related to young-growth thinning, but fails to incorporate many of the Program[rsquo]s recommendations related to road management, wolf mortality, human dimensions, and research and monitoring.146 For example, the Program recommends that the Forest Service [ldquo][p]ermit no loud disturbance activities (e.g., blasting, helicopter logging and overflights for Forest-Service activities, road construction) within [frac12] mile of active dens.[rdquo]147 No such measure occurs in the DEIS.

Furthermore, the DEIS fails to emphasize that the incorporated thinning recommendations have not been shown to produce population-level benefits to deer, and therefore to wolves, as acknowledged the Wolf Habitat Management Program.148 The DEIS also fails to fully address research by Roffler and colleagues (2018) that found that young-growth thinning treatments have not been shown to be effective in improving habitat for wolves.

The Forest Service proposes to undertake [ldquo][w]ildlife habitat treatments [hellip] in young-growth stands in the stem exclusion stage of development to enhance habitat for deer and other wildlife.[rdquo]149 But a 2018 study indicates that those treatments will do little to enhance deer and wolf habitat over the long term. In a study of the habitat preferences of Alexander Archipelago wolves, Gretchen Roffler, a wildlife research biologist with ADFG, and colleagues concluded that young-growth thinning treatments, conducted to improve habitat value in seral forests, [ldquo]do not thus far appear to enhance habitat for wolves.[rdquo]150 During fall and winter, wolves avoided clearcuts more than 30 years old as well as thinned young-growth [ldquo]indicating that young-growth forest has a limited time frame of potential use by wolves, similar and likely related to predictions for use by deer ([le]30 years post clearcut).[rdquo]151 They further explained:

Young growth treated with pre-commercial thinning is intended to enhance deer habitat by delaying stem exclusion and prolonging forage production. However, wolves avoided thinned forest during winter, and did not display patterns of selection for thinned forest stands during other seasons confirming previously described patterns of avoidance of second growth in the stem exclusion phase, in particular pre-commercially thinned stands. Thus far, the benefits of thinning treatments on maintaining understory vegetation have proven to be short-term (5[ndash]10 years), diminishing the potential for sustaining wildlife through the long-lasting stem exclusion phase. In this study we demonstrate that thinning treatments do not thus far appear to enhance habitat for wolves.152

Roffler et al. (2018) warned that [ldquo]the amount of habitat available to wolves could decline with an increasing proportion of the forest transitioning to the stem exclusion phase, with potential population-level consequences for wolves.[rdquo]153

The DEIS fails to address these potentially damaging impacts. While the DEIS acknowledges Roffler[rsquo]s findings, which it characterizes as concluding that [ldquo]forest management to enhance habitat value in older seral forests (> 30 years) did not extend the period of favorable conditions for use by wolves,[rdquo]154 the DEIS fails to explain how these facts comport with the DEIS[rsquo]s proposal to undertake such treatments to benefit wildlife when their effectiveness is unproven.

C. The DEIS fails to analyze the Project[rsquo]s impacts on wolf den sites and incorporate significant new published research and recommendations for wolf den site protection.

The DEIS acknowledges that [ldquo][w]olf dens have been found in the project area.[rdquo]155 The DEIS also appears to vaguely admit that the S. Revilla project, by increasing road density in the area, threatens denning sites: [ldquo]Road densities also correlate with habitat fragmentation which could have an impact on denning habitat, as wolves like to have dens placed away from roads,[rdquo] although this one sentence does not disclose the project[rsquo]s impacts to wolves due to disruption of their dens, violating NEPA[rsquo]s hard look mandate.156

The DEIS contains a single mitigation measure to limit potential harm to dens: [ldquo]The Forest Plan requires a 1,200-foot buffer be applied to all known wolf den sites in the project area (Forest Plan 4- 91). Wolf dens [hellip] in the project area [hellip] will be appropriately buffered prior to implementation.[rdquo]157 However, the Forest Service fails to address the effectiveness of this mitigation measure, as NEPA requires.158

In addition, this mitigation measure is both outdated and inadequate because it fails to reflect published research and recommendations for wolf den site protection. Specifically, research by Roffler and Gregovich (2019) found that Alexander Archipelago wolves use far larger core areas during the breeding season than previously assumed, and recommends that the wolf den buffer be expanded by an order of magnitude from 1,200 feet to 12,300 feet.159 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 [ldquo]all distances exceeded the existing recommended den buffer distance[rdquo] and further that [ldquo][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.[rdquo]160

The study made a number of important specific recommendations for [ldquo]land managers working to protect den sites[rdquo] that the DEIS must assess and incorporate:

1. For all wolves associated with an active den, the median distance between the den and the core home range edge was 3,756 meters (~12,300 feet); therefore, land managers working to protect den sites should consider expanding the much smaller guideline den site buffers in place now to this larger size;

1. the shape of the protected polygon surrounding the den should be selected to maximize high quality denning habitat: flat, low elevation terrain, in old growth forests, near freshwater and distant from high density road areas; importantly, the den buffer width should not be less than 734 m (~2,400 feet);

1. to maintain foraging habitat for wolves during denning season, the proportion of old growth forest should not be reduced below the current values;

1. the recommended period for seasonal management activity restrictions around active dens is 15 March to 15 July based on earlier work by Person and Russell (2009; Wolf

Technical Committee 2017); however, wolves were documented during this study at dens as late as 21 July, and the mean den occupancy was nearly two months; thus extending the restriction period to late July would be a conservative management action; and because wolves display a flexible response to road density throughout the year by avoiding areas with high road densities during denning season, but selecting these areas during winter (Roffler et al. 2018), timing is also a consideration in road closures as a management action.161

None of these recommendations are reflected in the DEIS, demonstrating that the agency has failed to take the required hard look and is failing to utilize the [ldquo]best available scientific information[rdquo] as NEPA requires.162

The DEIS[rsquo]s [ldquo]References[rdquo] section identifies Roffler[rsquo]s study, but that alone is not enough because the analysis fails to respond to the study[rsquo]s findings or explain why the agency chose to ignore them.163 The Forest Service[rsquo]s failure to respond to scientific studies reaching conclusions contrary to the agency[rsquo]s is a distinct NEPA violation.164 As the Ninth Circuit has held, [ldquo][NEPA[rsquo]s] regulations clearly state that the agency must disclose responsible opposing scientific opinion and indicate its response in the text of the final [environmental impact] statement itself. The mere presence of the information in the record alone does not cure the deficiency [hellip].[rdquo]165

The Alaska Department of Natural Resources[rsquo] comments this month on the Tongass National Forest[rsquo]s proposed Twin Mountain II timber sale also suggest that the Forest Service adopt den buffers greater than those the DEIS proposes. DNR[rsquo]s comments state:

If wolf dens are found during the planning period or timber harvest, DWC [Alaska Department of Fish and Game[rsquo]s Division of Wildlife Conservation] recommends excluding all development activity within a 0.5 mile-radius [2,640 feet] of dens but emphasize that this distance should be considered the minimum necessary (Roffler and Gregovich 2018). Non-circular buffers around discovered dens are ideal.

Disturbance buffers of 1 [ndash] 6 miles radius have been recommended to reduce disturbance surrounding wolf den sites in British Columbia and the Canadian and

U.S. Rocky Mountains (Chapman 1977, Matteson 1992, Fritts et al. 1994, Paquet and Darimont 2002).166

At a minimum, any subsequently prepared NEPA document must provide a reasoned basis for ignoring the larger buffers recommended in scientific studies and by the State of Alaska. We do not believe there is a reasonable basis for doing so.

D. The DEIS[rsquo]s analysis shows the action alternatives will significantly harm wolves and violate the Forest Plan.

While the DEIS[rsquo]s analysis of the action alternative[rsquo]s impacts to wolves is cursory [ndash] less than 4 pages

[ndash] the information it contains is damning.

Habitat capability for deer is below Forest Plan standards and guidelines in part of the project area, and the projectwill make them worse. First, the DEIS reflects ample evidence that deer habitat within much of the project area is insufficient to support sufficient populations of deer, the primary prey of wolves. The Tongass Forest Plan (2016) requires, as a standard and guideline, the following as a measure to sustain wolves:

Provide, where possible, sufficient deer habitat capability to first maintain sustainable wolf populations, and then to consider meeting estimated human deer harvest demands. This is generally considered to equate to the habitat capability to support 18 deer per square mile (using habitat capability model outputs) in biogeographic provinces where deer are the primary prey of wolves.167

The project area includes three [ldquo]wildlife analysis areas[rdquo] (WAAs), numbered 405, 406 and 407. WAA 406 and 407 historically provided conditions that would almost meet the standard, providing deer densities of 17.0 and 17.9 deer per square mile respectively.168

The DEIS states that historic logging and road construction has already reduced habitat capability in these WAAs. [ldquo][C]umulative management actions and activities in WAAs 406 and 407 have reduced theoretical deer densities by 33 and 48 percent, respectively, which has likely affected predator/prey equilibriums. This may cause wolf home ranges to expand or lead to reductions in pack size or condition.

This concern exists despite the availability of alternative prey [hellip].[rdquo]169

The DEIS further admits that proposed logging and road construction for the action alternatives will worsen deer habitat capability in the two WAAs.

Timber harvest would decrease habitat capability for deer, the primary prey for wolves, for up to 150 years or longer. Current modelled deer densities in WAAs [wildlife analysis areas] 406 and 407 are below the Forest Plan guideline of 18 deer per square mile. Therefore, the project may result in higher risk that there will be insufficient number of deer to sustain both wolves and hunter demand.[rdquo]170

Each of the action alternatives would thus reduce deer densities, moving them further below those historic numbers which were close to meeting the Forest Plan standards. The DEIS[rsquo]s Table 24 shows that the alternatives 2 and 4 would cut deer density by 0.5 deer per square mile, down to 12.4 deer per square mile, in WAA 406, and would reduce deer habitat capability even more in WAA 407, from 16 deer per square mile down to 15.3 deer per square mile. Based on these numbers, the DEIS has to admit that:

Alternatives 2, 3 and 4 may not meet forest plan standard and guidelines for maintaining 18 deer/mi2 (table 24) for all WAAs in the project area.171

The DEIS further acknowledges that [ldquo][t]he action alternatives would not provide 18 deer/mi2 to support wolves across all ownerships in WAAS 406 and 407.[rdquo]172. The Forest Service does not explain how it can drive habitat capability further below the Plan-mandated level of 18 deer per square mile and still comply with the Forest Plan.

We submit that it cannot do so, and that driving the habitat capability further below that threshold not only [ldquo]may not meet forest plan standards and guidelines,[rdquo] as the DEIS euphemistically states, it simply violates both the Forest Plan and NFMA, 16 U.S.C. [sect] 1604(i), which mandates that project decisions must comply with the Plan. The Forest Service therefore cannot implement the proposed action in WAAs 406 and 407. At an absolute minimum, the Forest Service must explain in detail whether and how each action alternative meets or fails to meet Forest Plan standards, and how the Forest Service intends to bring the project into compliance if it will result in a Plan violation.

The action alternatives will increase road density, likely above Plan thresholds in one portion of the project area. The Tongass Forest Plan contains a standard meant to protect wolves that limits road density:

Where road access and associated human-caused mortality has been determined, through an interagency analysis, to be a significant contributing factor to locally unsustainable wolf mortality, incorporate this information into Travel Management planning and hunting/trapping regulatory planning. The objective is to reduce mortality risk and a range of options to reduce this risk should be considered. In these landscapes, both open and total road density should be considered. Total road densities of 0.7 to 1.0 mile per square mile or less may be necessary.173

The DEIS makes several questionable assertions about the current road density in the area, and impacts of the project on that figure. The DEIS state that [ldquo][r]oad density effect on wolf mortality has not been an issue in WAAs 405, 406, and 407.[rdquo]174 This statement is largely unsubstantiated conjecture as the Forest Service presents no evidence to show that these road densities have not

been harmful to wolves in these regions. Indeed research from Prince of Wales Island indicates that wolf mortality from trapping and hunting increases linearly with road density,175 and the Wolf Habitat Management Program recommends a road density threshold of 0.7 miles per square mile to avoid negative impact to wolves.176. The DEIS also asserts that [ldquo][a]ll action alternatives maintain this road density at the WAA scale.[rdquo]177 This statement is only true if one ignores the non-Forest Service lands and roads within the project area. In fact, in a table displaying the [ldquo]road densities by WAA showing historic, existing and alternatives on all lands,[rdquo] the road density in WAA 407 is 1.3 miles per square mile, and worsened by the proposed actions, far above the Forest Plan standard of 0.7 to 1.0 miles per square mile for total road density.178 As a result, the DEIS states: [ldquo]Mortality of wolves from higher road densities has not been a concern in the past, however high road densities within WAA 407 may lead to wolf mortality concerns in the future.[rdquo]179 Further, in WAA 406, the action alternatives will increase road density for all lands within the project area from the limit of 0.7 miles per square mile to 0.8 miles per square mile [ndash] pushing density above the 0.7 limit, inconsistent with the Forest Plan.180 This data again shows that the proposed action in WAAs 406 and 407 will further push road densities beyond thresholds at which negative impacts to wolves are likely to occur.

At an absolute minimum, the Forest Service must explain in detail whether and how each action alternative meets or fails to meet Forest Plan standards, and how the Forest Service intends to bring the project into compliance if it will result in a Plan violation.181

The action alternative[rsquo]s cumulative impacts to wolves may degrade wolf viability. The increase in road density and decrease in deer habitat capability may have cumulative and synergistic impacts that could lead to a loss of wolf viability on South Revilla Island. In analyzing impacts to deer, the wolf[rsquo]s primary prey, the DEIS paints a bleak picture, predicting that [ldquo][t]he ongoing decline in deer numbers in Unit 1A is likely to continue as the remaining 15[ndash]30 year old clearcuts regenerate into closed canopy young-growth forest and available winter range is reduced. This can be seen with the deer habitat capability model (table 25), which shows a 48 percent reduction from 1954 in WAA 407, 31 percent reduction in WAA 406, and a 14 percent reduction in WAA 405.[rdquo]182

The DEIS[rsquo]s analysis of wolves further admits that:

timber harvest and road building activities along with cumulative reduction in DHC [deer habitat capability] and increased road density effects could result in a declining trend in the wolf population within WAAs 406 and 407, and biogeographic province.183

A [ldquo]declining trend[rdquo] in the wolf population over the [ldquo]biogeographic province[rdquo] could impact wolf viability at least at that scale if not more widely. Wolf viability is already in such a perilous position that it warrants protection under the Endangered Species Act, and, as noted, the wolves in GMU 1A represent a significant portion (estimated at 20%) of the entire pollution of Alexander Archipelago wolves in Alaska. Approving an action that has the potential to lead to a loss of viability in the planning area would violate the

Tongass Forest Plan and the National Forest Management Act.184 One standard and guideline concerning wolves states that the Tongass National Forest must act [ldquo]to ensure locally viable wolf populations[rdquo] where road access is leading to wolf mortality.185 Here, where road building and increased road density may cause a decline in local wolf populations, this Plan provision is triggered. Again, the most prudent course of action, and the one required by NFMA and the Forest Plan, is to eliminate logging and road construction in WAAs 406 and 407.

The Forest Service must further disclose to the public and decision-maker the assumptions the agency made in analyzing the cumulative impacts of the project on wolves and deer when taken together with other current and reasonably foreseeable future actions. Specifically, the Forest Service identifies a disputed land exchange with the Alaska Mental Health Trust (AMHT) as a [ldquo]current[rdquo] action that may result in the transfer of 8,224 acres from the Forest Service to the AMHT prior to the publication of a Final EIS on the S. Revilla project.186 The DEIS is inconsistent in its evaluation of the cumulative effects of this exchange. For some resources, the DEIS assumes that, if exchanged, all productive old growth on the parcel would be clearcut and additional roads would be constructed, and quantifies those effects.187 For example, in discussing impacts to soils, the DEIS states:

As a result of the AMHT land exchange reasonably foreseeable actions include an estimated potential 4,019 acres of old-growth timber harvest on non-NFS lands and up to 51 miles of road construction on non-NFS lands on the project area over the next 20 years.188

This massive liquidation of old growth and increase in road density in the project area could occur with less protective mitigation measures than those applied by the Tongass National Forest.189

However, the DEIS[rsquo]s approach concerning impacts to wolf and deer habitat is unclear. The analysis of impacts to wolves contains no mention of the AMHT exchange. The tables used to address [ldquo][d]eer and road densities by WAA showing historic, existing and alternatives on all lands[rdquo] do not disclose the assumptions used to derive the figures found there, and do not make clear that they include the potential impacts of 4,000+ additional acres of productive old growth loss or the 51 miles of additional roads likely to occur within the project area due to the exchange.190 And while the DEIS notes that [ldquo][t]he pending land exchange with Alaska Mental Health Trust would further reduce DHC for deer in [hellip] Unit 1A,[rdquo] the DEIS again does not make clear that the Forest Service ever quantified those impacts, or that those impacts are reflected in the quantitative analysis it does report for cumulative loss of deep snow deer habitat.191

Any subsequently prepared NEPA analysis must disclose and quantify the potential impacts of the AMHT land exchange on wolf habitat, road density, and deer habitat capability, and explain to the public how it has done so. Otherwise, the Forest Service will fail to take the hard look at cumulative impacts that NEPA requires.

The repeal of the Roadless Rule in Alaska also jeopardizes the Archipelago wolf by exacerbating key threats,

making an already dire situation worse. Opening vast areas of previously protected roadless lands to logging and road construction would cause further declines in deer habitat capability, increase trapping and hunting mortality by enabling access into previously inaccessible areas, destroy denning habitat with associated impacts to reproductive success, amplify fragmentation, and degrade habitat and population connectivity. Although the Forest Service[rsquo]s impacts analysis is fundamentally flawed, the Forest Service acknowledges that repeal of the Roadless Rule on the Tongass (scheduled to be finalized later this month) would result in the [ldquo]largest adverse effects[rdquo] to Archipelago wolves compared with the leaving the Roadless intact because of [ldquo]greater road lengths, penetration into remote roadless areas, and habitat fragmentation[rdquo] compared with leaving the Roadless Rule intact.192

The S. Revilla DEIS recognizes that the repeal of the Roadless Rule for the Tongass represents a reasonably foreseeable future action that may have cumulative impacts together with the S. Revilla project, and acknowledges that [ldquo]rulemaking could result in a change in the distribution of harvest across the Forest, including the South Revilla project area.[rdquo]193 However, the DEIS fails to address the potential, nature, or scale of such potential impacts, which is the entire purpose of a cumulative impact analysis. Because the Roadless Rule repeal would increase the opportunity for road construction and old-growth logging [ndash] the very activities most harmful to wolves [ndash] in and around the S. Revilla project area, NEPA requires the Forest Service to disclose the potential cumulative impacts to wolves of Roadless Rule repeal.

The Roadless Rule repeal, AMHT exchange and the S. Revilla project will also, together and synergistically, worsen habitat fragmentation which degrades habitat, destroys movement corridors, and reduces habitat and population connectivity. NEPA requires that these impacts, too, be disclosed in any subsequent NEPA analysis.

IX. The Forest Service Fails to Analyze and Disclose How the Project will Significantly Reduce Habitat for Marten.

Although the proposed project would worsen habitat conditions for a number of species, in quantitative terms it would worsen things for marten the most. The DEIS states that the action alternatives, combined with past and foreseeable future management actions, could reduce marten deep snow habitat by up to 60 percent, which could lead to a decline in population for marten in the biogeographic province.194 Marten deep snow habitat has already been significantly reduced and the proposed action would further reduce it.195 The DEIS acknowledges that marten may not remain viable and well-distributed in the project area or even in the biogeographic province under the action alternatives [ndash] yet the Forest Service proposes the action alternative causing the most additional habitat loss. The proposed action is contrary to the Forest Service[rsquo]s obligations under NFMA and the Forest Plan.

In Southeast Alaska, marten are dependent on high-quality winter habitat that includes low- elevation, productive old-growth forest, and the quantity and quality of this winter habitat on the landscape is a limiting factor for marten.196 But this habitat has already been greatly reduced, by 43% across all WAAs and over 58% in WAA 407.197 Alternatives 2 and 4 would further reduce it to over 47% across all WAAs and over 60% in WAA 407; alternative 3 would only produce a slightly less damaging outcome.198

The DEIS also provides a qualitative description of the limiting effect of the action alternatives:

Reduction in available habitat and connectivity could change marten foraging behavior and foraging efficiency, change movement path selection, cause marten to inhabit suboptimal habitat, spend excessive energy on hunting, cause marten to have less time available for social interaction and breeding, and affect female body index reducing reproductive success. Reduction in available habitat and connectivity may force juveniles to disperse farther distances where they experience poorer body condition and suffered twice the mortality risk.199

This description is well-supported in the literature. It would give any reader pause about the wisdom of purposely taking action that would produce these results. For an agency charged with maintaining viable, well-distributed populations of marten, it should serve to disqualify the proposed action. And these quantitative and qualitative impacts do lead the Forest Service to conclude that [ldquo][c]umulatively, all of the action Alternatives 2, 3 and 4 could lead to a decline in population for marten in the biogeographic province.[rdquo]200

The DEIS hazards no guess about the likely marten abundance in the project area or biogeographic province. It mentions one study about the abundance and diet of American marten in southeast Alaska but doesn[rsquo]t discuss its management implications.201 That study found that eight large Old- Growth Reserves contained far fewer than the 25 female martens that large OGRs were assumed by the OGR design theory to be able to support.202 Marten rely heavily on long-tailed voles as their primary prey, with salmon serving as a preferred second choice if available.203 The study notes the shortcomings of estimating marten habitat suitability based solely on vegetative type and urges additional considerations, especially the availability of voles and presence of salmon streams.204 Also, maintaining connectivity between OGRs is an important landscape feature that can potentially mitigate against the impacts of local extinctions.205 Relatively wide, roadless, forested corridors would likely best facilitate marten movements.206

Of great importance within the matrix, and thus for this project, is managing timber harvest to protect habitat for voles and other small mammals:

[minus] Using partial harvest instead of clearcutting could also maintain habitat value for martens while allowing some timber harvest. To most benefit martens, the goal of partial harvesting should be to maintain productivity for small mammals, especially voles, within harvested stands. To do this the productivity of plants beneath the forest canopy must be maintained as a food source for small mammals. On study plots throughout Southeast Alaska, Deal (2001) found that partial harvesting prescriptions retaining >50% of the basal area of a stand including trees in all size classes prevented establishment of a new tree cohort and retained understory plant communities similar to old-growth forest. Widespread use of partial harvesting prescriptions instead of clearcutting on lands managed for timber production could significantly enhance conservation of martens.207

The DEIS fails to address the degree to which the OGR and other lands in non-development LUDs could be expected to provide suitable marten habitat, and provides no information regarding likely prey availability in terms of small mammals or salmon streams. It does not address the adequacy of the OGR or whether its connectivity

to other OGRs or non-development LUDs might operate to reduce the risk of extirpation. And it fails to state that the proposed clearcuts, or any harvest exceeding 50% removal of old-growth stands, run counter to the available science regarding marten conservation. Instead of what appears in Alternative 3, a marten habitat conservation alternative would consist of partial harvest prescriptions retaining >50% of the stand basal area, and the EIS analysis would address the prey availability and connectivity issues raised above for the non- development LUD areas.

X. The Project Ignores the Old-Growth Habitat Conservation Strategy of the Tongass Forest Plan with Regard to the Queen Charlotte Goshawk.

Research in British Columbia suggests that landscapes should be managed for at least 40 to 50 percent mature and old-growth forest to provide adequate nesting and foraging habitat for Queen Charlotte goshawks. Timber harvest may locally limit the availability of nest sites through the removal of suitable nest trees. Timber harvest may also decrease foraging habitat quality since large forest openings are devoid of prey species associated with old forests.208

The Old-Growth Habitat Conservation Strategy adopted in the Tongass Forest Plan found that VCUs could absorb a 33% loss in POG and still be expected to provide adequate habitat to support goshawks.209 Areas exceeding 33% loss, up to a maximum of 47% loss, would be expected to have a slightly increased risk of not supporting goshawks. The Conservation Strategy based its analysis on a presumed 300-year harvest rotation involving the loss of 3.3% of POG per decade that would theoretically result in VCUs never exceeding 47% POG reduction [ndash] except that logging had already occurred at a much greater rate in some areas, so some would exceed the 47% reduction.210 (And in practice, the Forest Service doesn[rsquo]t plan timber sales based on such a 300-year, forest-wide rotation and instead often returns to already-logged VCUs due to accessibility and other considerations, with this project serving as another example of that.)

Some of the VCUs and WAAs in the project area are among those with POG already reduced beyond the 33% believed to be consistent with supporting goshawks, with existing reductions ranging from 26.6 to 55.6%.211 For Alternatives 2 and 4, all areas except WAA 405 would see this reduction increase to at least 36.3%, and for the entire area taken together the reduction would be 43%.212 Three VCUs would move from <33% to >33% POG reduction, explicitly crossing the threshold believed sufficient to sustain goshawks.

Additionally, the Conservation Strategy contains provisions designed to increase the likelihood of goshawk persistence on the landscape when the 33% threshold is exceeded in a VCU, but neither the action alternatives nor the DEIS address these. Specifically:

In these VCU[rsquo]s, additional timber harvest units over 2 acres in size must maintain forest stand structure characteristics beneficial to goshawks. These include maintaining an average of 30 percent canopy closure and an average of at least 8 large trees per acre. Where harvest units are less than 2 acres, structural retention is not required, but overall stand removal is limited to the equivalent of a 200-year silvicultural rotation.213

The DEIS doesn[rsquo]t address these provisions. It focuses mainly on protection of areas around identified nests, noting the need for surveys and the 100-acre no-logging zone around known nests.214 It does briefly note the foraging implications of excessive clearcutting and the benefit of uneven-aged harvest methods in that regard.215 It also briefly notes the 33% habitat loss threshold but ignores the project implications with regard to it.

The Forest Service should account for the above components of the Conservation Strategy in the design and analysis of the action alternatives. The agency should evaluate the goshawk benefits of an alternative that avoids clearcuts and complies with the canopy closure, trees per acre, and 200-year rotation parameters noted above, and the DEIS should address the implications of ignoring them, as the action alternatives do. As a project-level assessment, the DEIS must take a [ldquo]hard look[rdquo] at the differences between the alternatives at the project level [ndash] but instead it has characterized impacts using a metric of POG reduction that, while relevant, fails to capture the import and impact of employing or not employing specific goshawk conservation measures.

Also, regarding the capacity for non-development LUDs to provide goshawk habitat, the DEIS acknowledges that even large OGRs may not be providing sufficient habitat quantity and quality to support all critical life stages for goshawks.216 The DEIS doesn[rsquo]t specifically discuss the degree to which protected areas are actually providing essential goshawk habitat in the project area or biogeographic province, but addressing this issue could provide additional information relevant to the goshawk conservation implications of the proposed action alternatives.

In sum, the proposed action would result in habitat conditions known to risk a failure to support viable goshawk populations over most of the planning area. Yet the DEIS concludes that the action alternatives are [ldquo]not likely to cause . . . a loss of viability in the Planning Area.[rdquo] It apparently finds Alternative 2 just as acceptable as Alternatives 3 or 4 in terms of goshawk conservation implications, although it fails to analyze the specific differences among those alternatives. Its conclusion regarding goshawk viability is unsupported by and contrary to the available evidence, and therefore arbitrary and capricious.

XI. The DEIS Fails to Take a Hard Look at Impacts to Other Wildlife.

1. The loss of wildlife corridors will impact the viability of wildlife under the proposed action.

Under the proposed alternative, no wildlife corridors will be maintained.217 The Forest Plan directs the Forest Service to design projects that maintain landscape connectivity. Instead, the proposed action will lead to increased vulnerability for many of the species that the DEIS currently states will not be impacted by the proposed action. Scientific research across the Tongass and other island systems indicates that connectivity between patches of suitable habitat may be as important as maintaining habitat patches. The Old Growth Reserve network in the Conservation Strategy relies on a network of intact habitats connected by corridors for wildlife species, like deer, which are extremely dependent on these corridors. Maintaining corridors is important for minimizing the likelihood of island extinctions.218

Under the proposed action, corridors are eliminated north of Island Point, north of Gunsight Creek, north of Lemon Lake, north Saddle Lakes to Buckhorn Lake (which is the main corridor between the north and south halves of the project area), from Saddle Lakes to George Inlet, and west of North Saddle Lakes. These actions would render Naha LUDII a habitat island, disconnected from any additional suitable habitat. The proposed action would eliminate the important elevational corridor north of Island Point, and the beach fringe corridor near Shelter Cove. It would remove any corridor through the south half of the project area. Because corridors are considered a necessary element of maintaining viable deer and wolf habitat, it is likely that these species will not be able to persist in the project area. All proposed actions will eliminate the leave strips that were left by prior timber sales (and these leave strips were justifications for those earlier timber sales). This will make it difficult for deer to move up and down slopes in the winter, and will affect connectivity for smaller species such as red squirrels, red-backed voles, marten, and may completely isolate the less mobile species such as salamanders, gastropods and arthropods, of which little information is known, and no impact analyses have been completed for this project.

The DEIS states: [ldquo]Population viability would be maintained for all species addressed in this document because the proposed action is consistent with the Forest Plan conservation strategy and would implement Forest Plan standards and guidelines.[rdquo]219However, as explained above, the proposed action is not compliant with the Old- Growth Habitat Conservation Strategy as it will remove, isolate, and minimize both Old Growth Reserves, as well as the corridors connecting those reserves, which are supposed to be protected as part of the conservation strategy.

B. The loss of productive old growth, and large, contiguous old-growth, will adversely impact migratory bird species.

The DEIS incorrectly states: [ldquo]None of the alternatives are anticipated to impact migratory bird populations[hellip].[rdquo]220 The Migratory Bird Treaty Act221 prohibits the taking of migratory birds, unless authorized by the Secretary of Interior.222

Migratory birds would be impacted by the proposed alternative. In the vicinity of the project area, 113 species (75% of all neotropical migratory birds in the region) are migratory. 47% of these species are confirmed breeders in the region (and breeding is considered the most sensitive time period for disturbance potential).223 Twenty species of migratory birds have been identified as species of concern by Boreal Partners in Flight224 and another 29 species have been identified as species of concern by the U.S. Fish and Wildlife Service. Many of these species have been confirmed or are suspected in the project area.225 The Brown Creeper (Certhia Americana) is an uncommon year- round resident as well as a migratory species in the study area (Heinl and Piston 2009). The resident subspecies on the Tongass is limited in distribution to the North Pacific Coast. The Brown Creeper is a migratory species in the timber sale area that will be adversely impacted. Although data are limited for Brown Creeper in Southeast Alaska, both migratory and resident subspecies are found on Revillagigedo, with the resident subspecies being a subspecies limited in range and distribution.226

This species is mainly associated with old growth coniferous and deciduous forests227 in part because dead trees commonly found in undisturbed, old growth forests are essential elements of nesting habitat. Numerous

studies have found that brown creepers are negatively affected by loss of interior old growth habitat and increasing edge habitats, which are proposed impacts under the preferred alternative. According the Wildlife Summary (2014), alternative 2 would allow harvest in units 47, 48, 50, 75, 80, and 123 which would impact the large patches of interior habitat that has been found suitable for brown creepers.228 Clearcutting in unit 67 would remove the habitat for brown creepers in a habitat patch near Granite Island/George Inlet. The number of brown creepers is expected to decline with the preferred alternative and the DEIS does not evaluate the impacts of proposed actions on the long-term viability of brown creeper populations, nor has the Forest Service collected any data regarding the species. Cumulative impacts from the proposed action alternative would contribute to reductions in habitat for brown creeper and will also reduce populations of the species. 24, 44, and 31 percent of historic interior habitat would remain in VCUs 7460, 7470 and 7530, respectively, and up to 72% habitat loss has occurred in total in VCU 7460. The proposed timber sale would lead to at least a 76% loss of habitat for the species, and the habitat loss could be permanent due to the short rotation time for future harvests. As such, the proposed action may result in a loss of viability of the brown creeper locally, in violation of the Forest Plan and NFMA.

C. Habitat loss in the proposed action alternative will exceed the threshold of ecological stability and cause abrupt ecological change for wildlife species.

The best available science illustrates that habitat loss above 40% creates abrupt ecological changes for species, and for rare, endemic species, or species with specific habitat requirements, the threshold can be much lower.229 For many species surveyed as part of the DEIS, the habitat loss exceeds 40% in residual patch habitats for these species, indicating potential extirpation of wildlife populations. Given this level of habitat modification, the DEIS should proceed with population viability analyses for each of the wildlife species addressed in the DEIS.

Instead of addressing the loss of habitat, and its impact on various species, the DEIS dismisses any adverse impacts for species, saying that current OGR retention and additional thinning practices will mitigate the impacts to wildlife, even though some species are facing a loss of 75% of their original habitat in the project area. The clearcut harvest method that is employed across all Tongass timber units, along with the thinning prescriptions, do not mimic natural forest processes in coastal temperate rainforests. These forests are defined by long-term stable forest structure and isolated disturbance events predominated by wind storms.230 Clearcut harvest practices will not mimic natural disturbance and stand development processes, and these should be considered a direct loss of habitat for the species that depend on old-growth, wetland, or any characteristic of the natural mosaic habitat within the project area. To the contrary, clearcutting old-growth forests in Southeast Alaska may lead to irreversible changes to the characteristics of these forests, with at least three to four centuries required before a similar (pre-logging) stable forest structure can be developed.231

D. The DEIS fails to address the impacts of the proposed action on endemic mammals and birds.

Although the Forest Service has recent information about endemic small mammals within the project area, no recent studies are cited. No potential impacts are addressed. No population viability analyses were conducted in order to minimize harm to endemic species. The DEIS does not even provide a review and application of the information known about endemic species that was provided in the agency[rsquo]s wildlife analysis.

Wildlife surveys conducted within the Saddle Lakes project area found five species of small mammals, each with endemic lineages in Southeast Alaska: Dusky shrew, Cinereus shrew, Keen[rsquo]s deer mouse, Meadow jumping mouse, Southern red-backed vole, and Long-tailed vole.232 The Southern red-backed vole is a small mammal endemic that is restricted to Revillagigedo Island. Their distribution is positively correlated with productive old-growth habitats due to their dependence on down wood and decayed logs. In some studies, vole densities were higher with percent old-growth in a given area, however, their populations also fluctuate based on reproductive success from year to year and annual sampling information is not available. Prior research indicates that long-term isolation of small mammal populations after extensive clearcut harvest can have detrimental impacts on local populations. Studies conducted in similar habitat in other regions of the Pacific Northwest note much higher densities of small mammal abundance in old-growth forests compared with young growth or managed stands.233

Additional endemic mammals found within the project area include the Alexander Archipelago wolf, the Sitka Black-tailed deer, and American marten, discussed above. The DEIS does not treat these species as endemics, but the best available research indicates that each of these species has distinct genetic lineages limited in range and distribution to the North Pacific Coast, including Revillagigedo Island.234 These species should be treated as endemic mammals for purposes of analyzing the potential impacts of habitat loss on their population viability. Island endemic species are much more vulnerable to extirpation, and extinction, than nearby mainland relatives, and this project occurs on an island with already reduced habitat for many of these species. An adequate analysis of potential impacts will address the isolation and distance of these species from nearby populations on the mainland and other island locations in order to address the impacts of fragmentation on the long- term survivability of species.235

XII. Old-Growth Reserves

The revised NOI indicated an intent to modify an OGR as part of this project. In our scoping comments, Defenders raised the importance of evaluating the OGRs in the project level for compliance with Forest Plan criteria. If they are found to be out of compliance, then the Forest Plan requires the IDT to recommend modifications to remedy that, and at least one EIS alternative must incorporate those modifications. Ultimately the Forest Service must incorporate the modifications or explain why they cannot.

OGRs were not mentioned in the DEIS as an issue raised in scoping. The DEIS contains no discussion of the OGRs in the project area. At a virtual public meeting on October 15, the project team explained that after some initial efforts to look at OGRs, there was a decision made not to modify any OGR boundaries as part of the project, so at that point any effort to assess the adequacy of the OGRs was abandoned.

If the OGRs in and around the project area comply with Forest Plan requirements as verified in the planning record, then the EIS should so indicate. If not, then the Forest Service must assess the OGRs, recommend necessary modifications, and include those recommendations in a project alternative. At this point, the Forest Service would need to present that alternative in a supplemental draft EIS.

XIII. The DEIS Fails to Take a Hard Look at the Project[rsquo]s Impacts on Recreation

As stated in the DEIS, the USFS has proposed alternatives that respond to three issues, one of which is [ldquo]Proposed timber harvest and road construction could affect scenic values and recreational opportunities in the project area.[rdquo] (Issue 3)236

It is troubling that the USFS has proposed a project that attempts to deliver on improvements to recreational values, but undercuts this objective in several ways. First, as described in detail above, the project will lower Scenic Integrity Objectives through a forest plan amendment that would enable larger clearcuts. Second, the agency attempts to co-locate improvements to recreational opportunities with extensive timber harvest and roadbuilding over a period of 15 years. Third, in order to allow greater logging and road building, the project will result in degrading more than 100 acres to a lower class in the recreational opportunity spectrum. Fourth, in assessing the direct and indirect effects as required under NEPA,237 the project incorrectly limits the temporal boundaries of the direct effects of the project to only when activities are occurring; rather than how the effects may linger for years afterward. For example, the project will result in the construction of a significant number of miles of new and temporary roads which, despite their temporary nature, will have long term impacts on the pristine nature and wilderness experience. Fifth, the DEIS references outdated recreational visitor data that biases low the use estimates for the project area. Following are specific comments on key problems in the DEIS related to the recreation elements of the project.

A. Combining recreation improvements with logging in the same project area

Under recreation elements, the project proposes to construct several new recreation features between Shelter Cove and the Saddle Lakes area, including a shore-based facility at Shelter Cove, adjacent to the log transfer facility at this site. This Shelter Cove Access Area is slated to include parking, an outhouse, interpretive kiosks, an upgraded dock (with expanded float), improved boat ramp, connector trail, boardwalk trail/fishing platforms, and cabin, in close proximity to an active log transfer facility. This confounding design suggests poor planning that is not well-thought out. The logging activity at the LTF will either discourage or, by the Forest Service[rsquo]s own admission, outright preclude the public from using the marine access facilities because [ldquo]short-term closures of these sites could occur during timber harvest activities thus reducing recreation opportunities associated with MAFs [marine access facilities].[rdquo]238 Although the MAF [ldquo]would still be available for motorized and non-motorized uses such a hiking, biking, and hunting when not being used for harvest activities,[rdquo] it is not clear how the public will know when the MAF will or will not be available for public use.239 While the closures may be short-term, the duration of such closures is not disclosed, and given the duration of the proposed sale [ndash] 15 years [ndash] and the importance of the Shelter Cove LTF for transporting timber out of the forest, it seems likely to be a long-term conflict of uses.

The DEIS goes on to suggest that recreation opportunities disrupted by traffic, dust, and noise resulting from rock quarry activity for roadbuilding will be partly offset because [ldquo][e]xpanded and new rock pits have the potential to alter recreation opportunities in the long-term as they would provide new opportunities such as target shooting and dispersed camping areas, to forest visitors[.][rdquo] This is akin to suggesting an abandoned building is a great place for kids to play. Rock pits that are unmaintained pose a risk from falling rocks, and they certainly do not foster an authentic experience of nature.240

This is an example of how the project attempts to serve too many masters, and all poorly, by concentrating industrial logging activity and increased recreational use in the same area. While we are supportive of the proposed recreational features that will be constructed as part of this project, they are likely to see limited use in the coming 15 years, as the proposed timber harvest and roadbuilding activities are not conducive to the recreational experience that residents and visitors alike have come to expect of the great Alaskan outdoors. It is more likely that they may choose to avoid the area altogether, or worse, the degraded nature of the area may attract illegal dumping, adding to the Forest Service[rsquo]s costs to remove such refuse and abandoned vehicles, a reality faced elsewhere on the Tongass.241

B. Temporal boundaries of indirect effects are incorrect.

In violation of NEPA, the Forest Service has incorrectly identified the temporal boundaries of the direct and indirect effects on recreation, stating the effects will cease when the harvest activities and roadbuilding cease.242 Given that the S. Revilla project proposes timber harvest over a 15-year period,243 the direct and indirect effects under the agency[rsquo]s assessment will persist for at least 15 years; however, the effects to recreation and subsistence use from a clearcut and a new road extend beyond the activities of logging and road construction themselves. While the analysis states that the long-term effects on scenery may extend to 40 years, the analysis does not project the long-term effects on recreational use of the area as a result of the proposed logging and roadbuilding.

Recreation users may choose to avoid the area for years after logging and road construction cease because the quality of the environment has been degraded. Any subsequently analysis must explain and provide further quantitative detail as to the temporal boundaries of the direct and indirect effects in accordance with NEPA. [ldquo]Effects[rdquo] include: [ldquo](b) Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.

Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.[rdquo]244

C. Analysis uses outdated recreational visitor data.

The DEIS references six-year-old data on recreation visitation and use (2014 NVUM) instead of the 2019 data which would provide a better picture of the areas use in light of the completed construction of the Ketchikan to Shelter Cove Access Road.245 While the agency asserts that the report of the 2019 NVUM data was not published at the time of the release of the DEIS,246 this excuse rings hollow, given that the USFS is itself the publisher of said data. Surely the data could be used in draft form to inform the discussion on recreational use of the S. Revilla area, given the volume of visitor traffic to Alaska between 2010 and 2019 grew by 44% and Ketchikan captured 89% of the cruise volume alone in 2019.247

D. Downgraded Recreational Opportunity Spectrum Class Will Irretrievably Degrade Recreational Experience.

Alternatives 2 and 4 propose to downgrade the recreational opportunity spectrum system classification on 126 acres from semiprimitive nonmotorized to roaded modified, one of the lowest classes of ROS.248 The vast

majority of the project area is classified as roaded modified, a total of 43,409.39 acres, while just 906.8 acres remain in the semi-primitive non-motorized class, approximately 2% of all acres within the project area.249 Furthermore, the project includes some 8,224 acres of NFS lands that are slated to be exchanged with the AMHT.250 This exchange includes inventoried roadless areas, which likely consist of some of those remaining semi-primitive nonmotorized acres. Once they are exchanged, and likely logged by the AMHT,251 that primitive character will be further reduced within the project area. This proposal to downgrade the ROS class fails to meet the desired conditions in Tongass Forest Plan Ch. 2: [ldquo]The outstanding scenery of the Forest is a major attraction for resident and non-resident recreation users. A full range of recreation opportunities is present. Users have the opportunity to experience independence, closeness to nature, solitude, and remoteness.[rdquo]252 Given the already downgraded classification of ROS throughout the majority of the project area, conversion of additional semiprimitive nonmotorized acres among the 2% within the project area that remain is inconsistent with the ROS class standards and guidelines under the Tongass Forest Plan.253

XIV. The Forest Service Fails to Analyze a Range of Reasonable Alternatives.

[ldquo]Under NEPA[rsquo]s applicable regulations, a federal agency[rsquo]s EIS must [lsquo][r]igorously explore and objectively evaluate all reasonable alternatives [to a proposed action], and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.[rsquo][rdquo]254 As the courts have made clear: [ldquo]The agency must look at every reasonable alternative within the range dictated by the nature and scope of the proposal. The existence of reasonable but unexamined alternatives renders an EIS inadequate.[rdquo]255 An agency[rsquo]s consideration of alternatives becomes meaningless if the agency arbitrarily constrains the range of alternatives considered and fails to consider alternatives that avoid the adverse effects of the proposed action, frustrating NEPA[rsquo]s goal of protecting the environment.256

Federal courts have long held that agencies may not review only those alternatives that tip the scales hard in one direction, only to ignore a middle ground concerning the issues at stake in the proposed action. In California v. Block, 690 F.2d 753 (9th Cir. 1982), the Ninth Circuit set aside the Forest Service[rsquo]s NEPA analysis for looking at a narrow range of options to protect the wilderness character of roadless forest. The court stated:

The policy at hand demands a trade-off between wilderness use and development. This trade-off, however, cannot be intelligently made without examining whether it can be softened or eliminated by increasing resource extraction and use from already developed areas. The economic value of nonwilderness use is a function of its scarcity. Benefits accrue from opening virgin land to nonwilderness use, but the benefits[rsquo] worth depend upon their relative availability elsewhere, and the comparative environmental costs of focusing development in these other areas.

The RARE [Roadless Area Review and Evaluation] II Final EIS fails to make such an inquiry. The effect is profound. All eight of the alternatives seriously considered by the Forest Service assume that at least thirty-seven percent of the RARE II areas should be developed. No justification is given for this fundamental premise or the trade-off it reflects. In the absence of an alternative that looks to already developed areas for future resource extraction and use, the RARE II decisional process ends its inquiry at the beginning. Although the RARE II Final EIS poses the question whether development should occur at all, it uncritically assumes that a substantial portion of the RARE II areas should be developed and considers only those alternatives with that end result.257

The Ninth Circuit thus held that where the agency only analyzed action alternatives that had similar impacts grouped at one end of the spectrum, that limited range of alternatives violated NEPA. Other courts agree that an agency cannot use the NEPA process to evaluate only alternatives that take an [ldquo]all or nothing[rdquo] approach to the resources at issue, and must address [ldquo]middle ground[rdquo] or [ldquo]mid-range[rdquo] alternatives.258

The Forest Service here fails to examine anything resembling a [ldquo]mid-range[rdquo] alternative. A comparison of the three action alternatives shows that they are remarkably similar, and all would log huge amounts and acreages of old growth. Each alternative would:

* Log between 79 million and 92 million board feet of timber (thus all alternatives would produce 86%-100% of the maximum proposed)

* Log 60-70 million board feet of old growth
* Log 4,410 to 5,115 acres of old growth, including 3,931 and 4,606 acres of productive old growth (thus all alternatives would log 85% of the maximum logging proposed in productive old growth)

* Log 910 to 1,087 acres of young growth forest
* Require construction on between 13 and 14 miles of new NSF road, and road maintenance on between 33 and 34 miles of road

See Table 1, below.259 The DEIS even admits that [ldquo][a]ll action alternatives will provide relatively the same amounts of timber.[rdquo]260 In short, there is little difference between the three action alternatives, and no attempt to address an alternative mid-range between the proposed action and no action.

The Forest Service dismisses, without detailed analysis, two alternatives that would log about a third of the proposed old-growth harvest acres of the maximum amount proposed in Alternative 2, the most aggressive action alternative. Dismissal of these alternatives violates NEPA.

First, the Forest Service declines to analyze in detail an alternative that would require no new road construction.262 The DEIS asserts that [ldquo][t]he existing road system in the project area does not access all units proposed for harvest in this project. Existing roads access about 34 percent of the proposed old-growth harvest acres. This alternative does not meet the purpose and need.[rdquo]263 The DEIS fails to explain why an alternative providing access to 34% of the proposed old-growth acres does not meet the purpose and need, or why only those alternatives requiring the logging of at least 4,410 acres of old growth do meet the purpose and need.

Further, the agency[rsquo]s rationale does not address why an action alternative that proposed to allow logging of only 50% - or 67% - of the old growth proposed by Alternative 2 would not meet the purpose and need. We specifically request that the Forest Service analyze in detail an alternative that would remove a lower volume/acreage of old-growth forest than proposed in Alternative 3, or explain in detail why the agency cannot. Surely the purpose and need to provide [ldquo]a sustainable level of forest products,[rdquo]264 does not require that at this place and time that the Forest Service must make available a minimum of 79 million board feet of timber. If it is the Forest Service[rsquo]s position that it must make that level available, the agency must explain why.

Second, the Forest Service declined to consider in detail an alternative that would bar clearcutting and only allow logging that [ldquo]model[ed] natural disturbance and stand development processes (uneven-aged management). This approach would maintain forest structure, composition, and function, especially in areas near or adjacent to stream corridors.[rdquo]265 The Forest Service did not consider this alternative in detail because [ldquo][t]he prescription for uneven-aged harvest typically removes 33 percent of the area occupied by trees. Exclusive use of this prescription would not provide enough timber volume to be economical for a logging company, and may not be salable.[rdquo]266 Again, the Forest Service[rsquo]s position appears to be that one-third of the maximum amount of old- and young-growth proposed for logging would not result in an economic timber sale. And again, the Forest Service does not explain what the lower bound of an economic timber sale would be.

Further, this assertion is somewhat puzzling and arbitrary because none of the analyzed action alternatives appear to provide for a [ldquo]saleable[rdquo] timber project either; all of the action alternatives result in a [ldquo]negative indicated advertised rate.[rdquo]267

We therefore request that the Forest Service analyze in detail these two improperly dismissed alternatives.

We also request that the Forest Service consider in detail an alternative that only removes young growth timber. Such a project will provide logging and timber removal jobs, like the other alternatives, would not require new temporary or permanent roads, and will assist local industry in the transition to young growth as proposed in the 2016 Forest Plan. Considering that the recent Twin Mountain Timber Sale project scoping proposes no young growth harvest, the Forest Service should expand young growth offerings as part of the S. Revilla project in order to meet the terms of the transition.

We also request that the Forest Service consider in detail an alternative that will result in no increase in road density or loss of deer habitat capability in wildlife analysis areas (WAAs) 406 and 407. As detailed above, historic logging and road construction in these areas has already degraded the deer and wolf habitat in these areas, and further logging and roading in those areas will likely contribute to a loss of wolf viability there. The Forest Service should consider an alternative that protects these species.

In the same vein, the Forest Service should consider in detail an alternative that excludes any logging and roadbuilding in the high value and at-risk watersheds 19010102050402, 19010102060305, 19010102050304 (Licking Creek), 19010102050604, and 19010102050403 (Shoal Creek), because [ldquo]In all action alternatives the relative risk of proposed harvest actions resulting in effects which would adversely impact aquatic resources would be [lsquo]High[rsquo][rdquo] or [ldquo][rsquo]Moderate.[rsquo] and minor effects to peak flows in the rest of the watersheds, lasting as long as 30 years.[rdquo]268 There are already 32 red crossings within the project area [ldquo]with 18.5 miles of class 1 and 2 fish habitat currently inhibited by red crossings.[rdquo]269 This illustrates that the proposed action will impose additional impacts on watersheds already in an impaired condition. The Forest Service should consider an alternative that avoids further impacts to these watersheds.

XV. Conclusion

Finally, the Forest Service must clarify to the public, in writing, as quickly as possible, which NEPA regulations it intends to apply to the S. Revilla project. We assume this action is governed by the Council on Environmental Quality[rsquo]s (CEQ[rsquo]s) 1978 regulations, as amended. While the DEIS[rsquo]s reference to provisions of the 1978 regulations imply that the agency is applying those rules, the agency does not make its decision explicit.270 We raise this issue because CEQ issued a final rulemaking in July 2020 fundamentally rewriting the 1978 regulations, and the new rules apply [ldquo]to any NEPA process begun after September 14, 2020,[rdquo] or where the agency has chosen to [ldquo]apply the regulations in this subchapter to ongoing activities.[rdquo]271

To ensure certainty and eliminate any potential confusion, the Forest Service should promptly announce that it will apply the long-standing, well-understood 1978 rules here. Attempting to apply the 2020 CEQ regulations this late in the process, without adequate guidance or training, and with conflicting agency policies and procedures still on the books, would be highly inefficient and would leave the Forest in a legally vulnerable position. Further, the future of the 2020 rules is still uncertain because the Council on Environmental Quality faces no fewer than four pending lawsuits challenging the 2020 regulations.272

For the reasons set forth above, we respectfully request that the U.S. Forest Service not proceed with this non-economically viable and environmentally damaging project and instead return to the drawing board to focus on the sustainable and job creating elements that will serve to boost forest health, fisheries, and recreational and subsistence opportunities. However, if the agency chooses to proceed, then it must prepare and publish a supplementary DEIS that complies with the agency[rsquo]s legal obligations.

TABLE OF EXHIBITS

Exhibit 1. Social and Economic Monitoring of the Tongass National Forest and Southeast Alaska communities: Monitoring Plan and Baseline Report. 2020. Ecosystem Workforce Program, University of Oregon.

Exhibit 2. Alaska Forest Association (AFA) 2019. Comments for the South Revilla Project Scoping

Exhibit 3. Public Law 116-94, 133 Stat. 2751, Sec. 436.

Exhibit 4. J. Resneck, South Revilla old growth logging proposal moves forward in Tongass, KTOO News (Sep. 9, 2020).

Exhibit 5. Taxpayers for Common Sense. 2020. Cutting Our Losses after 40 Years of Money- Losing Timber Sales in the Tongass.

Exhibit 6. USDA Forest Service. FY2018 Deferred Maintenance by Region and National Forest.

Exhibit 7. USDA Forest Service. 2011. USDA Investment Strategy in Support of Rural Communities in Southeast Alaska 2011-2013.

Exhibit 8. U.S. Global Change Research Program, Fourth National Climate Assessment (2018) Exhibit 9. USDA Forest Service, Coastal Alaska[rsquo]s Forest Resources, 2004[ndash]2013: Ten-Year

Forest Inventory and Analysis Report, General Technical Report, PNW-GTR-979 (April 2020)

Exhibit 10. D. DellaSala, The Tongass Rainforest as Alaska[rsquo]s First Line of Climate Change Defense and Importance to the Paris Climate Change Agreements (2016)

Exhibit 11. M.C. Martin, From rock to forest: Southeast[rsquo]s carbon sink, Juneau Empire (Feb. 19, 2016)
Exhibit 12. D. DellaSala & B. Buma, Analysis of Carbon Storage in Roadless Areas of the

Tongass National Forest (Dec. 2019)

Exhibit 13. Intergovernmental Panel on Climate Change, Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse gas fluxes in Terrestrial Ecosystems, Summary for Policymakers (Aug. 2019)

Exhibit 14. Law et al., Land use strategies to mitigate climate change in carbon dense temperate forests,

Proceedings of the Nat[rsquo]l Academy of Sciences, vol. 115, no. 14 (Apr. 3, 2018)

Exhibit 15. B. Law, et al., The Status of Science on Forest Carbon Management to Mitigate Climate Change (June 1, 2020)

Exhibit 16. Moomaw, et al., Intact Forests in the United States: Proforestation Mitigates Climate Change and Serves the Greatest Good, Frontiers in Forests and Global Change (June 11, 2019)

Exhibit 17. H. Fountain, Climate Change Is Accelerating, Bringing World ?Dangerously Close' to Irreversible Change, The New York Times (Dec. 4, 2019)

Exhibit 18. Harmon, Have product substitution carbon benefits been overestimated? A sensitivity analysis of key assumptions, Environ. Res. Lett. 14 (2019)

Exhibit 19. Bureau of Land Management, Western Oregon Proposed RMP Final EIS (2009) (excerpts)

Exhibit 20. Office of Surface Mining & Bureau of Land Management, Environmental Assessment, Colowyo Coal Mine Collom Permit Expansion Area Project (Jan. 2016) (excerpts)

Exhibit 21. U.S. Forest Service, Supplemental Final Environmental Impact Statement, Federal Coal Lease Modifications COC-1362 & COC-67232 (Aug. 2017)

Exhibit 22. Audubon Alaska, 2016. Ecological Atlas of Southeast Alaska Exhibit 23. Forest Service, Saddle Lakes Timber Sale Final EIS (Sep. 2015) Exhibit 24. Forest Service, Saddle Lakes Record of Decision (Mar. 2016)

Exhibit 25. Lincoln National Forest, South Sacramento Restoration Project Draft EIS (2019) Exhibit 26. Rain Coast Data, Southeast Alaska by the Numbers, 2020

Exhibit 27. U.S. Fish and Wildlife Service, Species status assessment for the Alexander Archipelago wolf (Canis lupus ligoni), Version 1.0, December 2015, Alaska Region, Anchorage, Alaska.

Exhibit 28. S. Wolf, Center for Biological Diversity et al., Petition to List the Alexander Archipelago Wolf (Canis lupus ligoni) in Southeast Alaska as a Threatened or Endangered Species (July 15, 2020)

Exhibit 29. Wolf Technical Committee. 2017. Interagency Wolf Habitat Management Program: Recommendations for Game Management Unit 2. Management Bulletin R10-MB- 822. USDA Forest Service,

USDI Fish and Wildlife Service, and Alaska Department of Fish and Game.

Exhibit 30. Letter of P. Lavin, Defenders of Wildlife et al. to E. Stewart, Tongass National Forest (Apr. 14, 2020)

Exhibit 31. K.E. Zarn, Genomic Inference of Inbreeding in Alexander Archipelago Wolves (Canis lupus ligoni) on Prince of Wales Island, Southeast Alaska (Dec. 2019)

Exhibit 32. Roffler, Gretchen H. 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)

Exhibit 33. Roffler, Gretchen H. & David P. Gregovich, Wolf space use during denning season on Prince of Wales Island, Alaska, Wildlife Biology, doi.org/10.2981/wlb.00468 (2019)

Exhibit 34. Letter of S. Kreel, Alaska Dep[rsquo]t of Natural Resources to E. Stewart, Tongass National Forest (Oct. 14, 2020)

Exhibit 35. W. Smith, Spatially Explicit Analysis of Contributions of a Regional Conservation Strategy Toward Sustaining Northern Goshawk Habitat. Wildlife Society Bulletin; DOI: 10.1002/wsb.271. 2013.

Exhibit 36. Reeck, J. 2014. Saddle Lakes Project Wildlife and Subsistence Report. Ketchikan- Misty Fjords Ranger District, Tongass National Forest. Prepared on July 24, 2014

Exhibit 37. Boreal Partners in Flight Working Group (BPIF). 1999. Landbird Conservation Plan for Alaska Biogeographic Regions, Version 1.0. Unpubl. rep., U. S. Fish and Wildlife Service, Anchorage, AK.

Exhibit 38. DellaSala, D.A., J.C. Hagar, K.A. Engel, W.C. McComb, R.L. Fairbanks, and E.G. Campbell. 1996. Effects of silvicultural modifications of temperate rainforest on breeding and wintering bird communities, Prince of Wales Island, Southeast Alaska. The Condor 98:706-721.

Exhibit 39. Yin, D., Leroux, S.J. and He, F. (2017), Methods and models for identifying thresholds of habitat loss. Ecography, 40: 131-143. doi:10.1111/ecog.02557

Exhibit 40. Cook, J.A., and S.O. MacDonald. 2013a. ISLES final report. Museum of Southwestern Biology, University of New Mexico. Joint Venture Agreement 08JV- 11100500-100. Albuquerque, NM

Exhibit 41. Wilson, SM and AB Carey. 2000. Legacy retention versus thinning: Influences on small mammals. Pacific Northwest Research Station, USDA Forest Service.

Exhibit 42. Cook, J.A., A.L. Bidlack, C.J. Conroy, J.R. Demboski, M.A. Fleming, A.M. Runck,

K.D. Stone, S.O. MacDonald. 2001. A phylogeographic perspective on endemism in the Alexander Archipelago of southeast Alaska. Biological Conservation 97:215-227.

Exhibit 43. Cook, J.A., N.G. Dawson, S.O. MacDonald. 2006. Conservation of highly fragmented systems: The north temperate Alexander Archipelago. Biological Conservation 133: 1-15.

Exhibit 44. J. Leffler, U.S. Forest Service says Zarembo Island is trashed with old cars. KTSK Radio (Dec. 11, 2018)

Exhibit 45. McDowell Group 2020. Alaska Visitor Volume Report Winter 2018-19 and Summer 2019.

Exhibit 46. Alaska Mental Health Trust Authority, Trust Land Office. Notice of Decision for a Competitive Timber Sale [ndash] Shelter Cove [ndash] Ketchikan MHT #9101005. September 7, 2020.