GREENPEACE, INC.,	)	
JUNEAU GROUP OF THE SIERRA CLUB,	)	
DAVID BEEBE,	)	
DAVID RANDRUP, and	)	
ERIC LEE,	)	
	)	
Appellants,	)	**ADMINISTRATIVE APPEAL**
v.	)	**OF THE**
	)	**CENTRAL KUPREANOF TIMBER**
FORREST COLE, Forest Supervisor,	)	**HARVEST PROJECT**
Tongass National Forest,	)	
	)	
Defendant.	)	
_____	)	

Submitted to:

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Beth Pendleton, Regional Forester
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709 West 9th St.
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Preliminary Remarks

This is a limited appeal of the Record of Decision (ROD) and associated Final Environmental Impact Statement (FEIS) for the Central Kupreanof Timber Harvest Project. Tongass National Forest Supervisor Forrest Cole signed the Logjam ROD on February 4, 2011. This appeal is filed pursuant to 36 C.F.R. § 215. The Ketchikan Daily News published the official notice for this project on March 10, 2011. Therefore, with the 45th day falling on a Sunday, the appeal period for this decision ends April 25, 2011 and this appeal is timely. We are filing these comments electronically.

Appellants: The appellant are individuals who use the Tongass for recreation, commercial fisheries, subsistence, wildlife viewing and other activities, and an organization which has members who do so. All submitted comments on the Central Kupreanof DEIS and have standing to lodge this administrative appeal.

Individual appellants are residents of Petersburg, which is within the biogeographic province that includes the project.

Greenpeace is a non-profit environmental organization and its mission is to raise public awareness of environmental problems and promote changes that are essential to a green and peaceful future. The organization's involvement in forest issues concerning the National Forest System generally and particularly the Tongass National Forest and other forests of Southeast Alaska dates back to the early 1990s. Our concerns have included the effects of

logging associated road construction on ecosystems, roadless areas, fish, wildlife and hunting, as well as protection of the last remnants of old-growth forest in the United States.

The Juneau Group of the Sierra Club is a part of the national Sierra Club, a grassroots organization with over 700,000 members nationwide. The Sierra Club has advocated for protection of Tongass wildland values since 1892 when founded by John Muir and has maintained an active presence in Tongass land management processes.

REQUEST FOR RELIEF

For the reasons discussed below, we request a limited reversal of the decision that approved the ROD and FEIS. Specifically, we request cancellation of all contemplated project actions other than those to be implemented over the next ten years[1] which are contracts expressly to provide timber for milling operations in Kake or for remediation or maintenance activities (e.g. road maintenance, fixing bridges and culverts, pre-commercial thinning, cabin maintenance, etc.). These exceptions to a decision reversal are vital to the well-being of the community of Kake, its citizens, and the economic recovery there.[2] The requested limited reversal of the February 4 decision is necessary because of failures in the FEIS and ROD, and in order to comply with: the National Environmental Policy Act (NEPA); the National Forest Management Act (NFMA); the Alaska National Interest Lands Conservation Act (ANILCA); and various regulations and policies implementing these statutes. It is also necessary because of the environmental harms and resulting human harms that are likely to result from allowing the decision to stand in its present form.

This request entails removing a substantial timber volume and number of units from the decision. We request that these units be among those that are removed: Units 5, 203, 207, 304, 324, 314, 315, 318, 502 and 904, for reasons explained later.

STATEMENT OF REASONS

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[1] Ten years being generally the outer shelf-life of a NEPA statement.

[2] We note further that the Forest Service can accommodate additional similar activities as may be necessary, through the use of CEs (categorical exclusions) or other easily accomplished planning, as has commonly been done by Hoonah Ranger District for many years. There is no reason that granting this appeal would hinder the community of Kake in any way.

I. Introduction

We begin by thanking the Forest Service for dropping from the selected alternative those units and roads that that are in roadless areas. We also thank the Forest Service for running the deer model expressly for this project, as has been the common practice for over a decade until recently when the Central Kupreanof DEIS and Logjam FEIS did otherwise. Finally, we thank the agency for finally recognizing that in using the deer model for a cumulative effects analysis, the land area of non-federal lands must be included when calculating the carrying capacity.

However, we still believe that the project is too big for this area of highly fragmented[3] habitat and that there are significant problems with the wildlife and subsistence analyses. We believe the FEIS does not constitute a reasonable basis under NEPA or NFMA for project of the magnitude that was approved.

Although at various points below we ask for particular units to be removed from the project, such requests are but one part of the overall request made above in our Preliminary Remarks that the timber volume in this project be largely removed, apart from the needs of local Kake enterprises.

The ROD states, "My decision to implement the Selected Alternative conforms to the Forest Plan and National Forest Management Act (NFMA)." (ROD at 5). We contend that the decision does not conform to the Forest Plan and NFMA, nor to NEPA, ANILCA or APA – for the reasons below.

[3] A combination of natural and human-caused fragmentation.

II. Project Overview and Initial Issues

The selected alternative (Alternative 3-Modified) authorizes taking 26.3 MMBF of timber from 1,320 acres of forestland, and will involve the construction and reconstruction of 5.1 miles of roads.[4] Over half (54%, 718 acres) of the logging will be clearcut.[5] The remaining 617 acres will be clearcuts with reserves.[6]

Our review of the materials related to this large project indicates that it entails significant risks to wildlife and forest composition. The streamlined FEIS and its generalized analyses fail to meet NEPA's requirements by not adequately discussing and analyzing these risks. The project takes a large volume of timber from a project area and biogeographic province that have a high degree of natural and human-caused habitat fragmentation. Both the ROD and FEIS relied improperly on incomplete and inaccurate information and analysis to the detriment of fully informed decisionmaking.

III. The Wildlife Analyses Missed Important Aspects of the Problem and Did Not Fully & Fairly Respond to Responsibly Raised Issues.

The Central Kupreanof FEIS and updated information in the ROD did not take a hard look at the project's impacts on wildlife and uses of wildlife. Several commenters on the DEIS (including the State of Alaska, the Organized Village of Kake, environmental organizations and individuals) noted that the wildlife and subsistence analyses were inadequate and notable among Tongass projects of the past decade in their shallowness and brevity. Little has changed. In the FEIS the Wildlife section has only increased from 21 to 28 pages, and the subsistence section from 8 to 9. Project-specific reports and other information in the planning record add little to that. Consequently, the FEIS and ROD fail to take the hard look a impacts which NEPA requires, and fail to fulfill the requirements of NFMA and the Forest Plan.

The following subsections explain those deficits.

A. In General, There Was an Over-reliance on Analysis of POG Statistics for Wildlife Impacts.

The FEIS utilizes productive old-growth ("POG") metrics as its general basis for analyzing impacts to wildlife, regardless of the requirements of the various species that will be affected. This is evident in the Effects on Wildlife section in FEIS Table 2-1 (FEIS at 2-19 to 20, comparing alternatives), as well as in the content (and brevity) of the wildlife section of the FEIS. Also, the ROD makes a sweeping assumption that SDM (size density model) geospatial data representing POG and correlated to deer winter forage "provides an accurate description of effects to wildlife species" generally. (ROD at 6). Similarly, the FEIS states, "[w]ildlife use an assortment of habitats including POG and non-forest structures. Because the proposed activities primarily alter POG, the effects of timber harvest on wildlife habitat will be analyzed by comparing changes in POG using the Size Density Model (SDM)." (FEIS at 3-85) These statements and the analytic approach they represent overlook degrees of species-specific habitat quality that lie within the overall POG category and the ability and predilection of timber sale units to be preferentially located on certain types or qualities of POG.

The fallacy of this over-reliance on POG metrics is visibly apparent, as an example, upon comparing the existing conditions and vegetation maps (FEIS Figs. 2-1 and 3-2) and Selected

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[4] Central Kupreanof ROD at R-2 & 3.

[5] *Id.* at Table R-1 at ROD-29.

[6] *Id.*

Alternative map (ROD Fig. R-2) with the maps on pages 1 and 2 of Doc-481 (in the planning record). The latter two maps show, respectively, TimTyp classes and coarse canopy forest, and depict distinguishable structural elements that are important in providing habitat heterogeneity. These elements are masked in the FEIS and ROD maps, which give only the coarse view of all POG. Moreover, TimTyp classes 5, 6 and 7 and coarse canopy forest are shown by the Doc-481 maps to be uncommon in the area, and the existing patches of them are all the more important for that reason, both as habitat and as contributors to the amount and quality of connectivity. A close comparison of those two Doc-481 maps with the locations of the selected units in the ROD Fig-R-2 map reveals that the Central Kupreanof project impinges upon many of these important habitat fragments or are closely juxtaposed to them and should therefore be expected to impair the ecological function of those fragments and the ecosystem as a whole. The FEIS did not take NEPA's required "hard look" at the project's impacts because it did not consider these aspects of the environment and the project's related effects.

Fragmentation of TimTyp 5, 6 and 7 and coarse canopy habitats received no analysis for this project, nor were their patch sizes and effects on their patch sizes or function analyzed or disclosed in the FEIS. Consideration of connectivity was limited to a total of five paragraphs. (FEIS at 81, 92 and 97), the gist of which is:

> 1. "Connectivity is provided by the Conservation Strategy which includes areas of non-development LUDs, beach buffers and Old-Growth Reserve (OGR) system." (FEIS at 3-81).
>
> 2. "… connectivity was addressed within the project area by looking at the results of the deer quick cruise plots. Additional consideration for connectivity was part of the proposed action's design. The areas with the higher total group of quick cruise plot scores were buffered by either a no cut buffer or silvicultural prescription to make sure there was additional connectivity across the planning area." (FEIS at 3-92).
>
> 3. "Approximately 72.7 percent of the multiple WAA POG and 69.2 percent of the POG in the Biogeographic Province would remain unaffected. Landscape connectivity is maintained by the existence of non-development LUDs, OGRs and beach fringe areas." (FEIS at 3-97).

Item No. 1 reports a belief or assumption, and no evaluation was made of it either generally, or more importantly for range of species which have differing requirements. Further, there was no evaluation of how dependent the available links are on the luck of not having stochastic events in the future that would impair or eliminate a connection. Item No. 2 is specific to deer, and other species were not considered. Moreover, how quick cruise techniques were used to evaluate connectivity was not described, nor whether this is a reasonable use of it. Item No. 3 illustrates again demonstrates an over-reliance on POG metrics and avoidance of considering the contribution of other forest structures to connectivity for some species.

Finally, Unit 315 is a clearcut unit in the Selected Alternative, yet the FEIS notes that "[d]irect effects on landscape connectivity would be greatest with implementation of Alternative 3 because harvest of proposed Unit 315 could have impacts on deer movement through the corridor across Kupreanof Island." (FEIS at 3-92) While we appreciate the disclosure that Unit 315 is important for connectivity, the FEIS is deficient in not discussing its degree of importance and why the unit was not dropped from the unit pool. Moreover, its importance was discussed only in terms of deer, but it seems apparent that it would be important for other species, which were not discussed, as well.

The FEIS is deficient in not considering TimTyp classes 5, 6 and 7 and coarse canopy forest as identifiable forest structures that contribute to habitat heterogeneity, ecosystem function and connectivity. Because of this, one request for relief is that the following units be dropped from the Selected Alternative, because of likely direct or juxtapositional impairment of their function: 5, 203, 207, 304, 324, 314, 315, 318, 502 and 904.[7]

B. For Deer & Deer-Related[8] Concerns, There Was an Over-reliance on POG Statistics.

Over the past decade all timber project EISs on the Tongass have considered POG in their analyses of impacts to deer, along with other analysis methods including always the deer model. For the Central Kupreanof project, the deer model was abandoned in both the DEIS and FEIS, and the analysis instead concerned POG. After completion of the FEIS (but before it was distributed to the public) a deer model run was made, and is described in a supplemental information appendix to the ROD (ROD at 3-20 to 27), and in a related update in the January 31, 2011 version of the project's wildlife report (Doc-802). The ROD was signed four days after that update, on February 4.

We discuss the particulars of that modeling later in the appeal, and focus here on the POG analysis and the weighting it received in the decisionmaking compared to that for the deer modeling. It is clear from the ROD that the decision was based on the POG analysis and not the deer modeling which was done, because the deer modeling "is what the public is accustomed to seeing and has some utility as an index of effects only …" (ROD at 3-21, emph. added). Also, concerning POG which is used in the analysis as a measure of deer forage, "[s]ince the existing habitat condition of Central Kupreanof is primarily associated with deer forage during the winter months, a limiting factor, this habitat component provides an accurate description of effects to wildlife species."[9] (ROD at 6). (See also ROD at 7: "During the DEIS scoping period, comments were received requesting an expanded discussion relating to deer habitat capability, including running the Forest Plan deer model. To accommodate this request, the deer model was run for each alternative. This helps show the relationship between the deer model and the newer alternative analysis as presented in the DEIS and the FEIS. The deer model is necessary for comparative purposes as well as it is what the public is accustomed to seeing."). That describes the context in which the decision was made, and shows that belated inclusion of the deer model run was perfunctory.

A large span of time elapsed from when (1) the DEIS comments were submitted and (2) the October 2009 abortive press release about a decision having been made and the FEIS/ROD being available to when the new ROD and updated wildlife report were completed in 2011. This amounts to ample time to have run the deer model and to have issued a supplement to the DEIS which would have allowed the public to comment on the deer model run and how its results relate to the POG analysis, the Forest Plan, and other factors. Instead, the public was denied this important opportunity to comment.

The decisionmaker considered the deer model results only for a relative ranking of the effects of the action alternatives, and in doing so found that this did not change his opinion from the POG analysis. (ROD at 7: "I have thoroughly reviewed the results of the deer model, see

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[7] This request is a specific subpart of our more general request that the volume approved for the project be reduced to the amount needed by Kake mills.

[8] Related concerns are: the sustainability of wolf populations (see Forest Plan at 4-95); the contribution of WAAs directly, indirectly or cumulatively affected by the project to the overall viability and wide distribution of wolves on the Tongass NF and in Southeast Alaska; the availability of deer for subsistence hunters; and the availability of deer other sport hunters.

[9] As explained below, winter deer forage is the main concern of the POG analysis that was made.

Appendix 3, and have found them to be consistent with the Wildlife Productive Old Growth (POG) analysis. The ranking of alternatives did not change."). What this means is that the decision considered deer modeling only in relative comparative terms among alternatives, and not in the absolute terms required by the Forest Plan:

> "Provide, where possible, sufficient deer habitat capability to first maintain sustainable wolf populations, and then to consider meeting estimated human deer harvest demands … generally considered to equate to the habitat capability to support 18 deer per square mile (using habitat capability model outputs) …" (Forest Plan at 4-95, Alexander Archipelago Wolf standard & guideline).

Thus, the decision failed to consider a key element of the problem, much less take the hard look that NEPA requires. Instead, there was an over-reliance, in fact essentially a total reliance, on analysis of lump sum POG for judging the impact of the project on deer, wolves and deer hunters.

The Forest Plan's wolf standard and guideline does make an allowance for substituting another method in place of using the deer model: "[u]se the most recent version of the interagency deer habitat capability model and field validation of local deer habitat conditions to assess deer habitat, unless alternate analysis tools are developed." (Id.). Therefore, the question arises of whether an alternate analysis tool was legitimately substituted in applying the Forest Plan's wolf standard and guideline.

1. Whether Use of the POG Alternate Analysis Tool Legitimately Avoids Use of the Deer Model

The ROD Appendix 3 and the 2011 update of the project wildlife report (while not saying so explicitly) clearly consider reliance on the POG analysis to absolve the Forest Service of the need to substantively consider deer carrying capacity estimates from the deer model for the various WAAs (wildlife analysis areas) that would be affected by the project. The ROD claims: "The Central Kupreanof Timber Harvest Environmental Impact Statement developed an alternate analysis tool to evaluate the effects of alternatives on winter habitat …" (ROD at 3-20). This supposedly new "tool" considers POG as defined in the size density model (SDM), which the which the ROD appendix cites the 2008 Forest Plan as saying is the best tool for representing forest structure. (Id., "This model has proven to be the best tool for representing forest structure (USDA 2008)"). Although we concur that SDM appears to be the best dataset for assessing the forest structure elements that are important to deer, basing deer analysis solely on SDM (or on POG as determined from SDM), is contrary to the body of available science.

The deer model considers not only forest structure as represented by the SDM dataset, but also a number of other factors that are co-determinants of the carrying capacity of winter habitat for deer. The ROD and the 2011 wildlife report do not explain how an analysis which considers only one factor (SDM old-growth classes compressed into one numeric output for POG) can be a reasonable analytic alternative to the deer model, which considers multiple habitat factors in addition to SDM. Moreover, the deer model provides a numeric estimate of carrying capacity that can be compared to the scientifically determined general threshold of 18 deer per square mile that is written into the Forest Plan's wolf standard and guideline, while the output of the POG tool is not comparable to that threshold. The project's documentation has not shown that direct use of SDM-POG data constitutes a reliable "alternate analysis tool" for fulfilling the function of the wolf standard and guideline and its intended assurance of an adequate supply of deer for both wolves and hunters (or, as close to that as possible where there is an existing shortfall in carrying capacity).

This SDM-POG analysis tool or any other use of POG alone as a metric for that purpose has had no peer review and has been criticized by the Alaska Department of Fish & Game[10] (ADF&G) and others. (See: State of Alaska DEIS comments, DEIS comments by appellants, Doc-666, etc.). There is no evidence in the planning record that this concern, and ADF&G's in particular, over this analysis method was ever resolved, and it was not fully and fairly discussed in the FEIS, the ROD, or the ROD appendix.

Moreover, even though the deer model was belatedly run for this project, the thrust of the ROD, its appendix and the 2011 wildlife report is that running the model was done basically to placate the public and was considered unimportant in reaching a project decision. The reasoning behind this thrust does not hold up to scrutiny.

(a) Why SDM-POG By Itself Is an Incomplete Analysis Method

The Forest Service claims that concerning use of the SDM dataset "Hanley's analysis shows that the best winter habitat is comprised of small and medium tree categories and therefore lumping all POG into suitable habitat is consistent with the best science available to predict alternative effects on deer winter habitat," citing Hanley and Friberg (2009), a white paper. (FEIS at 3-76,) The claim continues that it is evident from currently available deer studies for Southeast Alaska that SDM-POG's medium tree class "provides good deer winter habitat" and that "grouping the POG together creates a conservative approach to deer habitat during the winter," citing Schoen and Kirchhoff (1990), Doerr et al. (2005), Farmer et al. (2006) and Schoen and Kirchhoff (2007). (FEIS at 3-77, emph. added). Other than providing those citations, the FEIS offers no explanation of why lumping old-growth forest classes together as POG is a "conservative" approach or why it is otherwise useful in fulfilling the intent of the wolf standard and guideline.

As the prime if not whole evidenced offered by the FEIS for the adequacy of this POG "tool," each of these five papers needs to be evaluated concerning that claim. The following evaluation of the papers shows that that key claim in the FEIS does not hold up to scrutiny.

(i) The Hanley & Friberg (2009) paper:[11]

This study of using SDM has the limitations of looking only at forage and snow depths of zero and 20 cm (8 inches). (Abstract). It therefore does not incorporate the more comprehensive approach of the deer model, which does incorporate SDM but also elevation and solar aspect. The paper groups SDM's seven classes into three, but relying on Caouette (2006) (not included in the reference section); however, this grouping differs slightly (by shifting one class) from a similar grouping of three also based on work by Caouette that was used in the 2008 Forest Plan modeling. Neither Hanley & Friberg (2009) nor the FEIS explain why one of these grouping would be better than the other. Thus, the FEIS failed to take a "hard look" before devising and adopting this SDM-POG analysis method, because it did not explain why only forage and 8 inches of snow are important considerations, and why one grouping of forest classes should be chosen over another.

(ii) The Other Cited Studies:

[10] ADF&G also criticized use of the deer Quick Cruise method, and there is no record of this criticism being resolved or having been taken into substantive consideration by the Forest Service.

[11] Although in this appeal we criticize SDM-POG as a primary analysis method, it seems that when Hanley's FRESH deer model is integrated into a comprehensive deer model – work that we understand is under way – that will be major advance.

The FEIS claims that the above four prior published studies support the new analysis tool of using SDM-POG. These must be compared to how Hanley & Friberg (2009) in order to determine whether they support SDM-POG.

(iii) The Schoen & Kirchhoff (1990)paper:

Schoen & Kirchhoff (1990) concluded that "high-volume old growth (>74 mbf/ha) was used in much greater proportion than its abundance. To minimize the impacts of timber harvesting on deer populations, emphasis should be placed on maintaining stands of high-volume old growth on low-elevation deer winter ranges." (Abstract). 74 mbf/ha is 30 mbf/acre, the old TimTyp classes 6 and 7 which is comparable to SDM 6/7. SDM-POG misses this distinction by lumping all POG together.

"Significant differences in the proportion of habitat use relative to abundance for individual categories were determined at 99% confidence levels." (Id. at 373). "The possible effects of snow on deer habitat use were assessed by comparing a winter with little snow (1 Jan-31 Mar 1981) to a winter with relatively deep snow (1 Jan-31 Mar 1982)." (Id.).

"Winter – High-volume old-growth stands were used in significantly greater proportion than their abundance. Mid-volume stands also received substantial (35%) winter use by deer. Lower volume, old-growth stands were used significantly less than their abundance. Old-growth stands of 5-30% spruce composition received 68% of winter deer use." (Id. at 374). "From January through March 1981, there were 10 days with snow accumulation at sea level (including only 2 days >10 cm). During the same period in 1982, there was snow accumulation at sea level for 85 days (including 52 days >48 cm)." (Id.). >48 cm is >19 inches of snow, over twice the amount considered by Hanley & Friberg (2009).

"High-volume stands were used during both years in greater proportion than their abundance. Deer increased their use of stands with 15-30% spruce composition during 1982. Under deep snow conditions, 65% of deer relocations occurred in high-volume sites, a 2.5-fold increase over the mild winter of 1981. Both low-volume and scrub forests (which represented nearly 60% of the habitat) received only 8% of deer use during 1982." (Id. at 375). "Deer were most limited in their habitat use in winter when they concentrated in dense canopy, high-volume old growth on southern slopes <300 m. Bloom (1978) and Barrett (1979) also reported that low-elevation, high-volume stands of old growth were heavily used by deer in Alaska during deep snow conditions. As in other seasons, migratory deer ranged higher during winter than did resident deer (Schoen and Kirchhoff 1985)." (Id. 376).

Neither the Central Kupreanof FEIS nor Hanley & Friberg (2009) made a distinction between resident and migratory deer.

"When snow depth in the open was >15 cm, deer concentrated their activities in the highest volume old-growth stands available within their home ranges. Although we did not specifically measure deer use relative to upland and riparian stands of high-volume old growth, most winter deer use probably occurred in hemlock-dominated upland stands with relatively little deer use in riparian spruce stands." (Id.).

"Management Implications. … Harvesting timber in the most productive old-growth stands may exacerbate the long-term declines already predicted for Sitka black-tailed deer populations as a result of logging in southeastern Alaska (Wallmo and Schoen 1980, Kirchhoff and Schoen 1987, Fagen 1988)." (Id.).

"The impacts of timber harvesting on deer could be substantially reduced by shifting a greater proportion of harvest to the lowest volume commercial forest lands, particularly at higher elevations. These stands are poor winter habitat and at higher elevations (>300 m) contribute relatively little to winter carrying capacity. Converting these low-volume stands to a mix of young clear-cuts and older second growth would have less impact on deer than

focusing harvests in the mid- to high-volume old-growth stands at lower elevations." (Id. at 377).

Our conclusion: In evaluating the above extracts, we find much here that the FEIS failed to explain which runs counter to the FEIS claim that this paper supports the SDM-POG "new tool." In many important respects, Schoen & Kirchhoff (1990) is antithetical to lumping POG together for analysis for impacts to deer. The FEIS failed to take a hard look at the facts in hand. Moreover, after publication of this paper Schoen and Kirchhoff both participated on the interagency workgroup that created the deer model (Doc-407), and had they believed that POG alone was a reasonable analytic tool it is reasonable to conclude that they would have pursued that simpler approach. Further, the deer model was reviewed by a panel of deer experts convened by the Forest Service in 1995 (as a step in preparing the 1997 Forest Plan), and the distinctions in value to deer among the forest classes included in the available datasets (TimTyp and Vol-Strata) of that era were an important consideration. (Ford 1995). The two wolf panels that were convened also discussed the deer model and considered these distinctions important. (Nichols 1995; Robertson 1997a and 1997b).

(iv) The Doerr et al. (2005)paper:

Schoen & Kirchhoff (2007) evaluated this paper, as extracted in the section for their paper, below.

(v) The Farmer et al. (2006) paper:

In this study 81 deer were radio-collared to assess risk of death in various habitat types.

"Although much is known about habitat use (Wallmo and Schoen 1980, Schoen and Kirchhoff 1990, Yeo and Peek 1992, Doerr et al. 2005) and foraging ecology (Hanley and Rogers 1989, Parker et al. 1999) of those deer, researchers have not conducted studies to examine relationships between habitat use and risk factors such as malnutrition, predation, and hunting that affect survivorship, nor have they examined those relationships at multiple scales and among sex and age classes. ... In addition, there have been few studies published concerning effects of large-scale industrial activity, such as timber harvest, on risk factors for deer. … Timber harvest has increased fragmentation of forest habitat, creating many small, remnant stands of old-growth forest within a matrix of younger second-growth forest. Fragmentation may reduce the value of forests as winter habitat by forcing deer to remain in small patches of timber isolated by snow (McNay 1995).[12] Over-browsing of forage may occur in those stands because deer may have difficulty moving between patches, effectively reducing carrying capacity (K) in winter. Thus, landscape context likely influences availability of forage, and possibly mortality of deer (Kie et al. 2005)." (Id. at 1403).

"We suggest that land managers weigh landscape-scale features, such as habitat patch size, habitat diversity, density of edge, and topography, at least as much as habitat composition when planning timber harvest and other development projects in Southeast Alaska and in other forested environments." (Id. at 1413).

Our conclusions: In evaluating this paper, we find that instead of supporting SDM-POG the study raises issues that the Central Kupreanof FEIS failed to cover in any meaningful way. Although the paper discusses POG, the paper considers other factors to also be important. POG is not supported as a primary metric.

(vi) The Schoen & Kirchhoff (2007)paper:

[12] We include as exhibits McNay & Voller (1995) and several related publications from the B.C. Ministry of Forests, all listed in the References section.

"Winter … Within the old-growth forest, radio-collared deer selected large-tree hemlock-spruce stands and avoided scrub forest and small-tree stands, especially in high snow years (Schoen and Kirchhoff 1990) (Fig 11). Deer selection for old-growth stands of large trees is a response to the ability of larger trees to intercept snow, reducing snow depths on the ground (Hanley and Rose 1987, Kirchhoff and Schoen 1987). Although large-tree hemlock-spruce stands are important for deer in winter, valley bottom stands of large trees dominated by spruce and devil's club are less important. These floodplain spruce stands generally accumulate more snow and have lower abundance of herb-layer evergreen forbs and blueberry shrubs." (At 7-8)

"Deer habitat use on Mitkof varied between low-snow and deep-snow conditions. During the deep-snow winter, deer selected south slopes, elevations under 502 ft (153 m), areas within 1,000 ft (305 m) of saltwater, and old-growth stands of medium to large trees (measured as high-volume strata in the TLMP timber Inventory) (Doerr' et al. 2005). Deer avoided north, east, and west slopes; elevations above 800 ft (244 m); scrub forests; small tree old growth; and clearcuts (<40 yr)." (At 8)

Schoen has continued to use the deer model: "Habitat Capability Model. To evaluate deer habitat values within watersheds and compare watershed values within biogeographic provinces for this assessment, the deer habitat capability model (Suring et al. 1992) was used as revised in 2005 by an interagency team of biologists. Habitat values were rated, using habitat preference data from Schoen and Kirchhoff (1990), based on their value to deer during the winter season. The model estimates relative values of habitats for deer in winter based on elevation, aspect, slope, stand age and stand size. … The winter habitat values of watersheds to deer are ranked within each biogeographic province and presented in a watershed matrix for Southeast (Appendix B)." (At 9.)

"During winter, the most nutritious deer forage (such as herb-layer evergreen forbs) generally becomes unavailable when snow depths exceed 4 in: (10 cm) (parker et a!. 1999). At depths greater than 12 in. (30 cm), not only is food buried, but the energetic costs of moving through snow also increase significantly (parker et al. 1984). During heavy snow conditions, old growth with large trees (which intercept snow and reduce accumulation on the ground) provides much of the winter habitat selected by deer (Bloom 1978, Barrett 1979, Hanley and Rose 1987, Kirchhoff and Schoen 1987, Schoen and Kirchhoff 1990) (Fig 19,20)." (At 13-14).

"More than just the amount of old growth that is converted to clearcuts and second growth must be considered. The quality and location of the old-growth stands influence habitat values and ultimately local deer populations. Productive hillside stands of old-growth hemlock-spruce with large trees provide optimal foraging conditions during winters with deep snow because such stands provide the greatest availability of high-quality forage." (At 14).

"Optimal habitat conditions in Southeast must encompass diverse habitats that provide deer with a variety of options to satisfy changing seasonal needs and variable weather conditions (Fig 22). Large- and medium-tree stands of hemlock-spruce, particularly at low elevations, have high habitat value for deer in deep snow winters." (At 14).

"In Southeast, large-tree old growth represents a small (<4%) proportion of the land area, but these stands have been disproportionately harvested throughout the region (USFS 2003). The disproportionate loss of this scarce, but important, habitat will disproportionately affect deer during severe winters (Schoen and Kirchhoff 1990)." (At 14).

Our conclusions: As with the others, this paper demonstrates that the simplistic approach of lumping all POG together does not reflect reality. The paper raises a number of consideration that the FEIS failed to note and discuss.

*(vii) **Our Conclusions** on Whether the Science Supports the FEIS Analysis:*

In summary, we find no merit to the suggestion in the FEIS that any of these papers support the notion that a metric of lumped POG is a reasonable basis for judging impacts to deer and related concern regarding wolves and hunting. Based on these papers the FEIS concluded that "Hanley's analysis … is consistent with the best science available to predict alternative effects on deer winter habitat." (FEIS at 3-76-77). To the contrary, in fact Hanley's analysis is far simpler than the key considerations in those papers. While Hanley's analysis may play a role in a future, more comprehensive tool or model, we find no support in the evidence provided in the FEIS, ROD or project record that Hanley's SDM-POG is suited to the simplistic application utilized in this project, as an alternate "tool" to the deer model.

Further, the planning record contains no substantive record of consultation with Hanley (or Friberg). There is only a three-sentence call record from 2007, and there is no record of the 2009 personal communication with Hanley that is cited at FEIS 3-76.

The basis of SDM-POG is availability and quality of forage and snow depths to only about 8 inches. The papers that the FEIS recognizes as "the best available science" show that many additional factors are important. Among them is that deer tend to use particular places in winter and especially in winters with deep snow, and that the differing characteristics of the various forest structural classes are important. These other habitat considerations were evaluated in creating the deer model and as appropriate were incorporated.

Simply put, there is a substantial error in the FEIS from not recognizing that its approach is contradicted by the best available science that it cited, and in consequently relying on an analysis method that has been strongly challenged by many commenters and which has had no documented review, peer review or otherwise. This renders the Central Kupreanof decision arbitrary and capricious and in violation of other applicable law (e.g. NEPA, ANILCA, NFMA). Therefore, the decision must be set aside except for those elements of it which Appellants consider to be non-harmful, as described in our Request For Relief.

3. Other Considerations Regarding Impacts to Deer.

(a) The lack of high quality deer habitat in the project area.

As the FEIS notes in its wildlife section on Existing Environment, "[t]he habitat in the project area is not capable of supporting large numbers of deer because this area on Kupreanof Island lacks large contiguous stands on higher volume timber with high quality browse that deer rely on to provide cover and forage." (FEIS at 3-80). This point was not addressed in the Environmental Consequences section, a significant omission in the analysis. This establishes that subdivisions forest structure are important, and not just the metric of lump sum POG which was relied upon. Again, the maps on pages 1 and 2 of Doc-481 show discrete components of forest structure of precisely the kind that the FEIS says is lacking in the project area. The FEIS failed to take NEPA's required hard look at this important aspect of the problem, and assure that these rare and important ecosystem components or their function in the ecosystem will not be adversely affected directly or indirectly by project activities.

(b) The Inadequate Scope of Analysis With the Deer Model.

The scope of the POG analysis in the FEIS included several scales: project area, multiple WAAs, Kupreanof Island, and biogeographic province. The analysis in the ROD and the 2011

wildlife report considered only the project area[13] and multiple WAA scales. We note that the Scott Peak project did its deer modeling at all four scales.[14] No reason was given for limiting the scope of the deer model analysis for the Central Kupreanof project, and that analysis (on which the public never had an opportunity to comment) was deficient because it was not done at all the scales as the POG analysis (see e.g. ROD at 3-27 to 28).

Moreover, regardless of the scale used, for impact to deer (and especially to wolves in regard to deer) the relevant consideration is the carrying capacity regardless of land ownership. It is unclear from the ROD whether the decisionmaker relied (if at all) on carrying capacities on just federal land or all lands, and which individual WAAs or combination of WAAs were relied upon.

(c) WAA 5132 was not adequately considered in the deer model and SDM-POG analyses.

In Table A3-14 of the ROD (at 24), which presents deer model results, WAAs 5132 (including Kake and the NW corner of Kupreanof Island) and 5018 (on Kuiu Island) are shown as having had very low deer carrying capacities in 1954 (respectively 10.1 and 10.7 deer per square mile). Footnote 4 is exclusively for WAA 5018 and says the reason that low number "is unclear." (See also ROD at 3-25).[15] An attached exhibit, "Kuiu-Kupreanof WAA Map," shows the reason (see color-coding in this footnote).[16] WAA 5018 has little high volume POG and much non-forest and/or unproductive forest. Note that the amount of logging which has occurred (brown) is quite small.

In contrast to that WAA on Kuiu, there does seem to be a significant problem with the low 1954 estimate for WAA 5132, on Kake's corner of Kupreanof. Private lands in this WAA were very extensively logged in recent decades. The quality of the old-growth forest that was removed must have been high, on average. (See exhibits: NW_Kupreanof_Photo_1.jpg; NW_Kupreanof_Photo_2.jpg – both from August 2006). We believe the ROD's characterization of WAA 5132 as always having had low deer carrying capacity is inaccurate and misleading, and that the logging which occurred there it is a significant part of the cumulative decline in habitat quality (at any of the scales considered in the FEIS) in a bioregion already had much unproductive land (see the above map).

We note that for cumulative effects over time WAA 5132 is at least as important as WAAs 5130 and 5133, which are now touched by project activity only slightly at their northern ends after the changes that were implemented in Alternative 3-Modified. WAA 5132 is essentially as proximate as those other WAAs, the map at ROD Fig. 3 (Stewardship Opportunities) even maps activities in that WAA. The ROD plans logging activity close to that WAA's border (Units 304 & 305). The FEIS focused on those WAAs and 5131 because all had substantial activity in the FEIS alternatives. At the same time, WAA 5132 was often neglected in analysis even when three WAAs on Kuiu were included in multiple-WAA scale

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[13] The project area itself includes more than one WAA.

[14] Please include all Scott Peak NEPA documents in the appeal record.

[15] "Because of naturally occurring conditions some WAAs are not able to support 18 deer/mi2. This is the true in WAA 5132 which was not able to support 18 deer/mi2 prior to wide-scale timber harvest (i.e., 1954) (USDA FS 1997)." This is apparently in reference to the same "unpublished" appendices to Appendix N. This accuracy of this information should have been checked, given the tremendous amount of logging activity which has occurred in this WAA, as we discuss just below in the appeal.

[16] The exhibit is cropped from a map that accompanied the 2007 Forest Plan DEIS, titled "WAA Boundaries and Productive Old-Growth, Draft EIS" and is dated January 2007. Dark green is "High Volume" SDM POG; light green is Medium and Low Volume SDM POG; brown in NFS second growth; and the buff color is other NFS land.

analysis. Thus, WAA 5132's substantial contribution to cumulative impacts in the general area have been largely ignored in the NEPA analysis, even though proximate and important.

On a related matter, values in the first column in ROD Table A3-14 are footnoted to have come from "unpublished appendices to the 1997 FEIS Appendix N." (Footnote 3). Since at least one of those values (for WAA 5018) was believed to be inaccurate, other and possibly more recent estimates for the 1954 should have been sought. The unpublished appendices were not included in the Central Kupreanof planning record. Please assure that they are in the appeal record, along with any other documents that explain their derivation.

C. Failure to Adequately Evaluate and Consider Deer Model Results.

The ROD contends that "[a]ll information contained in Appendix 3 (of the ROD) is within the scope of effects presented to the public for comment in the DEIS. Appendix 3 presents updated information and explains how that updated information fits with the analysis presented in the FEIS, and how it relates to the Selected Alternative." (ROD at 5). This simply is not true. ROD Table A3-14 shows that three WAAs have deer carrying capacities which fall below the 18 deer per square mile general threshold in the Forest Plan's wolf standard and guideline. The DEIS did not contemplate effects that would occur within the context of an existing condition that falls short of a Forest Plan threshold. It is apparent from the statement that the decision did not take into account the change in scope of effects the updated information presents. In addition, low deer numbers in the area (as mentioned previously) was not taken into account in the ROD either, and the decision missed an important aspect of the problem in not considering that fact in combination with the low carrying capacities.

D. Failure to Adequately Consider Impacts to Wolves and Deer Hunters

The Forest Plan's wolf standard and guideline was adopted in the 1997 Forest Plan as one of the necessary measures to avoid an impending listing by the U.S. Fish & Wildlife Service of the Alexander Archipelago wolf as a threatened species under the Endangered Species Act (ESA). (Exhibit: USF&WS 12-month Finding, 1997). As such, the wolf standard and guideline is important, and is deserving of deliberate and well-documented consideration in timber sale decisionmaking.

The wolf standard and guideline provides protections for both wolves and deer hunters, because providing an adequate supply of deer for hunters is essential if the existence of the wolf is in jeopardy, given that regulations are ineffective eliminating the take of deer. Therefore, as recognized by the standard and guideline, in order to protect the wolf the needs of hunters must be protected as well. This protection is accomplished in the standard and guideline with the general threshold of providing, a deer winter habitat capability of at least 18 deer per square mile, where possible. Where the habitat capability is already below that amount, protecting the remaining habitat capability there is all the more important under the purpose for which the standard and guideline was created.

The ROD mentions the 18 deer per square mile threshold. (ROD at 3-25). It then states that "the results of these model runs … are consistent with the predictions in the 2008 Forest Plan Revision." (ROD at 3-26). However, the ROD fails to discuss the implications for wolves and hunters of continuing to take a substantial amount of timber from an area (e.g. WAA 5131 at one scale; WAAs 5130, 5131, 5132 and 5133 at another scale; Kupreanof Island at another scale; and the biogeographic province) which has an all-lands-considered deer carrying capacity deficit under the Forest Plan scientifically determined metric.

The ROD notes that in the tables on its pages 3-22 through 3-25 there is sometimes no difference in the modeling results between the current condition and an action alternative. (ROD at 3-26). We submit that there is a difference even if it is not detectible by the model,

because habitat is being removed, and that it is a nonetheless important difference because the area is already below the standard. Moreover, even if arguably the deal made through adopting the standard and guideline in 1997 should be weighed against large-scale timber supply considerations, the ROD has not compared the two weights in light of the modeling results and the particular ecological circumstances of this area.

Finally, in making such a weighing, other factors need to be considered such as the finding in Person (2001) that the carrying capacity to timber removal relationship is non-linear, with the effect being great as habitat becomes more fragmented. This is a an important consideration in this area of high natural fragmentation, lower habitat quality than in many places, past history of logging, past history of significant depression of the deer population from hard winters, and low current deer population. There has not been a hard look at the available literature and the situation.

IV. The ANILCA Findings in the ROD Are Defective.

The finding in the ROD is flawed that the Selected Alternative is necessary consistent with sound management of public lands. Several subsistence wildlife species will be affected by the project, and as explained above, analyzing impacts to them based simply on POG is an incomplete approach. Therefore, with the impacts not accurately determined there is no basis for determining whether sound management will be achieved.

"The project area is rated in ADF&G's Tongass Fish and Wildlife Resource Assessment as being of the highest sensitivity to disturbance in the 'Sensitivity to Disturbance of Subsistence Use Areas' map for communities in Southeast Alaska. This is a forest-wide map, however, and more detailed information should be collected for the project area. In particular, the potential for the proposed project to cause significant and long-term adverse affects to Sitka black-tailed deer habitat within the area needs to be carefully analyzed in detail within the EIS." (2008 Feb 13. Doc 284, OHMP scoping comments). That this area is of "highest sensitivity" was not recognized by the FEIS. In addition, the effects to deer were haphazardly and not carefully analyzed at essentially the last minute,[17] and only in the ROD appendix, not the FEIS. This has every appearance of having been only a pro-forma exercise.

"Both the JRT and IDT had questions about deer habitat as a significant issue. Although it is agreed that deer are an issue in public perception, it was hard to really find the significant environmental consequences, especially with the findings in the FP, and the conservation strategy. It was decided that the real issue is not deer habitat, but tied more to Access to deer. The people of Kake are concerned about accessing deer for subsistence activities. Both comments for increased and decreased access were received. It was agreed that Deer Habitat would not be a significant issue (considered but eliminated) and that the ID team would carry forward Access as a significant issue." (2008 Mar 20. Doc 155 "JRT Checkpoint 2 Review Close-out"). We believe that not considering impacts to deer habitat a significant issue during formulation of the FEIS was a big mistake. By the time it was belatedly realized that deer issues must be better reckoned with, the FEIS was long-since completed and comprehensively considering deer and related issues became difficult.

V. The Need for a Supplemental EIS, If Large Timber Volumes Are Pursued.

The ROD accommodates small sales and microsales for which "interest to purchase … exist(s) … within the community of Kake." (ROD at 8). Our appeal does not affect these activities. (See: Request For Relief).

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[17] Wildlife report updated Jan 21, 2011; ROD signed four days later.

Concerning large timber sales, the ROD notes that an improvement in the economy is necessary for large timber offerings to be made in the future. (ROD at 8). (ROD at 6: "I realize that the financial efficiency of the Selected Alternative shows this alternative as being negative as a whole." And, "… there continues to be a current downward trend in the timber markets.") Therefore it would be most expedient to grant our request to: (1) remove the large timber sales volume from the decision, thereby limiting the volume to what is necessary for small sales and microsales that local Kake operators can utilize, and (2) order another EIS for larger sales, to correct the deficiencies identified in this appeal and address any new information (e.g. new relevant aspects of climate change science).

VI. Summary & Reliefs Requests

For the above stated reasons we ask that the relief be granted that we have requested in the Request For Relief section, above. In addition we request that all documents which are cited in the documents from the planning record which we cited above be acquired and added to the appeal record. We believe they should have been in the planning record in the first place, and should have been considered in the analysis. Please also include the references below, which we are submitting as exhibits.

(Verifiable signatures are available on request.)

April 25, 2011

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References (Exhibits)

The following are submitted in a .zip file along with the appeal:

B.C. Ministry of Forests, 1996. Clarifying Habitat Use. Coastal black-tailed deer study, #2 of 5.

B.C. Ministry of Forests, 1996. How black-tailed deer react to logging in their winter habitat. Coastal black-tailed deer study, Brochure number 3 of 5.

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Ford, C. (1995). Notes of the November 7, 1995 deer panel convened as part of the TLMP revision, by the official scribe for the panel session. In the 1997 TLMP planning record.

McNay & Voller (1995). Mortality causes & survival estimates for adult female columbian black-tailed deer. J. Wildl. Manage. 59(1):138-146.

Nichols, J. (1995). Notes of December 5 & 6, 1995 wolf panel meeting, contained in Iverson (Feb 7, 1996), at JLM-510-0187.

Person, D. (2001). Alexander Archipelago wolves: ecology & population viability in a disturbed, insular landscape. Ph.D. dissertation. University of Alaska, Fairbanks. Fairbanks, Alaska. 145p.

Roberston, P. (1997a). Notes of March 27 & 28, 1997 panel of wolf experts that was conducted as part of the TLMP revision process. 1997 TLMP planning record, JLM-510 pp.1709-1720.

Roberston, P. (1997b). Summary of notes of March 27 & 28, 1997 panel of wolf experts that was conducted as part of the TLMP revision process. 1997 TLMP planning record, JLM-510 pp.1721-1732.