

UNITED STATES OF AMERICA  
DEPARTMENT OF AGRICULTURE  
UNITED STATES FOREST SERVICE

Before the Chief  
USDA Forest Service

In re Appeal of the Tongass National )  
Forest Revised Land and Resource )  
Management Plan (Plan Amendment), )  
Final Environmental Impact Statement, and )  
Record of Decision )  
For this Revised Land and )  
Resource Management Plan, )  
Tongass National Forest, )  
Alaska. )  
)  
THE WILDERNESS SOCIETY )  
)  
Appellants )

Appeal No. \_\_\_\_\_

NOTICE OF APPEAL AND STATEMENT OF REASONS

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## NOTICE OF APPEAL

Pursuant to 36 C.F.R. § 217, Appellant, The Wilderness Society (“TWS”) appeals and challenges the Revised Land and Resource Management Plan Amendment (“Forest Plan”) for the Tongass National Forest and the Final Environmental Impact Statement (“FEIS”) and the Record of Decision (“ROD”) accompanying this Revised Forest Plan (traditionally collectively referred to as TLMP). The Record of Decision adopting this Revised Forest Plan and EIS was signed by Dennis E. Bschor, Regional Forester for the Alaska Region of the USDA Forest Service, on January 23, 2008. The official Notice of Availability for the FEIS and Revised Forest Plan was published in the Federal Register, 73 Fed. Reg. 8869 on February 15, 2008. The legal notice for this plan ran in the newspapers of record, the Juneau Empire and the Anchorage Daily News, on February 15, 2008. Thus the 90-day appeal period runs through May 15, 2008. This appeal is thereby timely.

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**The Wilderness Society**, founded in 1935, is a non-profit membership organization. TWS's mission is to protect wilderness and inspire Americans to care for our wild places. In addition to its national office in Washington DC, The Wilderness Society has an Alaska office which focuses on National Forest management throughout the state. The Wilderness Society has over 310,000 members and supporters nationwide, including many members in Alaska, many of whom use and enjoy the Tongass National Forest.

The Appellant participates actively in management of the Tongass National Forest. Appellant specifically has participated in the public process surrounding the Revised Forest Plan and EIS, and submitted extensive comments on the Draft EIS. Appellant and its members are very familiar with the Tongass National Forest. Members of the Appellant organization use and appreciate the Tongass National Forest for its scenic beauty and for hunting, fishing, hiking, camping, bird and other wildlife watching, photography, spiritual renewal, and other recreational and educational activities. The Revised Forest Plan challenged here directly and significantly would affect Appellant and its members because it would degrade all of these values and uses.

The Record of Decision, Revised Forest Plan (Plan Amendment) and FEIS violate numerous governing laws, including the National Forest Management Act (NFMA), the National Environmental Policy Act (NEPA), the Administrative Procedures Act (APA), the Tongass Timber Reform Act (TTRA), as well as the Ninth Circuit Court Order, *Natural Resources Defense Council v. U.S. Forest Service*, 421 F.3d 797 (9<sup>th</sup> Cir. 2005). These multiple violations of law, regulations, and agency rules are detailed in the following sections of this Appeal, as are the specific changes and relief requested.

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## SUMMARY

The Wilderness Society (TWS) has a long-standing interest in wildland values on the Tongass National Forest and any developments that may impact those values. The Tongass National Forest, an internationally significant and nationally valued natural treasure, must be managed to conserve biological diversity, support local communities, and protect the ecological integrity of the coastal temperate rainforest in southeastern Alaska.

Few if any of the concerns we expressed in our Draft Environmental Impact Statement (DEIS) comments last spring have been addressed by the Forest Service in the 2008 ROD, FEIS, or Tongass Land and Resource Management Plan. We are most concerned with economic and ecological components of the Tongass timber program, and the failure to address climate change, particularly:

- ❖ The flawed market demand study and addendum, which has fatally infected most other parts of the plan and has resulted in an inadequate range of alternatives
- ❖ The flawed timber suitability analysis, particularly the inclusion of lands that are not cost efficient for timber production
- ❖ The failure, despite the Ninth Circuit Court's ruling, to adequately analyze the cumulative effects of timber harvest on private and state lands and to disclose the effects of future highgrading
- ❖ The presentation of a plan that is nothing more than an analysis of the effects of timber harvest on other resource areas.
- ❖ The failure to analyze and disclose the effects of climate change

Throughout this appeal we detail numerous examples of erroneous assumptions, inaccurate science, obfuscation, and a severe lack of disclosure on behalf of the Forest Service concerning the socioeconomic components of the Tongass National Forest timber program. Due to the myriad problems associated with the socioeconomic analysis, the 2008 TLMP Amendment is illegal and in direct violation of NEPA, NFMA, APA, TTRA, and the 2005 Ninth Circuit Court decision which spurred the amendment process. With so many inaccuracies, all of which fatally infect the 2008 Amendment, the Forest

Service needs to conduct analysis for and issue a new plan based on economic and ecological realities.

The Forest Service must acknowledge that the Tongass National Forest timber program is in a major transition period. The subsidized, government-mandated harvest levels needed for the 50-year pulp contracts are over. The end of the pulp contracts brought the end of a fully integrated wood industry for Southeast Alaska. The mandated pulp mills utilized the poorer quality wood in the forest, providing a market outlet (albeit a heavily subsidized market) for the utility and lower-value grades of timber that comprise almost half of the forest. This government-planned pulp market also provided an outlet for chips and wood residue. While the pulp contracts did help to develop Southeast Alaska communities, the time has come and gone for subsidized heavy harvests on the Tongass National Forest. Without the government-backed harvest guarantees the timber industry continues to downsize to a smaller, more economically efficient, size. Currently, timber-related jobs represent 1% of the Southeast economy.

Despite these developments, the Forest Service continues to hammer a square peg into a circular hole and manages to commit numerous legal violations along the way. The timber demand scenarios used by the Forest Service are conducted with the same model that was used in 1990 and still uses Japanese wood markets to model Alaskan demand; the last time Japan was the primary purchaser of Alaskan wood products was 1996. The demand analysis lacks any examination of the cost of timber production and the correlating price of supply, meaning that it has neglected the entire pricing component--half of the formula used to determine demand. The 2008 FEIS continually discusses the need to supply enough timber to keep existing mill capacity, but never once acknowledges that much of the mill capacity is residual capacity left over from the pulp contract days that are no longer economically viable. The Amendment's analysis and Present Net Value (PNV) calculations are arbitrary and capricious, with the Forest Service deciding which costs and benefits should be included. For example, the cost of utility wood harvest and road construction is often not included, yet consumer surplus of recreation (the only non-market value included) is thrown in to get the PNV analysis of alternatives into the black. Even with these fabricated costs and benefits, the resounding theme of all PNV and efficiency analysis of the timber program is **substantial losses, both economically and ecologically.**

In fact, the agency's continued focus on timber at the expense of other, more valuable resources, biases the entire planning process. With such an approach, the communities of southeast Alaska will continue to believe their economic fortunes are tied to an industry which has serious competitive disadvantages, is in serious decline, and has little hope of recovery. These communities should be made aware of these economic realities so that they can make informed and rational decisions about where their true future economic opportunities lay.

In addition to our concerns with the socioeconomic component of the timber program, we contend that the Forest Service has failed to meet its obligation under the Ninth Circuit Court Ruling, NFMA and NEPA to disclose the potential impacts of future highgrading on the Tongass, as well as providing details on how to lessen the cumulative impact. Furthermore, the FEIS fails to provide a useful catalogue of past harvest on private and state lands.

Finally, the Forest Service failed to adequately analyze, disclose, and plan for the effects of climate change on forest plan implementation and land management actions. Instead, the Forest Plan defers any climate change response other than “adaptive management” to a revision that will occur in 10 to 15 years citing the “uncertainty” about climate change. There is scientific consensus that while the exact magnitude of change is uncertain, there is no uncertainty that things are going to change.

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## **I. THE 2008 TLMP AMENDMENT MARKET DEMAND STUDY VIOLATES THE TONGASS TIMBER REFORM ACT (TTRA)**

The Tongass Timber Reform Act states:

Subject to appropriations, other applicable law, and the requirements of the National Forest Management Act of 1976 (Public Law 94-588), except as provided in subsection (d) of this section, the Secretary shall to the extent consistent with providing for the multiple use and sustained yield of all renewable forest resources, seek to provide a supply of timber from the Tongass National Forest which (1) meets the annual market demand for timber from such forest and (2) meets the market demand from such forest for each planning cycle.

16 U.S.C. § 539d(a)

The TTRA inherently requires the Forest Service to present estimates of market demand in order for the agency to consider how it can “seek to meet market demand.” Judge Gould stated this requirement as: “Because the law requires a market demand assessment for the TLMP...” (*NRDC vs. USFS* 2005: 10112). We contend that Brackley *et al.*'s 2006 study, *Timber Products Output and Timber Harvests in Alaska: Projections for 2005-25*, and the created demand scenarios within this study do not, in any manner, constitute a “market demand assessment.” And with no market demand assessment to guide the 2008 TLMP Amendment, the FS is incapable of “seeking to meet market demand” and in direct violation of TTRA.

For the 2008 TLMP Amendment, the estimates of market demand are said to be presented in Brackley *et al.*'s 2006 study in the form of four created demand scenarios. These scenarios are the basis for determining the range of alternatives, determining the ASQ of each alternative, and the subsequent environmental consequences. However, Brackley *et al.*'s four demand scenarios are by no means estimates of “market demand.” In fact, they are actually just the supply requirements needed to fulfill four hypothetical timber industries. Market demand is a combination of both quantities supplied *and price* of that supply. That is, different amounts of timber are demanded (and supplied) at different prices. The Brackley *et al.* (2006) study provides zero price analysis and the supply-side model does not incorporate any production costs. By only examining half of the equation (quantity) used to determine market demand, Brackley *et al.* have not presented any estimates of market demand; therefore, Brackley *et al.*'s study in no manner constitutes a “market demand assessment,” rendering the 2008 TLMP in direct violation of TTRA. Brackley *et al.*'s approach is analogous to trying to balance a checkbook by summing only deposits, neglecting any examination or subtraction of withdrawals. In order to meet the TTRA requirements, the Forest Service must conduct

an actual “market demand” assessment and prepare a new Plan based on the new market demand assessment.

#### **A. A Market Demand Assessment Must Include a Pricing Analysis.**

One of the most fundamental concepts in economics is the law of demand, which states that there is an inverse relationship between *price* and quantity demanded. “This hypothesis is perhaps the most important in all of economics” (Demmert 1991). The term “demand” is defined as a schedule which shows the various amounts of a product that consumers are willing and able to purchase *at each specific price* in a set of possible prices during some specific period of time (e.g. McConnell 1975: emphasis added). Thus “market demand,” in terms of the Tongass, can be considered an aggregate measure of consumers’ willingness and ability to purchase timber at specific prices. By excluding an analysis of price considerations for Tongass timber, the Brackley *et al.* (2006) study is incapable of assessing market demand.

Brackley *et al.* (2006) use a material-balancing model to determine derived demand for Tongass wood products. Their model is a revised version of the original Brooks and Haynes (1990) model. As seen in Brackley *et al.*’s Figure 3 (2006: 11) and described in their methods section, there is no inclusion of prices, be it final prices paid for wood products or for Tongass timber. Brackley *et al.* inform us that by utilizing a material-balancing approach, “...the model works backward and calculates volumes of timber required to satisfy derived demand for products” (2006: 8). In other words, enter in the final market desired and the amount desired, and the model will calculate the supply necessary to be harvested from the Tongass National Forest. This approach is an ill-suited and illogical method for assessing “market demand,” as it neglects to account for the pricing half of demand that would be captured by entering total costs of timber production, transportation costs to distant mills and markets, and the low economic value of much of the timber on the forest.

Adding a pricing component to the material-balancing approach would allow for the quantification of final markets that are actually feasible and the appropriate scale at which they are feasible—the demand assessments would then answer the more important questions such as what final markets does Tongass timber qualify for and at what amounts. For example, had a pricing component been incorporated, Brackley *et al.*’s (2006) demand scenarios 3 and 4 (both representative of an integrated industry) would have been recognized as increasingly cost prohibitive and not economically possible for the Tongass National Forest. A pricing component would have dropped demand scenarios with unrealistic and hypothetical increases in mill capacity from the solution and would have also indicated the need for a decreasing demand scenario. The Wilderness Society contends that without an inclusion of price analysis and production costs, the 2008 TLMP Amendment is in violation of the Tongass Timber Reform Act.

## **B. By Excluding Price Analysis, Brackley et al.'s Study Ignores Major Determinants of "Market Demand" for Tongass Timber.**

What would a market demand assessment look like? A market demand assessment would determine a range of both price (p) of production and quantity (q) able to be supplied. Because wood product markets vary by price, it is impossible to assess the quantity that may be demanded without an analysis of the cost of production. The costs of producing timber in Southeast Alaska are some of the highest in the world and continue to increase (e.g. Robertson and Brooks 2001, Crone 2007, Morton *et al.* 2007). Southeast Alaska has several competitive disadvantages relative to nearby regions, particularly the Pacific Northwest (PNW) in the U.S. and interior British Columbia in Canada. These disadvantages include a large proportion of low-value tree species, higher labor, operating, manufacturing and transportation costs, lack of capital investment in value-added processing, and weak local markets for low-valued species and mill residues. By ignoring the tremendous economic barriers faced by Alaskan wood producers, Brackley *et al.* (2006) have not produced any estimates of market demand.

The Tongass has vast amounts of forest land that contain tree species with low timber values. Based on historical use patterns, 42% of the volume is in utility and Number 3 hemlock and spruce, which is not suited for lumber production (Crone 2007). The profitability of Alaska sawmills is closely related to having a local market for both low valued logs and mill residues. With the closure of the region's two pulp mills, the southeast Alaska industry lost the subsidized market for low grade hemlock (Utility and Number 3 Hemlock).

To compound the economic problem of large volumes of low valued trees, the timber industry in Alaska is faced with high labor, operating, manufacturing and transportation costs – along with regional competition from more efficient mills. Difficult operating conditions exist due to a relatively severe climate, difficult terrain, the physical characteristics of the resource, the need to set up and supply logging camps at remote locations, the need to transport logs long distances to mills and products long distances to markets, the absence of integrated road and rail networks, technologically outdated mills, and high labor and other factor costs (TWS 1986; Robertson and Brooks 2001; WPIAC 2006; Crone 2007).

Perhaps in response to the large volumes of low valued hemlock trees and high operating costs, the timber industry has a history of logging the largest and most valuable species on the national forests in southeast Alaska. In a 1986 publication The Wilderness Society (TWS 1986) writes,

Since the introduction of the pulp mills and large-scale harvests in the 1950s, the general pattern of harvesting has been to cut the largest-volume, most accessible and most valuable stands. Between 1956 and 1981, the mean volume harvested

per acre was about 37 mbf (scaled volume). It is estimated that this harvested acreage included one half of all the highest volume class (sites exceeding 50 mbf per acre) acreage that existed in the Tongass in 1950. ... The commercial quality of the forest as a whole must inevitably decline in the future because of the over-reliance on high volume stands in past and current harvests.

(TWS 1986:113-114).

The high grading trends continue today as Mehrkens (2006) notes that the logging of Alaska yellow cedar, the most valuable timber in the export markets, has increased from 3 percent of total harvest to 12 percent of total harvest on the Tongass from 1985 to 2006. Albert & Schoen (2007a) analyzed data on the areas harvested since 1986 and estimated that large-tree forests have been harvested at a rate 289% higher than their relative occurrence on the forest. They also found that historic logging activity in southeast Alaska has occurred disproportionately more on the most productive land forms. For example, they estimated that the rate of harvest on low elevation karst lands was 560% above their proportional abundance and logging activity in low elevation (valley floor) riparian forests occurred at a harvest rate 156% above the proportional abundance of these areas (Albert & Schoen 2007a). Naturally, this over-harvesting of higher-valued species and stems in the past contributes to the current overabundance of lower-valued species noted above.

Past highgrading, low valued tree species, and exorbitant harvest and haul costs combine to keep timber production costs high and timber receipts low. These have significant impacts on the overall price (p) of Tongass timber that dramatically affect the market demand for this timber. Without explicitly considering the pricing component, there is no way to determine market demand.

As the Tongass National Forest enters a new management paradigm, one without mandated timber contracts and one with ever-decreasing subsidies for their timber program, the Forest Service must acknowledge and recognize the myriad barriers to timber production on southeast Alaskan public lands. The TLMP Amendment and its supporting market demand science refuse to acknowledge the economic realities facing Tongass timber production. Disregarding reality not only leads to ecological damage on the forest and wastes immense taxpayer funds, it actually does more harm to the remaining timber industry and local communities by perpetuating a false paradigm and not focusing on the transition to a more economically viable and ecologically sound timber program. Without a pricing component, the Brackley *et al.* (2006) study produces no estimates of “market demand.” Without a market demand assessment, the 2008 TLMP Amendment cannot “seek to meet market demand” and is in violation of TTRA.

The Forest Service itself perhaps best sums up the folly of the PNW demand studies by discussing the general approach of these demand studies.

This approach makes it possible to estimate the demand that would exist in the absence of the considerable constraints currently placed on the supply of timber. Examples of such constraints include...difficulties in preparing sales with positive appraisals...and funding levels.

2008 FEIS, pg. H-32.

Neglecting these “constraints” makes it impossible to determine which markets Tongass timber can really access and at what scale. Price must be an explicit input to any model used to forecast market demand.

## **II. THE 2008 TLMP AMENDMENT FAILS TO CORRECT THE DEFECTS IDENTIFIED IN THE 2005 NINTH CIRCUIT COURT’S RULING (*NRDC VS. USFS*)**

The 2008 TLMP Amendment was prepared in response to the Ninth Circuit Court’s 2005 decision that deemed the 1997 Plan fatally flawed because of erroneously doubled demand numbers and major inadequacies including 1) inaccurate market demand forecast, 2) not setting the ASQ equal to correct demand scenarios, 3) omission of an alternative that allocated less undeveloped land to the development LUDs, 4) not fully considering the cumulative effects of disproportionate high-volume logging on non-federal land, and 5) the lack of a cumulative effects analysis. Most of the reasons for preparing the 2008 Amendment were based on the need for improved economic and market demand information.

The Brackley *et al.* (2006) study, its follow-up Addendum (Brackley and Haynes 2007), and the economic information contained in the FEIS do nothing to address the economic inadequacies cited by the Ninth Circuit decision. In fact, the new demand study and the preferred alternative come up with almost the exact same numbers that were previously achieved by an “erroneous doubling” of demand. Coming up with virtually the same, artificially inflated demand numbers after nine straight years of declining market demand (see section III) illustrates the Forest Service’s blatant disregard for trying to amend these major deficiencies and exposes the measures the Forest Service will take in order to inflate timber demand.

The Ninth Circuit Court ruled that because of the “erroneous doubling of market demand” the Plan had alternatives skewed too highly (for ASQ), economic effects were skewed by this information, and the Forest Service did not make a rational connection between projected demand and the plan adopted. These inaccuracies stemmed from the erroneous doubling and required a new plan. The opinion from Judge Gould went on to say that “The EIS presented to decision makers and to the public a comparison of

alternatives based on an economic forecast that relies on a flawed view of the market demand for Tongass timber” (*NRDC vs. USFS* 2005: 10117). The Wilderness Society contends that the Forest Service has once again presented an extremely flawed analysis of market demand—resulting in virtually the same inflated demand estimates and fatally infecting all aspects of the TLMP.

The demand numbers that were the focus of the *NRDC vs. USFS* 2005 case came from the Brooks and Haynes study (1997). Brooks and Haynes proposed three annual demand scenarios: low—68 mmbf (million board feet), medium—110 mmbf, and high—154 mmbf. The Forest Service interpreted these numbers to be only sawlogs (when they were actually both sawlog and utility) and roughly doubled them to get 130 mmbf, 212 mmbf, and 296 mmbf, and subsequently used the erroneous numbers to justify choosing an alternative with an annual ASQ of 267 mmbf. Due to these errors, the Court required the Forest Service to conduct a new demand study and a correlating new plan.

In 2006, Brackley *et al.* came out with a new demand study. After nine years of declining market demand indicators, Brackley *et al.* (2006) provided four demand scenarios—68 mmbf, 187 mmbf, 204 mmbf, and 342 mmbf, with an overall average of 200 mmbf—very close to the erroneously doubled average of 212 mmbf. With this justification the Forest Service, once again, chose an alternative with the exact same annual ASQ (267 mmbf) as the previous plan that was deemed illegal. How did Brackley *et al.* (2006) manage to attain demand estimates so close to the illegally doubled estimates of the previous plan? The new estimates were attained by “deriving” the timber requirements needed to fulfill a fully integrated wood industry in southeast Alaska and using these for two of the four demand scenarios. The fully integrated industry scenarios (3 and 4) --- which assume the processing of high volumes of low-grade logs by 2008--- are highly unlikely and have been deemed economically infeasible by numerous studies (e.g. Parrent 2000, Braden *et al.* 2000, LGA 2005).

We contend that the 2008 TLMP Amendment does not meet the 2005 Ninth Circuit Court’s ruling and that the Brackley *et al.* (2006) study arbitrarily and capriciously puts forth demand scenarios that are not based in reality, basically resulting in a more complicated “erroneous doubling” and absolute exaggeration of market demand. The Forest Service must conduct a demand study based in reality and correlated to the same timeframe covered by the TLMP Amendment, and subsequently use this information to craft a new Land and Resource Management Plan. Brackley *et al.*’s (2006) demand forecasts ignore recent trends and are more consistent with future feasibility studies of hypothetical timber program increases. These studies actually do a disservice to current land management on the Tongass by providing incorrect information and information that is basically irrelevant to the timber industry for the next decade. Without providing current, realistic timber demand information, the timber industry, the Tongass National Forest, and other stakeholders are left to their own devices to come up with a framework

for overcoming the current situation and transitioning to a more sustainable and economically viable timber program.

**III. BECAUSE THERE IS NO DECREASING DEMAND SCENARIO, THE RANGE OF ALTERNATIVES IS INADEQUATE UNDER NFMA AND NEPA AND FAILS TO REFLECT THE ECONOMIC REALITIES OF THE TONGASS NF TIMBER PROGRAM.**

Both NEPA and NFMA require the Forest Service to consider a broad range of alternatives in developing a forest plan. *See* 40 C.F.R. § 1502.14(a) (2000) (agencies shall "rigorously explore and objectively evaluate all reasonable alternatives"); 36 C.F.R. § 219.12(f)(1) (All cites to 36 CFR 219 in this appeal refer to the 1982 version of the regulations last published in the Code of Federal Regulations on July 1, 2000.) ("Alternatives shall be distributed between the minimum resource potential and the maximum resource potential to reflect to the extent practicable the full range of major commodity and environmental resource uses and values that could be produced from the forest."); *NRDC v. U.S. Forest Service*, 421 F.3d 797, 813-14 (9th Cir. 2005) (striking down 1997 TLMP for failure to consider alternatives that accurately reflected market demand for timber or that adequately protected roadless areas).

Based on our review of the assumptions and methodology used in the Brackley *et al.* (2006) model, we do not believe that it should be viewed as an accurate predictor of the derived demand for Tongass timber. Based on the Crone (2007) review of recent trends and current conditions in southeast Alaska and competing regions, and structural changes in both Pacific Rim and global wood products markets, we believe that *only* the derived demand projection associated with Scenario 1 (Limited Lumber Production) has a high probability of occurring, and even it may be optimistic.

We contend that the Forest Service should eliminate demand Scenarios 3 and 4 from consideration, as they are not based on actual demand; rather, they include the hypothetical demand from proposed mills that have not been built. Numerous sources, including history, suggest these mills will not be built, and therefore they should not be included in demand projections.

As it stands now, five of the seven Alternatives (3, 4, 5, 6, and 7) set estimated volume levels at 204 mmbf or higher, which rely on the development of an integrated timber industry (demand scenarios 3 and 4), a highly unlikely market scenario according to experts (e.g. Braden *et al.* 2000, Trainum 2000, LGA 2005). These cut levels are four to ten times greater than recent logging levels, which have ranged from 18.9 to 50.8 million board feet over the last five years – a further indicator that demand scenarios 3 and 4, and alternatives 3 through 7, are exceedingly unlikely. The Forest Service needs to expand the range of scenarios modeled to include more scenarios that project

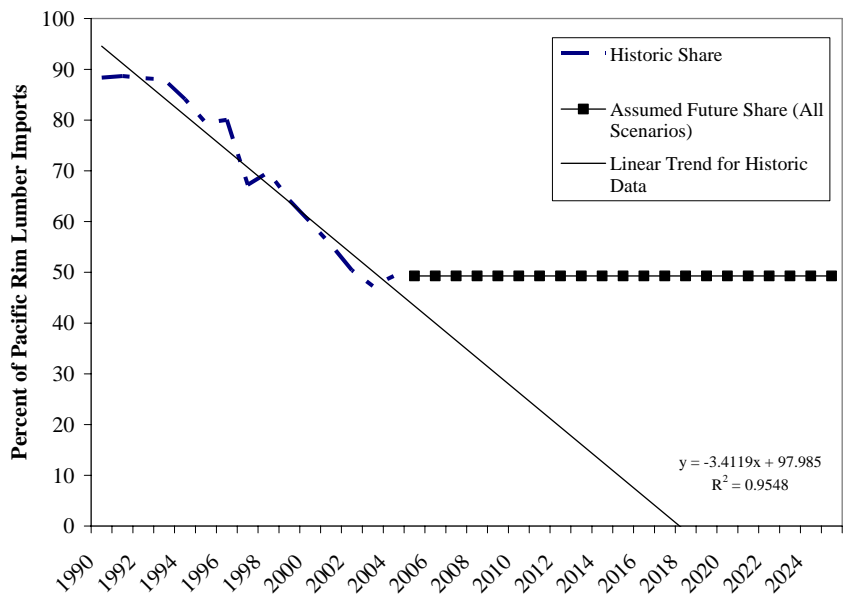
decreasing timber demand. The current range of scenarios is incomplete, as all four scenarios assume demand will increase, despite substantial evidence to the contrary.

The allowable sale quantity (ASQ) under each alternative was determined by bracketing the demand scenarios created by Brackley *et al.* (2006) as shown in the FEIS Table 2-1. 2008 FEIS, pg. 2-5. Ever since the second peak in Tongass harvest under the subsidized pulp contracts (1990), demand for Tongass timber has been steadily decreasing. When harvesting for pulp contracts completely stopped, the outlets for Tongass timber dwindled.

**A. A “Trend-Based Analysis” Reveals the Likelihood of Continued Decreasing Demand for Tongass Timber.**

Brackley *et al.* (2006: 2) claim to have conducted a “trend-based analysis” to project the demand for Alaska national forest system (NFS) timber. A trend-based analysis refers to *quantitatively* using past trends to predict future trends; mathematically that is the fitting of a line of least squares in a regression. Unfortunately, a “trend-based analysis” was not conducted by Brackley *et al.* (2006). If a trend-based analysis had actually been conducted, it would illustrate that the potential for a decreasing demand scenario is actually the “most likely” scenario. Below we illustrate some trend-based analysis for demand projections.

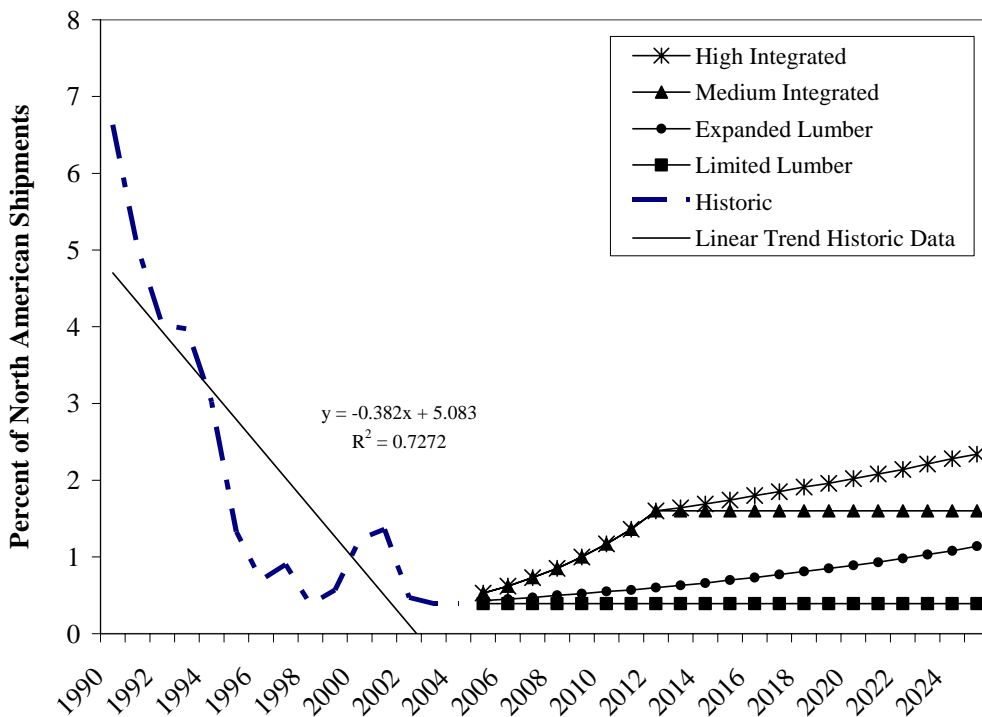
**Figure 1: North American Share of Pacific Rim Softwood Lumber Imports**



Source: Brackley *et al.* 2006; Table 5A.

Figure 1 shows that North American lumber shipments dropped from 88 percent to 49 percent of Pacific Rim lumber imports between 1990 and 2004. The linear trend line, based on the historic data, suggests the loss of market share will continue. Brackley *et al.* (2006), however, assumed that the loss of market share in the Pacific Rim will stabilize at 49 percent, and will hold constant for the next twenty years for all four scenarios modeled. A more conservative and thorough analysis – one consistent with an analysis of market trends – would have included scenarios in which the downward trend continues. It is important to note that the 49 percent future market share is just an assumption, and is not based on any quantitative analysis or modeling effort.

**Figure 2: Alaska Share of North American Shipments to Pacific Rim Historic and Assumed Future Shares**



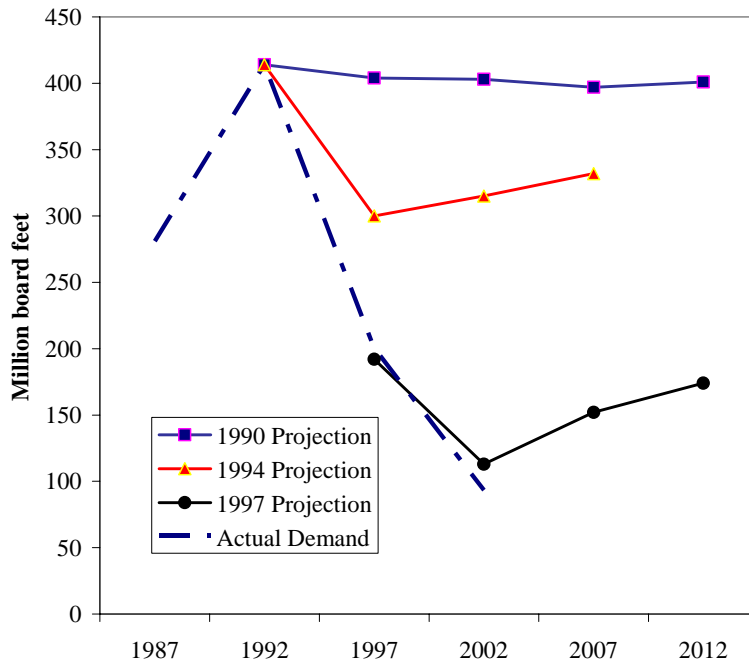
Source: Brackley *et al.* 2006; Table 5A.

Brackley *et al.*'s (2006) Limited Lumber scenario assumes market shares will hold constant at current levels (Figure 2). Brackley *et al.*'s (2006) other three scenarios assume historic trends will reverse and Alaska will increase its share of the North American lumber shipments to the Pacific Rim. This optimistic assumption is also highly unlikely.

Furthermore, past demand projections for Tongass timber have been consistently over-inflated and highly inaccurate (see Figure 3). Brackley *et al.* (2006: 8) state, "After

the fact, estimates of derived demand can be compared with historic data (actual volumes of timber harvested) to test the reliability of projections.” After reading the report, we question whether the authors have ever completed such a test of reliability.

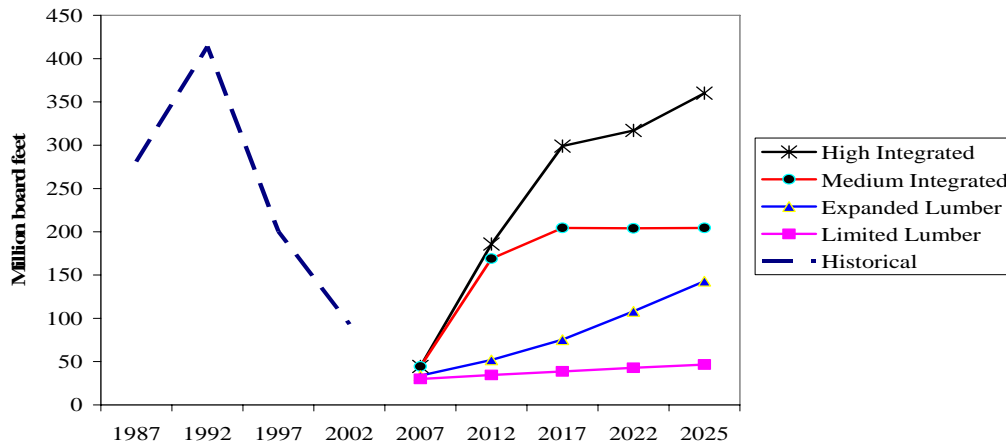
**Figure 3: Actual Timber Demand for the Tongass National Forest**



Source: Brackley *et al.* 2006 (Table 3).

Looking at past trends in historical timber demand coupled with Brackley *et al.*'s four demand scenarios (Figure 4), it is obvious that future demand scenarios do not represent a trend-based analysis at all. Had Brackley *et al.* (2006) conducted a trend-based analysis, multiple decreasing demand scenarios would have emerged.

**Figure 4: Historical Timber Demand for the Tongass National Forest combined with Current Projections of Future Demand as modeled by Brackley *et al.* (2006)**



Source: Brackley *et al.* 2006 (Table 3)

**B. The Forest Service Must Acknowledge the Decreasing Trends in Demand for Tongass Timber.**

TWS and the Natural Resources Defense Council (NRDC) submitted numerous comments on the DEIS regarding the necessary inclusion of a decreasing demand scenario, and thus an alternative with an ASQ that reflects a decreasing demand scenario. TWS has subsequently released a peer-reviewed report illustrating how overestimating timber demand prevents responsible stewardship (*See Exhibit A, Morton et al. 2007*). Brackley and Haynes (2007), in their Addendum addressed this deficiency with:

“Several comments focused on why we did not consider a scenario of decreased demand. We did not because we consider the low scenario as representing present conditions. That is, a set of conditions representing a future where the markets have adjusted for both the collapse of the Asian markets and the structural shifts in the U.S. market, resulting from reductions in federal timber flows.”

(2007: 30)

Unfortunately, the low scenario does not represent present conditions. Present conditions are part of decreasing demand trends for the last several years. By saying that the low scenario equals last year’s demand, one is assuming that the downward trend will stop and level off. But Brackley and Haynes (2007: 30) state that the low scenario

actually represents a “future where the markets have adjusted...” A scenario built around a decrease in demand would represent the status quo of the last few years. Given the demand forecasting ineptitude in past studies and the purely hypothetical nature of demand scenarios 3 and 4, the consideration of a decreasing demand scenario would provide more realistic numbers and would likely represent a more accurate projection—especially since Brackley *et al.* (2006) claim to be using a trend-based analysis.

In summarizing why they did not include a decreasing demand scenario, Brackley and Haynes state:

“Given the range of these events, we judge that the probability of a future decrease in demand for lumber to the Pacific Rim is almost zero; the probability of no change in demand small; and, the probability of an increase in demand extremely high. If demand to the export markets does decrease or remain constant, Alaska producers will ship products to the domestic market as consumption—especially in residential construction (including new, repair, and alteration)—is expected to increase.”

(2007: 31)

As we have noted numerous times, Pacific Rim demand currently has little bearing on Tongass timber demand and actually exhibits an inverse relationship (see Brackley and Haynes 2007—Figure 9 which illustrates a correlating steady decrease in North American imports to the Pacific Rim during the recent dramatic overall increase of Pacific Rim softwood imports). Brackley and Haynes (2007) continue to equate Tongass timber demand with the entire Pacific Rim, with zero justification. They also continue to ignore all obvious signs of a domestic recession, particularly in residential construction, and assume that the domestic market will bail out Tongass wood producers if the Pacific Rim cannot. These demand scenarios are important and play a vital role in what the Forest Service plans to offer each year. Annual offers are determined from the Morse (2000) procedures, which actually incorporate demand projections into a materials accounting framework. By continuing to ignore the reality of decreasing demand trends, the range of alternatives for the 2008 TLMP Amendment are inadequate and in violation of both NEPA and NFMA.

**IV. BY INFLUENCING THE ALTERNATIVES AND ALL SUBSEQUENT ANALYSIS, BRACKLEY *ET AL.*'S 2006 STUDY AND DEMAND SCENARIOS FATAALLY INFECT THE FEIS AND ALL COMPONENTS OF THE PLAN, RENDERING THE PLAN ARBITRARY AND CAPRICIOUS.**

TWS and NRDC submitted numerous comments on the DEIS illustrating the fallacies inherent in Brackley *et al.*'s (2006) assumptions, methods, and results. Because these concerns were not subsequently addressed in any substantive manner and are still present, we summarize below the main arguments not covered in the first three sections of our appeal. In section V, we address the Brackley and Haynes Addendum released in draft form in December 2007.

The model used by Brackley *et al.* (2006) to forecast timber demand for the Tongass is essentially the same model used by Brooks and Haynes twelve years earlier, and the veracity of its projections are equally suspect. When the model was originally developed, more than 90 percent of the lumber went to Japan. Now, however, most Alaskan lumber is shipped from Alaska to domestic markets, drawing into question the credibility of using the old model based on Japanese lumber demand to estimate demand in domestic markets.

The Brooks and Haynes (1994) model relies on three implicit assumptions:

- 1) no structural changes have occurred in markets for Alaska timber (primarily Japan);
- 2) no structural changes have occurred in the regions competing with Alaska for Japanese markets; and
- 3) no changes have occurred in the mix of the forest products industry in Alaska.

In fact, those assumptions are no longer valid and do not accurately reflect current market conditions. The DEIS, citing Brackley *et al.* (2006), notes the degree to which the world has changed for Southeast Alaska's timber industry since Brooks and Haynes developed their model:

There have been major shifts in the markets served by Alaska sawmills over the past decade. Up to 95 percent of production was exported to Japan prior to 1997. Exports have fallen since 2000 and the volume shipped to domestic markets has ranged from 60 percent to 83 percent of total production, with shipments to domestic markets primarily for sale as shop lumber or niche specialty products.... Changes in demand and prices have had dramatic effects on the Southeast Alaskan timber industry and on the profitability of the remaining facilities.

2008 DEIS, pg.3-414.

Brackley *et al.* (2006) admit that the existing model is ill-suited and incapable of forecasting future demand.

During the conduct of this project, it became obvious that changing conditions in Alaska and world markets are rapidly making the existing model and approach obsolete. Future attempts to project demand for national forest timber in Alaska will require new methods and additional information.

(2006:28)

Yet this analysis remains the most influential study informing the 2008 Plan Amendment. We contend that the model and approach used by Brackley *et al.* (2006) has been obsolete for a number of years and therefore should not be used to project demand for timber on the Tongass. Rather than put off developing new methods and employing additional information, Brackley *et al.*, should have developed those methods and used additional (and available) information this time around (see Sections I, II, and III above).

Instead, Brackley *et al.* (2006) project demand under four increasingly unlikely scenarios: “Limited Lumber,” “Expanded Lumber,” “Medium Integrated,” and “High Integrated” scenarios. All four scenarios project turn-around in market demand for Tongass National Forest timber from the long-term decline it has been in since the 1970s. These unrealistic projections are the direct result of three questionable assumptions underlying the Brackley *et al.*, model:

- 1) that Pacific Rim markets determine Tongass timber demand
- 2) that Southeast Alaska forest products industry is competitive
- 3) that new, large mills will come on-line soon in Southeast Alaska

As we explain in further detail below, Japan is no longer the primary export market for Southeast Alaska’s timber industry. The Southeast Alaska forest products industry has long been, and will continue to be, at a competitive disadvantage relative to other regions (discussed in Section I above). And the hypothetical mills whose demand drives the “integrated” scenarios are likely to remain just that – hypothetical – for the foreseeable future. In short, Brackley *et al.*’s timber demand projections do not represent the best available science and, therefore, cannot be used to determine ASQ and the allocation of Tongass National Forest land to timber production. In the following sections we summarize the major inaccuracies related to the questionable assumptions that Pacific Rim markets determine Tongass timber demand and that new, large mills will come on-line soon in Southeast Alaska. The second questionable assumption listed above, that Southeast Alaska forest products industries are competitive is covered in

section I of this appeal, where we detailed the competitive disadvantages facing Tongass timber producers.

**A. Pacific Rim Markets and What Really Drives Demand For Tongass Timber.**

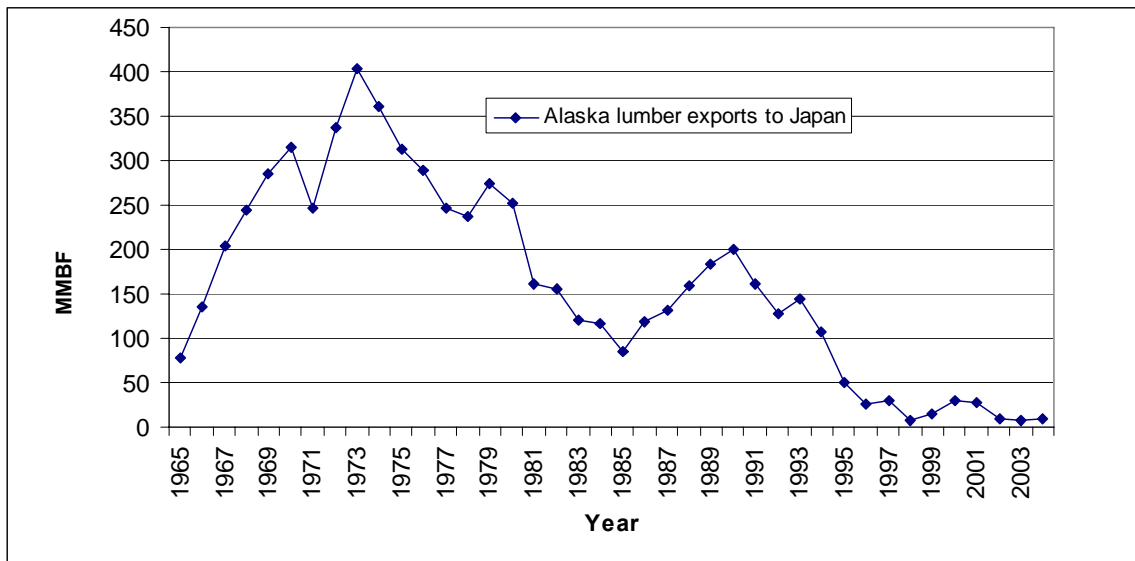
The first flaw in the timber demand analysis is the assumption that the Pacific Rim, particularly Japan, continues to drive demand for timber from Southeast Alaska. There are two problems with this assumption as it plays out in the Brackley *et al.*, model. First, the model does not account for the factors behind the precipitous decline in demand for Southeast Alaska timber in the Pacific Rim itself. Second, the model assumes that demand in the continental U.S., which has for several years been the largest component of demand for Southeast Alaska timber, is derived from demand in the Pacific Rim.

In other words, the model does not represent any sort of direct relationship between factors and trends in the continental U.S. economy or forest products industry that might determine that region’s demand for Southeast Alaska timber. Instead, the Brackley *et al.* model simply multiplies the (already overestimated) Pacific Rim demand by a fixed multiplier and calls the result the “derived demand” in the continental U.S.

**i. The Japanese (and Pacific Rim) market is no longer significant.**

As shown in Figure 5, exports of lumber from Alaska to Japan have declined precipitously – from more than 400 mmbf in 1973 to less than 25 mmbf today.

**Figure 5: Alaska Lumber Exports to Japan, 1965 - 2004**



Sources: Brooks and Haynes (1994); Brackley *et al.* (2006).

Crone (2007) documents the many reasons for the decrease in Japanese softwood lumber imports from the Pacific Northwest, Coastal British Columbia (Coastal BC), Alaska and/or North America in general (Taylor and van Leeuwen 2002, Eastin and Braden 2000, Anderson and Doig 2004, Perez-Garcia and Barr 2005, Daniels 2005, and WPIAC 2006). These reasons include the Asian economic crisis which began in 1997, reductions in Japanese housing starts, the Kobe earthquake in 1995 which resulted in changes in Japanese building codes, a decline in the Japanese sawmill industry, the substitution of radiata pine from the southern hemisphere and whitewood from northern Europe, and probably most importantly for both southeast Alaska and Coastal BC suppliers was the shift in demand from green lumber to kiln-dried lumber and engineered wood products (Crone 2007).

In the previous demand projections prepared by Brooks and Haynes (1990, 1994, and 1997) Japan was the dominant market for softwood lumber sawn from Tongass timber. For this reason, forecasting the derived demand for Tongass timber based on expected softwood lumber consumption, production and imports in Japan made sense. Given the radical changes that have occurred in the Japanese market and the dramatic decrease in the proportion of southeast Alaska lumber that flows to that market, however, basing forecasts on the Japanese market no longer makes sense.

That said, while the Japanese market has been the most important part of the overall Pacific Rim market for Tongass timber, it is not the only component of the market. However, it is not reasonable to assume, as Brackley *et al.* do, that the remainder of the Pacific Rim market is sufficiently like the bygone Japanese market to justify applying the same outdated model of Japanese timber demand to the entire Pacific Rim.

Pacific Rim countries such as China and Korea have very different softwood lumber consumption and import patterns than Japan. U.S. exports of the lumber types Alaska produces<sup>1</sup> to Japan are very different than U.S. exports of these lumber types to other Pacific Rim countries such as China, South Korea, Taiwan and Hong Kong. In other words, Pacific Rim wood product imports may increase, but this does not necessarily imply that Pacific Rim demand for southeast Alaskan wood products will increase (Crone 2007).<sup>2</sup>

Nevertheless, Brackley *et al.* (2006) assume that the Brooks and Haynes model, developed for the Japanese export market, is appropriate for predicting future softwood lumber consumption, production and imports in all Pacific Rim countries. In effect, this assumption means that the errors already present in the outdated Brooks and Haynes

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<sup>1</sup> These include hemlock, hem-fir, Sitka spruce, western red cedar and Alaska yellow cedar.

<sup>2</sup> Brackley *et al.* (2006) specifically mention China as a likely source of future demand for wood products from the Tongass. However, they provide no analysis or data to support this assertion.

model as applied to Japan are multiplied when applied to the entire Pacific Rim. As Brackly *et al.* point out (p. 14), the historical demand going into their model represents the timber needs of 127 million people, but the projected demand coming out of the model represents the timber needs of 2.43 BILLION people. Thus, any overestimate of timber demand for Japan, based on its population, might be more than nineteen times worse, when the Japanese model is applied to the larger population of the Pacific Rim as a whole.

**ii. Domestic (Continental U.S.) markets are now most important and should be modeled directly.**

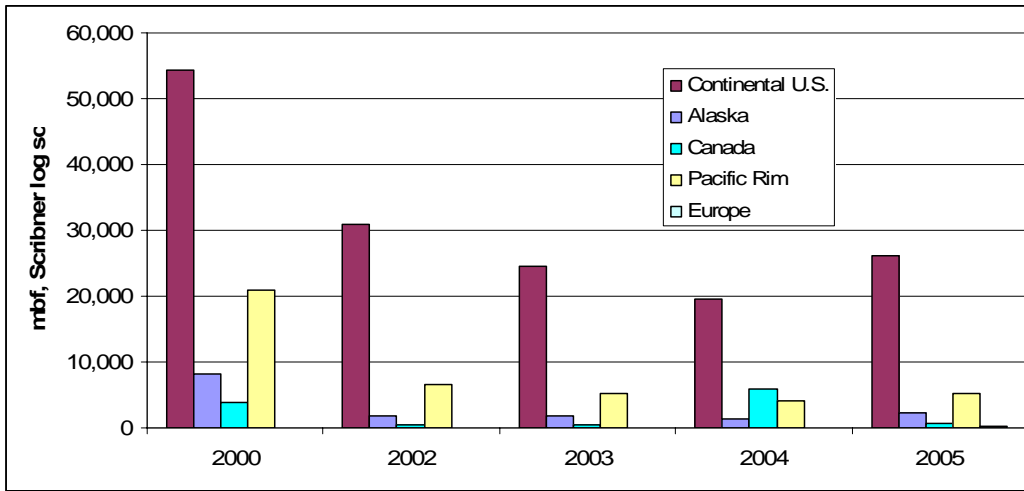
Inaccurate projections of Japanese and Pacific Rim demand are questionable in and of themselves. Their inaccuracy looms even larger, however, because Brackley *et al.* assume that demand in the Continental U.S. is a simple multiple of Pacific Rim demand.

Since at least 2000, the majority of softwood lumber produced in Southeast Alaska has gone to domestic markets in Alaska and the Continental U.S. Figure 6 and 7 clearly indicate the primary market for Southeast Alaska producers is the domestic market in the Continental U.S. From a modeling perspective, accurate forecasting requires modeling projections of the demand for Southeast Alaska wood products on projected changes in the major market to which these products are going—domestic markets (78%)—rather than focusing on projected changes in a minor market—the Pacific Rim (15%) (Crone 2007).<sup>3</sup> Because most of Alaska’s lumber goes to domestic markets it would make more sense to base forecasts on economic factors influencing domestic markets. Brackley *et al.* (2006) did not do this. In their model, it is as if the tail of Japanese / Pacific Rim demand wags the dog of Continental U.S. demand.

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<sup>3</sup> These percentages represent the percentage of the total volume produced over the past four years going to each region.

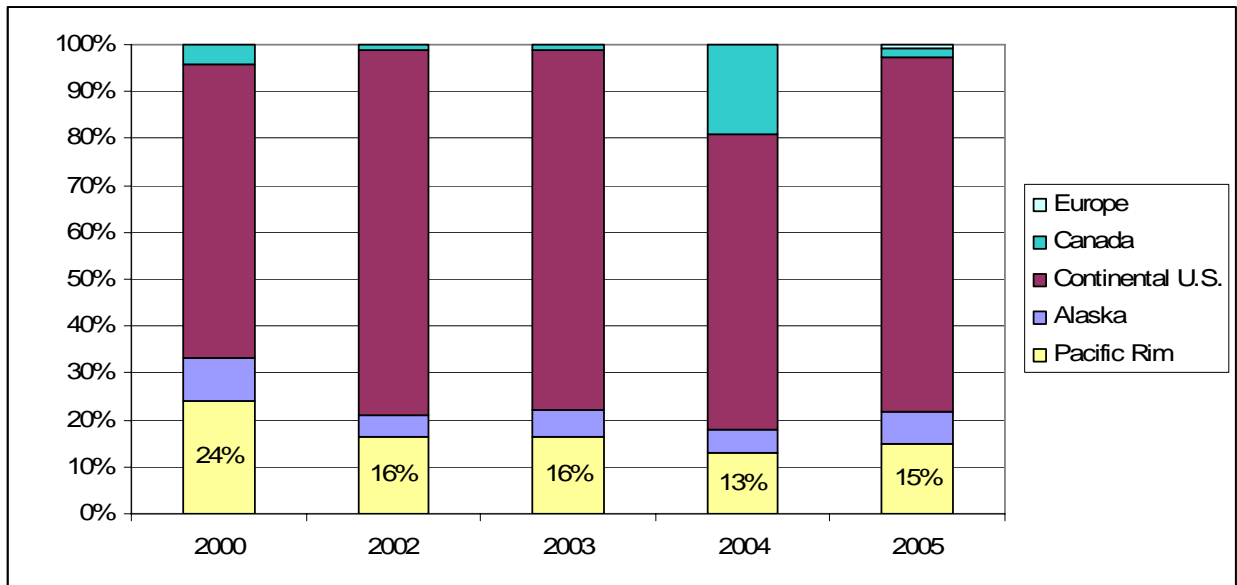
**Figure 6: Volume of Southeast Alaska lumber production by destination, 2000 and 2002-2005**



Source: Kilborn *et al.* (2004); Parrent (2004, 2005, and 2006); Crone (2007)

The demand scenarios created by Brackley *et al.* (2006) are based on a model that did not include any causal factors that affect the demand for Southeast Alaska wood products in the United States domestic market. Instead their model is based on historic softwood lumber consumption, production, and imports in Japan from 1965 until 2004. The authors then assumed the model was appropriate for predicting future softwood lumber, consumption, production and imports in the Pacific Rim as a whole. The authors further assumed their forecasted demand for the Pacific Rim would determine the demand in the Continental U.S. and Alaska – without providing any evidence that such a causal relationship exists. Indeed, the Brackley model does not include a single parameter to model the potential influence of changes in domestic markets (Crone 2007).

**Figure7: Alaska Timber Utilization and Export**



Source: Kilborn et al (2004); Parrent (2004, 2005, and 2006)

Brackley *et al.* (2006) assumed that Pacific Rim exports will account for 17 percent of future demand for Tongass timber, and that domestic demand will account for the remaining 83 percent. It appears that Brackley *et al.* (2006) therefore assumed that Alaska shipments of lumber to domestic markets would be approximately 4.88 times (83% / 17%) the model estimate of the amount of lumber projected to be exported to the Pacific Rim. For example, if the Brackley models solves for 5 million board feet of lumber exports to Pacific Rim countries, they then assume that Alaskan lumber demand in the United States will equal 24.4 million board feet (5 \* 4.88 = 24.4). In this example, total demand would equal 29.4 million board feet (24.4 + 5 = 29.4).

The authors provide no data or analysis in support of the logic or validity of this major assumption. However, as Crone (2007) notes, “the upward influence on forecasted demand from such a simplistic and static assumption is obvious.”

In a letter dated June 4, 2006, Castillo and regional staff on the Tongass National Forest raised similar issues to the ones we raise here. Forest Service regional staff asked the following relevant question:

“In order to explain your projections, we need you to explain why you felt that the 17 percent export share would drive, or determine, demand for the 83 percent of wood going to domestic markets.”

Castillo, 2006, Question 5, page 2.

Brackley did not answer the question in his response (Brackley, June 30, 2006), nor did he offer an explanation on why he believes it is possible to estimate the domestic market as a simple multiplier of projected export markets.

Castillo and staff followed up their request, with another one:

“...please explain why you did not include independent variables related to domestic demand in the model, available from such sources as the RPA reports, and why this wasn't necessary.”

Castillo, 2006, Question 5, page 2.

Once again, Brackley does not respond to the request from regional FS staff in any direct or obvious way.

Based on our review there is no logical or economic reason for assuming domestic demand for Alaskan lumber will be approximately 5 times the demand from the Pacific Rim countries. Brackley's lack of response and explanation only serve to support our conclusion.

## **B. Assumed future Integrated Forest Products Industry is Unlikely.**

The third major flaw in the Brackley *et al.* (2006) model is its assumption that Southeast Alaska will add one major engineered wood product facility in the Medium Integrated scenario in 2008 and, in the High Integrated scenario, a second such facility in 2012. While an abundance of low-valued species and grades would seem to make Southeast Alaska a prime location for manufacturing pulp and engineered wood products, like medium density fiberboard (MDF), the region's competitive disadvantages trump the supply advantage, and the assumption of adding even one of the two assumed mills seems highly unlikely.

Given the low level of utilization of existing mill capacity in Alaska, the risks from investing in new, added capacity are obviously quite high. A number of studies have underscored this fact, and it has not been demonstrated that a Southeast Alaska facility would be profitable given existing costs, prices, and potential end markets.

The most recent attempt to analyze the feasibility of such an industry was a study commissioned by the University of Alaska Fairbanks-Sitka Forest Products program and conducted by Leonard Guss Associates (LGA), Inc (2005). Crone (2007) summarizes the

conclusions of the Guss study, which included an analysis of potential end product markets:

- ❖ There is no feasible market in China.
- ❖ Given present costs a Medium Density Fiberboard (MDF) mill is not economically feasible.
- ❖ In order to have a feasible market in Japan, wood costs would need to be 48% lower, freight cost to Japan would need to be 50% lower, energy costs would need to be 40% lower, and resin (a necessary additive) costs would need to be 14% lower than they were in 2005. In addition, capital investment costs would need to be reduced by 32%.

As part of the study, LGA contacted every MDF manufacturer in North America to determine “whether, or under what conditions, they would be interested in participating in some way in this mill, either by investment, or selling the output or both.” Not a single company expressed any interest in participating via investment or marketing (Crone 2007).

Regarding the competitiveness of an Alaskan MDF plant specifically, Parent (2000) notes the following:

- ❖ The Alaska market is not big enough to absorb the production of a panel plant and world markets are too “cheap” (i.e., Alaska would likely be a high-cost producer) (p.99).
- ❖ There are several types of engineered wood products that Alaskan manufacturers can produce. Given the state's cost structure it would not be feasible to compete with lower cost producers in developing countries. Therefore it is not recommended that Alaskan manufacturers produce MDF or plywood, which is dominated by producers in Southeast Asia. (Braden *et al.* 2000)

Similar investment risks have been identified for potential ethanol production in Alaska. Brooks and Haynes write:

There have been several recent suggestions about alternative industries based on the hope that they might increase the demand for timber (especially National Forest timber) in southeast Alaska. One of these suggestions is a possible ethanol plant in southeast Alaska that will use 35 million board feet per year (roundwood equivalent) of low-grade logs (or mill residues). Although economic feasibility will depend on capital availability and product prices, such a plant may find it difficult to compete with the export market for chips. Currently, chip export prices

are about twice what can be paid for feed stock for an economically competitive ethanol plant, given current market conditions.

1997:16

Trainum (2000) reviewed two studies commissioned by Sealaska Corporation to examine the feasibility of a wood-to-ethanol facility in southeast Alaska.<sup>4</sup> He found serious problems with the economic feasibility of the proposed facility. In a summary of his review he states:

As someone who makes a living investing in ethanol plants around the country, I would advise any investor or lender to seriously consider the numerous, significant and unresolved project viability concerns before pouring money into this plant....According to my calculations, using a current interest rate, this plant will fail to make a profit.

2000

Crone (2007) after a thorough review of the literature concluded that there are “no other studies that have demonstrated that a wood processing facility located in Southeast Alaska could use Alaska's lower value species and grades and be economically feasible.”

The importance of having a local market for low value species and grades of timber coming off the Tongass to the profitability of the Southeast Alaska wood products industry is widely recognized. However, since the closure of the region’s pulp mills this market has not developed, and there are no prospects on the horizon. As noted above, proposals for wood processing facilities to create a local market have been on the table for a number of years. Despite these proposals no such facility exists today and based on the above referenced economic feasibility analyses and current conditions in local, regional and global markets, we find no reason to believe that the MDF or other fiber using plants included in the Brackley *et al.* (2006) model Scenarios 3 and 4 will or should be built.

As many (including TWS (1986), the Irland Group (1991), Brooks and Haynes (1997), Morse (2000), Robertson and Brooks (2001), Crone (2004), USDA Forest Service (2006)) have noted the profitability and sustainable size of the Southeast Alaska wood products industry are directly related to its ability to find a market for the low value species and log grades that make up the majority of the Southeast Alaska timber inventory. In their 1997 report Brooks and Haynes write:

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<sup>4</sup>These studies are “Southeast Alaska Biomass to Ethanol Facility Design and Financial Evaluation,” prepared by National Renewable Energy Laboratory (July 1, 1998) and “Alaska Softwood to Ethanol Feasibility Study” prepared by Merrick and Company (April 12, 1999).

Among the new data and revised assumptions reflected in these projections are the closure of one of Alaska's two pulp mills in 1993 and the closure of the second pulp mill early in 1997. Although proposals have been made for mills that would, in effect, replace at least some of the demand created by these two pulp mills for low-grade saw logs, utility logs and manufacturing residues, *these currently are no more than proposals*. Our projections therefore are based on demand for National Forest timber that would be used in manufacturing sawn wood for both export markets and U.S. domestic markets; we also estimated the volume of low-grade saw logs and utility logs that would be harvested and exported or left as logging residues.

1997:4 (emphasis added)

In other words, because these mills were only proposals, these authors did not assume that they would be built and did not include them as sources of demand in any of their scenario projections. This was a wise choice as to this day such mills have not been built.

The modelers of the current demand projections, Brackley *et al.* (2006), found themselves in the exact same situation, with nothing more than proposals for such mills. However, they chose to include these non-existent mills in their demand projections. Because we do not believe that this investment risk will be acceptable, we do not believe that the fiber using facilities included in Scenarios 3 and 4 will be built in Southeast Alaska. We agree with the approach Brooks and Haynes (1997) took of not including "proposed" but non-existent mills in their demand projections. This is especially important given the conclusions of LGA (2005) and Trainum (2000) that the high probability that such facilities would not return a sufficient profit to justify such investments. The fact that not a single North American producer of MDF expressed any interest in participating in an Alaska MDF plant via investment or marketing is also a strong indicator, from knowledgeable sources, that they view such a facility as a losing proposition (Crone 2007).

**V. THE ADDENDUM TO THE BRACKLEY ET AL. 2006 STUDY, RELEASED BY BRACKLEY AND HAYNES (2007) TWO MONTHS PRIOR TO THE FEIS, ALSO VIOLATES TTRA, NEPA AND THE NINTH CIRCUIT COURT'S RULING.**

Pages H-26 – H-36 in Appendix H of the FEIS provide the agency's response to comments submitted on the DEIS concerning timber demand. Responses dealing with timber demand were said to be addressed primarily by the original demand study (Brackley *et al.* 2006) and the subsequent Addendum (Brackley and Haynes 2007)

released in mid-December 2007. Thus, the Addendum plays a large role in setting Alternative options and as the requisite science behind the TLMP.

**A. The Brackley and Haynes 2007 Addendum Failed to Address Significant Concerns Still Present in the Analysis of Market Demand Which Fatally Infect the Forest Plan.**

In this section, main comments submitted by TWS that were said to be addressed in the Brackley and Haynes (2007) addendum are listed in italics, followed by a summary of their response. We contend that the problems we identified in our DEIS comments are still present in the analysis of market demand and fatally infect the forest plan. A number of individual comments submitted by TWS on the DEIS all converged on the same point: domestic markets now consume almost 80% of Tongass NF wood, but the Demand Study uses only Pacific Rim (basically Japan) softwood demand information to estimate southeast Alaska demand. Furthermore, Brackley *et al.* (2006) use Pacific Rim data to portray the linear percentage of domestic demand. There is no logical basis for either of these methods and the Addendum does not add any compelling evidence to correct these deficient assumptions.

**i. “A lack of causal factors that affect demand for southeast Alaska wood products in domestic markets”**

The Addendum provides continued support for using Japanese market information as the proxy for Tongass timber demand and does little to address the lack of causal factors that affect the demand for Tongass wood products in domestic markets, which currently provides 80% of Tongass demand. The once strong Japanese markets haven't been the dominant consumer of Tongass wood for over a decade (since 1996). In short, the demand study uses foreign market assumptions for high quality lumber (even if it is assumed to be shop lumber--cants and baby squares--and not dimension lumber for the entire projection). These markets are much less relevant to Tongass demand today, and bring an inflated picture of prices to be received. By using markets for high quality lumber, the demand projections assume Tongass wood products will come from large-diameter old growth, taking into little account the existing quality (grade and size) of trees, a shift towards young-growth management, or a shift to an integrated industry. These methods perpetuate the assumption that Tongass timber will continue to come from old-growth trees and do not include any independent variables on the primary market affecting Tongass demand---the domestic market.

**ii. “An assumption that the forecast of demand in Pacific Rim would determine demand in domestic markets.”**

Demand in the Pacific Rim overall is increasing due in large part to China's substantial production growth, but traditional Japanese markets for Southeast Alaska

wood products are decreasing. While China's expanding economy has increased wood markets there, these markets have been primarily supplied by neighboring Russia (almost 70% of the Chinese market). There is no information provided in the Addendum that shows a significant correlation between Pacific Rim wood markets and domestic markets. In fact, Brackley and Haynes' own Figure 9 of the Addendum (2007: 53), actually illustrates that China's and the Pacific Rim's rising softwood imports has coincided with a dramatic decrease in North American imports.

**iii. "The extent of China's role as a major importer of North American wood products."**

China's boom has been fueled by Russian wood (Addendum Figure 9, pg.53) and has actually coincided with a correlating decrease in North American imports (Addendum Figure 9, pg. 53). The addendum provides no evidence that China's development will spur greater North American imports.

**B. The Addendum Compounds the Existing Fallacies by Upping the Most Likely Demand Scenario.**

Another purpose of the Addendum was to present updates on recent changes in markets for forest products from Southeast Alaska. The updates are discussed individually and when viewed in total, actually make a better case for suggesting that overall demand will continue to decrease. However, Brackley and Haynes (2007) use these misguided projections to forecast a higher demand scenario (from scenario 1 to 2) than was predicted one year earlier in the 2006 study.

**i. Region 10 Limited Log Shipment Policy**

The new Region 10 Forest Service policy of allowing up to 50% of a sawlog contract to be exported to the lower 48 was signed on March 14<sup>th</sup>, 2007. There is no data available yet on shipments delivered or scheduled. There is also no indication that this policy will increase the demand for Southeast logs, especially because the dimensions and quality of these logs are unlikely to overcome hauling costs when compared to the relative abundance of similar material in the Northwest.

The purpose of the policy is to provide an outlet for lower quality logs, that when combined with large-diameter processing, will make Tongass timber sales more economical. Whether the policy will boost Southeast demand remains to be seen. However, the shipment policy contributes to the disturbing trend of liquidating raw material from Alaska without gaining the "value-added" component of local processing.

## **ii. China**

The development of China and its increased wood imports is discussed in a number of places throughout the Addendum, and is offered as a reason that market demand for Tongass timber will increase. China's growth is impressive and will have some ramifications down the road that should be analyzed, but there is no evidence to show that Chinese wood markets can be accessed by Tongass wood suppliers—nor is there evidence illustrating that Chinese markets (or the entire Pacific Rim) are correlated to domestic wood markets.

Brackley and Haynes (2007: 26) also state that, "China prefers to purchase material in log form and creating local manufacturing opportunities." Thus, the Addendum's representation of China's potential impact on Tongass timber demand is yet another example of the Forest Service perpetuating a future based on the liquidation of raw materials, at the expense of adding local value and transitioning towards young-growth management and/or an integrated industry. Furthermore, Brackley and Haynes (2007: 27) state that, "In the next 5 years we tend to agree that the emergence of China will have a minor impact on demand for softwood products produced in Southeast Alaska." Overall the Addendum would be much more helpful to stakeholders if they would focus on trends that will impact Tongass wood demand in the near future.

Ultimately, China's exponential growth will most likely help spur global demand in markets for retaining standing trees, such as carbon emission offset markets and carbon storage markets. Thus, China's massive development and the correlating liquidation of vast Russian softwood forests will actually provide greater incentive and value for an intact, naturally functioning Tongass National Forest.

## **iii. Increasing Domestic Market**

The inclusion of an increasing domestic market as a significant, recent change that will help boost market demand for Tongass wood products is likely the most egregious error in the Addendum. Prior to the release of the Addendum, the domestic economy and the correlating housing markets were rapidly slumping and this trend continues today. More directly tied to the domestic market demand is the fact that housing starts are at their lowest number in 14 years, yet Brackley and Haynes (2007: 31) say that, "...Alaska producers will ship products to the domestic market as consumption—especially in residential construction (including new, repair, and alteration)---is expected to increase." The current decrease in domestic residential construction is of historic proportions, yet this dose of reality is somehow completely omitted and a fabricated response is provided in its place.

#### **iv. Restarting of Ketchikan Veneer Mill**

The Addendum (Brackley and Haynes 2007) states that the restarting of the Ketchikan veneer mill in late summer 2007 will also help increase demand for Tongass timber, even after stating that the veneer mill was being supplied by imports from British Columbia. The Ketchikan veneer mill has a history of being unprofitable, having closed and restarted a number of times in the past. Even through the fall of 2007, prior to the release of the Addendum, the mill was experiencing difficulties, continually starting and stopping production. Three months after the Addendum release, the Ketchikan Veneer Mill has closed down. Ironically, one of the reasons stated for the closing of the mill was the declining domestic housing market, which apparently was “expected to increase,” as stated by Brackley and Haynes (2007: 31).

With the Addendum continuing the fatally flawed demand methodology, we urge the Forest Service to conduct a new demand study using methods and data that actually reflect current variables that determine the market demand for Tongass timber. We also recommend the Forest Service conduct a demand study that focuses on the same time frame as the TLMP (ten to fifteen years) instead of worrying about market demand in the year 2025. It is necessary to anticipate, as best as possible, impacts in 2025, yet much of the demand analysis is clouded by long term estimates and hypothesizing, taking away much of the accuracy for demand estimates for the next few years. It is the short-term future that represents the most pressing need for accurate market demand information for the Forest Service, the timber industry, and all stakeholders.

### **VI. THE 2008 TLMP AMENDMENT AND ITS TIMBER DEMAND ANALYSIS VIOLATES NEPA AND THE DATA QUALITY ACT**

#### **A. The 2008 TLMP Amendment Violates NEPA Requirements For Assessing Environmental and Economic Consequences Based On “Accurate Scientific Information” of “High Quality” (40 C.F.R § 1500.1)**

NEPA requires the assessment of environmental and economic consequences be based on “accurate scientific information” of “high quality.” 40 C.F.R § 1500.1 (b) As we have illustrated in the first five sections of this appeal, the Brackley *et al.* (2006) study and the follow-up Addendum (Brackley and Haynes 2007) are highly inaccurate and not of high quality.

Because of the important and irreversible on-the-ground decisions that will be made based on the Forest Service’s interpretation of timber demand projections, it is essential that those projections be grounded in realistic trends and based on the best available science. As it now stands, the Forest Service has not developed or employed the best available science, and its projections of future Tongass timber demand are consequently

grossly exaggerated. This creates a number of fatal flaws in the FEIS and Forest Plan analysis. The calculation of ASQ is flawed as Brackley *et al.*'s timber demand projections were used to model harvest and in effect determined the ASQ. Market demand, incorrectly defined, was modeled in Spectrum for each of the alternatives. The determination of suitable lands is fatally flawed as lands have been assigned to harvest prescriptions to meet the exaggerated market demand scenarios embedded in each alternative. All of these problems must be corrected in order to create a legal Plan.

**B. The 2008 TLMP Amendment Violates the Data Quality Act's (DQA) Requirements That Influential Information Be "Conducted In Accordance with Sound and Objective Scientific Practices" (Pub.L.No. 106-554, § 515).**

The Data Quality Act (DQA) requires that influential information be "conducted in accordance with sound and objective scientific practices." *See* Pub.L.No. 106-554, § 515. Again, as we have detailed in the preceding sections, the 2008 TLMP Amendment—due to its heavy reliance upon the Brackley *et al.* (2006) demand scenarios---has not been conducted with sound, objective scientific practices.

The Pacific Rim markets for Alaskan wood are just as hypothetical as the new mills assumed to appear in scenarios 3 and 4. They might happen, but more than likely, they will not. However, a decreasing demand scenario is very likely. We suggest a demand study for the Tongass based in reality would be much more useful. Speculative, expert opinion is helpful for feasibility studies projecting what could create more demand---but up to date modeling incorporating relevant market data is needed now, if the timber industry has any chance of bridging to new infrastructure to process young growth, or for maintaining some of the current capacity. If the Forest Service has better information, timber production on the Tongass can be more efficient, more strategically located, and meet the needs of more stakeholders.

**VII. THE TIMBER SALE PROGRAM ADAPTIVE MANAGEMENT STRATEGY WAS NOT AVAILABLE FOR PUBLIC COMMENT AND DOES NOT ADDRESS THE NINTH CIRCUIT COURT'S FINDINGS**

**A. The Timber Sale Program Adaptive Management Strategy is a Wholly New and Unforeseen Element Disclosed Only in the Record of Decision.**

The Timber Sale Program Adaptive Management Strategy (TSPAMS) was introduced for the first time in the 2008 ROD. As written, TSPAMS is an implementation tool, dictating where harvests can occur based on harvesting performance levels attained for the two preceding years (Phase 1 correlates to less than 100 mmbf of annual harvest for two years, Phase 2 at 100-150 mmbf, and Phase 3 at greater than 150 mmbf). TSPAMS is explained in a total of four pages in the ROD.

TSPAMS is an entirely new component that is introduced and discussed solely in the ROD. TSPAMS was not included in the DEIS, preventing any public response to the concept. Furthermore, TSPAMS is *not* included in the FEIS, or in any of the analysis of environmental and economic consequences. In the planning record there appears to be just one document that refers to how the strategy was developed. Overall, this lack of disclosure and the introduction of a wholly new concept in the ROD is illegal under NEPA. TSPAMS does not appear to satisfy requirements under NEPA, the TTRA, or the Ninth Circuit Court ruling.

**B. The Timber Sale Program Adaptive Management Strategy Does Not Adequately Respond to Problems in the Forest Plan, Nor Does it Address the Ninth Circuit Court’s Findings.**

In the ROD, the Regional Forester states:

The Timber Sale Program Adaptive Management Strategy is an additional step being taken in response to concerns that an overestimate of timber demand will lead to timber harvest in areas perceived by many as more environmentally sensitive—such as higher value roadless areas—that would not have to be developed if the Plan were based on a lower estimate of timber demand...Therefore, the Timber Sale Program Adaptive Management Strategy—in conjunction with the Amended Forest Plan—addresses the Ninth Circuit court’s finding that, if the 1997 Tongass Forest Plan Revision EIS had provided decision makers and the public with the correct market demand forecast, an alternative may have been selected with less environmental impact and in less environmentally sensitive areas.

(2008 ROD: 9)

This assertion is without merit. It is the equivalent of saying that it doesn’t matter if the range of alternatives is inadequate and that it doesn’t matter if the decisionmaker and the public were not fully appraised of the problems with the alternatives or provided with timely information and the opportunity for meaningful participation under NEPA because this new implementation tool will fix the (still existing) plan deficiencies. If this was really sufficient, the Forest Service should have just issued TSPAMS after the court ruling and not bothered with another EIS.

TSPAMS does not, in any manner, address the Ninth Circuit court’s findings and offers no long-term protection of ecological or social values. TSPAMS does not address the Ninth Circuit court’s findings simply because the public was not provided a correct market demand forecast (see sections I, II, III, IV, V, & VI above), eliminating the

chance for an alternative with less environmental impact to be chosen. TSPAMS is an implementation tool that had no bearing on the 2008 TLMP Amendment (as evidenced by the fact that it is only discussed in about four pages of the ROD). The 2008 TLMP Amendment resulted in virtually the same Alternative, with the same ASQ of 267 mmbf, as the previous plan that was deemed illegal. TSPAMS does nothing to prohibit the ascension to a 267 mmbf annual harvest. TSPAMS is an implementation component and in no way changes the 2008 TLMP Amendment's dependence on the Brackley *et al.* (2006) demand study and the Brackley and Haynes (2007) demand addendum.

While we are encouraged to see the Forest Service recognize some of the highly valued roadless, ecological and cultural sites, we are equally disappointed to see these sites are offered no long term protection. We are also disappointed that the agency would try to circumvent the court's ruling at this late hour in the process. In analyzing the Plan, it is obvious that the Forest Service would like to increase the current scale of the timber program by any means possible. In the past this has included pre-roading timber sales and subsidizing innumerable costs faced by the logger and processor. The intent to quickly ascend to Phases 2 and 3 is noted by the Regional Forester:

“It must also be noted that investments in some infrastructure will still be necessary, especially as forest plan implementation progresses into phases 2 and 3 of the Adaptive Management Strategy.”

(2008 ROD: 67)

TSPAMS puts in place performance measures that would need to be met before the Forest Service offers timber sales in a new Phase or area. These measures would need to be met anyway if the Forest is going to approach its yearly ASQ. In this day and age, government-backed markets such as the pulp contracts (i.e. heavily subsidized, government planned markets---as opposed to the free market where “market demand” is derived) are not going to materialize tomorrow. Increasing from a 30 mmbf harvest to 250 mmbf will not happen overnight; it would naturally take a few years of building up to that level. Furthermore, the Tongass National Forest timber program is in a declining state, receiving fewer and fewer subsidies every year. In this transition period, there exists tremendous pressure to produce “economic timber.” Because only a minute portion of the suitable timber base can provide enough revenue to actually pay for the exorbitant harvest and production costs, the current focus of the timber program is on the “low hanging fruit.” Conveniently, this fruit coincides directly with the roaded base in Phase 1 (see point C below).

The bottom line is that TSPAMS is an implementation tool that does not improve the direction of Tongass forest management. Constraining harvests to Phase 1 areas until more wood can be cut should have resulted in the constraining of the ASQ and correlating annual offerings. Yet the reality is that the most ecologically productive

watersheds that exist on the road base (which have also been the most degraded by past logging) will now be expected to produce the entire timber target. Until the Forest Service acknowledges the ecological and economic need to reduce the overall scale of the Tongass timber program, red herrings such as TSPAMS are poor substitutes for real progress.

### **C. Phase I Areas Are Where the Tongass Was Already Planning to Harvest for Economic Reasons**

At first glance, it seems the Forest Service made a credible attempt to defer important places to later logging using TSPAMS. Most importantly, the agency recognized that there are many areas on the Tongass that are designated suitable for logging, yet also very important both ecologically and culturally. However, when one looks further at the economics of timber harvest across the forest, it becomes apparent that the Phase I areas are in fact the more economical areas to harvest, and the areas of the forest that were already scheduled for timber harvest in the next five years. The strategy has not changed the Forest Service's direction.

In the 2008 TLMP planning record, document 1637 (VCU Attributes + Development of Phases) includes the data used to create the phasing strategy. It also includes information on timber economics for each VCU, specifically stumpage value/acre by VCU. Additional information on stumpage value/acre by VCU is in document 1172, a spreadsheet that evaluates stumpage values for both old growth & young growth across the forest. By using the spreadsheet showing which VCUs are in Phases I, II, & III, and then comparing the stumpage value/acre for each VCU, one can determine the average stumpage value/acre for each VCU by phase. Our analysis shows that on average, the stumpage value/acre in Phase 1 is -\$708.47 for all areas, and \$2,661 for positive areas only. In comparison, the average stumpage value/acre for Phase 2 is -\$3,797.18 for all areas, or \$852.46 for positive areas only, and -\$4,614 for all areas in Phase 3, or \$167.61 for positive areas only. Importantly, the size of the area is critical - the positive value areas within the VCUs are significantly smaller than the negative value areas within the VCUs. Furthermore, the cost figures reflected here are in fact based on Pond Log Value and therefore not accurate or legal.

However, the above analysis provides a useful comparison since this is the data the agency uses to analyze economic value. In general, Phase 1 areas are 3 to 5 times more economical to harvest than Phase 2 areas, and 7 to 16 times more economical to harvest than Phase 3 areas. Furthermore, of the 204 VCUs included in Phase 1, 84 have positive stumpage values/acre, whereas in Phase 2 only 7 of 91 VCUs have positive values, and in Phase 3 none of the 24 VCUs have positive stumpage values/acre.

Again, the best we can say about TSPAMS is that the Forest Service recognized the ecological and social values of many areas on the Tongass. However, a better solution

would have been to offer long-term protections for some of these highly valued areas via Forest Plan designation to protective management areas, and the reduction of the suitable timber base to a much smaller, correlating acreage. Instead of creating an implementation tool that at best defers some areas to future logging, the agency should focus its planning on figuring out a transition to young growth, stewardship and restoration, and sustaining the existing industry rather than attempting to supply residual mill capacity.

### **VIII. THE TONGASS REVISED FOREST PLAN (PLAN AMENDMENT) FAILED TO ADEQUATELY CONDUCT THE ANALYSIS OF TIMBER SUITABILITY IN VIOLATION OF THE NFMA**

Forest Service regulations implementing NFMA require that the agency:

“...shall compare the direct costs of growing and harvesting trees, including capital expenditures required for timber production to the anticipated receipts to the government...”

36 CFR 219.14 (b)

In the case of this plan amendment, the agency has failed on both counts. It has not used direct costs and has not used direct benefits or revenues. The Tongass NF has instead used costs and revenues for the logging industry, with an inconsistent smattering of its own costs thrown in. It is as though the agency has confused the requirement for comparing government (taxpayer) costs and revenues for timber production with a desire to compare costs and revenues for the timber industry. While an assessment of whether the logger might realize a profit could be useful, it does not meet the requirements of NFMA, rendering the determination of timber suitability illegal.

#### **A. The Forest Service Failed to Use Direct Costs in Violation of NFMA.**

The agency’s regulations implementing NFMA require that it use direct costs in determining the suitability of National Forest Service (NFS) lands for timber production. Direct costs are defined as:

“Direct costs include the anticipated investments, maintenance, operating, management, and planning costs attributable to timber production activities, including mitigation measures necessitated by the impacts of timber production.”

36 CFR 219.14 (b)(2)

and

“In addition to long-term yield, the financial analysis must consider costs and returns of managing the existing timber inventory.”

36 CFR 219.14 (b)(3)

The Tongass NF has failed to meet this requirement in a number of aspects as detailed in the following sections.

**i. When the agency did include its direct costs in the timber suitability analysis, it did not use all appropriate costs.**

For the most part, the agency used the pond log value (the price at the mill) and the logger’s costs in its calculation of timber suitability. One of the only direct government costs the Forest Service seems to have used is the cost for sale preparation and administration. This was valued at \$32.00/mbf. 2008 FEIS, pg. 3-547. Regeneration certification also seems to have been included in the Spectrum analysis using differential values based on acres harvested and planting needs. It is then dropped without explanation for the calculation of Net Public Benefits for each alternative.

There are a number of other costs missing. Chief among them is the cost of NEPA preparation. This has been valued by the Forest Service at \$41.00/mbf. 2008 FEIS, pg. 3-547. It is outrageous for the agency to argue that the cost of NEPA preparation is not a legitimate direct cost, but that is what they seem to argue by its exclusion from the determination of timber suitability. Appendix B of the FEIS and a number of the supporting documents and spreadsheets in the planning file make clear that NEPA costs were not included as a cost against revenue. This is completely nonsensical: every timber sale must undergo analysis and the issuance of a decision under NEPA. Forest specialists conduct field surveys and prepare reports for each timber sale as a part of that NEPA analysis. NEPA is clearly a “planning cost attributable to timber production activities,” yet the agency provides no explanation for the exclusion of this direct cost. This is particularly troubling when the agency often argues publicly that the cost of appeals and litigation drive up the cost of offering timber sales. If the agency is not counting the cost of NEPA, which appeals and litigation are clearly a subset of, the high cost of offering timber sales must derive from other cost categories.

A second major cost category that has not been included by the agency is Engineering Support. The Tongass NF has valued this cost at \$28.00/mbf. 2008 FEIS, pg. 3-547. A great deal of the analysis of timber suitability has focused on the differential effect the need for road construction has on cost efficiency for timber production and therefore on the timber suitability decision. However, the Appendix B list of activities (costs) and outputs (2008 FEIS, pg. B-9 ff) does not include engineering support, nor do any of the supporting documents found in the planning file that address timber production costs.

The Forest Service provides no explanation for the exclusion of its direct costs for engineering support.

**ii. The Forest Service did not include other required costs in its calculation of direct costs.**

In addition to planning costs, the Forest Service made no attempt to address or include any of the other direct costs mandated by NFMA. The regulations at 36 CFR 219.14 (b) clearly dictate that the costs of maintenance, operating, management (of timber production and the existing timber inventory) and mitigation measures necessitated by the impacts of timber production must be included as direct costs. The agency failed to consider, or include any dollar values for, or even address any of these categories in its cost calculations. This must be corrected.

**iii. Agency costs were not used consistently in the economic analysis for no discernable reason; and when used were not applied as required under NFMA.**

While the agency only used a small portion (sale administration and preparation) of their direct costs in the timber suitability determination, they used the entire amount they attribute as their “timber variable costs” (\$101.00/mbf) in the Economic Efficiency Analysis of the plan alternatives. 2008 FEIS, pg. 3-547. As we point out elsewhere in this appeal, the difference between the costs for timber production and the revenues from timber sales is obscured in Table 3.22-25. The cost and revenue values are listed with all other resource cost and revenue figures and never directly compared.

The important point here is that the agency included one set of values for timber production costs in the overall assessment of net public benefits (NPB) of each alternative and another set for timber production costs in the timber suitability determination. This is especially egregious when the determination where the full direct costs are required under NFMA is the very process where they were left out. The agency provided no explanation for this differential use.

**iv. Cost figures used are grossly inadequate and out-of-date.**

In addition to failing to include the variety of categories of direct cost as detailed above, the cost figures the agency did use are grossly inadequate, without substantiation and out-of-date. The \$101.00/mbf timber variable cost figure the Tongass NF often cites as its costs for timber production originated with Forest Supervisor Forrest Cole in the 1990’s when he held a timber staff position in the Region. *See* Exhibit B, Deposition of Forrest Cole, *NRDC v. U.S. Forest Service*, No. J04-104 CV (JKS) (May 18, 2005). No documentation exists to explain how these numbers were generated as the attached deposition details.

Furthermore, even if documentation existed, costs have risen substantially since that time. Cost of living changes in the General Schedule pay grades for employees alone would account for a substantial difference in these figures today. These figures must be updated, with the methodology for their calculation clearly documented and disclosed.

**v. The clear majority of costs used in the timber suitability determination were the costs incurred by the logger, not the government, in violation of NFMA.**

As we discuss in detail below, the Forest Service chose to use the loggers' costs (and revenues) instead of its own costs. The agency crafted this methodology by starting with the Pond Log Value (PLV) (the price paid to the logger at the mill) and then subtracted the loggers' costs and some of the government's cost. The following formula was used:

$$PNV = [PLV - LC - AC]/(1 + d)^t$$

PLV = pond log value (adjusted to exclude logger profit and risk)

LC = Logging costs (operability, haul, Log Transfer Facility (LTF), camp/commute, felling and bucking, road building)

AC = Agency costs (regeneration certification, sale preparation and administration)

t = time (year) of harvest into the future

d = discount rate (4% annually)

2008 FEIS, pg. B-19.

First of all, this combination of apples (Forest Service costs) and oranges (logger costs) is illegal under NFMA, which clearly requires that the government's costs be used in the timber suitability determination. See 36 CFR 219.14 (b)(2) and 36 CFR 219.14 (b)(3) cited above. Secondly, the Forest Service seems to know this isn't quite right when in its planning file records, the Forest Analyst points out that "Costs incurred by parties outside the Forest Service are not always used in forest plan revision." Tongass National Forest 1997 FORPLAN Cost/Pricing Assumptions, pg. 2 and again on pg. 3; document contained in the TLMP Planning File. We believe the analyst may be misstating the situation; in our experience costs incurred by parties outside the Forest Service are never used in this phase of forest plan revision. Third, the agency provides no rationale for the exclusion of its own costs from the Spectrum modeling, nor does it provide a catalogue or listing of these values. Instead it creates a complicated formula that (except for the few government costs included) is really an analysis of the ability of the logger to realize a profit from harvest of national forest timber. Instead of a timber suitability determination as required by NFMA, the Forest Service has created a determination of the areas of the forest where the logger has a chance to make a profit

from harvesting Tongass NF timber. Again, while this might be useful, it is not the process required under NFMA.

This “logger suitability determination” obscures what is really going on when one looks at timber suitability on the forest. As we detail in Section X below, the Forest Service is in most instances spending copious amounts of money to realize very little revenue. In fact, in a number of cases the Tongass has subsidized the cost of harvest to the logger, in effect paying costs usually born by the logger in order to make the loggers’ potential revenue a positive value. In other words, the Forest Service in Alaska is picking up some of the logger’s costs in order to offer economical sales.

The timber suitability determination under NFMA was meant to identify the areas where (government) costs exceed (government) revenues and remove these areas from the suitable base at the Land and Resource Management Plan (LRMP) planning stage. It’s why the timber suitability determination has always been one of the six decisions made in forest plans revised under the 1982 NFMA regulations. This determination, properly done, avoids creating the situation so common on the Tongass NF, where the cost of harvest far exceeds the revenues likely to be realized by the government, and excessive sums of money are spent by the agency to offer sales that have little chance of selling.

Clearly, the determination of timber suitability as completed in this plan amendment is illegal under NFMA and must be redone.

## **B. The Forest Service Failed to Use Agency Revenues, in Violation of NFMA.**

Forest Service regulations implementing NFMA require that the agency:

“...shall compare the direct costs of growing and harvesting trees, including capital expenditures required for timber production to the anticipated receipts to the government...”

36 CFR 219.14 (b)

Anticipated receipts are defined as:

“Direct benefits are expressed as expected gross receipts to the government. Such receipts shall be based upon expected stumpage prices and payments-in-kind from timber harvest...”

36 CFR 219.14 (b)(1)

Rather than use stumpage prices (the price paid to the Forest Service), the agency chose to use Pond Log Value (PLV) (the price paid to the logger at the mill) and then subtracted the loggers' costs and some of the government's cost. As we detail above, this is clearly illegal under NFMA. It is also confusing. The Forest Service argues that starting with PLV and then subtracting a wide range of (primarily logger's) costs using the formula  $PNV = [PLV - LC - AC]/(1 + d)^t$  is easier than using stumpage prices to calculate gross receipts to the government. But stumpage prices are gross receipts to the government. We do not understand how it can be easier to use PLV and subtract a large collection of costs including logger profit and risk instead of using stumpage prices, which appear on every timber sale bid form submitted to bid for a sale (and then discounting these values over time).

The agency has argued that they are using this formula to better track expenses that reflect the differential cost of harvest due to a variety of conditions such as logging methods necessitated by slope, haul method, the need for camp or commute costs, etc. But stumpage prices are just as responsive: as harvest gets more difficult and expensive due to the factors above, loggers bid lower prices for the sale. If a script can be written for Spectrum modeling to account for the "PLV – costs" formula, a script along with careful land stratification can be used for stumpage prices.

Finally, the agency has argued that some areas have never been harvested so they don't have stumpage prices to use in the Spectrum calculations. This is misleading. Stumpage prices are the logger's calculation of PLV minus his or her profit and costs. If the Forest Service doesn't have stumpage prices for an area, they clearly don't have pond log values for NFS lands either. The Forest Service argument must then mean that the agency has pond log values to use, but they aren't from harvest on the Tongass NF. This use of non-NFS pond log values would introduce further error into the calculation. Non-NFS lands may not have the same harvest restrictions or other measures to mitigate or prevent environmental effects or preserve visual quality standards. The logger would then likely bid a higher price due to the lack of restrictions or standards that could affect speed, placement of harvest activities or harvest methods. Revenues to the government would be inflated over what they would actually likely be by the use of these PLV figures in the Forest Service Spectrum calculations.

Notwithstanding agency arguments, the bottom line is that use of expected stumpage prices is required under NFMA.

**i. Cost figures used are old and the source of these values is undisclosed.**

Appendix B of the FEIS contains a list of activities (costs) and outputs (volumes and prices) used in the Spectrum analysis. 2008 FEIS, pg. B-9 ff. Dollar values are assigned to each of these activity and output categories. In the case of the loggers' costs, no information is provided in Appendix B as to their source or age. Examination of the

planning file reveals their source to be “cost collection data, Base Year 2004,” collected by the Regional timber valuation forester. 2006 Tongass Spectrum Model Draft Summary of Costs and Activities Modeled in Spectrum, March 19, 2007, pg. 8 ff.

No other information to provide detail as to what “cost collection data, Base Year 2004” means appears in the project file. No information is provided to disclose how these dollar values were calculated or from whom they were collected. In addition, the use of data from 2004 is questionable. A number of factors that drive these costs, including the price of fuel and other petroleum products have seen skyrocketing price increases. The period between the draft and final EIS saw lots of the information used in the Spectrum analysis updated. These cost values should have been updated as well.

**ii. The value of  $PLV_a$ , the method of calculation and the value assigned to logger profit and risk is undisclosed.**

In our comments on the DEIS, we argued that the use of pond log value was inappropriate because it included the profit accruing to the logger and hauler in successfully bidding on a timber sale. In the FEIS and supporting materials the Forest Service included a new value, termed “ $PLV_a$ ” where the subscript “a” stands for adjusted to exclude logger profit and risk. Yet we could find no explanation in the FEIS, Appendices, Forest Plan or Record of Decision for the methodology used to adjust the pond log value or information on the dollar value of the adjustment. A search of the planning record did not yield any information either. This information must be disclosed. The public has no way to assess how the agency has determined the methodology to assess profit and risk or the amount to be excluded. In addition, there is no information on actual profit and risk figures collected from industry to inform the calculation. All of this information should have been disclosed.

However, to return to the bottom line, the use of PLV and / or  $PLV_a$  is illegal under NFMA as it is not an “(expected) gross receipt to the government.” 36 CFR 219.14 (b)(1). Stumpage values and direct costs must be used to inform the timber suitability determination.

**iii. Alternatively, is the agency admitting that these are direct costs to the government?**

An alternate way to view the government’s use of the logging industry’s costs and revenues is that these cost figures really aren’t the industry’s costs, but are instead direct costs to the Forest Service. In other words, the logger isn’t paying costs that should legitimately be theirs; the Forest Service is paying their costs for them. Is the agency disclosing that these costs are direct costs to the government?

The formula lists operability, haul, log transfer facility (LTF), camp and /or commute felling and bucking and road building costs as factors that must be subtracted from PLV. If these are direct costs to the government then they need to be subtracted from stumpage prices, not pond log prices.

## **1. Road Construction**

In the case of road construction, we know that these costs are direct costs to the government for a number of timber sales that have taken place over the last few years. See Exhibit C - Roads to Nowhere, Tongass National Forest 2002 – 2006, prepared by Earthjustice. The exhibit shows Forest Service road construction costs totaling over \$14.3 million for ten timber sales over a four-year period. Adding in the revenues from these sales shows a net loss of over \$12.6 million to taxpayers on revenues of just \$1.7 million.

The Forest Service has argued that these are multiple use public roads and therefore are multi-funded. Leaving aside the issue of whether this is true or not, the definition of direct costs under NFMA would indicate that these are certainly investments at least partially attributable to timber production activities, and as such, at least some portion of the road construction cost must be counted as a direct cost against revenues.

In addition, the Logging System and Transportation Analysis (LSTA) prepared for plan revision and timber sale scheduling should have clearly identified the roads needed for harvest over the plan period. This analysis should allow more accurate tracking and cost accounting to ensure that legitimate direct costs of timber production are counted against revenues.

## **2. Log Transfer Facilities**

We also question whether at least some, if not all, of the costs of log transfer facilities (LTF) are paid by the Forest Service and hence direct costs to the government for timber production. The planning file document entitled *2006 Tongass Spectrum Model - Draft Summary of Costs and Activities Modeled in Spectrum* prepared by the Forest Analyst on March 19, 2007, included cost categories for maintenance and construction of log transfer facilities on the forest. The source of the LTF size data and construction / maintenance costs is listed as the Forest Engineer. It would seem that these costs, unlike other costs likely collected from the timber industry, are Forest engineering contract costs. Has or is the Tongass NF paying for the construction and / or maintenance of these facilities? The Forest offers no other information. The agency must disclose whether these costs are direct costs to the government and the monetary total of these values.

### **3. Other Costs**

The FEIS, Appendix B and supporting materials have failed to clearly disclose all direct costs to the government. The Tongass NF must disclose to the public the monetary value and the rationale for any costs the Forest Service is paying that are traditionally the responsibility of the successful timber sale bidder.

#### **iv. Implications of the Use of Pond Log Value Minus Industry Costs**

We have stated repeatedly that NFMA requires that the government use its own direct costs and revenues when making the determination of timber suitability. The Forest Service admits that the use of the  $PNV = [PLV - LC - AC]/(1 + d)^t$  formula results in the same approximate dollar value (stumpage price =  $PLV - costs$ ) in the end. But the use of PLV obscures the true economic nature of timber harvest on the Tongass NF. It allows the agency to paint a picture that conveys the idea that positive value timber sales regularly occur on the Tongass NF. It is only when one digs deep into the weeds (or the planning file and appendices) that the true situation is apparent. Had the Forest Service used stumpage prices and clearly detailed and disclosed each of its direct costs it would be immediately apparent to the average citizen that commercial logging on the Tongass NF does not result in money flowing into the US Treasury. Quite the contrary: the government is actually losing a large amount of money for often little economic value.

Starting with PLV and then subtracting (some of the) costs makes it seem that timber harvesting on the Tongass NF is a profitable concern. But this is for the most part a reflection of profitability for the timber industry, not the Forest Service and by extension, the American taxpayer. Even for the industry, profitability is often a question as Table B-3 attests. 2008 FEIS, pg. B-21. Rising fuel costs and a recession will only make this concern grow stronger. Because the agency used primarily logger costs and PLV, this table is in many ways closer to being a table of Average Net Revenues by Land Category for the SE Alaska timber industry than a table for agency net revenues. Had the Forest Service disclosed the number of acres in the positive value columns and the far greater acreage totals in the negative value columns, the problems described here would have been readily apparent.

Had stumpage price and accurate direct government costs been modeled in Spectrum, and had the Forest conducted the determination of timber suitability according to the regulations, far fewer acres would have been deemed suitable for timber production. Paradoxically to the average reader, this would likely result in more economical sales. Overall, the timber suitability determination process as carried out by the Tongass NF is fatally flawed. It must be redone.

### **C. Spectrum Modeling and the Use of the Minimum Timber Constraint.**

Appendix B of the FEIS and the supporting documents in the planning file detail the various Spectrum runs that were modeled in order to determine the ASQ and the harvest schedule over the planning horizon for each alternative. A minimum timber constraint was used to model the demand scenarios for each alternative and to “set the minimum amount of volume to harvest in certain decades.” Table B-2, 2008 FEIS pg. B-15. How this was done and the effect it had on the resultant ASQ are of concern.

The minimum timber constraint was created to satisfy specific market demand scenarios in each of the alternatives. It did this by “caus(ing) the model to meet projected demand and / target harvest levels associated with each alternative. The model is directed to harvest at least the designated level of this constraint.” 2006 Tongass Spectrum Model – Draft Summary of Model Constraints, pg. 6.

This presents a significant problem. The constraint timber harvest ASQ per alternative was a function of an erroneous demand study, which has now fatally infected the Spectrum modeling and the resultant ASQ. It had no basis in real forest conditions and is not responsive to other resource constraints, or to anything except whether enough timber exists in the model to allow a successful solution. This constraint has the potential to override all other constraints. This includes constraints to protect riparian area, to protect visual standards, to prevent maximum regulation class 3 harvest, etc. The supporting documentation does not indicate that this minimum timber constraint is tempered by the other constraints. Given that it was devised to respond to the Ninth Circuit Court’s ruling, we doubt that it is constrained so as not to cause other constraints and standards to be overridden. The agency must disclose the role this constraint played in setting the ASQ for each alternative in the Spectrum runs and the number and extent of other constraints relaxed in order to meet the minimum timber harvest solution.

### **D. The Tongass NF Violated Agency Planning Regulations by Including in the Timber Base Lands That Are Not Cost-Efficient for Timber Production.**

The Tongass NF violated Forest Service planning regulations by including in the timber base lands that are not cost-efficient for timber production. The 1982 planning regulations applicable to this plan amendment provide for an additional step, after the suitable lands have initially been identified, for the purpose of excluding further lands deemed inappropriate for logging:

“Lands shall be tentatively identified as not appropriate for timber production to meet objectives of the alternative being considered if—

...

(3) The lands are not cost-efficient, over the planning horizon, in meeting forest objectives, which include timber production.”

36 C.F.R. § 219.14(c)(3) (2000).

The regulation further provides that “lands tentatively identified as not appropriate for timber production in paragraph (c) of this section shall be designated as not suited for timber production in the preferred alternative.” 36 C.F.R. § 219.14(d).

The Forest Service explicitly decided not to adhere to the cost-efficiency requirement. 2008 FEIS, pg. 3-346 (“experience has proven that it is not feasible to effectively factor in economics as part of the suitability determination”). The result is that the Tongass NF left in the timber base vast acres of land—apparently a large majority—on which timber production is not cost-efficient. The FEIS discloses the discounted average net revenues for the suitable lands in Table B-3. 2008 FEIS App. B at B-21. This table shows that for every operability level in every volume class in every administrative area, the average revenues are negative, in all three regulation classes. The text explains that within these categories there are some acres with positive values, *see* FEIS App. B at B-20, which are displayed on the right-hand columns of Table B-3. However, given the large average negative values in every sub-category, it is clear that the acres with positive values constitute a minority of the suitable land base, and apparently a small minority. By including in the timber base vast acres of lands on which timber production is not cost-efficient, the Tongass NF adopted a plan with an ASQ far in excess of what can be sustained economically.

The Forest Service’s justification for refusing to comply with this regulation—section 102 of the TTRA—is contrary to law. The provision of the TTRA on which the Region relies states:

“All provisions of section 6(k) of the National Forest Management Act of 1976 (16 U.S.C. 1604(k)) shall apply to the Tongass National Forest except that the Secretary need not consider economic factors in the identification of lands not suited for timber production.”

16 U.S.C. § 539d(d); *see* 2008 FEIS, pp. 3-345 to 3-346.

This provision explicitly modifies NFMA section 6(k) for the Tongass, but it does not modify the agency’s regulations, nor does it modify the bedrock legal principle that an agency must comply with its own regulations. It provides that the Secretary “need not” consider economic factors under section 6(k), but it does not prohibit the agency from considering them. In effect, this provision merely grants to the Secretary discretion to modify agency planning regulations to exclude the Tongass from the requirement to consider economic factors in identifying lands suitable for timber production.

In the 18 years since the passage of the TTRA, the Secretary has never exercised this discretion. The regulations specifying the methodology for identifying lands not suitable for timber production apply to the entire National Forest System, without exception. *See* 36 C.F.R. §§ 219.1, 219.14. Where a special provision is intended for the Tongass or any other specific national forest, the regulations are explicit. *See, e.g.*, 36 C.F.R. § 219.4(b)(3) (permitting single plan for entire Tongass); 36 C.F.R. § 219.29(d) (making special provisions for Gifford Pinchot forest plan in light of Mount St. Helens eruption). In fact, the USDA in 2006 adopted a regulation specifically authorizing the use of these regulations for this particular planning effort on the Tongass. 71 Fed. Reg. 10,837 (March 3, 2006). If the Department intended to exclude the Tongass from any provisions of these rules, it was required to provide so explicitly. In the absence of an explicit exemption for the Tongass in the suitability regulations, the agency must apply those regulations to the Tongass forest plan. Those regulations do not permit the agency to ignore economic factors in the Tongass or any other forest, and the TTRA does not change this requirement.

The Tongass NF claims that compliance with this regulation is “not feasible.” 2008 FEIS, pg. 3-346. The Wilderness Society strongly disagrees with this assertion, but even if it were true, it would not excuse the Forest Service from complying with mandatory regulations. If it were true that compliance was not feasible, the agency would be required to amend the regulations.

The Forest Service’s explanation for why the regulation is not feasible cannot withstand scrutiny. The Region offers two explanations: (1) that timber values vary from year to year; and (2) that the timber sale program should be considered as a whole rather than by “individual timber sales or harvest units.” 2008 FEIS, pg. 3-346.

The first explanation is true for all national forests, but it is not a reason to disregard economics. The agency can use averages, medians, or expected values, but to disregard economic considerations altogether in establishing the timber base results in the inclusion of vast acres of lands that are not commercially viable, as occurred in the Tongass.

The second explanation is, on its face, a non sequitur. “[I]ndividual timber sales or harvest units” are not at issue in a forest plan, and the forest planning regulations do not require the agency to consider them. The regulation does require the agency to consider analysis areas to determine whether they are cost-efficient and thus specifically precludes the Forest Service’s stated desire to offset low value places with high value places. 2008 FEIS, pg. 3-346.

In effect, the Tongass NF simply disagrees with the purpose of the cost-efficiency requirement of the suitability regulation. The Forest Service is not free to disregard this requirement simply because it disagrees. Moreover, the agency is wrong. Disregarding

cost-efficiency in the suitable lands analysis results in the inclusion of vast acres of land that will never be viable for timber production, with an ASQ far in excess of what can be sustained economically. Sustained yield is the most fundamental requirement of national forest management. 16 U.S.C. §§ 529, 531(b). As a result of ignoring cost-efficiency, the Tongass plan does not comply with this basic requirement.

This is why it is important that section 102 of the TTRA does not simply allow the Tongass NF to disregard agency regulations. The Forest Service could disregard economic considerations only if the USDA went through notice-and-comment rulemaking procedures to exempt the Tongass, which would allow these problems to be vetted publicly and decided by the Department at the national level. Such a process might lead to the conclusion that no exemption is appropriate, or to substitute safeguards in the regulations to avoid the kind of problems that have resulted in this plan.

Finally, even if the Tongass NF were free to disregard the cost-efficiency requirement of the suitability regulation, it would not be free to hide the problem. NEPA requires full disclosure. The FEIS is highly misleading to the public, because it asserts—falsely—that the selected alternative contains 663,000 acres of land suitable for timber production, with a corresponding ASQ of 267 mmbf/year. To comply with NEPA, the EIS would have to disclose that this timber base consists primarily of lands not commercially viable for logging, and that this base cannot sustain production at a rate anywhere near the level implied by the ASQ.

## **IX. THE ANALYSIS OF ECONOMIC EFFICIENCY IS INCOMPLETE AND INCORRECT AND IN VIOLATION OF NFMA**

### **A. The Economic Efficiency Analysis (FEIS, pg 3-544 ff.) Arbitrarily Considers the Monetary Value of Some Resources – Timber, Recreation, Land Use, Power and Minerals – and Ignores the Monetary Value of All Others, Including Subsistence, Fish, Ecosystem Services and Others.**

According to its regulations, the Forest Service has an obligation to estimate:

“[the] physical, biological, **economic**, and social effects of implementing each alternative....These effects include those described in NEPA procedures (40 CFR 1502.14 and 1502.16) and at least the following: (1) The expected outputs for the planning periods, including appropriate marketable goods and services, **as well as nonmarket items**, such as recreation and wilderness use, wildlife and fish, protection and enhancement of soil, water, and air, and preservation of aesthetic and cultural resource values”

36 CFR 219.12(g), emphasis added.

Furthermore, the regulations require the Forest Service to estimate:

“the expected real-dollar value...of all outputs attributable to each alternative to the extent that monetary values can be assigned to nonmarket goods and services, using quantitative and qualitative criteria when monetary values may not reasonably be assigned.”

36 CFR 219.12(g)(3)(ii).

The FEIS has failed to adequately value wildlands in a comprehensive and logical way, despite the availability of accepted concepts, methods and estimation techniques for doing so (Loomis and Richardson 2000; Morton 1999; Peterson and Sorg 1987; Randall 1987). In other words, we contend that the Forest Service could have reasonably estimated or assigned monetary values to several additional nonmarket goods and services.

For example, the FEIS presents estimates of the passive use (*i.e.* existence) value of wildlands and Congressionally designated wilderness from other studies on a per-acre, per-visit, per-person, or per-household basis. But, the agency did not take the next logical analytical step of applying these estimates to derive aggregate estimates of these values for wilderness quality lands on the Tongass (2008 FEIS). In effect, the Forest Service’s analysis treats existence value as if it were zero.

In defense of this omission, the Forest Service relies on the flexibility embodied in the NFMA regulations, contending first that it has considered the underlying values, if not their monetary expression, in setting management direction for the Tongass National Forest and second, that the challenges involved in comparing differences in those monetary values across management alternatives is too great. 2008 FEIS, pgs. H-54 – H-55. We do not dispute that this is challenging work, but given the time available for the preparation of this plan and EIS, and the significant attention paid to developing estimates of timber demand, we believe that some greater effort to supply monetary values for passive use and other non-market values is reasonable.

We believe that the analysis and decisions could be better informed with a side-by-side comparison of monetary values associated with resource extraction and with resource conservation. The caveats associated with both estimates should be considered, of course, but when dollars are presented for one set of values and only caveats for the others, the dollars will have a greater influence on policy than is warranted.

**X. THE FEIS VIOLATES NEPA AND NFMA BY FAILING TO DISCLOSE THE SUBSTANTIAL FEDERAL SUBSIDIES REQUIRED TO MAINTAIN THE TONGASS NF TIMBER SALE PROGRAM.**

Forest Service planning regulations require the agency to disclose in the EIS the economic effects of each of the alternatives, including all “costs to the agency and other public and private costs required” for the alternative, real-dollar value, present net value, and “receipts to the Federal Government...” 36 C.F.R. § 219.12(g)(3)(i)-(iii). The Forest Service is required to disclose these impacts using NEPA procedures specified in 40 C.F.R. §§ 1502.14 & 1502.16. *See* 36 C.F.R. § 219.12(g) (2000). The TLMP FEIS violates these requirements, because it does not fairly disclose the enormous federal subsidies required for the Tongass timber sale program.

For the last several years, the Tongass timber sale program has run at a cost to taxpayers of \$45-50 million per year, with annual revenues of less than \$1 million. The average subsidy per job created exceeds \$300,000. The program generally loses about \$1,000 for every thousand board-feet (mbf) cut, though in 2007, that number jumped to \$2,471 per mbf. *See* Exhibit D, Mehrkens Analysis and Declaration. There is a great deal of public concern about the costs of this program. On three occasions in recent years, the House of Representatives has voted by growing bipartisan majorities to discontinue funding for Tongass logging roads, which constitute perhaps the most egregious component of the subsidies. The issue continues to generate interest in Congress, making it particularly important for the forest plan EIS to contain a complete and honest disclosure of the relevant facts.

The FEIS does not disclose or even hint at the extraordinary costs and subsidies of the Tongass timber sale program. The issue is of vital importance to the public and to decisionmakers, including Congress. The FEIS hides these costs and subsidies in various ways, with the combined result that neither the decisionmakers nor members of the public are adequately informed.

There is only one place in the FEIS that purports to quantify the costs of the timber sale program, the economic efficiency section. 2008 FEIS pg. 3-546 – 3-548. Table 3.22-25 shows huge present net value for all of the alternatives, but accomplishes this result only by factoring in the consumer surplus for recreation and tourism, which dwarfs any other values from the forest. It is possible for a sophisticated reader to isolate the present net value from the timber sale program for each alternative by subtracting “Timber Variable Costs” from “Timber Revenue” in this chart, producing the following result for the selected alternative (6):

Timber Revenue	44
Timber Variable Costs	620
Present Net Value	(576)

This calculation confirms that the costs of the timber sale program far exceed its revenues, but it falls far short of the requirement of disclosure for several reasons.

First, it is buried within a confusing chart. Few readers would ever discern the timber sale losses from this chart, because it requires them to isolate the correct factors and perform the calculation. It is not discussed in the text at all, and certainly not in the clear, readable way required by NEPA.

Further, the numbers in the chart are meaningless to a typical reader. The units are millions of 2006 dollars in “[c]ost and benefit streams extended over a 160-year analysis period and discounted at 4% per year.” 2008 FEIS pg. 3-547, Table 3.22-25 (“Note”). This does not tell the reader that the timber sale program loses \$45-50 million per year, and would lose even more if the Forest Service actually sold as much timber as allowed by the plan. It does not tell the reader that the timber sale program runs at a cost of over \$300,000 per job created.

Even if the numbers buried in this chart were meaningful and clearly presented, they greatly understate the true costs of the timber sale program. They are based on assumed variable costs of \$101 per mbf. *See* 2008 FEIS, pg. 3-547, Table 3.22-25 (footnote 6); *see also id.* pg. 3-548. There is no documentation whatsoever for this number. As established in a deposition taken in litigation over this issue, this number was calculated by Forrest Cole based on timber sales in the 1990’s, at a time when the economics of Tongass timber sales were different than they are today. For example, these cost estimates do not reflect the current practice of requiring the Forest Service rather than the purchaser to pay for logging roads. *See* Exhibit C, Roads to Nowhere Tongass National Forest, 2002-2006. This change in practice costs the public millions of dollars every year and is not reflected in the cost estimates assumed by the Forest Service. Further, the cost estimate was not supported by any retained documentation. The number also assumes that all timber prepared through the NEPA process will be sold and cut, an assumption that is simply false. *See* Exhibit B, Deposition of Forrest Cole, *NRDC v. U.S. Forest Service*, No. J04-104 CV (JKS) (May 18, 2005). Because the assumed costs of \$101/mbf are not supported by any record documentation, are outdated, and are based on false assumptions, this number must be rejected.

Actual experience over the last several years demonstrates that actual costs exceed this estimate by an order of magnitude. From 2001 through 2006, the Forest Service ran an actual loss of about \$1,000 per mbf, ten times the estimate reported in the FEIS. In 2007, the loss leaped to \$2,471 per mbf. *See* Exhibit D, Mehrkens Analysis and

Declaration. The FEIS reports that the Tongass timber sale program cut about 45 mmbf (i.e., 45,000 mbf) per year fairly consistently from 2002-2006. 2008 FEIS, pg. 3-333. Multiplying this number by the reported cost of \$101 per mbf would lead the reader to conclude that the timber sale program costs only about \$4.5 million annually. In fact, the program loses about ten times that much. See Exhibit D, Mehrkens Analysis and Declaration. There is nothing in the FEIS to correct this misimpression, because the FEIS never reports the actual costs of the timber sale program. This makes the FEIS extremely misleading on a critically important issue, in violation of NEPA.

The failure to disclose the true costs of the timber sale program compounds other problems with the plan. As discussed above, the Tongass National Forest included in the timber base vast acres of land that are not cost-efficient for timber production. Bloating the timber base with lands having negative timber values drives up the cost of each timber sale and of the total timber sale program, leading to highgrading (also discussed elsewhere in the appeal), to wasteful preparation of timber sales that cannot be made economically viable, and to huge public subsidies that are not disclosed in the FEIS. As further discussed above, the agency greatly exaggerated the market demand for timber, falsely implying a need for the timber that simply does not exist. This plan makes no economic sense and must be sent back to the Tongass National Forest for complete revision.

**XI. THE TONGASS REVISED FOREST PLAN (PLAN AMENDMENT) FAILED TO ADEQUATELY ASSESS AND DISCLOSE CUMULATIVE EFFECTS IN VIOLATION OF THE NINTH CIRCUIT COURT’S RULING AND IN VIOLATION OF NEPA.**

In our Draft EIS comments, we pointed out that despite the fact that part of the court ordered review of TLMP specifically required the Forest Service to address cumulative impacts, including those from private lands, the DEIS failed to adequately address this issue. We stated that this issue must be considered in the amendment process. In the response to comments section in Appendix H, the agency’s response was that a catalogue of past harvest had been added in Appendix E, and that additional cumulative effects analyses were included in Chapter 3 by resource. 2008 FEIS, pg. H-101. Upon reviewing the catalogue and Chapter 3, we believe that the Forest Service has still failed to appropriately consider cumulative impacts. This represents a failure to respond to the court ordered review and a failure under NEPA.

**A. The Catalogue of Past Harvest is Inadequate in Meeting the Court’s Ruling.**

In the 2005 Ninth Circuit Court ruling, the court stated that at a minimum, the Forest Service must provide a “‘catalog of past projects’ and a ‘discussion of how those projects (and differences between the projects) have harmed the environment.’” *Lands Council*,

395 F.3d at 1027. In response to the court's ruling, the 2008 FEIS includes Appendix E, a catalogue of past harvest on state, private, and NFS lands. This appendix is an extremely broad categorization of past harvest by decade and includes no discussion of how the projects have harmed the environment. It is not useful to the reader, does not disclose essential information, and fails to meet the court's requirement.

Part I of Appendix E is nothing more than a list of acres harvested by biogeographic province, approximate decade, and landowner. In some instances total acres harvested are lumped together over several decades. Providing general harvest information on such a large scale as biogeographic provinces disguises the more local effects of harvest. The effects of 5,000 acres harvested are much different if those acres were harvested in one or two watersheds or from 20 different watersheds across a large landscape. The catalogue provides the reader with no way of distinguishing the difference. Furthermore, in Part I there is no information on the type of harvest that took place, the type of habitat on which the timber was harvested, stand information, or anything that would provide the reader with sufficient information to compare the differences between the projects. There is also no discussion of how these projects have harmed the environment.

Part II of Appendix E includes information on state land harvests under the Alaska Forest Resources and Practices Act (AFRPA). Some statistical information does not exist according to the Appendix, and information is apparently not available prior to AFRPA. However, AFRPA was originally adopted in 1978 (2008 FEIS, pg. 3-150) yet there is no information between 1978 and 1991. While the additional information on harvests on state lands is somewhat more detailed, it still includes no useful information on what type of harvest occurred, on what type of habitat, and what the environmental effects were. The tables provided from AFRPA are almost meaningless to the average reader. For example, Table E-4 (2008 FEIS, pg. E-13) includes column headings with no explanation or definition so it is not possible to compare or understand the projects. Moreover, the location names are unhelpful. Tables E-5 through E-17 (2008 FEIS, pg. E-14 to E-28) are more difficult to understand, and only include information from 2001 onward. On top of the vague information, there's no information on the type of harvest, habitat affected, proximity to NFS lands or sales, or anything that would help the reader draw some conclusions about the effects of the past harvest listed.

Outside of NFS lands, the vast majority (90%) of timber harvest has taken place on native corporation lands - 301,000 acres. 2008 FEIS, pg. 3-150. In comparison, only 35,000 acres have been harvested on state lands, plus an additional 21,000 in the Haines area. 2008 FEIS, pg. 3-150. The additional information from state lands, even if it were helpful, is a very minor part of the bigger picture of the effects of past harvest on non-NFS lands. The Forest Service failed to meet the Court's order to provide past harvest information on private lands, instead focusing on harvests that, while important, only represent a small percentage of the cumulative effects.

In Chapter 3 of the FEIS there is some additional information on location and effects of past harvest on non-NFS lands; harvested acres are listed in tables and categorized by high volume Productive Old Growth (POG), SD67, and intact watersheds, suggesting that more information on non-NFS timber harvests exists. In fact, in the 2008 TLMP planning record it's clear that the FS received more detailed information from the state and native corporations, such as number of acres harvested by VCU and ownership, as well as the method of harvest. Yet the FEIS fails to undertake a sufficient cumulative effects analysis by not including this information. There is no way for the reader or the decisionmaker to make an informed decision about the effects of different past projects.

Instead, discussion of past harvest on non-NFS lands is limited to broad categorizations. In an overview of past harvest, total harvested acres are provided, as well as the overall estimate of disproportionate past harvest. Under POG current conditions, each biogeographic province is described, again using general percentages, remaining acres harvested, and a conclusion about whether biodiversity has been affected. In a very few cases, such as on North Central Prince of Wales, specific watersheds are identified as being particularly affected by past harvest and vulnerable to future harvest. In the effects by alternative section, non-NFS lands are reduced to a mention in one or two sentences by alternative.

Finally, in the cumulative effects of past harvest section, harvest on non-NFS lands is even further minimized in importance. In fact, in describing the reliance on the conservation strategy to address effects of more extensive harvest, the contribution from non-NFS lands is explicitly ignored. The FEIS states that the conservation strategy was:

“designed to address the more extensive harvest on non-NFS lands... and maintain connectivity across the landscape, with or without much contribution from non-NFS lands. In other words, benefits from non-NFS lands were assumed to be minimal in the design of the strategy.”

2008 FEIS, pg. 3-200.

The section goes on to say that cumulative effects are not anticipated to be much different than direct or indirect effects. While the non-NFS lands were not considered to be a *benefit* to the conservation strategy, there is no mention about the possible *negative* effects of harvest on non-NFS lands on the conservation strategy. NEPA requires that negative effects must be taken into account in a cumulative effects analysis. Rather than be ignored, the negative cumulative effects of timber harvest on POG must be included.

### **B. The Catalogue of Past Harvest is Inadequate under NEPA.**

Not only does the catalogue of past harvest on private land not meet the court's ruling and requirement, it is also a failure under NEPA since it fails to consider the reasonably

foreseeable future impacts of timber harvest on private lands. An EIS must consider cumulative impacts, which are the impacts of the activity “when added to other past, present, and *reasonably foreseeable future actions*.” 40 C.F.R. § 1508.7 (emphasis added). In the cumulative effects section the reasonably foreseeable future harvest on private lands is cursorily addressed in a general analysis by listing forest-wide and biogeographic province specific percentages of POG expected to remain in the future. While the FEIS assumes that “75 percent of the remaining old-growth would be harvested on Native corporation lands and 50 percent of the remaining old growth would be harvested on state” and other lands (2008 FEIS, pg. 3-199), there is no discussion of the impacts of this significant level of harvest. Analysis is limited to cumulative percent of original POG remaining on all ownerships forest-wide, by alternative, and by biogeographic provinces. There is no threshold provided that allows the reader or the decisionmaker to determine beyond what point such harvest would have negative effects.

### **C. The Effects and Significance of Past and Continued Future Highgrading Have Not Been Disclosed.**

The 2005 Ninth Circuit Court ruling found that “the EIS does not disclose the effect of continued ‘highgrading’ of the Tongass. Moreover, it does not give detail on whether or how to lessen the cumulative impact of this practice.” (*NRDC vs. USFS* 2005: 10121). The court ruling further stated that “the EIS is also inadequate because it does not assess the potential impacts of reasonably foreseeable, continued ‘highgrading’ in the future.” (*NRDC vs. USFS* 2005: 10121). The 2008 TLMP FEIS still fails to meet the court’s requirements both with respect to assessing the potential future impacts of highgrading, as well as providing details on how to lessen the cumulative impact.

Forests in Southeast Alaska have been systematically highgraded from the advent of hand logging at the turn of the century, through A-frame logging, the pulp mill era, and into today. This highgrading has occurred at three scales: 1) at the stand level, where large tree and high value species such as spruce and cedar were selected first; 2) at the landscape scale, where low elevation valley floor forests and alluvial fans were systematically selected out of a large majority of the bays in Southeast Alaska (for example, low elevation karst lands represented only 2.7% of all productive forests in Southeast, yet 15.1% of all logging activity has occurred in these areas for a rate of harvest 560% above proportional abundance (Albert & Schoen 2007a)); and 3) at the island scale, where Prince of Wales and other areas in southern Southeast have been disproportionately logged.

This systematic highgrading has led to two sets of consequences – ecological and economic. Ecological consequences include the loss of key function such as riparian habitat, cavity nesting, and winter habitat for deer. The economic consequences limit the ability to have stable communities that have sustainable economic opportunities. One of the main reasons the Forest Service cannot produce economic timber sales is because of

these past actions, yet the plan calls for continued harvest of those most productive places, further challenging the future economic stability of Southeast communities.

The cascading ecological and economic effects of past and future highgrading have not been adequately recognized in the planning process. Our understanding is that the forest-wide fall down estimate of ~23% significantly overestimates the amount of economic timber in many of the watersheds and landscapes that have already been heavily harvested, such as those on Prince of Wales Island. The LSTA overestimates the sustainable supply of timber, leading to further overharvesting. As a consequence, the ability to provide old growth wood during a transition to young growth (expected to take 30-40 yrs) is highly questionable without doing irreparable harm to the ecological integrity of the forest. The Forest Plan and FEIS have failed to acknowledge this reality and instead plan for business as usual, in spite of the ecological and economic consequences.

**i. Affected environment and environmental effects not disclosed**

The court's ruling stated that the EIS was inadequate because it did not disclose the effects of reasonably foreseeable continued highgrading – the 2008 FEIS also fails to do so. In Appendix H, the response to comments, the agency responds to the argument that the FEIS needs to explicitly evaluate the potential effects of highgrading by stating “actual harvest is likely to be lower than the projected ASQ” and that a range of factors that are difficult to predict will affect actual volumes harvested. 2008 FEIS, pg. H-101. The response further states that the ASQ is a “worse-case approach that ensures that the potential effects of each alternative are fully accounted for.” 2008 FEIS, pg. H-101. It also states that the old growth reserves have been set aside for wildlife habitat. This response essentially ignores and evades the question and fails to confirm that the Forest Service will address the court's concern.

The discussion of potential impacts from continued highgrading is almost non-existent in Chapter 3. The FEIS makes it clear that future harvest will be directed at four provinces:

“Past harvest activities have concentrated, and future harvest will continue to concentrate under most alternatives, primarily in three biogeographic provinces: the North Central Prince of Wales, Kupreanof/Mitkof, and Revilla/Cleveland provinces. These three provinces account for about 56 percent of the past harvest and will account for 44 to 74 percent of future harvest, depending on the alternative.”

2008 FEIS, pg. 3-200.

“Harvest under all of the alternatives would be concentrated in four biogeographic provinces (North Central Prince of Wales Island, Etolin Island and Vicinity, Kupreanof/Mitkof Islands, and Revillagigedo Island/Cleveland Peninsula), where substantial amounts of timber harvest have already occurred.”

2008 FEIS, pg. 3-257.

“Harvest under all alternatives would come from four biogeographic provinces in the southern-central portion of the Tongass.”

2008 FEIS, pg. 3-259.

According to a recent analysis (Albert and Schoen 2007b), the four provinces targeted for future harvest contain significant areas of large-tree forests, salmon streams, estuaries and high value habitat for deer and bear. Using an index of biological value and vulnerability (% of habitat values designated within development lands) the analysis shows that Kupreanof/Mitkof, North Central POW, and Revilla/Cleveland are three of the most biologically productive areas on the Tongass yet face some of the highest risks under the current management plan (Albert & Schoen 2007b). Yet the description of the affected environment completely ignores this reality.

Because of this stated focus on the four provinces, it is reasonable to look at the discussion of impacts in each of these provinces under the current conditions and cumulative effects sections.

### **1. Kupreanof/Mitkof**

The FEIS states that on Kupreanof/Mitkof Island only 8% of the original large tree POG remains on non-NFS lands. 2008 FEIS, pg. 3-160. It further suggests that near Kake the heavy harvest has “likely affected biodiversity.” 2008 FEIS, pg. 3-160. Large tree POG makes up about 6% of the remaining POG in the province, and high volume POG makes up about 32% of existing POG. There is some discussion of a critical pinch point, a narrow corridor that might constrain wildlife movements, and a suggestion that there could be substantial negative effects if future harvest were to occur in this area. Yet the area is largely protected and not considered a concern. This is the extent of the description of the affected environment. The description does not describe or analyze the ecosystem’s ability to respond to the stress of past and future harvest and does not include a threshold beyond which future change may affect the ecosystem.

In the cumulative effects discussion for the Kupreanof/Mitkof Island province the percentage of remaining POG is included with the statement that “the cumulative harvest levels would result in a reduction of habitat for species that prefer older forest stages (particularly larger tree types) and increases in habitat for species that prefer younger

forest stages.” 2008 FEIS, pg. 3-210. In the next sentence the consequences of continued harvest are considered mitigated by the conservation strategy which “would result in POG being distributed in reserves and within the matrix across the province so that, although local reductions in biodiversity would be expected, habitat representation across the province would be maintained.” 2008 FEIS, pg. 3-210. Yet in fact, the FEIS acknowledges the uncertainty of the conservation strategy in citing Powell et al. (1997): “...the effectiveness of the reserves and buffers in relation to their size, landscape pattern, and geographic distribution has yet to be scientifically tested.” 2008 FEIS, pg. 3-175. Furthermore, the FEIS cites Smith (2005), who stated that for many species “it is unknown whether the current reserve design is capable of supporting well-distributed, viable populations or providing sufficient connectivity to enable the flow of individuals between reserves.” 2008 FEIS, pg. 3-175.

Other than listing the general percentage of large tree old growth existing in the province and expected to be remaining after 100 years of implementation of the Forest Plan (in tables 3.9-5, 3.9-7, and 3.9-16) there is no discussion of the impacts of continuing to disproportionately harvest large tree old growth. Furthermore, there is no analysis of how much of this harvest would come from non-NFS lands and no discussion of the impacts of the assumed 75% harvest rate on native corporation land.

## **2. Etolin Island and Vicinity**

The FEIS notes that in the Etolin Island province there has been a “higher rate of past harvest of the larger tree types.” 2008 FEIS, pg. 3-161. It also states that “overall, 85 percent of all POG, 76 percent of high-volume POG, and 51 percent of large-tree POG remains today.” 2008 FEIS, pg. 3-161. There is a note about the extreme rate of disproportionate past harvest on non-NFS lands, and one sentence stating that in watersheds with the highest rate of past harvest there have been negative effects on local biodiversity. This is the extent of the description of the affected environment. The description does not describe or analyze the ecosystem’s ability to respond to the stress of future harvest and does not include a threshold beyond which future change may affect the ecosystem.

In the cumulative effects discussion for the Etolin Island & Vicinity biogeographic province, projected future maximum cumulative harvest is listed by alternative, with the effects on high volume and large tree POG retention. 2008 FEIS, pg. 3-212. Similar to the Kupreanof/Mitkof province, local reductions in biodiversity are expected but habitat representation would supposedly be maintained because of the conservation strategy. Again, we point out that the FEIS acknowledges the uncertainty of this conservation strategy and whether it is actually effective. 2008 FEIS, pg. 3-175.

The general percentage of large tree old growth existing in the province and expected to be remaining after 100 years of implementation of the Forest Plan (in tables 3.9-5, 3.9-

7, and 3.9-16) is included, but beyond that there is no discussion of the impacts of continuing to disproportionately harvest large tree old growth. Furthermore, there is no analysis of how much of this harvest would come from non-NFS lands and no discussion of the impacts of the assumed 75% harvest rate on native corporation land.

### **3. North Central Prince of Wales**

North Central Prince of Wales originally contained more productive old growth than any other province and it still does. In the description of the affected environment, the FEIS lists percentage of POG, both high volume and large tree, remaining on both Forest Service and non-NFS lands, and breaks out POG on karst lands. The numbers make it clear that significant highgrading has taken place on North Central POW; specifically, only 12% of the large tree POG remains on non-NFS lands and more than half of the POG on karst lands (some of the most productive and sensitive land on the Tongass) has been harvested. 2008 FEIS, pg. 3-162. A mere 20% of large-tree POG remains across the province. 2008 FEIS, pg. 3-162.

While the FEIS claims this large tree POG is well-distributed, it does acknowledge that “there are many areas of past intensive harvest where negative effects on biodiversity have likely occurred. These areas include parts of northern Prince of Wales Island; the Staney Creek, Thorne Bay, Big Salt, Craig/Klawock, and Hollis areas of central Prince of Wales Island; and much of Kosciusko and Tuxekan Islands.” 2008 FEIS, pg. 3-162. Two places are of particular concern, Neck Lake and Sulzer Portage. Substantial future harvest in these areas could “substantially affect ecological connectivity” or “could be significantly affected by substantial future harvest.” 2008 FEIS, pgs. 3-163 and 3-162. As with the Kupreanof/Mitkof and Etolin Island provinces, the description of the affected environment fails to describe or analyze the ecosystem’s ability to respond to the stress of future harvest, especially in light of the fact that in many areas biodiversity has been affected, and does not include a threshold beyond which future change may affect the ecosystem.

In the cumulative effects discussion for North Central Prince of Wales, projected future maximum cumulative harvest is listed by alternative, with the effects on high volume and large tree POG retention. 2008 FEIS, pg. 3-212. Again, the general percentage of large tree old growth existing in the province and expected to be remaining after 100 years of implementation of the Forest Plan (in tables 3.9-5, 3.9-7, and 3.9-16) is included, but beyond that there is no discussion of the impacts of continuing to disproportionately harvest large tree old growth. Furthermore, there is no analysis of how much of this harvest would come from non-NFS lands and no discussion of the impacts of the assumed 75% harvest rate on native corporation land.

#### 4. Revilla Island/Cleveland Peninsula

In the description of the affected environment for the Revilla Island/Cleveland Peninsula province, the FEIS acknowledges that a “higher rate of past harvest of larger tree types” has occurred. 2008 FEIS, pg. 3-163. Disproportionate harvest has been significant on non-NFS lands, where an alarming 91% of the large tree POG has been harvested. The FEIS states that some areas have had high concentrations of past harvest, such as Behm Canal, George Inlet, and Carroll Inlet, and that “in many of these areas, biodiversity has been affected due to the intensity of past harvest and the higher reductions in larger tree POG types.” 2008 FEIS, pg. 3-163. As with the other three provinces where future harvest is largely directed, the description of the affected environment fails to describe or analyze the ecosystem’s ability to respond to the stress of past and future harvest and does not include a threshold beyond which future change may affect the ecosystem.

In the cumulative effects discussion, projected future maximum cumulative harvest is listed by alternative, with the effects on high volume and large tree POG retention. 2008 FEIS, pg. 3-212. Similar to the Kupreanof/Mitkof and Etolin Island province, local reductions in biodiversity are expected but habitat representation may be maintained because of the conservation strategy. Again, we point out that the FEIS acknowledges the uncertainty of this conservation strategy and whether it is effective. 2008 FEIS, pg. 3-175. As with the other three provinces, general percentages of future harvest are listed, but beyond that there is no discussion of the impacts of continuing to disproportionately harvest large tree old growth. Furthermore, there is no analysis of how much of this harvest would come from non-NFS lands and no discussion of the impacts of the assumed 75% harvest rate on native corporation land.

#### **D. The Cumulative Effects Analysis is Insufficient Under NEPA and Insufficient in Meeting the Court’s Ruling.**

As defined in the FEIS, cumulative impacts are the impacts on the environment which result from the incremental action when added to other past, present and future actions. Cumulative Effects Analysis (CEA) is not intended to be a list of actions and receptors; it is intended to be a quantitative analysis of the “impacts to resources, ecosystems and human communities that may be affected and used towards developing an adequate understanding of how the resources are susceptible to effects” (CEQ 1997). The FEIS lists how some past, present and future actions are likely to accumulate on a very broad basis, but these lists are far from comprehensive or quantitative, and there is no ecosystem-level approach to quantifying cumulative impacts. Furthermore, there are no baselines or thresholds to determine whether there will be adverse effects from the cumulative harvest of POG. We believe past timber management on the Tongass (as well as adjacent state and private lands) and future management under the amended plan will have a significant cumulative impact on biodiversity and the integrity and resilience of

the rainforest ecosystem on the Tongass. The FEIS has not quantified this cumulative impact.

**i. Thresholds are undefined**

Conceptually, an ecological threshold occurs at the point where a relatively small change in environmental conditions causes a substantial change in an ecosystem (Groffman et al. 2006). An important component of the Tongass conservation strategy should be to avoid or minimize crossing an ecological threshold beyond which the ecosystem or some element of biodiversity begins to unravel. The FEIS briefly addresses the issue of ecological thresholds:

“Theoretical and empirical studies suggest that the likelihood of a population persisting over time is related to some threshold level of habitat loss across the landscape (Fahrig 1997, 1999, 2003; Flather et al. 2002; Andren 1994). Reported threshold levels for the percentage of habitat maintained at which the rate of landscape extinction increases range from 20 percent (Fahrig 1997) to 50 percent (Soule and Sanjayan 1998), depending in part on the dispersal capability of the species under consideration.”

2008 FEIS, pg. 3-200.

The FEIS further states:

“Haufler (2006) reviewed the literature and found that, based on modeling, habitat loss and reduction of population size are linearly related, up to some threshold. Below this threshold, the additional effects of habitat fragmentation increase the rate of population reduction, and in turn, the risk of extinction... Haufler (2006) also concluded that empirical studies provided support for this relationship.”

2008 FEIS at 3-293

Given this range, the reader can only conclude that the low end of the threshold is the level beyond which there will be significant harm.

Furthermore, in a recent meta-analysis, Price et al. (2007) reviewed the literature on empirical studies of ecological thresholds and concluded that thresholds began to appear when suitable habitat declined below 60 percent. They concluded that maintaining 70% of the natural level of old growth in forested ecosystems on the British Columbia Coast represented a low risk to ecological integrity.

Based on the literature and the fact that the Tongass is a national forest overlaying a highly fragmented archipelago displaying substantial endemism, a precautionary

approach to forest conservation is highly appropriate. This is particularly relevant since the Tongass and adjacent private lands have undergone substantial logging activity over the last half century that further fragments this naturally fragmented ecosystem. Thus, the Forest Service must avoid reducing any discrete habitat types or forest communities (e.g., high-volume POG or large-tree POG [SD67], both in riparian flood plain areas and on karst substrates) below a minimum threshold of 50 percent within any given biogeographic province or watershed. The FEIS itself implicitly acknowledges that 50% is a threshold in citing Soule and Sanjayan (1997). 2008 FEIS, pg. 3-200. Unfortunately, this threshold has already been exceeded in many watersheds and even in some provinces, including the most biologically productive watersheds.

In the FEIS intact watersheds are used as an indicator for analyzing the effects of old growth harvest. Specifically, a watershed is considered intact if less than 5% of the original POG in the watershed has been harvested, and there have been no other major disturbances. 2008 FEIS, pg. 3-168. Using intact watersheds to determine whether there has been or will be an adverse impact to the ecosystem from future POG harvest is an important tool, yet the analysis of this indicator fails to include a threshold level beyond which there might be a concern. In contrast, in the fish section of Chapter 3 in the FEIS, road development of greater than 2 miles/square mile is identified as a threshold beyond which fish habitat and populations would be negatively affected. 2008 FEIS, pg. 3-90.

In the absence of another threshold, the reader is left to conclude that 5% of POG harvested *is* the threshold - a point beyond which the percentage of impaired watersheds will have a negative effect on biodiversity, significantly fragment habitat, or cause other negative impacts. This threshold must be considered in the environmental effects section and the FEIS must describe and disclose the effects of continuing to fragment watersheds. Using 5% as a threshold makes it obvious that any actions taken would be negative and significant and should be an indicator that many watersheds have already been significantly affected.

Table 3.9-11 lists the percentage of existing intact watersheds by biogeographic province. 2008 FEIS, pg. 3-170. In four of the provinces 50% or fewer of the watersheds are currently considered intact, with Kupreanof/Mitkof (37%), Etolin Island (33%), and North Central Prince of Wales (24%) all having less than 40% of their watersheds classified as intact. 2008 FEIS, pg. 3-170. These three provinces are also where the majority of future timber harvest is scheduled.

While these percentages alone are alarming, the trend after 100 years of Forest Plan implementation is even more concerning. In Table 3.9-19, which shows the estimated percentage of intact watersheds by alternative after 100 years of plan implementation, over half of the biogeographic provinces (12 out of 21) will have 50% or fewer of their watersheds considered intact under Alternative 6, the selected alternative. 2008 FEIS, pg. 3-186. Specifically, Kupreanof/Mitkof will have 11%, Etolin Island & Vicinity 19%,

North Central Prince of Wales 12%, and Revilla Island/Cleveland Peninsula 39%. 2008 FEIS, pg. 3-186.

Using the default 5% POG harvested as an indicator, the threshold has clearly been crossed at the forest-wide scale, at the biogeographic scale, and on a more local watershed scale. The court ruling requires that the FEIS must describe and disclose what the impacts are of such harvest, yet harm to the environment has not been disclosed beyond general percentages. The FEIS and ROD must clearly disclose to the public that significant adverse effects have occurred and that the Forest Service is proposing a management plan that will continue and even exacerbate these significant effects.

**ii. Scale is too large**

In every discussion of cumulative effects in the biodiversity section of the FEIS, forest-wide and biogeographic scales are used to describe the effects. The ROD and FEIS provide numerous references to forest-wide percentages of the remaining productive old growth (POG), high-volume POG, and large-tree POG on the Tongass. For example, “Across the Tongass and Southeast Alaska in general, timber harvest has been concentrated in the larger tree types and the higher timber volume classes. While approximately 87 percent of all POG remains across Southeast Alaska, about 82 percent of high-volume POG remains unharvested, and about 68 percent of large-tree POG remains.” 2008 FEIS, pg. 3-152.

Although it may be true that a small percentage (< 10%) of the POG has been harvested forest-wide, this fact has little relevance to conservation at the province or watershed scale. Presenting old growth remaining on the forest at such a broad scale masks the potentially significant effects of past and future timber harvest on the more local watershed scale. It also fails to account for the impacts of much more intense harvest on private lands.

**XII. THE FOREST SERVICE FAILED TO ADEQUATELY ANALYZE, DISCLOSE AND PLAN FOR THE EFFECTS OF CLIMATE CHANGE ON FOREST PLAN IMPLEMENTATION AND LAND MANAGEMENT ACTIONS.**

**A. Uncertainty of Climate Change Impacts Not a Cause for Inaction**

There is scientific consensus that while the exact magnitude of climate change is uncertain, there is no uncertainty that things are going to change (IPCC, Fourth Assessment 2007).

**i. The USFS failed to meet basic NEPA and CEQ guidelines for incorporating climate change into the Land and Resource Management Plan**

The Tongass Land Management Plan fails to analyze climate change impacts using the best available science, and despite acknowledging significant impact scenarios for the forest ecosystem, the agency ultimately dismisses climate change impacts as too uncertain to address. Omission of a comprehensive assessment of climate change as an individual stressor and as part of cumulative effects analysis has resulted in a flawed and incomplete plan that must be revised.

For example, the Forest Service states (2008 FEIS, pg. 3-93) that while there is consensus that warming and declining precipitation are likely to affect the Tongass, the impacts on estuarine areas and fish stocks will “vary considerably” and that “within the timeframe covered by this Forest Plan amendment (i.e., 10 to 15 years) changes are difficult to predict and may even be difficult to detect.” The Forest Service goes on to state, “...there is considerable uncertainty surrounding specific predictions and even more uncertainty regarding the effect of these changes on resources including fish.” 2008 FEIS, pg. 3-93. This is just one example of the limited degree to which the agency addresses climate change throughout the cumulative effects section of the Forest Plan, and is similar to the dismissive treatment applied to wetlands, water quality, forest health and the many other resources considered.

This treatment of climate change by conducting a literature review and then dismissing implications due to uncertainty does not constitute the best available science nor does it constitute taking a hard look at the issue of climate change impacts. It is therefore a violation under NEPA (40 CFR 40 C.F.R. § 1502.24) and CEQ guidelines for addressing cumulative effects (*CEQ, Considering Cumulative Effects (Jan. 1997)*).

NEPA regulations state:

“Agencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements.”

40 CFR 40 C.F.R. § 1502.24

The Forest Service relies on published studies to address climate change, and the FEIS contains citations from several significant scientific studies that have made predictions for climate change impacts on Southeastern Alaska, including the Tongass NF. However, these studies were not analyzed in the assessment of impacts for the Forest Plan, essentially resulting in a climate change literature review rather than a scientific discussion and analysis.

Further, the U.S. Council on Environmental Quality (“CEQ”) provides clear direction on addressing impacts that carry significant uncertainty (*CEQ 1997*). According to the CEQ, agencies must consider cumulative effects based on the best available data, regardless of the presence of uncertainties or the predicted availability of better information:

“Cumulative effects analysis necessarily involves assumptions and uncertainties, but useful information can be put on the decision making table now. Decisions must be supported by the best analysis based on the best data we have or are able to collect. Important research and monitoring programs can be identified that will improve analyses in the future, but their absence should not be used as a reason for not analyzing cumulative effects to the extent possible now.”

CEQ 1997 at 1-3.

Not all of the climate change studies cited within or missing from the FEIS have specific quantitative results for the Tongass. However, they do provide an assessment of the likely impacts of climate change. Constituting some of the best available science, they should be used by the Forest Service in developing a management plan which institutes an immediate assessment plan for quantifying climate change specific impacts. The results of such a directed climate change assessment can then be used to guide adaptation and mitigation of management actions. Where there is uncertainty regarding the temporal, spatial and magnitude of impacts, an adaptive management framework will allow for addressing such uncertainty.

In addition, a recent report from the GAO also recommends that the Forest Service should address climate change in a more comprehensive manner (*GAO 2007*).

**ii. Forest Service must analyze climate change in a comprehensive and quantitative way.**

By ignoring the irrefutable evidence that climate change is occurring and altering forest resources, the Forest Service has produced a land management plan that is both arbitrary and capricious in its direction. As a result, it must be revised. The FEIS must include a quantitative analysis which addresses the cumulative effects of climate change and other actions that affect the forest, including the following components (adapted from *CEQ 1997, Chapter 5*):

- ❖ Climate change scenarios that capture past climate and predicted changes in temperature and precipitation to develop an understanding of the stability and trajectories of change of physical and biological resources; and a model of habitat availability using a range of climate scenarios;

- ❖ Landcover maps with sufficient detail to evaluate watershed level ecosystem resources including biodiversity;
- ❖ Resource Selection Models that incorporate wildlife movement monitoring data with land cover classification;
- ❖ A population viability analysis that incorporates subsistence harvest and predator demands with wildlife and forest population census data; and
- ❖ Disturbance coefficients that incorporate wildlife and fish responses to human activities and physical habitat disturbance.

These data belong in a spatially explicit (*i.e.*, Geographic Information System-based (*CEQ 1997 at 4-46*)) analysis of cumulative effects, and should be interpreted within the best scientific understanding of forest ecology and climate change adaptation strategies. This type of quantitative ecosystem-level analysis will result in a substantial set of results upon which the Forest Service can base long-range forest planning and site-specific land management decisions.

**iii. FS must develop a management plan which addresses climate change impacts.**

A recent draft report by the US Climate Change Science Program (USCCSP 2008) identifies two management strategies which the Forest Service and other land management agencies could use to address the uncertain nature of climate change impacts (p. 109-110):

*Resilient Strategies:* In this case, the idea is to try to identify the range of future circumstances that one might face, and then seek to identify approaches that will work reasonably well across that range.

*Adaptive Strategies:* In this case, the idea is to choose strategies that can be modified to achieve better performance as one learns more about the issues at hand and how the future is unfolding.

These and other directives make it clear that it is not possible, or necessary, to wait until we have high-probability scenarios for the direction and magnitude of change as the FEIS implies is needed. Instead, the agency must develop its management activities and plans to dually address assessment of changes (research to improve understanding) and adaptive management strategies (actions that help the forest accommodate changes).

**B. Failure to Incorporate the Best Available Climate Change Science Results in a Land Management Plan Which Does Not Adequately Protect Forest Resources and Habitat.**

**i. Climate change impacts not based on best available science**

We reiterate that the Tongass Forest Plan inadequately addresses climate change through review and dismissal of the scientific literature. Despite a clear consensus within the scientific literature and other reports, some cited and many not cited by the Forest Service, that temperatures and precipitation will increase, the Tongass Forest Plan and FEIS repeatedly discount the predicted impacts from these changes due to uncertainty of likelihood, timing, location, magnitude, etc. In instances where impacts are not blatantly dismissed within the planning documents, the lack of a comprehensive and quantitative analysis that incorporates climate change into the cumulative effects matrix is equivalent to dismissal.

In addition to the studies that the FEIS cites pertaining to global and regional climate change scenarios, a wealth of data is available from downscaled global climate models. These data are publicly available through the University of Alaska's Scenarios Network for Alaska Planning (UAF SNAP). We know that Tongass scientific staff is aware of these data, yet they are not included within the FEIS, constituting a significant gap in important scientific information.

We provide an example of the data publicly available through UAF SNAP. The results are from a composite of 5 of the IPCC models, run for the Tongass NF. Output includes historical and future predictions for precipitation (PRC) and temperature (Tair). While there are other models available through the IPCC and other researchers, it is not the absolute results that are important, it is the direction of change, the potential magnitude of change, and the potential for extreme events that will most affect the Tongass NF. The Forest Service cannot wait for models to be perfect before implementing a management plan which adequately addresses climate change.

The results of these models support scientific consensus on climate change impacts in Southeastern Alaska. Annual temperatures will increase by approximately 2°C within the next 30 years, and nearly 3.5°C towards the end of the century. Coupled with only modest increases in precipitation and a likely lengthening of the growing season, conditions are likely to become drier. These findings support many of the findings of studies cited within the FEIS.

Do these findings tell which species will benefit from climate change and which will not? No, they don't. Only a comprehensive monitoring plan coupled with climate monitoring and scenarios such as these will be able to guide land managers in estimating the specific effects of climate change. These additional data must be collected now, and

must be collected with the specific goals and hypothesis of detecting climate change impacts among the many variables which affect forest resources or else change will not be detected.

**Tongass National Forest: Magnitude of Climatic Change**

	Time	Avg PRC (mm) -	Δ PRC (mm)	%Δ	Tair (°C)	Δ Tair (°C)
	Hist.	1100	--	--	9.4	--
<b>Summer</b>	2040	1159	59	5.36%	10.9	1.5
	2080	1187	28	2.42%	12.4	1.5
	Hist.	2429	--	--	-3	--
<b>Winter</b>	2040	2559	130	5.35%	-0.9	2.1
	2080	2634	75	2.92%	0.8	1.7
	Hist.	3530	--	--	2	--
<b>Annual</b>	2040	3719	189	5.35%	3.8	1.8
	2080	3821	102	2.75%	5.4	1.6

\* Hist. = averaged climatic data from 1969-1990, based on the PRISM model, University of Illinois

\*\* 2040 / 2080 data are based on a composition of 5 Global Climate Models that were found to best characterize climate in Alaska (Walsh et al. 2008)

\*\*\* 2040 / 2080 data represent an average of 10 years (2035-2044, 2075-2084) across the forest's landscape

Source: Data from UAF’s Scenarios Network for Alaska Planning (SNAP), analyzed by The Wilderness Society, Alaska Regional Office

In summary, to meet the standard of using the best available science, the Forest Service needs to (i) identify and incorporate the best available science, including past, present and future climate change impacts; (ii) develop a range of potential future scenarios, (iii) identify and implement an assessment/monitoring framework; and (iv) adopt a strategic approach towards promoting a healthy and unfragmented forest. Climate change impacts need to be considered among the cumulative effects of all other forest management actions, not separately and dismissively, as in the current FEIS.

Failure to address climate change in a reasonable and scientific manner has resulted in a Forest Plan which leaves the Tongass vulnerable to climate change impacts. Without systematically or quantitatively assessing climate change impacts, the current land management plan will likely result in significant and long-term detrimental impacts to the forest.

**ii. The land management plan lacks a strategic framework for protecting forest resources and habitat and prioritizing actions.**

It is alarming that while the agency has lead many important research efforts on both understanding climate change impacts and considering how such knowledge might be incorporated into forest management, there is no comprehensive and direct implementation plan within the Tongass Land and Resource Management Plan.

Millar et al. (2007) describe a number of tools which forest managers can use to promote forest resiliency through adaptation and mitigation strategies, including maintaining connected landscapes and restoration of significantly disturbed lands. Further, this Forest Service co-authored article indicates that a critical component of planning for climate change is having a framework for prioritizing management responses to impacts, yet we find no direct evidence of this type of planning in the Tongass Land Management Plan.

A growing body of applied scientific literature puts forth a multitude of options which the FS might draw upon in developing a land management plan that will protect forest resources and habitat in the face of climate change. For example, Noss (2001) identifies the land-use and management practices likely to maintain forest biodiversity and ecological functions during climate change as ( 1 ) representing forest types across environmental gradients in reserves; (2) protecting climatic refugia at multiple scales; (3) protecting primary forests; (4) avoiding fragmentation and providing connectivity, especially parallel to climatic gradients; (5) providing buffer zones for adjustment of reserve boundaries; (6) practicing low-intensity forestry and preventing conversion of natural forests to plantations; (7) maintaining natural fire regimes; (8) maintaining diverse gene pools; and (9) identifying and protecting functional groups and keystone species.

Just as immediate action is needed to reduce greenhouse gas emissions, land managers must also take immediate action to address present and future impacts of climate change. Instituting a land management plan that continually assesses change within the Tongass NF and that continually assesses emerging climate change science will provide managers with a progressive, adaptive framework to address emerging issues and respond to uncertain predictions.

### **iii. Monitoring and Evaluation Plan does not directly address climate change impacts**

Monitoring is an important component of understanding the impacts of climate change. The Monitoring and Evaluation Plan (*Table 6-1 of Tongass Forest Plan, pg. 6-8:20*) presented in the Tongass Land Management Plan is inadequate for assessing climate change impacts and the cumulative effects of climate change and other forest management activities.

The monitoring plan lacks a clear climate monitoring (temperature, precipitation) component needed for interpreting changes in biological resources. Questions pertaining to climate change impacts are inadequate or missing. Although climate change impacts are mentioned in some of the monitoring plan questions, the evaluation criteria are not designed to detect climate change impacts, and it is unclear whether the data sources are

appropriate. Overall, the monitoring plan appears grossly inadequate for addressing the Forest Service's broad, vague questions pertaining to cumulative changes and there is no evidence that climate change impacts are addressed in feedback mechanisms.

### **XIII. THE FOREST SERVICE HAS IMPROPERLY CONSIDERED ROADLESS AND WILDERNESS VALUES IN THE 2008 PLAN AMENDMENT**

#### **A. Tongass NF Should Have Provided For Greater Protection Of Roadless Areas In The Forest Plan.**

The Tongass National Forest makes up a significant portion of the largest remaining intact coastal temperate rainforest in the world. The Tongass supports many undisturbed watersheds and productive populations of gray wolves, wolverines, Queen Charlotte goshawks, bald eagles, Sitka black-tailed deer, brown bears, and five species of salmon. These species and several others depend on large, undisturbed roadless tracts of old-growth forest to maintain productive populations.

There is tremendous public interest in how America's remaining roadless areas are managed, as was clear during the Roadless Area Conservation Rule ("Roadless Rule") comment period, when approximately 2.2 million comments were generated nationwide. Approximately 2 million of these comments favored protection of roadless areas. In Alaska, more than 7,500 comments were submitted regarding the Roadless Rule, with approximately 82% supporting roadless area protection.

Preserving intact roadless areas is important for conserving biological diversity and providing recreation opportunities, including hiking, hunting and fishing. These habitat blocks are abundant in plant and animal species, individuals of a given species, species with large home ranges, species sensitive to human activity, and intact ecosystem processes.

We believe that the new plan should have embraced the broad national consensus to protect the remaining roadless areas on the Tongass National Forest. We are disappointed that the Forest Service's selected alternative leaves open to logging the majority of roadless areas containing old-growth forest.

Given the strong scientific support for protecting Tongass roadless areas, including that of the TLMP Peer Review Team (Powell et al., 1997), and the strong public sentiment that these areas should be protected, it is surprising that the agency selected an alternative that includes over 300,000 acres of roadless areas in the suitable timber base. While we acknowledge the efforts the agency went to in identifying "higher" and "lower" value roadless areas in the Timber Sale Program Adaptive Management Strategy, thereby

recognizing the importance of these areas for both ecological and social reasons, it does not do enough to protect roadless areas.

**B. The Forest Plan Improperly Relies on a Temporary Regulation to Place 2.3 Million Acres of Roadless Areas in Land Use Designations That Allow Logging and New Roads.**

The FEIS notes that the Roadless Area Conservation Rule (“Roadless Rule”) has been reinstated on every national forest except the Tongass. 2008 FEIS, pg. 3-445. However, the Tongass exemption, adopted in 2003, was never intended to be permanent. It was explicitly and repeatedly described as a “temporary” rule when it was adopted. 68 Fed. Reg. 75,136 (Dec. 30, 2003). It makes no sense to adopt a long-term, 10-15 year plan on the basis of a temporary rule. The plan should apply the original Roadless Rule, without the temporary Tongass exemption.

Moreover, the Record of Decision (ROD) adopting the temporary Tongass exemption is arbitrary and unlawful and cannot be relied upon as a basis for the forest plan. The ROD for the temporary exemption asserts that the Roadless Rule is harmful to local communities and to the timber industry for four principal reasons: (1) it will prevent construction of utility lines; (2) it will prevent construction of new federal aid highways; (3) it will prevent construction of new logging roads that could eventually connect communities to each other; and (4) it will cost 900 timber jobs. In addition it argues that the Roadless Rule should be suspended to end “great uncertainty” about whether the Tongass could be managed according to the 1997 management plan, which allowed massive logging of roadless areas.

Each of these arguments contradicts or is unsupported by the 2000 Roadless Rule FEIS, or is false. The Roadless Rule does not prohibit utility lines. Contrary to the conclusion of the Tongass temporary exemption ROD, the Roadless Rule FEIS states that the rule will have only a “minimal” impact on any utility line construction. Other lines in Southeast Alaska have been approved with no roads. Similarly, the FEIS concludes, contrary to the ROD, that the rule will allow construction of federal aid highways under the same discretion that existed before the rule. The assertion that logging roads through roadless areas may eventually connect communities not already connected by roads is false and unsupported by the record. Communities that are likely to be connected by logging roads were connected many years ago. Communities not currently connected by roads are on different islands, are separated by substantial areas lacking sufficient timber to warrant construction of roads, are protected by statute from road connections, or do not want road connections. The temporary suspension ROD was unable to cite any examples of communities wishing to be connected by roads to other communities where it is possible that logging roads could accomplish this. The assertion that the rule would cost 900 jobs is spurious. It may have been true at a time when logging volumes were much higher, including when the Roadless Rule FEIS was written, but it has not been true for

several years. Today, adherence to the rule need not cost any timber jobs, because there is sufficient timber on the existing road system to supply the industry at prevailing logging levels indefinitely, as the TLMP FEIS acknowledges. Moreover, there are no longer 900 jobs to be lost. Finally, the temporary suspension had no prospect of ending controversy and uncertainty about roadless area logging on the Tongass. Indeed, the imminent prospect of the suspension led to litigation over the 1997 TLMP specifically because of its assignment of roadless areas to the timber base.

### **C. The Agency Missed An Important Opportunity To Recommend Additional Wilderness.**

Wilderness provides essential habitat for wildlife, provides clean air and drinking water, and provides opportunities for recreation and solitude. The Forest Service has a unique opportunity on the Tongass to the opportunity to protect entire ecosystems. These ecosystems provide habitat for a host of species that have been extirpated from many states and regions of the lower 48. These include brown bears, gray wolves, wolverines, bald eagles, Queen Charlotte goshawks, Marbled Murrelets, among others.

Given that on the Tongass: 1) the opportunity exists to protect entire ecosystems that provide wildlife habitat for many species that are no longer supported by habitat throughout much of the contiguous United States; and 2) the Tongass makes up a significant portion of the largest remaining coastal temperate rainforest, we feel strongly that additional wilderness on the Tongass would contribute significant ecological and other wilderness values to the National Wilderness Preservation System.

We are disappointed that the Forest Service recommends no additional wilderness areas on the Tongass in the 2008 plan. The agency's own analysis in developing the Timber Sale Adaptive Management Program Strategy clearly demonstrates that there are important places on the Tongass that deserve lasting protections.

## **XIV. MONITORING AND ADAPTIVE MANAGEMENT**

One of the new additions to the 2008 TLMP is a cooperative agreement between the State of Alaska and the Forest Service. Our understanding is that one of the reasons for the long delay in releasing the 2008 FEIS was concerns from the State about the agency's ability and commitment to long-term monitoring. In fact, the State's concerns are in document 1216 from the planning record:

The State remains uncertain about the implementation and monitoring of road density and connectivity standards and guidelines in the plan, as well as about plans for future on-the-ground-monitoring. Please clarify how road density will be assessed and monitored under the plan.

Document 1216, 2008 Planning Record.

The Forest Service responds to this concern by stating:

There is no requirement, per se, to monitoring implementation of every standard and guideline. Therefore, we would only monitor road density if we determine it is a meaningful tool to assess wildlife habitat at the Forest level. A Forest Monitoring Action Plan will be developed after the amendment. It will be a dynamic plan that will include details describing the Forest Monitoring questions, monitoring schedule and monitoring protocols. Specific monitoring protocols will be developed during this.

Document 1216, 2008 Planning Record.

The 2008 Forest Plan would appear to give the state as well as TWS continued reason to worry about the amount and extent of monitoring, evaluation and reporting. We will be interested in the preparation and implementation of the Monitoring and Evaluation Plan as well as the annual monitoring action plan. As we explained in detail above we are most concerned with monitoring for climate change effects.

## **XV. THE PLANNING FILE IS INCOMPLETE**

The planning record received by the Wilderness Society appears to be incomplete. Items missing from the record include the Logging Systems and Transportation Analysis (LSTA), source data for logger costs collected by Housley in 2004, and a number of communication emails. There also appears to be only one document in the planning record on the Timber Sale Adaptive Management Strategy; we assume that there were lengthy communications concerning the phasing approach. Please supply the missing materials.

## **XVI. REQUEST FOR RELIEF**

This Appeal and Statement of Reasons has demonstrated that the Tongass Revised Forest Plan (Plan Amendment), Final Environmental Impact Statement and Record of Decision noticed in the Federal Register on February 15, 2008 violate numerous laws and regulations including the National Environmental Policy Act and the National Forest Management Act and their regulations; the TTRA; the Forest Service Handbook and Manual and the Court's Order in *Natural Resources Defense Council v. U.S. Forest Service*, 421 F.3d 797 (9<sup>th</sup> Cir. 2005). Based on these various violations of law, regulations and policy, Appellants hereby request that the Chief of the Forest Service or

the Secretary of Agriculture remand the Revised Forest Plan (Plan Amendment), FEIS, and Record of Decision and order that a new Revised Forest Plan, Record of Decision and EIS be prepared under specific direction to correct the deficiencies identified in this Appeal.

### **A. Summary**

The Tongass National Forest is an internationally significant natural treasure. To conserve its unique biological diversity and still-healthy, intact coastal temperate rainforest ecosystems, it must be managed to protect ecological integrity, while supporting the needs of local communities and stakeholders to ensure an appropriate balance between multiple uses and benefits of the forest.

The Wilderness Society does not oppose continued logging in the Tongass. But we do believe timber harvest levels should be set based on realistic projections of actual market demand and that taxpayers should not be subsidizing activities that undermine other valuable forest resources. Timber is just one of many resources found in the Tongass, and demand for this resource has been steadily declining. Today, the activities that are driving Southeast Alaska's economy depend on protecting the forest's scenic views, watersheds, fisheries, and roadless areas. Commercial fishing, recreation, and tourism in the Tongass are the growth sectors of the economy and these, together with other non-commodity values, represent a much larger contribution to the region's economy. As open space, wildlife, and roadless areas become even scarcer throughout the world, these qualities of the Tongass will only become more valuable.

The Wilderness Society believes that the Forest Service should manage the Tongass in a manner that reflects its true worth, and better balances the multiple uses and values of the forest to ensure healthy forest ecosystems that support natural resources and sustainable local economies. Instead of focusing so heavily on timber, we believe the agency should invest in stewardship activities that more accurately reflect market conditions, and that better benefit current and future generations. Some examples include: restoring high value watersheds previously impacted by logging, and permanently protecting ecologically and socially valuable areas of the forest. As global climate change threatens to alter natural systems, it is critical that we protect what few healthy ecosystems remain. Furthermore, any plan must better recognize and manage for the strong cultural and subsistence values of the Tongass.

A successful Tongass Land Management Plan will address and implement the following core principles:

- ❖ Protect key habitat in each of the Tongass' biological provinces to support and sustain abundant populations of fish and wildlife over the long-term.

- ❖ Recommend qualified lands for Wilderness designation.
- ❖ Protect intact watersheds thereby conserving individual species and ecological processes which occur naturally within watershed boundaries.
- ❖ Restore habitats to their natural condition, over the short and long term, in provinces which have been seriously damaged by logging.
- ❖ Prohibit high-grading of any forest type or tree species.
- ❖ Conservatively manage the Tongass National Forest in recognition of its international value, as it contains the largest remaining tracts of intact coastal temperate rainforest in the world.
- ❖ Provide an opportunity for maintaining a sustainable timber supply to local industry to enhance economic diversity and sustainability of local communities.

A new management plan should achieve the following:

- ❖ Conduct a new market demand study based on the best available economic data, including methodology and projections, and re-examine the timber program to determine the harvest level that is ecologically sustainable but also economically feasible and cost effective in a new era with fewer subsidies and no guaranteed pulp contracts.
- ❖ Transition to a smaller-scale, sustainable timber program focused on second-growth management, utilizing salvage, micro-sales, and restoration byproducts.
- ❖ Take a hard look at the cumulative effects of past harvest and high-grading, which the agency has failed to do so thus far, before directing further timber harvest at already highly impacted watersheds.
- ❖ Concentrate timber production within the smallest land base and with the least impact on intact habitat values (including minimizing new roads).
- ❖ Define a minimum forest road network with a focus on decommissioning the most environmentally damaging roads.
- ❖ Restore ecologically impaired watersheds with high ecological or community use potential.

The forest planning process provides an important opportunity to engage a range of audiences in a dialogue about the values at stake in the forest. It can also act as a springboard for broader discussions, for example about sustainable communities and

balancing ecosystem health and economic well-being over the long term. For the Tongass, The Wilderness Society believes a sustainable future depends on a diverse economy that is not heavily reliant on industrial-scale logging and includes non-commodity values such as nature-based tourism, recreation, commercial fishing, and amenity-based development. We also believe that conversations about balancing ecosystem health and economic well-being should include exploring the viability of a second growth and/or restoration economy in Southeast Alaska.

Appellants also request relief to avoid serious and irreparable harm while the Forest Plan Revision is under review, remand and further analysis. The relief should prohibit timber harvesting, roadbuilding, or mineral development in inventoried roadless areas, and uninventoried roadless areas that meet the Roadless Inventory criteria. The Forest Service should also discontinue the practice of pre-roading in all areas of the forest, and protect areas identified as Tier 1 or 2 priorities in the Audubon/TNC conservation assessment under the Revised Forest Plan.

Respectfully submitted,



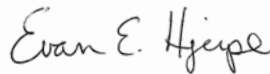
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### **Exhibit List**

Exhibit A: Morton et al., 2007

Exhibit B: Deposition of Forrest Cole, *NRDC v. U.S. Forest Service*, No. J04-104 CV (JKS) (May 18, 2005)

Exhibit C: Roads to Nowhere, Tongass National Forest 2002 – 2006, prepared by Earthjustice

Exhibit D: Mehrkens Analysis and Declaration

Exhibit E: Timber Harvest History, 1952-2007

Exhibit F: TNF Timber Bids Analysis, Mehrkens

Exhibit G: Final Tongass Budget Analysis 91-07 Mehrkens