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Title:
Comments: Please see the attached comments submitted on behalf of the Sitka Conservation Society, The Nature Conservancy, Trout Unlimited, and SalmonState.

February 24, 2025

Mr. Frank Sherman, Supervisor
Tongass National Forest
648 Mission Street, Suite 110
Federal Building
Ketchikan, AK 99901-6591

Submitted via https://cara.fs2c.usda.gov/Public/CommentInput?Project=64039

Dear Supervisor Sherman:

On behalf of the Sitka Conservation Society, Trout Unlimited, The Nature Conservancy, and SalmonState, thank you for the opportunity to provide comments on the draft Assessment reports supporting the revision of the Tongass National Forest Land Management Plan.

The Sitka Conservation Society (SCS) is a member-based local conservation and community development organization based in Sitka, Alaska. We have the dual mission of protecting the natural environment of the Tongass National Forest and supporting the development of sustainable communities in Southeast Alaska, which we have been engaged in since 1967. We work with local businesses, nonprofit organizations, federal agencies, municipal and Tribal governments, and citizens to collaborate on, catalyze, and implement project initiatives on the ground. These initiatives enjoy broad community support, protect and enhance resources and infrastructure that are critical to Southeast Alaska's way of life, develop career pathways and strengthen connection to our land and waters amongst our youth, and develop innovative ways to use resources that demonstrate new economic drivers. We are also a member of the Sustainable Southeast Partnership and have sought to build capacity to catalyze similar outcomes at a region-wide level, focusing on addressing the diverse needs of the small, rural communities in Southeast Alaska.

The Nature Conservancy (TNC) is a global conservation organization working around the world to conserve the lands and waters on which all life depends. TNC has been working side by side with communities in Southeast Alaska for over two decades to help ensure the sustainability of the diverse benefits that people derive from the lands and waters of the Tongass. Over this time, we have contributed through habitat improvement projects, sustainable economic and workforce development initiatives, original science, collaborative planning processes, and support of community-led conservation efforts.

Trout Unlimited (TU) is the nation's largest sportsmen's organization dedicated to coldwater fisheries conservation with more than 400 chapters and more than 300,000 supporters nationwide. TU has more than 22,000 supporters in Alaska that are passionate anglers, lodge owners, fishing and hunting guides, and commercial fishermen, among other various

occupations. In addition to members in more remote parts of the state, TU has active chapters in Juneau, on the Kenai Peninsula, and in Anchorage, the Mat-Su Valley, and Fairbanks.

SalmonState is an Alaska-based organization dedicated to keeping Alaska the salmon state-our last best place for wild salmon and the ways of life they make possible.

Our organizations have a long history of working collaboratively with the Forest Service and other stakeholders on the Tongass and elsewhere throughout the National Forest System. In addition to various watershed restoration, pre-commercial thinning, wildlife habitat improvement, wilderness monitoring, recreation infrastructure construction, and aquatic organism passage projects throughout the Tongass, our organizations have actively participated in a variety of collaborative and partnership groups in Southeast Alaska, including the Tongass Transition Collaborative, the Sustainable Southeast Partnership, and the Southeast Alaska Fish Habitat Partnership. Partnering with the Forest Service is critical to TNC, TU, and SCS, and enhances our ability to fulfill our organizational missions. Our collaboration also enhances the ability of the agency to cost effectively complete their mission and deliver services to Alaskans and the American people. We are committed, through the investment of significant staff and financial resources, to ensuring the lands, waters, and many natural resources of the Tongass continue to serve as the economic and cultural foundation of Southeast Alaska.

We commend the Forest Service for its efforts in recent years to maintain and restore important fish and wildlife habitat, to enhance recreation infrastructure, to focus on more sustainable forest management, and to engage communities and Tribes in more meaningful ways. These efforts help ensure the Forest Service meets the needs of the public and supports Southeast Alaska's rural communities, economies-and our unique way of life.

The Tongass National Forest Land Management Plan Revision is of great importance to our members and supporters, as it will establish the management direction for the Tongass and guide natural resource activities for the next decade or more. We appreciate the Forest Service's efforts to strengthen community engagement during the Plan Revision process. We appreciate this opportunity to share our priorities for the Plan Revision and offer specific feedback for strengthening the Final Assessment Report.

I. Our Shared Forest Plan Priorities

The current Tongass Land Management Plan, written in 1997 and only minimally revised by the 2016 amendment, does not meet the current economic realities of our region, the needs of our communities, and the climate stressors facing our natural environment and impacting our way of life. While logging has played a historically important role in the economy of Southeast Alaska, current timber industry employment accounts for less than one percent of regional jobs. Today, fishing and recreation/tourism are the most valuable industries across the Tongass, accounting for 26 percent of regional employment. These industries-and the unique way of life practiced in our region-depend on healthy fish and wildlife habitat. It is critical that the Tongass is managed with an emphasis on conserving and restoring the natural resources that generate the most cultural, ecological, and economic value to local communities.

As the Forest Service uses this draft Assessment to develop the preliminary Need for Change, the Plan Revision process should support the following outcomes:

A. Forest management aligns with the values and priorities of people who live, work, and recreate on the Tongass, with an emphasis on protecting habitat and resources that are critical to subsistence and traditional ways of life. In Southeast Alaska, the health and resilience of our rural communities are inextricably intertwined with the health of our natural resources and natural environment. In 25 community workshops conducted by the agency during the assessment phase of the Plan Revision in 2024, a central theme emerged: "Forest health is foundational to our way of life." Communities across the Tongass agreed on two top priorities: 1) healthy functioning terrestrial and aquatic ecosystems and resources, and 2) subsistence/traditional way of life. The calls of Southeast Alaskans to shift forest management to align with the values and priorities of local residents must be reflected in the assessment. The final Plan Revision-and the resulting management areas, objectives, standards, and guidelines-should maintain and improve forest health in ways that contribute to successful subsistence harvesting, community wellbeing, and our powerhouse industries like fisheries and recreation that diversify our regional economy.

B. The best remaining fish and wildlife habitat on the Tongass is maintained. The Tongass produces more salmon than all other national forests combined and is home to iconic wildlife, including Sitka black-tailed deer, moose, brown and black bears, and mountain goats. Salmon are critical to the unique way of life of the Tlingit, Haida, and Tsimshian peoples who have called these lands home since time immemorial. In addition, sport and commercial fishing in Southeast Alaska contribute $1 billion annually to the regional economy and account for 10 percent of jobs in the region. Southeast Alaska's broader recreation and tourism industries, including guided hunting and wildlife viewing, also depend on abundant fish and wildlife populations. The Assessment must accurately capture the importance of salmon to the cultural, ecological, and economic future of Southeast Alaska, and the final Plan Revision should maintain existing habitat safeguards for T77 watersheds and TNC/Audubon Priority Conservation Areas that benefit recreational, commercial, and subsistence users. The Plan Revision should also accurately reflect the enormous economic and cultural value of conserving these places.

C. Restoration is prioritized for areas of degraded, high-value fish and wildlife habitat. Currently, nearly 700 identified culverts and bridges are blocking hundreds of miles of salmon spawning streams across the Tongass. In large tracts of previously logged areas, the forest canopy is reaching the stem exclusion stage and becoming poor habitat for deer and other wildlife. The loss of high-quality habitat presents significant threats to hunting, fishing, and recreation businesses operating on the Tongass, and reduces important subsistence opportunities for local communities. Restoration improves habitat quality and supports healthy populations of keystone species like salmon, trout, and deer-and in turn, the local people and businesses who depend on them. Restoration projects can also benefit rural communities by improving flood resiliency and water quality, reducing erosion and risk of road failure and landslides, and employing local contractors. The final Plan Revision should identify restoration-focused management areas and objectives that would deliver the strongest return on investment for fish, wildlife, and local communities. The final Assessment must reflect the critical need for restoration of these degraded watersheds across the Tongass.

D. The Tongass is managed to support the thriving outdoor recreation use and visitor industries while minimizing conflicts between user groups. Southeast Alaska is the most visited region of Alaska, and the visitor industry is the largest provider of jobs in the region, supporting 9,000 year-round-equivalent jobs. Visitors spend approximately $800 million across Southeast Alaska communities, drawn to the region by its beautiful scenery and abundant fish and wildlife that are increasingly rare outside of Alaska. As the visitor industry has grown, so have management challenges, including user capacity issues, deferred maintenance of trails and infrastructure, slow or burdensome recreation permitting, and other conflicts. When the last plan was written, land management planning for the visitor industry was an afterthought to planning for the timber industry. It is critical that the assessment reflect that the economic drivers of the region have shifted and management priorities and resources must follow suit. The Plan Revision should provide distinction between local and commercial use, direction for increasing local benefits and stewardship while minimizing the impacts of large-scale tourism on forest resources and retaining the unique characteristics of the Tongass, addressing the priorities and concerns of local communities, subsistence harvesters, and dispersed recreation interests, including local hunters and anglers, small-scale guides and outfitters, and other outdoor enthusiasts.

E. Timber resources are managed sustainably and with an emphasis on developing an appropriately-scaled young-growth forest products industry that benefits local communities. Previous approaches to forest management exported much of Southeast Alaska's forest-based wealth to markets overseas, at great expense to American taxpayers and Southeast Alaskans. Following significant changes in global timber markets and shifts in community values, the Forest Service first initiated a process to transition the timber program on the Tongass to young-growth management in 2010. Looking ahead to the next 15+ years, we support integrated forest management projects that facilitate a combination of habitat restoration, precommercial thinning-to improve forest health and habitat quality-and right-sized young-growth offerings. These projects should prioritize local employment while supplying local and regional markets for young-growth forest products and aiding economic diversification. The history of timber harvest on the Tongass and steps made to transition since the 2016 amendment need to be thoroughly documented in the Assessment in order to chart an adjusted path forward.

F. Incorporating climate change adaptation and mitigation strategies into management paradigms for the Tongass is of paramount importance. Climate change is arguably the biggest stressor on our natural environment and way of life. Extreme weather events, landslides, drought, and warming oceans are just some of the conditions that are threatening the safety of our communities and the health of the resources, landscapes, and watersheds that we depend on. The Tongass is an immense carbon sink; the ability of the Tongass to sequester carbon has been well-documented in research and, as such, should be thoroughly documented in the Assessment, while the forest should be managed and valued accordingly in the new Forest Plan. Additionally, strategies for increasing resiliency and adaptation to the impacts of climate change must be factored into

management activities including restoration work, infrastructure investments, energy development, and special use permitting.

G. The agency should invest in capacity-building and pursue co-stewardship

opportunities with Tribes and local communities to accomplish objectives on the ground. Co-stewardship is a powerful tool to accomplish shared Forest Service and Tribal community priorities, invest in local capacity and workforce development-of particular importance in rural communities-and facilitate joint management of natural resources that are the basis of culture and heritage for Tlingit, Haida, and Tsimshian people and communities. The agency should seek to bolster capacity building with other landowners and those with traditional ties to the region, especially Tribes and Alaska Native Corporations. The Assessment should capture areas of interest from Tribes regarding co-stewardship opportunities, document what kinds of tools are available to the agency to facilitate these outcomes, and incorporate traditional and ecological knowledge throughout the reports. The final Plan Revision should seek to uplift and pursue these approaches and agreements to accomplish its objectives.

Successfully implementing this collaborative vision through the Plan Revision will allow the Forest Service to continue to build trust in the communities it serves, support a sustainable young-growth forest products industry, maintain and enhance the best remaining fish and wildlife habitat on the forest, and ensure workforce development and economic opportunity in the rural communities adjacent to the Tongass National Forest. Building a strong basis for this collaborative vision in the forest plan requires that the Assessment accurately captures and summarizes the current priorities of Southeast Alaskans, the nature of the Tongass as Indigenous homelands and how the agency can support co-stewardship, the economic realities of our region, the need to address climate change impacts and restoration priorities, and the current conditions and stressors facing the most productive salmon, fish, and wildlife habitat on our forest.

The rest of these comments provide more in-depth technical analysis as to where the Assessment falls short of meeting the requirements of the 2012 Planning Rule, and what the agency can do to strengthen the draft Assessment reports to ensure that the final Assessment includes the necessary information to move to the next step of the Plan Revision process.

II. The Assessment Process

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In our view, although the draft Assessment reports contain myriad information, most reports do not meet the expectations for Assessments set forth in the Forest Service's 2012 Planning Rule. Many draft reports simply establish existing ecological processes or socioeconomic settings, but do not evaluate conditions and trends, and their relationship to a land management plan, in the context of a broader landscape as required by the Planning Rule. 36 C.F.R. § 219.5(a)(1). Because Assessments are to be used during Plan Revision to determine whether there is a need to change the existing plan and to inform the development of plan components and other plan content, it is essential that the Assessment conduct the requisite "assessment" (36 C.F.R. §

1 A notable exception is the draft Tongass as an Indigenous Place Assessment report, which does an excellent job of meeting the expectations of the 2012 Planning Rule.

219.7(c)(2)). The comments below identify where each draft Assessment report can be improved to put the Tongass on the best trajectory for a successful revision and revised forest plan.

We recommend that the Forest Service put their efforts in the next few months toward

adding the information required for the evaluation of conditions and trends so the agency can effectively articulate the Need for Change based on the patterns observed on the Tongass. We believe that if the planning team is able to collaborate effectively with local staff, this critical information can be added without re-writing the entire Assessment, given that staff have already spent time distilling their preliminary ideas of what might need to change in a revised plan.

III. Assessment Report Analysis

In our view, while much useful information is contained in the draft Assessment sections, they must do more than just gather information on their subjects: They all must do a better job of demonstrating the purpose and need for this Plan Revision. The final Assessment must accurately capture current conditions and trends on the Forest, and identify opportunities to better align forest management with community values and priorities. To inform the Need for Change in the Plan Revision, the final Assessment should help answer questions such as:
? What are measures of healthy communities, ecosystems, and economies on the Tongass?
? What are the current conditions and trends of community, ecosystem, and economic health across the Tongass?
? What are the stressors impeding the health of communities, ecosystems and economies across the Tongass?
? How does forest management need to change to strengthen the health of communities, ecosystems and economies across the Tongass?
? How are important metrics monitored currently and what are the known gaps? How are new metrics for wild salmon, carbon sequestration, partnerships and co-stewardship, and other developing practices being devised?

As discussed above, the information analyzed in Assessments should be used "to identify a preliminary need to change the existing plan and to inform the development of plan components and other plan content." 36 C.F.R. §219.7(c)(2)(i). Similarly, the Assessment report should describe "a clear base of information for identifying a need to change the plan" (Forest Service Handbook (FSH) 1909.12, ch. 10, sec. 11.3).

Overall, stronger linkages between Assessments and the forthcoming Need for Change are necessary in order to meet the 2012 Planning Rule's requirements to "document how best available scientific information was used to inform the assessment, the plan decision, and the monitoring program" and to "[i]dentify what information was determined to be the BASI, explain the basis for that determination, and explain how the information was applied to the issues considered" (36 C.F.R. §219.3).

The final Assessment should more clearly "document information needs" (§ 219.a)(3)) and identify "key assumptions, risks, areas of uncertainty, and how the assessment can inform the development of the monitoring program" (FSH 1909.12, ch. 10, sec. 11.3). Identifying these information needs, assumptions, risks, and uncertainties will be essential to structure a more adaptive approach to planning in the future. Some of the Assessment reports identify information needs, but only in a cursory fashion, and there is often no corresponding discussion of how these information needs could be filled and their relevance to the monitoring program. Clearly identifying information needs will be critical to the development of a more adaptive planning

framework.

The Tongass should make efforts to frontload information and partners early in the planning process. During the Assessment phase, the Forest Service should have made efforts to better populate the plan with relevant information. The Forest should not solely rely on those members of the public who "show up" and provide information. This mode of operation most often results in "hit or miss" data collection and data gaps are the result. In our view, there are some critical sources of relevant information that were not cited or used to inform the Assessment process; these resources are cited in footnotes throughout these comments.

While the Tongass as an Indigenous Place draft Assessment does an excellent job of describing traditional uses of the Forest, the other Assessment sections would be improved by providing a general discussion of historic and traditional uses by Alaska Tribes. Besides references in the Terrestrial Ecosystems, Subsistence, and Socioeconomic Conditions sections of the draft Assessment, references to traditional uses and stewardship methods of the forest are lacking throughout the draft Assessments. The Watershed Condition and Water Resources section is a particular place where these references should be strengthened, given the long history of Tlingit, Haida, and Tsimshian peoples' stewardship of watersheds and fish bearing streams, and the fact that these streams and fishing grounds were the most important property that clans owned.

The Tongass as an Indigenous Place Assessment can do the bulk of the work of representing the traditional and current Tribal uses of the forest, but each Assessment team should include the Tribal information and/or traditional ecological knowledge that is particularly relevant or pertinent for their Assessment chapter. For example, the Subsistence chapter should also detail the origins of the Subsistence program, Title 8 of ANILCA, and the link between traditional Native harvesting rights and the subsistence program as it currently exists. Oftentimes, cultural and historic resource condition Assessment reports are more focused on cultural archeology than on ethnography and anthropology of current human communities and their uses of the land. Although it is important to address historic uses, it is also imperative that Assessments contain information on current communities and living practices, their importance to the landscape, and the opportunities that exist to engage in balancing natural processes and the human species through forestland management.

In particular, the Assessments should provide information on how traditional human communities are affected by current conditions-such as watersheds and terrestrial ecosystems that have been degraded by past logging practices; current budgetary constraints for road maintenance and restoration work, the state of local recreation

infrastructure, etc.-and discussions on how communities will be affected by trends, stressors, and the future management (or lack of management) of ecosystem resources.

In revising the draft Assessment reports, the planning team should focus on presentation of information to increase utility and applicability. The draft Assessment reports provide a wide variety of information on each of the Assessment topics, and while having a lot of information in one place can be helpful, this approach leads to Assessments that are unwieldy, not as strategically focused as they could be, and missing critical pieces of information necessary to inform the Need for Change and the revised plan.

A. The Tongass as an Indigenous Place

The Tongass National Forest has a unique and significant relationship with the Indigenous peoples of Southeast Alaska, including the Tlingit, Haida, and Tsimshian, whose presence in the area spans over 10,000 years. These Indigenous communities have a deep connection to the land, which is integral to their cultural practices, subsistence lifestyles, and spiritual beliefs. The Forest Service is required to encourage participation by Tribes and Alaska Native Corporations in the planning process, seeking their input on Native knowledge, land ethics, cultural issues, and sacred sites. We appreciate that the Forest Service piloted an innovative approach and put resources towards gathering this input and generally support this methodology, while recognizing that this is a role that the agency should continue to build capacity in. Indigenous people view the Tongass as their traditional homelands and have continuously practiced stewardship of the land since time immemorial, emphasizing sustainable use and reciprocal respect for natural resources. The relationship is characterized by a need for co-stewardship to ensure that Indigenous perspectives and priorities are integrated into forest management decisions.

The revised forest plan, all Assessments, and indeed all land management activities the Forest Service conducts on the Tongass National Forest must address the history, needs, and concerns of the Native Peoples who call the Tongass home.

We think that the assessment captures many of the main challenges faced by Alaska Native Tribes, which include historical trauma and dispossession, inadequate consultation practices, climate change impacts, resource management conflicts, difficulties accessing cultural resources, priorities of food security and food sovereignty, infrastructure and deferred maintenance concerns and opportunities for collaboration, necessary trust building, and economic and workforce development priorities. Addressing these challenges requires meaningful Government-to-Government consultation, co-stewardship, and integration of Indigenous Knowledge and priorities into land management practices as embodied in the revised Forest Plan.

The Tongass as an Indigenous Place is an important component of the Assessment and should not be diminished or reduced in any way, but rather improved with further Tribal outreach and input. We encourage the Forest Service to include the components of the proposed need for change from a Tribal perspective that are located in the draft assessment in their proposed Need for Change. We further recommend that the Forest Service take good care to integrate Tribal

comments that are provided throughout the assessment as these communities know how to portray their needs, challenges, and opportunities best.

We believe that overall, co-stewardship agreements are essential for empowering Tribes to protect their cultural heritage, manage their natural resources sustainably, and ensure the well-being of their communities and the entire Tongass National Forest for future generations. The revised Forest Plan should include plan components that emphasize the use of co-stewardship agreements to better achieve the desired conditions set forth in the plan, which themselves should reflect Tribal priorities in addition to other multiple use objectives. We also believe that capacity building, and the work that the agency has done to invest in these activities over the decade, are important to ensure that co-stewardship agreements are a success and that Tribes and Tribal citizens have access to all the tools and training that can contribute to success in achieving land management objectives. There are many good examples of capacity building and co-stewardship agreements that the Forest Service has from the past decade that they can

draw on to continue strengthening their efforts and outreach in this regard.

B. Terrestrial Ecosystems

The revision of the forest plan presents an opportunity to improve adaptive ecosystem and ecocultural management on the Tongass using the framework of the 2012 Planning Rule. The draft Terrestrial Ecosystems Assessment forms the basis for those changes. The draft assessment can be improved with a closer look at conditions, trends, and drivers, rather than just describing the variety of ecosystems that exist on the Tongass.

Ecosystem Integrity and Habitat Fragmentation
In order to make effective Need to Change determinations, it is important to estimate ecosystem trends for ecological integrity with the explicit assumption that existing plan direction remains in place and assuming the influence of a changing climate (FSH 1909.12). In practice, this requires an evaluation of the effect of the current plan on the key characteristics of ecosystem integrity. The draft Assessment touches on current plan direction, for instance noting that 20 percent of the Forest is allocated within development land use designations, but there does not appear to be an evaluation of how the existing LUD framework, and the specific plan direction within the LUDs, affects trends in ecological integrity. References to the results of current plan monitoring programs that could be used to evaluate the effectiveness of current plan direction and Need to Change are limited in the draft report.

Issues of scale are paramount when assessing ecosystem conditions on the Tongass in order to develop effective plan direction to meet ecological integrity and species viability requirements. The Alexander Archipelago is naturally fragmented across 5,000 islands, many of which have "distinct climatic, botanical, and faunal differences" (Species of Conservation Concern "SCC" Draft Assessment, p. 11). This fragmentation is both natural and the result of anthropogenic activities and stressors. This fragmentation also means that different watersheds and landscapes on the Tongass are more ecologically productive than others. For example, the T77 and TNC/Audubon Conservation Priority areas are some of the most ecologically productive landscapes, and are highly productive pockets amid other not-as-productive lands. This means that human activities, albeit limited to a relatively small footprint, have had an outsized impact in

further fragmenting ecosystems and habitats by targeting some of the most highly productive and biologically diverse environments (SCC Draft Assessment, p. 11). Characteristics of ecosystems, for example landscape structure and connectivity/fragmentation, as well as species distribution and abundance, should be built into the spatial analysis framework.

The draft Assessment presents criteria for ecosystem integrity assessment, and states that key characteristics were established per ecosystem. It is unclear what those selected key characteristics are, because they are not listed or described in the report. The selection of key ecosystem characteristics indicative of compositional, structural, functional, and connective ecosystem integrity is vital as they will be the cornerstone for development of measurable Desired Conditions and other plan components, as well as the subject of monitoring and adaptive management strategies. Key ecosystem characteristics play an essential role in the proposed criteria for assessment: according to the criteria listed on p. 10, the characteristics may exhibit ranges of variation that were either common or uncommon in the past. To some degree the key characteristics are suggested within the ecosystem write ups; we would recommend documenting the selected characteristics in one place, for example in relation to Table 2 on p. 11.

Climate Change
The development of ecosystem specific adaptation strategies are warranted in cases where climate change is driving changes in ecological integrity. In some instances adoption of monitoring provisions may be the primary action taken, for example within alpine and subalpine systems, including monitoring of rare plants.

The revised Forest Plan should result in a clear conservation and adaptation strategy for
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yellow-cedar given widespread mortality over 500,000 acres and clear climate stress. While the draft Assessment notes current management direction for yellow cedar, it does not forecast integrity trends based on that current direction; nonetheless it seems that there is a need for change to conserve this important ecocultural system. Partnering with Tribes to incorporate strategies from Tribal adaptation plans-including conservation and management activities, assisted migration, and monitoring and reporting processes-is a good course of action for yellow cedar. See, Tlingit & Haida Adaptation Plan, Table 5 ("Resilience Strategies for Cedar"),
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HIA's Climate Adaptation Plan, and Metlakatla Indian Community's Climate Adaptation Plan .
We recommend that Tribal adaptation plans, such as the Tlingit and Haida Climate Adaptation Plan, be directly incorporated into planning, monitoring, and adaptive management processes for all resources/landscapes that they provide information on.

Old Growth Integrity
Evaluating the impacts of historical and ongoing (current plan) timber harvest on key characteristics of ecological integrity is an important issue for analysis. Page 12 of the assessment introduces timber harvest effects on productive old growth forest and riparian areas.
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There are many more species beyond yellow-cedar with well-studied climate change effects with potential management actions. See, Shanley CS, et al. Climate change implications in the northern coastal temperate rainforest of North America. Climatic Change 130, 155-170 ht t ps : / / doi .org/ 10.1007/ s 10584-015-1355-9 (2015). It
would be helpful to have these species and ecosystems climate concerns systematically described with the best available science with potential mitigation actions.
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https://www.hia-env.org/climate-adaptation-plan/cultural-resources/
4
https://www.cakex.org/sites/default/files/documents/MIC%20CCAP%20secondary%20proof.pdf
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This analysis frame suggests that old growth (and its structure, composition, function, connectivity) is a key system characteristic of the productive forest ecosystem type. Indicators of key characteristics of old growth are suggested on p.13 (canopy layers; interspersion of trees of multiple age classes; presence of snags, decadent trees, and fallen trees; presence of forbs; variation in amounts and distribution of live trees), yet it does not appear that old growth system integrity was evaluated against these definitional characteristics.

The Assessment report should document and evaluate the characteristics of old growth system integrity from the Tongass Old Growth Conservation Strategy to support a determination of whether that strategy needs to change to respond to new information and meet Planning Rule requirements. The Assessment report only briefly cites (Berkley et al, 2024) and does not expand

upon the pre-assessment effort that assessed the efficacy of the Tongass Old Growth Conservation Strategy; this should be referenced more frequently in this chapter and attached as an appendix to the final Assessment. Clear evaluation of the effectiveness of the reserve system and corridor network, along with existing Standards and Guidelines, is necessary to support either status quo or change determinations based on principles of ecological integrity (i.e., landscape structure and connectivity). It is not clear to the reader if the Conservation Strategy is meeting Planning Rule requirements for diversity and integrity, or whether the strategy needs to
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be updated to accommodate climate adaptation considerations.

Scale

As noted above, it is important that the Assessment evaluate ecological integrity at appropriate scales so as to enable effective plan direction. For example, the analysis of Well Drained Forest ecosystems states that these systems exhibit "overall high integrity" because "human disturbances such as timber harvest have occurred on a relatively small portion of this ecosystem, with a current trend toward less harvest, particularly in old-growth stands" (Draft Terrestrial Ecosystems Assessment Report, p. 23, emphasis added). While a measure of relative impact is of interest for understanding system condition, there is also a need to evaluate those impacts on attributes of integrity, particularly within a naturally fragmented planning area. The draft Assessment notes the effects of past harvest on key characteristics of system integrity, including less complex stand structure, less understory plant diversity, and less presence of snags and down wood debris (Id. at 25). As important are broader effects to landscape structure (e.g., fragmentation) and connectivity as key characteristics of integrity measured within the broader ecosystem.

The draft Assessment report states that "some areas" of well drained forest ecosystems have experienced more focused impacts (such as loss of old growth forest), and could thus be suffering from compromised integrity. Of the 430,000 acres that has been harvested on the Forest, approximately 50% occurred on the "southern third" of the Forest, with much of that
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Reporting that only 8% of old-growth forest has been harvested is a disingenuous and misleading statistic. The highest volume contiguous old-growth forest in southeast Alaska has been reduced by 66.5%. See, Albert DM, Schoen JW. Use of Historical Logging Patterns to Identify Disproportionately Logged Ecosystems within Temperate
Rainforests of Southeastern Alaska. Conservation Biology 27, 774-784 ht t ps : / / doi .org/ 10.1111/ c obi .12109 (2013).
While the Tongass is the major public land owner in Southeast Alaska, it would be helpful to see these types of statistics presented for all landownerships. There have been data sharing MOU's created for these types of processes
in the past, and it will be important to renew those relationships through this process to manage watersheds and islands as a whole.
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impact on Prince of Wales Island. According to the draft Tongass National Forest Vulnerability assessment: "In Southeast Alaska, large-tree (old growth) forests have been reduced by 28 percent, and landscapes with the highest volume of contiguous old growth by 66 percent, with some bioregions being more heavily harvested than others. For example, on north-central Prince of Wales Island, contiguous high-volume forest was reduced by 94 percent by logging. The legacy of this non-climate stressor will exacerbate climate-change impacts on species dependent on large-tree conifer forests" (Holofsky et al., lines 4506-4514). The TNC/Audubon Ecoregional

Assessment, while published in 2007, is still a reliable resource that quantifies and summarizes
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the impacts to habitats across the Tongass. Where possible, updating spatial analysis and summary statistics from relevant sections of that assessment could enable useful discussions of trends and changing conditions.

Ecological integrity should be evaluated through the lens of natural and anthropogenic fragmentation, species endemism, and climate change impacts. Specific geographic areas within the Forest may warrant tailored restoration and adaptation strategies. In addition, while it is important to note that "very low levels of harvest have occurred from the early 2000s through the present" it is also important to note what level of harvest is allowed under the current plan, particularly within existing unharvested areas that have been subject to focused historical harvest and may suffer from compromised integrity (e.g., Prince of Wales Island) as there is an important planning distinction between how a plan has been implemented and how it could be implemented moving forward under existing plan direction.

It is important to understand what types of activities could occur within high integrity unharvested stands under the current plan, specifically where those activities may occur, and whether those activities effectively maintain ecological integrity and are not maladaptive (contribute to vulnerability). The assessment catalogues unharvested forests (well-drained, poorly drained, and riparian) as moderately vulnerable to climate impacts; but the degree to which that vulnerability may be compounded by maladaptive activities allowable under the current plan is unclear thus warranting further examination of the impacts of allowable human activities such as timber harvest and road building on the integrity of unharvested systems within a highly fragmented planning area. This type of geographic specific analysis should be extended beyond timber harvest to other potential anthropogenic stressors to system integrity such as mining, roadbuilding, and energy or other infrastructure developments.

The draft Assessment does a good job of documenting integrity conditions in previously harvested/second-growth productive stands to support the development of the Need for Change determinations and plan components. For example, unthinned post-harvest stands include key characteristics that can guide restoration; plan direction to improve understory and stand structure heterogeneity may be warranted after considering what is in the current Forest Plan and whether it is leading to necessary improvements in integrity. The Assessment shows some ambivalence about whether to take actions to accelerate and enhance key stand characteristics of integrity; this same framing appears in the discussion of Poorly Drained and Riparian forests as well. More discussion is warranted on whether the current plan needs to change to facilitate
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TNC/Audubon 2007 Ecoregional Assessment: https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/alaska/seak/era/cfm/Pages/default.aspx
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actions that improve the ecological integrity of harvested and unthinned riparian forests, keeping in mind concerns over risks to aquatic resources associated with riparian silviculture treatments.

Well Drained Ecosystems

Forest Plan direction should be based on the Assessment's characterization of system drivers, including expected climate change impacts. For example, in Well Drained ecosystems, frequent fine-scale, low-intensity disturbance drives and maintains ecological integrity. Silviculture that mimics this disturbance type is warranted to maintain ecological integrity; yet, the draft

Assessment report does not reveal if the current plan does so. If climate change is expected to increase the frequency and/or severity of disturbance, this should be recognized as a need to change the current plan to develop adaptive silvicultural practices; and spatial data indicating locations on the Forest more likely to experience these changes in disturbance regimes could support condition- or geographic-based adaptive silviculture strategies and prioritization of ecosystem adaptation management activities. This is the case in both the terrestrial and aquatic ecosystem realms.

We also note that there has been more recent spatially-explicit modeling of windthrow patterns in [7] southeast Alaska that should be considered in the final Assessment report. This research suggests there are readily mappable areas where management activities should be limited to avoid adverse resource damage such as loss of riparian buffers on salmon streams. Regional experts in wind and landslide modeling should be invited to participate on a technical mapping team.

C. Threatened, Endangered, Proposed, Candidate Species

The draft Assessment appropriately notes the indirect relationship between the Forest and the federally recognized marine species. Existing plan direction should be evaluated in light of requirements for federally recognized species in the 2012 Planning Rule. 36 C.F.R. § 219.9(b) of the rule requires that forest plans provide ecological conditions that contribute to the recovery of federally listed threatened and endangered species and conserve proposed and candidate species (as is the case with the Sunflower sea star). While those updated regulatory requirements may not materially change the existing plan direction, the revision provides an opportunity to carefully examine the Forest's broad role in "contributing to recovery" of listed species. Section 23.13a of the planning directives offer good guidance on thinking about plan components for recovery including "Work beyond the plan area boundary to collaborate and cooperate with U.S. Fish and Wildlife Service, National Marine Fisheries Service, States, Tribes, other partners, landowners, and land managers to support an all-lands approach to species recovery." Collaboration between the Forest Service and marine jurisdiction entities will be important due to the holistic nature of the health of marine and terrestrial resources.

[7] Buma B, Barrett TM. Spatial and topographic trends in forest expansion and biomass change, from regional to local scales. Global Change Biology 21, 3445-3454 ht t ps : / / doi .org/ 10.1111/ gc b.12915 (2015); Buma B, Thompson T. Long-term exposure to more frequent disturbances increases baseline carbon in some ecosystems: Mapping and quantifying the disturbance frequency-ecosystem C relationship. PLOS ONE 14, e0212526 ht t ps : / / doi .org/ 10.1371/ j ourna l .pone .0212526 (2019); Buma B, Johnson AC. The role of windstorm exposure and yellow cedar decline on landslide susceptibility in southeast Alaskan temperate rainforests. Geomorphology 228, 504-511 ht t ps : / / www.s c i e nc e di re c t .c om / s c i e nc e / a rt i c l e / pi i / S0169555X14005169 (2015).

D. Species of Conservation Concern

It is important to integrate the ecosystem level analysis (terrestrial and aquatic) with the SCC analysis. The draft Species of Conservation Concern Assessment (p. 5) states: "Most species will

be maintained by plan components in the revised plan…that maintain broad level ecosystem integrity and diversity." This can only be the case if coarse-scale plan components provide the conditions necessary for viability. As noted in our comments on the draft Terrestrial Ecosystems Assessment, at this stage it does not appear that key characteristics for system integrity have been systematically selected, thus making it difficult to evaluate whether coarse-filter plan direction would provide necessary conditions for at-risk species. Many plans revised under the 2012 planning rule have crosswalked the habitat needs of individual species with ecosystem characteristics to display how coarse-filter strategies will meet species-specific needs, and the Tongass should do the same.

The draft SCC Assessment lacks key information to enable effective public comment. For example, under the "Methods" section, it states that the Forest "developed a process paper that describes the identification of SCC" for the revision; the reference is "Species of Conservation Concern identification process for Land Management Plan Revision" but we could not locate this document online. The Plan Revision Library and Supplemental Information page, under the SCC Process tab, states that information is "coming soon" despite the draft Assessment stating that "more detailed information on the process of identifying SCC can be found on the Tongass National Forest Plan Revision webpage."

As such, it is difficult to comment on the process undertaken to identify and filter the potential SCC. We understand that 416 initially identified Species to Consider were filtered down to 254 "Species Under Review." It appears that criteria regarding whether the species are native and known to occur on the Forest were applied at this stage, along with ESA-listed or -candidate species. "Known to occur" determinations can be complex and nuanced, so it is therefore important that external parties have access to these screening processes to weigh in and provide effective comment.

The draft Assessment states that 18% of terrestrial wildlife species were not carried forward into the Species Under Review List, including for possibly not meeting NatureServe ranking or local concern criteria. This also applied to 83% of the screened out aquatic species. It is important for the public and others to understand how those criteria have been interpreted and applied. For example, the planning rule Directives state that species with status ranks of G/T3 or S1 or S2 on the NatureServe ranking system "should be considered" as potential SCC. Species with those NatureServe ranks are automatically "of concern" in that they are not "secure" across their range and may be vulnerable or at-risk, including within the Tongass planning area. In those cases, the Forest would determine that notwithstanding established definitive broad concern regarding those species, a determination was made that the species was "secure" within the planning area. While making such a finding is legitimate, it warrants careful and transparent analysis.

One specific example of process-related concerns that result in a lack of clarity to the broader public and may result in Assessment shortcomings is with Gulf of Alaska Chinook salmon. In 2024, NOAA Fisheries filed a positive 90-day finding for the ESA petition of this species,

triggering a more in-depth review of whether a listing may be warranted. Despite the Species of Conservation Concern chapter itself identifying "Species that have been petitioned for Federal listing and for which a positive 90-day finding has been made" as a species category that "should" be considered as a potential SCC, Appendix A's List of Species to Consider shows that Chinook salmon "does not meet the criteria for consideration" without any further detail, and without any reference to the positive 90-day finding. Of the final 11 aquatic species that moved

forward for consideration, only two are Chinook salmon populations. Of these two populations, one (Chinook salmon, Wheeler Creek) was disqualified due to a "lack of basic scientific information" - despite content in the Subsistence draft report identifying this population as the "only wild [Chinook salmon] stocks found in island drainages," indicating a level of uniqueness that may suggest this population may merit further data collection, particularly in light of the positive finding pertaining to broader Gulf of Alaska Chinook salmon. The second Chinook salmon population (Chinook salmon, King Salmon River) was listed for further evaluation due to possible substantial threats. However, neither of these evaluations indicate any relationship between these Chinook salmon populations and the broader documented concerns pertaining to the Gulf of Alaska Chinook salmon population, nor does the description of the process to arrive at the final Species of Conservation Concern list make clear whether this was part of the consideration.

Similarly, the "local conservation concern" direction is intended to pick up species that do not appear on definitive lists of concern where additional information indicates such concern in the planning area. In all cases where species have been filtered out of the process, it is imperative that the Forest be able to support a conclusion that the species is "secure" within the planning area after considering all stressors. Documentation should be made publicly available to support any determinations that Regional Forester Sensitive Species that have already been determined to be at-risk are now determined to be secure within the planning area.

Careful attention should be given to determinations that there is insufficient scientific information available to determine if there is substantial concern in the plan area, or if the species are secure. According to the draft Assessment, 65% of species fall into this category. However, for species already identified definitely by NatureServe as being not secure, sufficient scientific information indicating concern is already available. As noted, if there is new information that indicates a once not secure species is now secure, the Forest Service must make that information publicly available.

The draft Assessment notes that the Alexander Archipelago is made up of over 5,000 islands and that the Tongass is "naturally fragmented by islands and steep glacial terrain with glacial fjords and major river systems dissecting the mountainous mainland region" (Draft SCC Assessment Report, p. 11). Such natural fragmentation results in "distinct climatic, botanical, and faunal differences" and "many endemic subspecies and genetic lineages." Id. This natural fragmentation and endemism has been compounded by fragmentation and ecosystem degradation associated with human activities such as logging and road building. Natural ecosystem fragmentation and endemism are important factors to take into account when making SCC determinations. The Directives recognized this key issue when highlighting that local conservation concern determinations could be warranted in cases of: "Restricted ranges (with corresponding narrow endemics, disjunct populations, or species at the edge of their range" (FSH 1909.12). Wildlife

inhabiting areas that have been strongly affected and degraded by human activities should be carefully evaluated for triggering local conservation concern and potential SCC status. ne species to consider more closely is the deer on Prince of Wales Island, whose habitat has been heavily impacted by timber harvest. Concerns over deer populations on Prince of Wales brought community members, scientists, Tribal members, agency staff, and conservation groups together in 2022 for a dedicated symposium. Many of the groups responsible for that convening continue to engage collaboratively in response to growing food security concerns.

The draft Assessment report describes current management practices, stating that existing plan components "include protections for all types of ecosystems, general wildlife, and some specific species" as well as the Tongass Old Growth Conservation Strategy (Draft SCC Assessment Report, p. 12). An appropriate process to evaluate the Need to Change existing plan direction would be to document the ecological conditions necessary for the viability of each SCC and crosswalk those with existing plan direction for ecosystems; this should also be done in the ecosystem assessment for key ecosystem characteristics and their natural range of variation. By documenting the specific ecological conditions necessary for SCC viability, and factoring in climate impacts, existing coarse filter components can be evaluated for need to change, and the need for additional species-specific (fine-filter) components can be identified.

E. Watershed Condition and Water Resources

Given that Southeast Alaska's economy, culture, forest health, and communities depend on healthy salmon habitat and populations, wild salmon are arguably the most important "output" on the Forest: thus, a revised plan that prioritizes conserving unimpaired watersheds and restoring natural watershed processes is essential.

Chapter 4 of the Tongass National Forest Climate Change Vulnerability Report (Halofsky et al. 2024) lays out a driving question for assessing the need to change the current land management plan: "There is considerable concern about the impacts that climate change will have on watersheds that drain the TNF, and the capacity for these watersheds to sustain healthy salmon populations in the future" (Halofsky et al. 2024, lines 781-783). The assessment should improve its communication of wild salmon as the most important ecological, economic, and cultural output of the Tongass.

Prioritization of protection, adaptation, and restoration activities based on analysis and robust community engagement will be of vital importance in the Plan Revision, given the number of watersheds on the Forest (921 subwatersheds) and limited resources. Where they exist, the restoration prioritization processes developed by agency partners-including TU, TNC, and SCS-and collaboratives such as community forest partnerships can be leveraged as a starting point for these discussions. Our organizations have long partnered with the Forest Service and other partners to restore and improve impacted fish habitat on the Tongass. Trout Unlimited is currently partnering with the Yakutat Tlingit Tribe and the Forest Service to remove and replace a series of culverts on the Yakutat Ranger District that fail to meet Forest Service and state standards for fish passage. TNC and TU are also working with the Forest Service, Sealaska Corp., and the Keex' Kwaan Community Forest Partnership to remove and replace several culverts that impede fish migration on Kuiu Island on the Petersburg Ranger District. SCS and

TU have also collaborated to support AOP restoration efforts on Admiralty Island and the Cube Cove watershed.

In late February of 2023, TNF staff rolled out the Tongass National Forest Fish Passage

Restoration project, a forest-wide initiative to remediate and restore aquatic organism passage at 693 water crossings (culverts, bridges, etc.) which do not meet current State of Alaska fish passage standards, otherwise known as "red" crossings. These impaired crossings are impacting an estimated 154 miles of upstream fish habitat, of which 33 miles are anadromous and 121 miles are resident fish habitat. Remediating these crossing will reconnect fragmented habitat and

allow aquatic organisms such as salmon, trout, and char to migrate freely. In addition to improved fish passage, these remediated structures will improve water quality by reducing erosion and sedimentation, improve hydrologic function, and reduce the threat of landslides. Fixing these crossings also will help ensure our roads and other infrastructure are durable and resistant to damage from flooding and changing climates. The final Assessment should accurately reflect the current and potential restoration opportunities on the Forest to improve fish passage.

Bellmore et al. (2024) recommends prioritizing the conservation of unimpaired watersheds that support current and expected future salmon productivity. Updates and additions to the 77 high-value salmon and trout watersheds identified in the 2016 Forest Plan Amendment should be considered as needed based on new information and analysis of present and future conservation value (e.g., areas of projected climate refugia and in those glaciated systems forecast to become more productive). The Forest Service should incorporate metrics of salmon habitat productivity into the Plan Revision through plan components and monitoring provisions, and should guide both conservation and watershed/aquatic ecosystem restoration planning and decision making. The Forest Service should seek to build on the work of the Wild Harvest Initiative by Ryan Bellmore (R10) and Karl Malcome (R9), working to quantify and describe the value of wild food harvest on Forest Service lands and waters, including fish, to local food security and nutritional needs.

One issue warranting further analysis is whether existing forest plan riparian buffers are sufficient to maintain watershed/aquatic habitat integrity given climate change impacts and considerable concern over watershed and salmon population conditions on the Forest. An analysis of the effectiveness of those buffers is likely warranted given that they date from the early 1990s and may not reflect best available science. The science on riparian buffers is evolving and a review of that science should be done to inform the updated Forest Plan. Two key [9] [10]
starting references are Flitcroft et al. (2022) and Moore et al. (2024).

[8] ht t ps : / / www.fs .us da .gov/ proj e c t / ? proj e c t = 63618

[9] Flitcroft, R., Munyon, J., Claeson, S,. Johnson, A., Moore, M., Tucker, E., Prussian, K., Jacobson, S., Lombard, H.
2022. Forest legacies and climate realities: spatial and temporal variation in fish populations and habitat characteristics on the Tongass National Forest, Alaska. Gen. Tech. Rep. PNW-GTR-1009. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.
ht t ps : / / doi .org/ 10.2737/ PNW-GT R -1009

[10] Moore J. M.J., Flitcroft R.L., Tucker E., Prussian K.M., Claeson S.M. 2024. Same streams in a different forest? Investigations of forest harvest legacies and future trajectories across 30 years of stream habitat monitoring on the
Tongass National Forest, Alaska. ht t ps : / / www.fs .us da .gov/ pnw/ pubs / j ourna l s / pnw_2024_m oore 001.pdf

The 2012 Planning Rule requires that "The plan must include plan components, including standards or guidelines, to maintain or restore the ecological integrity of riparian areas in the plan

area, including plan components to maintain or restore structure, function, composition, and connectivity" and "Plans must establish width(s) for riparian management zones around all lakes, perennial and intermittent streams, and open water wetlands" (36 C.F.R. § 219.8(a)(3)). The revised Forest Plan should consider the standard 300' foot buffers for activities near fish bearing streams as is common practice throughout other national forests, as well as the best available science regarding dynamic buffers.

The Directives appropriately note that forest planning teams should evaluate "the effects of climate change on stream flows that may affect the size of riparian management zones" when considering widths (FSH 1909.12 Chapter 20). The forest planning team may consider reviewing portions of Chapter 7 of the Synthesis of Science to Inform Land Management Within the Northwest Forest Plan Area (PNW GTR 966); that chapter (The Aquatic Conservation Strategy of the Northwest Forest Plan - A Review of the Relevant Science After 23 Years) includes a thorough discussion on emerging science concerning riparian zone delineation and management that is likely relevant to the Tongass plan area. However, riparian areas can be difficult to delineate, and "The current spatial distribution of riparian stands across the Tongass National Forest is undetermined, with only approximations provided from spatial modeling, without sufficient field or aerial verification" (Halofsky et al., lines 2721-2726).

While the draft Watershed Condition and Water Resources Assessment (p. 12) states that all subwatersheds are functioning properly as evaluated under the Watershed Condition Framework, it found that some subwatersheds are bordering on functioning at risk and exhibiting certain indicators rated as fair or poor, including red flags for aquatic habitat conditions, riparian and wetland vegetation condition, and roads and trails condition. The Assessment goes on to say that aquatic habitat conditions have declined in 41 subwatersheds (mostly due to acquisition of degraded lands via land exchange) while six subwatersheds saw declines in wetland vegetation conditions (Id. at p. 15).

This information suggests that the revised plan may need to update priority watersheds for restoration with updated watershed restoration action plans (WRAPs) to target specific degraded habitat and vegetation conditions in priority areas. The draft Assessment report references new priority watersheds that have already been identified, including those that overlay with the T77 watersheds. Updating and expanding the priority watershed work would build on the success of the Forest's existing WRAP program (which has completed the second highest number of action plans within the NFS), and take advantage of strong partner and community support for watershed restoration.

About five percent of the Forest's riparian forests have been harvested, much of which occurred within sensitive process groups that also contain high quality fish habitat (Draft Watershed Condition and Water Resources Assessment, p. 16). According to the Assessment, timber harvest in riparian areas was only expected to affect 10 acres per year, under the 2016 amendment (Id). Elsewhere the draft Assessment documents riparian vegetation treatments declining over time and only affecting 20 acres per year since 2017, within young-growth stands (presumably

previously harvested stands). The final Assessment should differentiate between purposes, needs, and impacts of timber harvest versus riparian vegetation treatments. Presumably, harvest is the purposeful removal of trees for wood fiber use (and perhaps other multiple use purposes), whereas vegetation treatments are for ecological purposes and do not include a commercial component. Considering declines in riparian vegetation conditions in certain watersheds, there is

an opportunity in the revised plan to establish plan direction to increase the number of riparian vegetation improvement projects that are designed (and monitored) to improve riparian area integrity. Given risks to riparian areas under certain management activities, including road building, it is important that the revised plan set robust components governing restoration of riparian vegetation for integrity and habitat improvement purposes. In the same vein, it is important to note that passive management in degraded riparian areas may miss opportunities to enhance key ecological processes, including developing desired structural conditions (see comments on draft Terrestrial Ecosystems Assessment).

The Assessment notes trending declines in the number of aquatic and restoration projects accomplished on the Forest, including declines in treating problematic road stream crossings and aquatic habitat improvement projects (draft Watershed Condition and Water Resources Assessment, p. 17-19). Declines seem related to accomplishment of initial priority restoration and improvement activities followed by a lack of subsequent priorities. A revised Forest Plan provides an opportunity to set new priorities and objectives for aquatic and watershed restoration activities. If one of the issues is capacity to accomplish restoration activities, Goals, Management Approaches, and other plan content can articulate strategies to work with partners-particularly Tribal partners-to improve capacity to accomplish aquatic habitat and watershed restoration objectives. The Planning Rule encourages "optional plan content" including "partnership opportunities or coordination activities" (36 C.F.R. § 219.7(f)(2)). We encourage the Forest Service to engage with local and Tribal communities to develop these strategies.

We noted that the draft Assessment provided no specific metrics on road decommissioning, yet it appears that this activity did contribute to improvements in road and trail conditions in over 100 subwatersheds (draft Watershed Condition and Water Resources Assessment, p. 15). The Plan Revision offers an opportunity to establish new priorities and objectives for road decommissioning as a key factor within the Watershed Condition Framework, where appropriate and warranted to improve watershed condition, integrity, and function.

Updates to the watershed components of the forest plan monitoring program may also be warranted. For example, Bellmore et al. suggest "key characteristics" for monitoring including shifts in flow, temperature, habitat, and aquatic food-web conditions. The authors suggest identification of "focal watersheds" for more intensive monitoring of watersheds and salmon
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populations. The revised Forest Plan can use Goals to articulate the types of monitoring and research partnerships that are necessary to accomplish this work.

Certain wild salmon populations should also be considered as Focal Species under the revised forest plan monitoring program. While the draft Assessment does not consider this opportunity, doing so may be warranted based on the functional role that salmon play in maintaining
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Goals as defined by (36 C.F.R. § 219.7(e)(2) are optional plan components that are "broad statements of intent, other than desired conditions, usually related to process or interaction with the public."

watershed, aquatic and terrestrial system integrity, along with significant contributions to regional social and economic sustainability.

F. Aquatic Ecosystems

The draft Assessment rightly focuses on the fact that the Tongass is a salmon forest. The revised Forest Plan should highlight the role of salmon in defining the Forest's "Distinctive Role and Contribution" within the broader landscape of Southeast Alaska, and beyond. Centering the Plan Revision around salmon will effectively integrate social, cultural, economic, subsistence, and ecological elements of the plan. Our organizations encourage the Plan Revision team to consider developing a section of the final Assessment that is dedicated to salmon.

1. Determining the integrity of aquatic ecosystems

The draft Aquatic Ecosystems Assessment report acknowledges that the existing Forest Plan does not assess the overall health of the Tongass National Forest ecosystem. It highlights the Plan Revision as a chance to set guidelines for maintaining and improving the integrity of the Forest's aquatic ecosystems. The driving question for planners and stakeholders at this stage is: How does the current plan perform against benchmark characteristics of aquatic system integrity? The components of the system-the key ecosystem characteristics-should be used in the analysis as reference benchmarks for evaluating the need to change the current plan to best meet planning rule requirements.

When assessing ecosystem integrity under the 2012 Planning Rule it is useful to, at the outset, clearly establish the key ecosystem characteristics-whether they be compositional, functional, or structural at varying and relevant ecological scales; doing so helps the planning audience understand the logic of the analysis. Overlaying and analyzing drivers and stressors on those selected characteristics then allows for the development of targeted plan components.

2. Importance of maintaining habitat diversity to salmon populations

The Plan Revision should include forest management objectives related to maintaining, fostering, and restoring diversity within and across salmon populations. Diversity across populations can make the regional population complexes much more stable and resistant to environmental variation, which in turn makes commercial harvests more stable (Schindler et al. [12] [13] 2010, Braun et al. 2016.) Similarly, diversity within populations makes the population itself [14] more stable and less responsive to environmental variations (Moore et al. 2010, Brennan et al.

[12] Schindler, D.E., Hilborn, R., Chasco, B., Boatright, C.P., Quinn, T.P., Rogers, L.A., Webster, M.S., 2010. Population diversity and the portfolio effect in an exploited species. Nature 465, 609-612. https://doi.org/10.1038/nature09060

[13] Braun, D.C., Moore, J.W., Candy, J., Bailey, R.E., 2016. Population diversity in salmon: linkages among response, genetic and life history diversity. Ecography 39, 317-328. https://doi.org/10.1111/ecog.01102

[14] Moore, J.W., McClure, M., Rogers, L.A., Schindler, D.E., 2010. Synchronization and portfolio performance of threatened salmon. Conservation Letters 3, 340-348. https://doi.org/10.1111/j.1755-263X.2010.00119.x

[15] 2019.) Diversity can include things like variation in body size, age at smolting, age at return, run timing, etc.

Diversity in these 'life-history traits' arises directly out of the amount of diversity in habitats [16] [17] within the watershed (Gallagher and Fraser 2023, Walsworth et al. 2020). For example, fish that rear in headwaters tend to have slower growth rates and smolt at older ages than fish that rear in lower tributaries or mainstem habitats. Without intact habitats in headwaters, lower tributaries, and the mainstem, the full suite of life history diversity within a population will not be achieved.

3. Statuses and trends of salmon and steelhead populations

Perhaps the most significant omission from the draft Aquatic Ecosystems Assessment is the lack of information about salmon population trends and statuses across the Tongass. With the exception of listing the populations and citing some suggestive evidence from subsistence permit reporting that populations may be declining in recent years, there is no indication how salmon and steelhead populations are doing. Having a nuanced understanding of the current conditions and trends for arguably the most important resource on the forest is critical for informing the Need for Change in the Plan Revision.

Population statuses and trends can give an indication of how forest practices have influenced populations, how populations are responding to external forces-including changes in ocean chemistry, commercial fishing, and hatchery activity-identify species that should be the focus of special conservation or restoration efforts in the forest, and importantly, give an indication of how much pressure could be sustained by the populations through resource development. We respectfully encourage the Forest Service to include the following salmon and steelhead status and trends in the final Assessment for the Plan Revision.

Chinook Salmon Status and Trends

Chinook salmon occur throughout the Tongass region, primarily in the large mainland rivers and their tributaries. Thirty-four rivers in the region have populations of Chinook salmon. The largest populations are the Alsek, Taku, Stikine, and the Behm Canal Rivers (i.e., the Unuk, Chickamin, [18] Blossom, and Keta Rivers. . Most of the Chinook production takes place in the upper portions of the transboundary rivers, outside of the Tongass National Forest. However, rearing and migration take place in the Tongass portions of these rivers.

[15] Brennan, S.R., Schindler, D.E., Cline, T.J., Walsworth, T.E., Buck, G., Fernandez, D.P., 2019. Shifting habitat mosaics and fish production across river basins. Science 364, 783-786. https://doi.org/10.1126/science.aav4313

[16] Gallagher, B.K., Fraser, D.J., 2023. Microgeographic variation in demography and thermal regimes stabilize regional abundance of a widespread freshwater fish. Ecological Applications e2936. https://doi.org/10.1002/eap.2936

[17] Walsworth, T.E., Baldock, J.R., Zimmerman, C.E., Schindler, D.E., 2020. Interaction between watershed features and climate forcing affects habitat profitability for juvenile salmon. Ecosphere 11, e03266. https://doi.org/10.1002/ecs2.3266

[18] Hagerman, G., Vaughn, M., and Priest, J. 2022. Annual Management Report for the 2021 Southeast Alaska/Yakutat Salmon Troll Fisheries. Fishery Management Report No. 22-23. Alaska Department of Fish and Game, Divisions of Sport Fish and Commercial Fisheries. https://www.adfg.alaska.gov/FedAidPDFs/FMR22-

23.pdf
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The Alaska Department of Fish and Game (ADFG) has monitored and estimated escapement-the number of fish that are allowed to survive and spawn after avoiding capture by fisheries-for 11 Chinook salmon stocks (i.e., groups of fish of the same species that are caught in a fishery) in Southeast Alaska since 1975 and has a robust monitoring and research program in
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the Tongass watersheds. These include eight in-state watersheds: Situk River, Chilkat River, King Salmon River, Andrew Creek, Unuk River, Chickamin River, Blossom River, Keta River;
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and three transboundary watersheds: Alsek River, Taku River, Stikine River. The Chinook Technical Committee of the Pacific Salmon Commission uses a subset of this data to do additional population trend analyses using a state-space population model on three focal stocks in-state (Situk, Chilkat, Unuk) and the three focal trans-boundary stocks (Alsek, Taku, Stikine). Even though many stocks are continuing to meet their escapement goals-in 2024, eight of these
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11 monitored stocks met their escapement goals)-data and analyses from these sources suggest that many Chinook stocks in the Tongass region have started to show declines in productivity (recruits per spawner) and escapement after many years of stable productivity and
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escapements (Chinook Technical Committee 2024 , Ohlberger et al. 2016). For example, the
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Alsek River Chinook stock had escapement below goals in almost 40% of years since 2005.
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Declines in productivity appear to be largely due to poor marine survival. As a result, restrictive management measures (i.e., limited harvest) have been in place since 2014-2018 (depending on the stock) and are on-going in some cases. In October 2024, the Alaska Board of Fisheries removed three of these stocks (i.e., Chilkat, Unuk, and Chickamin Rivers) as Stock of Management Concern (an official ADFG designation) while retaining Stock of Management
26
Concern status on four stocks (i.e., Taku, King Salmon, and Stikine Rivers and Andrew Creek) . While marine survival is related to many factors, marine warming is also linked to climate change, which makes it more important than ever to value the Tongass as a climate refugia and carbon sink.

Specific information and figures from the Chinook Technical Committee 2024 include:

"Escapement trends for the Situk and Chilkat stocks within the SEAK stock group were highly variable, however not significantly different from zero (Figure 2.2). Escapement for the Unuk River stock has exhibited negative mean rates of change over the same period (-5.0%, Figure 2.2). This decline can be attributed to reduced marine survival of

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Alaska Department of Fish and Game (ADFG) 2025a. https://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareasoutheast.salmon#research. Accessed February 19, 2025.

20
Hagerman et al, 2022.

21
Alaska Department of Fish and Game (ADFG) 2024. Advisory Announcement for Immediate Release: December

9, 2024. 2025 Southeast Alaska Chinook Salmon Run Forecasts. https://www.adfg.alaska.gov/static/applications/dcfnewsrelease/1646736972.pdf
22
Chinook Technical Committee. 2024. Annual Report of Catch and Escapement for 2023. Pacific Salmon Commission, Vancouver, BC. https://www.psc.org/reports/tcchinook-24-01.
23
Ohlberger, J., Scheuerell, M.D., Schindler, D.E., 2016. Population coherence and environmental impacts across spatial scales: a case study of Chinook salmon. Ecosphere 7, e01333. https://doi.org/10.1002/ecs2.1333
24
Alaska Department of Fish and Game (ADFG) 2025b. https://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareasoutheast.salmon_research_alsekriver_chinook. Accessed February 19, 2025.
25
Chinook Technical Committee. 2024.
26
Alaska Department of Fish and Game (ADFG) 2024.
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emigrating yearling smolt, which began with the 2006 brood year and has continued through the most recent brood years. This resulted in below-goal escapements for the Unuk stock in four of the last eight calendar years (2016-2023)."

"Productivity of the Situk River stock has generally been poor over the last decade, with annual escapements less than 85% of the lower bound of the goal occurring in four out of the last ten years (Figure 2.7). Because this stock experienced poor production after 2004, conservative management was implemented through 2016, with complete closures in the terminal areas since 2017. Prior to these actions, total CYERs (all harvests within the PST area) averaged about 53% from 1990 to 2003 but because of conservative management and fishery closures, rates dropped to 26% from 2004 to 2016 and 1% since 2017."

"Escapements to the Chilkat River were > 85% of the goal in all years except 2007 and from 2016 to 2018. The 2019 to 2021 escapement estimates were each above the lower bound of the escapement goal range, below goal in 2022, and the 2023 escapement estimate of 2,234 (CV = 19%) large spawners once again exceeded the lower bound of the BEG (Figure 2.8). Like other Chinook salmon stocks in Alaska, the Chilkat stock has been experiencing a decline in productivity and restrictive management measures have been in place since 2018. From 2004 through 2017, calendar year harvest rates averaged 24%. These rates dropped to 6% with the implementation of conservative management in 2018 and these actions will continue in 2024."

"Productivity of the Unuk River stock has been poor over the last decade with annual escapements less than 85% of the lower bound of the goal occurring in four of the last ten years. The 2023 estimated escapement was 2,072 (CV = 12%) large spawners, which exceeds the lower bound of the BEG (Figure 2.9). The large reduction in run strength of the Unuk River stock in recent years was unexpected given its history of consistent production. Additional management measures have been in place since 2014 to limit harvest of this stock in SEAK fisheries and restrictions will continue in 2024."

For transboundary stocks, there were "high variability in escapements, which have had contrasts of eight to ten over the 1999-2023 period. None of the mean rates of change were significantly different from zero (Figure 2.3), though all were negative: Taku (-1.7%), Stikine (-1.8%), and Alsek (-5.2%)."

For the Alsek stock, "Annual escapements of less than 85% of the lower bound of the

current goal range have been observed five times since 1976, and all have occurred in the last 17 years (2006, 2007, 2008, 2016 and 2017). Beginning in 2018, escapement estimates have been well above the lower bound of the BEG; the 2023 escapement estimate is 4,849 (CV=31%) = age-4 Chinook salmon (Figure 2.10)."

For the Taku stock, "Escapements of less than 85% of the lower bound of the current goal range occurred ten times since 1975 and most notably in each of the last seven years. The 2023 escapement estimate is 14,755 (CV = 13%) large Chinook salmon, which is below the 85% threshold of the lower bound of the escapement goal range and half of the SMSY point goal of 25,500 (Figure 2.11). Like the Stikine River stock of Chinook salmon and some SEAK stocks, the Taku River stock has been experiencing a decline in productivity, largely due to poor marine survival. Restrictive management measures have
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been in place since 2018 and will continue in 2024. Until marine survival improves, it is unlikely that productivity will improve enough to allow directed fisheries."

For the Stikine stock, "Escapements of less than 85% of the lower bound of the current goal range occurred eleven times since 1975 and most notably in 6 of the last 8 years. The 2023 escapement estimate is 12,795 (CV=36%) large Chinook salmon, which is above the 85% threshold of the lower bound of the escapement goal range (Figure 2.12). Like the Taku River stock of Chinook salmon and some SEAK stocks, the Stikine River stock has been experiencing a decline in productivity, largely due to poor marine survival. Restrictive management measures have been in place since 2018 and will continue in 2024. Until marine survival improves, it is unlikely that productivity will improve enough to allow directed fisheries."

Pink Salmon Status and Trends

Pink salmon are highly abundant and widespread throughout streams in the Tongass region. They
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spawn in approximately 2,500 short, coastal streams and provided an average of 64% of all
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salmon harvested in Southeast Alaska from 2014-2023. Pink salmon are the second most valuable commercial salmon species after chum salmon harvested in Southeast Alaska, with an average value of $27 million dollars annually. Unlike more northern regions in Alaska, nearly all of the pink salmon harvested in Southeast Alaska are wild origin and hatchery-origin pinks
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comprise very little of the commercial catch (only ~5% annually). The importance of wild origin pink salmon to the commercial fishing industry and thus the local economy should be reflected in the final Assessment.

Because pink salmon are so widely distributed in the Tongass region, they are monitored using annual aerial survey counts (as opposed to direct weir or other capture counting methods) in more than 700 streams. Escapement goals have been established for aggregates of pink salmon runs in three broad subregions in Southeast Alaska: Southern Southeast Subregion, Northern
30
Southeast Inside Subregion, and Northern Southeast Outside Subregion. Pink salmon population statuses and trends vary by region.

The Southern Southeast Subregion biological escapement goal of 3.0 to 8.0 million index spawners was met annually since 1974 and escapements were well distributed over the
31
subregion. Management targets for the 18 pink salmon stock groups in the Southern Southeast
32
Subregion were met or exceeded 93% of the time over the past decade.

[27] Zadina, T. P., S. C. Heinl, A. J. McGregor, and H. J. Geiger. 2004. Pink salmon stock status and escapement goals in Southeast Alaska and Yakutat [In] H. J. Geiger, and S. McPherson, editors. Stock status and escapement goals for salmon stocks in Southeast Alaska. Alaska Department of Fish and Game, Special Publication No. 04-02, Anchorage.

[28] Piston, A. W., and T. M. Fish. 2024. Pink salmon stock status and escapement goals in Southeast Alaska through 2023. Alaska Department of Fish and Game, Special Publication No. 24-16, Anchorage. https://www.adfg.alaska.gov/static/regulations/regprocess/fisheriesboard/pdfs/2024-2025/se/sp24-16.pdf

[29] Wilson, L. 2024. Alaska salmon fisheries enhancement annual report, 2023. Alaska Department of Fish and Game, Division of Commercial Fisheries, Regional Information Report No. 5J24-05, Juneau. - https://www.adfg.alaska.gov/FedAidPDFs/RIR.5J.2024.05.pdf

[30] Piston and Fish, 2024. Figures A1-A3.

[31] Piston and Fish, 2024. Figure 6, Appendix B2.

[32] Piston and Fish, 2024. Table 4, Appendices B5 and B7.

The Northern Southeast Inside Subregion populations are more variable, particularly in their even and odd year abundances. The Northern Southeast Inside Subregion biological escapement goal of 2.5 to 6.0 million index spawners was met or exceeded in the past 3 years, following a period of poor even-year runs beginning in 2008 when escapement indices were below the goal [33] in 6 of 8 even years, 2008 to 2022. Management targets for districts in the subregion (Districts 109-112, 113 inside, and 114-115) were met or exceeded in all cases in odd years from 1997 to 2017, but escapements were below management targets in 6 of 7 districts in 2019 before [34] rebounding in 2021 and 2023.

The Northern Outside Subregion populations had a large increase in abundance starting in the early 1990s and have met or exceeded their biological escapement goal of 0.75 to 2.5 million [35] index spawners since 1994. The escapement index averaged 2.1 million over the past 10 years [36] (2014-2023). Management targets for the 7 pink salmon stock groups within the subregion [37] were met or exceeded 87% of the time over the past decade.

Sockeye Salmon Status and Trends

Sockeye salmon spawn in more than 200 streams and lakes in the Tongass Region, but most [38] systems produce relatively few fish. Stock assessments are only made for the largest populations, including the Chilkat and Chilkoot Rivers, and the transboundary Alsek, Taku, and Stikine Rivers. Sockeye salmon are one of the most important species for subsistence, and this should be reflected in the final Subsistence Assessment.

From Priest et al. 2024 (Table 2, Appendix B): "Long-term escapement monitoring projects have been maintained at Chilkat, Chilkoot, Redoubt, Speel, McDonald, and Hugh Smith Lakes. In the Yakutat area, sockeye salmon escapements have been measured with a weir at the Situk River since 1976, but most other Yakutat area sockeye salmon systems have been assessed through survey counts. Escapement goals are currently established for two Yakutat area stocks (Situk and East Alsek), four transboundary river stocks (Klukshu, Taku, Stikine, and Tahltan Rivers), and six other Southeast stocks (Chilkat, Chilkoot, Speel, Redoubt, McDonald, and Hugh Smith). Note that the Chilkat and Chilkoot rivers and their sockeye salmon stocks are outside of the Tongass National Forest.

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Sockeye returns met or exceeded escapement goals 75% of the time over the past 10 years. Two stocks are listed as Stocks of Concern and one was delisted as a stock of concern this year. The two Stocks of Concern are: The McDonald Lake stock, whose escapement goal has been

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Piston and Fish, 2024. Figure 7, Appendix B2

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Piston and Fish, 2024. Appendix B3.

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Piston and Fish, 2024. Figure 8.

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Piston and Fish, 2024. Figure 8, Appendix B2.

37

Piston and Fish, 2024. Table 4, Appendix B6.

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Priest, J. T., A. W. Piston, J. V. Nichols, E. L. Jones III, P. J. Richards, J. A. Bednarski, B. W. Elliott, and S. E. Miller. 2024. Review of salmon escapement goals in Southeast Alaska, 2024. Alaska Department of Fish and Game,
Fishery Manuscript No. 24-04, Anchorage.
https://www.adfg.alaska.gov/static/regulations/regprocess/fisheriesboard/pdfs/2024-2025/se/RC3_Tab4_FMS24-04.
pdf

39

Nichols, J., Fish, T., Priest, J. 2025. Salmon Stock Status and Escapement Goals in Southeast and Yakutat. Presentation to the Alaska Board of Fisheries.
ht t ps : / / www.a dfg.a l a s ka .gov/ s t a t i c / re gul a t i ons / re gproc e s s / fi s he ri e s boa rd/ pdfs / 2024-2025/ s e / rc 3_23.pdf

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achieved in only one of the past six years (2019-2024), and the Hugh Smith Lake stock that has been below the optimal escapement goal range in all years since 2017. This year the Klushu River stock was delisted as a stock of concern, after meeting the escapement goal in five of the past six years (2019-2024) and exceeding the upper bound of the goal range in four of those

41

years.

The Redoubt Falls and Redoubt Lake monitoring and enhancement project that the Forest Service and collaborates on with the Sitka Tribe of Alaska collaborate on is an important example of how the agency is working to enhance aquatic habitat and subsistence opportunities in the Sitka Ranger District. This model resembles co-stewardship (but can and should be improved and built upon with guidance and collaboration from the Sitka Tribe of Alaska). This

project, along with the fisheries monitoring projects with the Hydaburg tribe, should be uplifted in the final Assessment as successful models of collaboration that create food security outcomes and increase capacity for aquatic monitoring on the Tongass.

Coho Salmon Status and Trends

Coho salmon are widely distributed in the Tongass Region. They are present in more than 2,350 [42] streams, both on the 'outer coast' streams that drain directly in the Pacific Ocean, as well as 'inside waters' that drain to the east. Coho are found everywhere from tidal reaches to first order streams on the upper limit of suitability for habitat in terms of gradient, minimum flow, and [43] spawning substrate. Additionally, coho overwinter in off-channel habitat including small [44] tributaries and beaver ponds. Coho salmon harvests are supplemented by hatcheries, and from 2010-2019 hatcheries contributed an average of 25% (range 16-29%) of the commercial coho harvest.

ADFG monitors coho salmon using 13 index stocks that have formal escapement goals and escapement monitoring and categorizes them regionally as northern inside stocks, Sitka / outer coast stocks, Ketchikan / Southern stocks, and Yakutat area stocks. The specific stocks include Auke Creek, Berners River, Ford Arm Creek, Hugh Smith Lake, Chilkat River, Taku River, Ketchikan Area Index, Sitka Area Index, Montana Creek, Peterson Creek, Tawah Creek, Situk River, and Tsiu-Tsivat River.

Despite some indications that marine survival and smolt production have declined in recent [45] years, the coho salmon stocks have generally met escapement goals. As Priest et al. (2021)

[40] Bowers, F.R., Payton, I. 2024. Memorandum to the Alaska Board of Fisheries re: Southeast Region Salmon Stock of Concern Recommendations. Figure 8. https://www.adfg.alaska.gov/static/regulations/regprocess/fisheriesboard/pdfs/2024-2025/ws/se-soc-memo-2024.pdf

[41] Bowers and Payton, 2024. Figure 9.

[42] Johnson, J., and B. Blossom. 2019. Catalog of waters important for spawning, rearing, or migration of anadromous fishes - Southeastern Region, effective June 1, 2019. Alaska Department of Fish and Game, Special Publication No. 19-04, Anchorage.

[43] Bramblett, R. G., M. D. Bryant, B. E. Wright, R. G. White. 2002. Seasonal use of small tributary and main-stem habitats by juvenile steelhead, coho salmon, and Dolly Varden in a Southeastern Alaska drainage basin. Transactions of the American Fisheries Society 131: 498-506. ht t ps : / / www.fs .us da .gov/ pnw/ pubs / j ourna l s / pnw_2002_bra m bl e t t 001.pdf

[44] Bramblett et al, 2002.

[45] Shaul, L. D., J. A. Bednarski, J. T. Williams, and B. W. Elliott. 2019. Stock status and review of factors affecting coho salmon returns and escapements in Southeast Alaska. Alaska Department of Fish and Game, Regional Information Report No. 1J19-12, Douglas. https://www.adfg.alaska.gov/FedAidPDFs/RIR.1J.2019.12.pdf

point out, "Southeast Alaska and transboundary river runs increased after 1977 and reached a peak in the early to mid-1990s before trending lower over the past two decades. All stocks have been greatly affected by recent drastic declines in marine survival: Over the past decade (2010-2019) the average marine survival has declined 13-41% compared to long-term averages, with most of the decline occurring in the past 4-5 years. Smolt production from many indicator stocks has been at average or below levels but within observed ranges."

Yet, "Given these competing influences-moderate smolt production, low marine survival, and decreasing harvest-coho salmon populations appear to be sustainable over the near term. Overall, coho salmon stocks in the Northern Boundary area have demonstrated the species' resilience to occasional low escapement events and recent harvest rates have been, in most cases, [46] amply conservative to achieve sustainable spawning escapement needs." Interestingly, the more recent decline in marine survival appears to be due to an increase in predation rather than food [47] limitation.

Chum Salmon Status and Trends

Chum salmon are highly abundant and widespread throughout the Tongass Region. They are also the most commercially valuable salmon species in the region; bringing $53 million dollars annually over the last 10-year period, which is nearly twice the value of the next most valuable [48] species, pink salmon.

Chum salmon in the Tongass Region are unique in that they have two runs based on migration timing: summer-run fish abundance peaks during the period from mid-July to mid-August and [49] fall-run fish abundance peaks in September or later. Chum salmon are present in over 1,200 [50] streams in the Tongass Region and escapement is monitored in 87 summer-run index streams [51] and 7 fall-run streams.

Chum salmon populations are highly supplemented by hatcheries to increase commercial harvest. And, hatchery inputs have increased considerably in the past forty years. In 1980, hatchery operators in Southeast Alaska released 8.7 million chum salmon fry at eight locations, [52] but by 2023, this number was 607 million fry released at up to 23 locations.

According to ADFG (2025), "Escapement indices for the Southern Southeast Subregion were low during the mid-1960s to late 1970s, increased into the 1990s, and have generally remained above the lower bound escapement goal over the past two decades, with the exception of poor escapement years from 2008 to 2010 (Figure 9). Escapement indices were above goal in nearly

46 Priest, J.T., S.C. Heinl, and L.D. Shaul. 2021. Coho Salmon Stock Status in Southeast Alaska: A Review of Trends in Productivity, Harvest, and Abundance through 2019. Pacific Salmon Comm. Tech. Rep. No. 45: 67 p. https://www.psc.org/download/33/psc-technical-reports/13944/psc-technical-report-no-45.pdf

47 Shaul et al, 2019.

48 Alaska Department of Fish and Game (ADFG) 2025c. https://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareasoutheast.salmon_research_chum. Accessed February 19, 2025.

49 ADFG 2025c.

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Piston, A. W., and T. M. Fish. 2024b. Chum salmon stock status and escapement goals in Southeast Alaska through 2023. Alaska Department of Fish and Game, Special Publication No. 24-14, Anchorage. Figure 3. https://www.adfg.alaska.gov/static/regulations/regprocess/fisheriesboard/pdfs/2024-2025/se/sp24-14.pdf
51
Piston and Fish, 2024b.
52
ADFG 2025c, Figure 6 and 7.
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all recent years, and the escapement index of 276,000 fish in 2023 was a record high. Some of the largest summer-run chum escapements in this subregion are found in large mainland river systems east of Ketchikan, like the Tombstone River (Portland Canal), Keta River (Boca de Quadra), and the Wilson and Blossom Rivers (east Behm Canal). Numerous summer-run chum salmon streams are found on the islands of southern Southeast Alaska, with some of the largest escapements occurring at the Carroll (Revillagigedo Island) and Harris Rivers (Prince of Wales Island). Currently, formal escapement goals are in place for five fall-run stocks: Cholmondeley Sound, Security Bay, Port Camden, Excursion Inlet, and the Chilkat River. Escapement performance for fall-run chum salmon has been mixed over the past decade, with escapements at Cholmondeley Sound, Security Bay, and Chilkat River generally meeting goals in most years, including very large escapements in 2023. Escapements to Port Camden and Excursion River have generally been poor in recent years. There has been limited or no directed harvests of fall-run chum salmon for most of these stocks in recent years." Note that the Excursion Inlet, Chilkat River River and their respective chum salmon stocks are not located in the Tongass National Forest.

Notably, the Cholmondeley Sound stock is the most important and largest fall chum production complex in Southern Southeast Alaska. Disappearance Creek is one of the largest historic producers of chum salmon in Cholmondeley Sound, with recent (2011-2021) escapement high
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counts between 25,000-70,000 spawning adults. All of this salmon production happens in the lower 1 km of the creek; the upper portion of the creek is inaccessible to salmon because it
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disappears underground, hence the name "Disappearance Creek".

Steelhead Status and Trends

Steelhead are present throughout the Tongass Region, but are not as well monitored as the salmon stocks that are harvested commercially. Steelhead are primarily targeted through catch-and-release fisheries, although some harvest does occur. To our knowledge, there are no escapement goals for steelhead in southeast Alaska. Steelhead escapement is monitored at two locations: the Situk River and Sashin Creek. Additionally, there are 11 index streams that are monitored using snorkel surveys. These are: Ford Arm Creek, Sitkoh Creek, Slippery Creek, Eagle Creek, Harris River, Peterson Creek, Pleasant Bay Creek, Petersburg Creek, Ward Creek,
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and White River

We were unable to locate reports on the escapement and index estimates. From a presentation
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given by Schwanke (2023), it appears that Situk and Sashin Creek stocks have been relatively stable over the period of record (from 1995 for Situk and 2005 for Sashin), although the past several years have been below average. There was a period of especially high escapement from 2004-2007 in the Situk, but the population stabilized around pre-2004 values until around 2020 and then was slightly below average. This same pattern was observed in the index streams.

53
ADFG, 2022.
54
Piston, A. W. and S. C. Heinl. 2010. Disappearance Creek chum salmon weir study, 2009. Alaska Department of Fish and Game, Fishery Data Series No. 10-48, Anchorage.
55
Rice, J. R. 2024. Operational plan: Southeast Alaska steelhead trout escapement surveys, 2024 and 2025. Alaska
Department of Fish and Game, Division of Sport Fish, Regional Operational Plan No. ROP.SF.1J.2024.01, Anchorage. https://www.adfg.alaska.gov/FedAidPDFs/ROP.SF.1J.2024.01.pdf
56
Schwanke, C. 2023. Alaska Steelhead Stock Status. PowerPoint Presentation at Pacific States Marine Fisheries Commission Management Meeting.
https://www.psmfc.org/steelhead/2023/Abstracts-and-Presentations/Schwanke_Craig/
28

ADFG Anadromous Waters Catalog

In addition to the escapement data above, the ADFG Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes (i.e., 'Anadromous Waters Catalog') is an important resource that identifies rivers and streams that are used by anadromous fishes in the Tongass National Forest (and in Alaska more broadly). Importantly, only a limited number of the waterbodies in Alaska have been surveyed and, as a result, the Anadromous Waters Catalog is estimated to be <50% complete. According to ADFG: "Virtually all coastal water bodies in the state provide important habitat for anadromous fish, as do many unsurveyed tributaries to known anadromous fish-bearing water bodies. Anadromous fish often rear in small tributaries, flood channels, intermittent streams, and beaver ponds. Due to the remote location, small size, or ephemeral nature of these systems, most have not been surveyed and are not included in the [Anadromous Waters] Catalog". Nonetheless, the Anadromous Waters Catalog is an important resource that can provide detailed information on spawning, rearing, and migration habitats and distributions for salmon and steelhead in the Tongass National Forest. Where available, remote sensing data such as LiDAR and derived anadromy models can be used to identify potential extensions of known fish habitat. Models can support communities and resource managers in
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their field sampling efforts as they seek to fill information gaps around anadromous waters.

4. Additional Considerations

Ecosystem Management Framework

The need for a clear ecosystem management framework is more pronounced in systems that respond to and that are subject to management intervention (i.e., actions that manipulate elements of system composition, structure, or function). And changes in generally unmanaged systems, such as glacier systems responding to changes in system drivers, can have profound impacts on connected systems that are the subject of management frameworks. The examples of glacier reduction increasing potential salmon habitat or exposing access to mineral development are noted in the assessment. The draft Assessment does a good job of framing this interconnectedness.

River and stream systems on the Tongass are subject to management frameworks, although the draft Assessment, in various places, notes the relatively small footprint of Forest that has been subject to management intervention. It is also worth noting that the absence of historical management action does not necessarily translate into system functionality, as this is the subject

of climate adaptation strategies and interventions that respond to system vulnerabilities, even within systems that have not been subject to historical management.

Need for Change

The draft Assessment references anthropogenic threats to aquatic system integrity on the Forest, including road building, mining, timber harvest, landslides, dams, and invasive species. These are the management domains that can be governed by the revised forest plan. Yet the draft Assessment does not point to areas in the current plan that may need to change. A summary key finding states that "Development, including timber harvest, mining, and roads may alter
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The Hoonah Native Forest Partnership provides an example of where mapped anadromy has been extended through use of LiDAR and field work: ht t ps : / / www.hi a -e nv.org/ hnfp-fi na l -re port / and https://www.hia-env.org/2023/02/21/summer-work-yields-new-insights-into-hoonah-coho-rivers/
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aquatic ecosystem integrity at a localized scale" (Draft Aquatic Ecosystems Assessment Report, p. 26). The issue of scale is important here and should be fully fleshed out to understand the effects of the current plan on integrity. The implication seems to be that local impacts to integrity are acceptable given the function of the larger system; however, the function of the assessment and planning process is to demonstrate that plan implementation maintains or restores system integrity (either the current or the proposed plan). Second, degradations of integrity at "local" scales can still have significant implications for system function; the Forest Service should address this relationship and the issue of scale in the final Assessment.

To determine what needs to change in the current plan, it is necessary to understand how (and where) these potential stressors are affecting characteristics of system integrity. The draft Assessment states that "Best management practices are used to reduce effects to ecosystems; however, some influences continue to have short- and long-term impacts on the function and condition of ecosystems" (Draft Aquatic Ecosystems Assessment Report, p. 14-15). The Forest Service must expand the discussion of the use of "best management practices" to maintain or restore aquatic ecosystem integrity. Is this a reference to plan components in the existing plan? The planning directives make it clear that the assessment should evaluate "on the ground conditions and estimate the trends, assuming the existing plan remains in place…." (FSH 1909.12 Chapter 10). However, there does not appear to be a Status and Trends analysis section in the rivers and streams section of the draft Assessment that evaluates the effectiveness of current plan direction in either maintaining or restoring the selected key characteristics of aquatic system integrity. This analysis will be necessary to make determinations to change or add plan direction to the current plan.

In our experience, we have found that tables (or other means of organizing and presenting complex information) that clearly crosswalk current plan direction with key system characteristics and their measures of integrity (i.e., estimated natural ranges of variation) to be useful tools for this type of analysis. We encourage the Forest Service to use them in the final assessment.

Riparian Area Degradation

As in the Watershed Condition and Water Resources draft Assessment report, the Draft Aquatic Ecosystems Assessment notes the effects of human activities on aquatic system integrity, including degradation of riparian areas due to timber harvest. This report adds additional information regarding degraded previously-harvested riparian areas by noting that "large wood is

decreasing in all streams, regardless of management history" and that "fish may have greater opportunities for refuge from late summer, low flow conditions in watersheds with greater than 42% old growth (draft Aquatic Ecosystems Assessment, p.15, citing Filtcroft et al. 2022). This information reinforces the opportunity to: 1) examine options for designing plan direction to improve ecological conditions within riparian areas; and 2) to maintain and restore old growth conditions, particularly in watersheds that may be depauperate in that structural condition, as a strategy to conserve fish populations.

Karst
The karst section of the report does include a discussion of status and trends, and suggests potential implications of the current plan on system integrity. For example, "Evidence suggests

that timber harvest increases available surface waters, thereby increasing sediment and debris transport capabilities and flooding passages which have not flooded for centuries" (draft Aquatic Ecosystems Assessment, p. 19). This conclusion implies an impact to functional integrity based on process measurements that depart from the natural range of variation, and thus may have implications for overall system integrity (and may be a Need to Change).

The Forest Service does note that implementation of the current plan on karst system integrity may not be causing deleterious effects: "Current harvesting techniques leave the slash within the unit, which helps to protect the shallow fragile soils from erosion and drying." (draft Aquatic Ecosystems Assessment, p. 19). This suggests that perhaps the current plan direction for slash retention is effective, and may not need to change; but this analysis of the effectiveness of current plan direction can be presented in a more direct manner.

On the other hand, elsewhere the draft Assessment suggests that the current plan is not maintaining system integrity for key characteristics, including soil structure and function with implications for regeneration:

A considerable percentage of the easily accessible low-level karst areas have been harvested. Timber harvest is now moving onto steeper, higher elevation karst areas which are characterized by shallower, better-drained soils. Observations suggest that with harvest atop these soils, much of the soil may be removed if adequate log suspension is not achieved. Often, only a thin organic mat covers the karst. The exceedingly shallow soils become excessively dry once the protective forest canopy is removed. The high rainfall of the area can rapidly move these fragile soils into the well developed epikarst. Observations suggest that these steeper, higher elevation karst areas show less than desirable regeneration or remain as bare rock slopes within harvested units (draft Aquatic Ecosystems Assessment, p. 19).

The observed regeneration problems in steep, higher elevation karst areas suggest that such areas may not be suited for timber production or timber harvest for other purposes. The Planning Rule at 36 C.F.R. § 219.11(a)(v) states that if there is "no reasonable assurance that such lands can be adequately restocked within 5 years after final regeneration harvest" those lands shall be identified as not suited for timber production. Similarly, 36 C.F.R. § 219.11(d)(2) states that non-production based timber harvest can only occur "where soil, slope, or other watershed conditions would not be irreversibly damaged" and (d)(3) requires that harvest "be carried out in a manner consistent with the protection of soil, watershed, fish, wildlife, recreation, and aesthetic resources." The final Aquatic Ecosystems Assessment should clarify whether the Forest Service

should designate these karst lands as not suitable for timber production in the revised plan.

G. Timber Resources

The draft Timber Resources Assessment report appropriately notes not only the importance of the timber resource to the socio-economic setting of some of the plan area (as well as its decline), but also that suitability determinations, sustained yield limits, and projected wood and timber sale quantities will be calculated based on the proposed action and alternatives for the revised plan. Other draft Assessment chapters are beginning to examine where the current plan may need
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to change to meet Planning Rule requirements. We note that managing timber resources must be integrated with other multiple use objectives as required by NFMA and the 2012 Planning Rule. See, 36 C.F.R. § 219.11 ("While meeting the requirements of 219.8 through 219.10, the plan must include plan components…regarding timber management" (emphasis added)).

This draft Assessment properly includes a discussion of the effectiveness of implementing the current plan (which is missing in many other draft reports), as it suggests potential Needs to Change in the revision. One such Need for Change is better integration of the young growth management strategies into the revised forest plan. For example, the draft Assessment notes that forest management and timber harvest goals found in the 2016 plan were not achieved due to a "variety of factors including budgets, staffing, shifting management priorities, and litigation" (draft Timber Resources Assessment, p. 7, citing 2023 Meridian Institute report). The Meridian Institute report found that the 2016 Amendment (which was developed under the 2012 Planning Rule) did not effectively integrate with the base plan developed under the 1982 Planning Rule. We would also encourage the draft assessment to add that another major factor inhibiting the achievement of timber harvest goals is that much of the remaining timber on the Tongass is uneconomical to harvest.

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In addition to updating the young growth strategy based on implementation experience, there remains a need to integrate the 2016 Amendment with updated surrounding content under the 2012 rule framework. One of the prime challenges of the 2016 amendment was drawing boundaries between the amended content and the remainder of the 1982 Rule-era plan given the interconnected nature of the 2012 Planning Rule. Understanding whether conflicts or discrepancies occurred over the past 8 years of implementation between the 2012 Planning Rule and older direction is necessary to formulate an accurate Need for Change.

The draft Assessment notes that precommercial thinning (PCT) presents opportunities for integrating ecological and economic objectives, including aquatic and terrestrial wildlife habitat enhancement. However, the draft Assessment documents that 6,000-8,000 acres of PCT is
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needed per year within the 85,000 acres that are in need of that treatment. The Meridian 2020 (PCT Task Force Recommendations Report) and 2023 (5-Year Review of the 2016 Amendment) reports offer suggestions on how to better meet PCT objectives. Several of those suggestions could be embedded in the revised plan, including use of plan direction to highlight the importance of PCT to achieve multiple resource benefits and prioritization of PCT where those
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A more in-depth discussion of the ecological condition and impact on the hundreds-of-thousands of acres of young-growth forests with deferred maintenance (i.e., no thinning and hanging culverts) seems warranted in the

Ecosystems Assessment. There are dozens and dozens of studies that should be synthesized to a succinct set of
concerns and management tools to address them. See, Gilbert SL, et al. Potential Futures for Coastal Wolves and
Their Ecosystem Services in Alaska, With Implications for Management of a Social-Ecological System. Frontiers in
Ecology and Evolution 10,
ht t ps : / / www.front i e rs i n.org/ j ourna l s / e c ol ogy-a nd-e vol ut i on/ a rt i c l e s / 10.3389/ fe vo.2022.809371 (2022); Person DK,
Brinkman TJ. Succession debt and roads. North Pacific temperate rainforests: Ecology and conservation, 143-167
(2017); Committee WT. Interagency Wolf Habitat Management Program: Recommendations for Game Management
Unit 2. Management Bulletin R10-MB-822. USDA Forest Service, USDI Fish and Wildlife Service, and Alaska Department of Fish and Game. ht t ps : / / www.fs .us da .gov/ Int e rne t / FSE _DOC UME NT S/ fs e prd537975.pdf (2017).
59
The draft report notes that young growth suitable for commercial harvest will come online around 2030. Draft Timber Resources Assessment Report, 27. The revised plan must take this into account when developing plan components and harvest schedules.
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benefits will be greatest. The PCT Task Force suggested that advancements in remote sensing could be employed to support prioritization; that data and analysis should be integrated into the revised forest plan as the availability of that data has greatly expanded across the forest in recent years

Desired Condition DC-YG-01 of the amended plan states that "Treatments occur where highest productivity, harvest operability and access is favorable," which could be modified to include additional resource priorities in the revised plan, balancing future economic viability with the need for improved ecological integrity. For example, stand entries for PCT are opportunities to improve habitat conditions for critical subsistence species such as deer and salmon. Collaborative groups such as community forest partnerships (Hoonah, Kake, Klawock, etc.), HERDS (Habitat Enhancement and Restoration for Deer Stewardship), and the Southeast Alaska Fish Habitat Partnership can provide additional input on how PCT can be adapted to provide benefits beyond improved timber stands.

One of the challenges raised in the 2023 Meridian report was budget uncertainty. This raises issues with the vagaries surrounding implementation of a forest plan: for example, planning objectives are to be based on "reasonably foreseeable budgets," 36 C.F.R. § 219.7(e)(ii), yet in the real world budgets may be less than reasonably foreseeable, even if based on trend analysis of recent budget obligations. Offering a range of objectives tiered to different potential budget scenarios is one method to provide for necessary adaptive flexibility.

At this early stage in the planning process it can be challenging to foresee where integration issues and tensions may be surfacing, although there are known touchpoints that can be emphasized in analysis and engagement with the public. One such area is the relationship and compatibility between timber production suitability and the achievement of desired conditions and objectives. In the current (2016) analysis, 393,648 acres were recognized as unsuited for timber production because it is not compatible with other plan components. At the Assessment

stage it would be useful to begin to understand if those plan components may be subject to change (either more expansive or diminished) given new Assessment information or due to other factors. It is also likely that climate change impacts are altering system conditions such that previous determinations of production compatibility have now changed: an example of this would be new information on the ability to adequately restock stands in light of changing climatic conditions.

The draft Assessment suggests that even-aged management (typically clearcutting) can be compatible with landscape mosaic (structure or pattern) that is desired for resource protection (draft Timber Resources Assessment, p. 16). This suggestion is worth more discussion in the final Assessment report, particularly in thinking about the compatibility and effects of even-aged management systems on terrestrial system integrity, at relevant spatial scales (including how regeneration harvests and climate informed reforestation can be used strategically to further cedar adaptation strategies). There could be an opportunity to integrate elements of spatial landscape design with harvest objectives, perhaps taking advantage of new spatial inventory and analysis capacity (Id. at 14, FN 2). In young growth, existing DC-YG-03 states that "Harvesting of young growth stands provides opportunities to improve or maintain fish and wildlife habitat by accelerating old growth conditions." The revised Forest Plan could include additional
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direction for fish and wildlife habitat that establishes metrics for evaluating habitat improvement (for example by including necessary habitat characteristics for SCC). The same premise applies to DC-YG-04 by establishing or updating fish and wildlife habitat improvement metrics for riparian ecosystems.

PCT can also accelerate timelines for achieving commercial thinning viability by 10 years (from 70 without to 60 with PCT), while improving indicators and characteristics of ecological integrity. Opportunities for commercial thinning on the Forest may be expanding given more
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research into the practice. For example, a recent publication by Crotteau et al (2022) may be of interest as it discusses findings associated with results of CT on overstory and understory development, among others. The draft Assessment notes that within the 410,000 acres of inventoried young growth on the Forest, 8,750 acres is considered commercially viable in 2026 for a total of approximately 198 MMBF. More discussion is warranted in the final Assessment on what portion of that cohort may be viable for commercial thinning and how that method could contribute to other revised forest plan direction.

Halofksy et al. supports PCT activities and suggests that the "Recent transition towards predominantly young-growth forest management supported by restoration of previously clearcut forests should accelerate return of old-growth forest functions and enhance future climate resilience for Tongass NF wildlife species" (Halofsky et al., lines 4378-4381). The final Assessment should discuss the use of PCT and other harvest methods to accelerate development of old-growth forest structures and functions in light of changes in climate stressors.

The draft Assessment identifies other Needs to Change, including the need to develop plan components for land now managed as the Tongass National Forest as a result of a large land exchange, the departure of Sealaska from the timber industry, the Southeast Alaska Sustainability Strategy, new information presented by climate change, a new timber demand study (which is scheduled for completion in March 2025), and a smaller harvestable landbase in response to resource protection concerns. The draft Assessment notes that the current plan is unclear on

direction for salvage harvest thus clearly indicating a need to change and an opportunity to balance and integrate ecological adaptation strategies that respond to changing drivers and stressors in forest systems (insect and disease outbreaks) with management tools such as salvage harvest that focus on recouping economic value. Finally, the draft report highlights the concerns with yellow-cedar regeneration and sustainability due to climate change: given the importance of yellow-cedar to Tribal communities, the revised plan must include plan components to address this cultural need.

As with many other resources, the draft Timber Resources Assessment report notes that partners-especially co-stewardship with Tribes-can help ameliorate some of the workforce and capacity constraints experienced in the plan area. It explains:

To meet future opportunities and fill employment demand in the industry, the maintenance of a trained timber and restoration workforce is critical. Several workforce
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Crotteau, J.S.; D'Amore, D.V.; Barnard, J.C. 2022. Commercial thinning strategies in Southeast Alaska: establishment and effects of the Prince of Wales commercial thinning study. Gen. Tech. Rep. PNW-GTR-1012. Portland, OR: US Department of Agriculture, Forest Service, Pacific Northwest Research Station. 77p.
34

development and training programs have been implemented to help recruit, train, and retain local employees (Meridian Institute 2023). Examples of these include agreements with the State of Alaska Division of Forestry, Prince of Wales Vocational & Technical Education Center, Alaska Youth Stewards, the 2016 Forest Academy, hiring initiatives through the ANILCA, and various community native forest partnerships such as Hoonah Native Forest Partnership, Klawock Indigenous Stewards Forest Partnership, and Keex' Kwaan Community Forest Partnership (draft Timber Resources Assessment, p. 25). The draft Assessment goes on to highlight additional opportunities to co-steward with Tribes:

The Tongass timber management program has offered several recent workforce development and skills enhancement opportunities in the local communities. One notable example is the Forest Academy, held periodically on Prince of Wales Island. The first two Forestry Academies in 2016 and 2017 were the result of a Challenge Cost Share Agreement between the Tongass National Forest and State of Alaska. These initial academies were designed to train locally recruited residents a variety of technical skills in natural resource management such as timber stand inventories and collection of aquatic, wildlife, and cultural resource information. Twenty residents participated in the 2016 and 2017 academies with the majority applying their learned skills in seasonal or permanent jobs with the State of Alaska, USFS, Sealaska, or local forestry contractors. Following the successes of the 2016 and 2017 academies, the Tongass hosted a follow up multi-week Forest Academy in 2019 that included a week of forestry skills, a week of aquatic organism passage survey methods, and a week of learning aquatic habitat mapping techniques. The 2019 academy had sixteen participants and was partially led by four previous academy participants now serving as teachers and field assistants to USFS staff. These Forest Academies have led to additional trainings and workshops with an increasing range of partners, including local community forest partnerships and conservation based non-profit organizations, to continue providing forestry and natural resource management training and workforce development opportunities for residents.

The Alaska Youth Stewards (AYS) is an employment program for rural and Indigenous

youth of Southeast Alaska. AYS offers place-based on-the-job experiential education and training to care for our lands, waters, and communities, with varied projects focused on stream restoration, community harvest efforts, forest inventorying, and a suite of other forestry projects (Id. at 30).

The draft Assessment also notes that authorities such as stewardship contracting and Good Neighbor Authority can provide local jobs and stewardship opportunities, and we strongly encourage the Forest Service to include plan content in the revised plan that incentivizes the use of these authorities and to right-size projects using them to serve local community needs. The draft assessment should also reflect that the predominant timber harvest model of clearcut and export is extremely unpopular with Southeast Alaskan communities, and many communities would like to see timber sales right-sized for smaller operators that are able to do local sales and value-added processing.

H. Soil Resources

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The draft Soil Resources Assessment report provides a good description of landforms and processes related to the soil resource. While the report could have been more upfront regarding the existing plan direction relating to the protection of the productivity of soil resources, the draft Assessment does eventually disclose that based on "extensive" soil monitoring over the past 35
61
years (the nature of which is not disclosed), that the Tongass believes that management actions are meeting those requirements (draft Soil Resources Assessment, p. 14). Noting that vegetation management (timber harvest) and road construction have the greatest deleterious effects on soils, the draft Assessment posits that based on that monitoring, that nutrient rich soils on the Forest
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may be more resilient to disturbance than initially believed. Id., 14-16.

In sum, the draft Assessment concludes that there is no Need to Change the existing forest plan provisions pertaining to the soil resource (Draft Soil Resources Assessment Report, 15). However, at the same time, the report acknowledges that climate change is likely to change how carbon is sequestered in soils, and given that most carbon on the Forest is soil carbon, there is room for improvement in plan components that serve to conserve soil function and process: the Forest Service should address this issue in the final Assessment.

Similarly, the draft Assessment only briefly mentions the potential for climate change to exacerbate existing concerns regarding invasive plant species that may compromise soil ecological integrity (Draft Soil Resources Assessment Report, p. 17). This, too, is an issue the agency should consider addressing with climate mitigation-focused plan components in the revised plan.

I. Recreation & Tourism Resources

This draft Assessment report emphasizes the importance of sustainable recreation management to balance ecological, social, cultural, and economic needs as well as the importance of recreation and different forms of tourism to the Alaska economy. The Forest Service should make additions to the Assessment and to Key Takeaways that take a critical look at the implementation of the current plan to inform a good Need for Change. The Key Takeaways

should reflect that the current plan does not provide sufficient guidance to manage recreation use and tourism activity and that the Forest Service has not been able to sufficiently meet public needs. These additions should:
? Assess trends and differences in recreation use and commercial tourism activity across the different communities including how recreation infrastructure is concentrated around certain communities, how the benefits of permitted tourism activity have accrued evenly or unevenly.
61
The draft Assessment also notes that the Forest is studying the effects on soils from the harvest of root wads for restoration purposes. Draft Soil Resources Assessment Report, 17. This is interesting work, and the agency is encouraged to share the results with the public and to consider engaging partners, particularly Tribal entities, in this
work.
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While this may be true for nutrient rich soils, this statement presents an incomplete picture: elsewhere the Forest notes that Karst soils are not resilient to disturbance and risk the permanent loss of productivity. See, Draft Aquatic
Ecosystems Assessment Report, 19. In the final Assessment, the Forest Service should ensure that its various subject
matter experts are aware of the findings of other subject matter experts and should present a unified conclusion regarding effects of the current plan on the various natural resources.
36

? Identify the unique characteristics of Southeast Alaska that make it a global tourist destination and a desirable place to live and explore. These characteristics are important to retain at appropriate scales when making management decisions.
? Use metrics that capture the ways the Forest supports recreation and tourism, and how the character and needs of recreation and tourism are different.
? Meaningfully assess the work of the Forest Service implementing the current plan and managing changing conditions in outdoor recreation use and tourism activity.

As opposed to some draft Assessments, this report suggests several needs to change The draft Assessment's summarization of the emergent themes from conversations during public feedback and discussion of the challenges of maintaining infrastructure and managing use provide excellent fodder for the development of plan components to address the identified stressors and facilitate the partnerships that the Forest Service will need to be successful in meeting public and Tribal expectations for sustainable management of the Forest (USDA 2024, Summary of public feedback; draft Recreation & Tourism Resource Assessment, p. 24.).

We appreciate the recognition of the importance of recreation and tourism to the region and the importance of recreation to locals and to the Alaskan way of life. The Assessment gives thoughtful consideration to how outdoor recreation interacts with traditional ways of life for Alaska Natives and rural subsistence. This Assessment should celebrate the successful partnerships with user groups, trail building organizations, tribal partners that are redefining how communities interact with the agency. These successes indicate there are opportunities for more success in the new plan.

The draft Assessment is also candid that the Forest is unable to meet many of the recreation and tourism needs on the Tongass, and that partnerships are essential to meeting this demand. These trends are accurate and another reason why the agency must continue to develop simple policies

to direct capacity and collaboration with Tribes, local organizations and communities to accomplish its objectives.

The draft Assessment acknowledges that recreation use and tourism activity have increased dramatically during the life of the current plan and that conflicts are starting to emerge. The Assessment needs to discuss how tourism and recreation impacts vary across the region as these impacts are starkly different across communities. There is a need for the Forest Service to consider the implications of special use permitting and whether those permits are leading to conflict and where the benefits of the commercial activity accrue. The Assessment should discuss if permit holders are benefiting communities if the permits are increasing stewardship outcomes. Local tribes have also expressed a need for tribal preferences for permits, a need to assess the number of Native owned operations on the Tongass and the need for tribal priority in management, for example on Admiralty Island Bear viewing areas. (Draft Recreation & Tourism Resource Assessment Report, 37.)

Finally, the Assessment needs to meaningfully assess the work of the Forest Service implementing the current plan and responding to changing conditions in outdoor recreation. An assessment of Forest Service management should consider how well has the Forest Service been funding, managing and maintaining its current recreation facilities; how it has met Forest Service

standards and user expectations. It should assess the current condition of the infrastructure, staffing levels, and deferred maintenance; and discuss the forecasted outlook for these facilities related to funding, operation and maintenance.

J. Air Quality

The draft Air Quality Assessment is generally very good, showing that there are minor (but growing) concerns near one mine on Admiralty Island and around cruise ship ports. The draft Assessment does a good job of discussing the lichen sampling program, which provides the majority of the air quality data for the Tongass. The Assessment notes that more lichen air sampling points are needed; the Plan Revision could include plan components to encourage the expansion of this program, monitoring provisions to specifically capture this data, and partnership opportunities to facilitate implementation.

The draft Assessment notes that pollution from Greens Creek Mine may be increasing under a new permit issued in 2024. Despite identifying this stressor, the draft Assessment suggests no potential solutions other than unspecified project design, "additional mitigation and monitoring measures," and,

"The Forest Service will also seek to establish a Collaborative Integrated Monitoring Panel that will, among other duties, evaluate trends in air quality, fugitive dust, water quality, sediment, and biomonitoring data to validate the effectiveness of BMPs and mitigation measures and consider additional monitoring and adaptive management" (draft Air Quality Assessment, p. 13-14).

The report does not indicate when or how such a panel will be stood up or who would be involved: the Forest Service should clarify in the final Assessment the details of this panel and/or develop plan components in the revised Forest Plan to facilitate its convening and work.

K. Carbon Stocks

The draft Carbon Stocks Assessment explains that the Tongass is a carbon sink and is predicted to remain so through the end of the century, with most carbon stored in the soil (although a significant and appreciable amount of above-ground carbon is stored in old growth forests more than 200 years old, the most common stand age class on the Forest). The draft Assessment concludes that the Tongass will continue to be a net carbon sink until at least 2100, but outyear projections are unknown. The draft Assessment acknowledges that there is some concern that existing models do not adequately account for soil carbon, which casts doubt on the report's analysis and conclusions. That said, the report's analysis does not include data from Wilderness areas, so overall carbon stores are likely much higher than reported in the draft Assessment.

The analysis and summary provided at the scale of the full Tongass demonstrates its importance as a carbon sink. While the report recognizes the relative security of the carbon in a system
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without fire, adding a section that situates this system within the global context would
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underscore the global significance of the carbon stored here and the irrecoverable nature of it.

Additionally, a more thorough assessment of stock trends and patterns at finer scales would help convey important regional variation and support more active carbon management. This would allow for a necessary and expanded discussion of the trade-offs between fast growing young-growth forests and old growth carbon storage, as well as an understanding of variation across biogeographic provinces. One step toward accomplishing this may include adopting the framework that describes carbon by forest type and age class used in the 2004-2013 Alaska
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Forest Inventory and Analysis Report would add useful downscaled data and trends. The Assessment is also missing a substantive discussion around other ecosystem types beyond forest. In future phases of plan development, the planners should leverage additional high-resolution
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spatial datasets that have growing availability across the region.

Active management and silvicultural decisions have impacts on carbon stocks in the Tongass, and those are not described or explored here. Common management activities, such as pre-commercial thinning, and their carbon impact should be outlined within the Assessment in order to inform discussions around the trade-offs between future management scenarios.

The assessment acknowledges that climate change will impact the storage and uptake or loss of carbon: as temperatures warm, carbon stocks and stores will change. The draft Assessment does not address how these changes will play out and which will have more impact on the carbon storage of the Forest.

The harvested wood products (HWP) section, while good to include, is overly simplified. Adding nuance about transportation and the carbon costs of export versus use in local markets would
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strengthen the overall assumptions. Similarly, the substitution benefits of wood products in place of other materials requires a robust set of assumptions and the Assessment should be more
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Noon, M.N., Goldstein, A., Ledezma, J.C., Roehrdanz, P. R., Cook-Patton, S.C., Spawn-Lee, S.A., Wright, T.M.,

Gonzalez-Roglich, M., Hole, D.G., Rockström, J., and Turner, W.R. Mapping the irrecoverable carbon in Earth's ecosystems. Nature Sustainability. doi: 10.1038/s41893-021-00803-6.(2021))
64
Cahoon, Sean M.P.; Kuegler, Olaf; Christensen, Glenn A., tech. eds. 2020. Coastal Alaska's forest resources, 2004-2013: Ten-year Forest Inventory and Analysis report. Gen. Tech. Rep. PNW-GTR-979. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 73 p.
65
LiDAR data has increasing availability across the Tongass National Forest and can have a variety of applications including formulating estimates of carbon stocks and to model the carbon implications of management (See, Shanley CS, Eacker DR, Reynolds CP, Bennetsen BMB, Gilbert SL. Using LiDAR and Random Forest to improve deer habitat models in a managed forest landscape. Forest Ecology and Management 499, 119580 https://www.sciencedirect.com/science/article/pii/S0378112721006708 (2021), and Bellante G, et al. Prince of Wales Existing Vegetation Map Project. GTAC-10230RPT1. Salt Lake City, UT: U.S. Department of Agriculture, Forest Service, Geospatial Technology and Applications Center, pp 41.) https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd923834.pdf. (2021).
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Lucey, Taylor K.; Tase, Nadia; Nepal, Prakash; Bergman, Richard D.; Nicholls, David L.; Khatri, Poonam; Sahoo,
Kamalakanta; Gray, Andrew N. 2024. A Synthesis of Harvested Wood Product Carbon Models. Gen. Tech. Rep. PNW-GTR-1020. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 73 p. https://doi.org/10.2737/pnw-gtr-1020.
39

transparent about those, particularly if they inform management decisions and discussions
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around trade-offs.

Other than this general background information, however, the draft Assessment does not discuss any existing forest plan content relevant to carbon stocks or how this direction is performing: without that information-which is the purpose of the Assessment-it is impossible to develop an accurate Need for Change. Presumably the existing Forest Plan does not contain this direction, but given conclusions in other draft Assessments regarding the effects on those resources from climate change and the framework of the 2012 Planning Rule, the Forest should still have prepared a Carbon Stocks Assessment that presages what the Need for Change could look like. We look forward to reviewing an improved final Carbon Stocks Assessment report.

L. Cultural & Historic Resources

Although this draft Assessment references Indigenous (cultural) sites in passing and acknowledges the long Indigenous occupation of the National Forest, overall the report is more focused on colonial and settler historic resources. The draft Assessment also notes that very little of the National Forest has been surveyed for cultural resources, although what sites have been surveyed range in condition from good to destroyed.

While the draft Assessment report does not identify any existing plan content pertaining to cultural and historic resources-again, the lack of this information precludes the ability to develop an accurate Need for Change analysis-it does identify several stressors including heritage tourism, climate change and associated disturbances (floods, landslides, fire), lack of
68
Forest Service workforce capacity, likely increase in project size, adverse effects to cultural

resources, looting and theft, and lack of availability of data. Despite the increase in heritage tourism on the Forest, there has not been a commensurate increase in funding for interpretation, education, maintenance, and mitigation that is compromising cultural and historic resources. The Forest Service acknowledges that it lacks the financial and human capacity to meet the need to manage cultural sites, provide interpretation, and mitigate adverse effects on these resources. The need for partnerships, including with Tribes, is therefore a Need for Change well-suited to new plan components in the Plan Revision.

The draft Assessment spends a fair amount of time discussing the Forest Service's struggle with competing philosophies regarding access to cultural sites vs. protecting them from access. There is no known correlation between access and harm to cultural sites, but nor does it appear that this has been well-studied on the Tongass (and the agency's conclusion appears inconsistent with Tribal feedback). Social media has increased access and harm to cultural sites, and Tribes have expressed concerns about this exposure of sites and their locations via social media. While the Forest Service recognizes it has little ability to influence what people post online, this situation

67 Assumptions around the substitutions benefits of wood are modeled in Howard, C., Dymond, C.C., Griess, V.C. et al. Wood product carbon substitution benefits: a critical review of assumptions. Carbon Balance Manage 16, 9 (2021). https://doi.org/10.1186/s13021-021-00171-whttps://link.springer.com/article/10.1186/s13021-021 -00171-w

68 As projects (fire suppression, vegetation management, recreation) grow in size, the Forest Service will continue to fall short in having the resources to support these projects, all of which require surveys and analysis.

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still drives a Need for Change in how the agency-along with its Tribal co-stewards-prioritizes, researches, and protects those sites.

The final Cultural & Historic Resources Assessment should include an analysis of how existing plan components are performing in order to provide a strong foundation for the forthcoming Need for Change analysis. Additionally, given the Indigenous presence on the Forest, and the clear need for partnerships to steward cultural and historic resources on the Forest, the final Assessment should incorporate ways in which Tribal co-stewardship of these resources can help the Forest Service deliver on mission critical expectations.

M. Designated Areas

This draft Assessment lists all currently designated areas and the basic legal parameters regarding such areas. But there is little to no detail regarding the ecological integrity of those areas, how the current plan is affecting them, or the need for new or revised designated areas. Importantly, there is nothing in this draft report regarding Tribal interest in special or officially designated areas.

While the draft Designated Areas Assessment is sorely lacking in this information, the draft Tongass as an Indigenous Place Assessment does provide some detailed information regarding designated areas for red cedar conservation on Kupreanof Island and proposes the exploration of the traditional cultural property designation as a tool for the Forest Service to explore. The final Designated Areas Assessment should be at least as adequate as the Indigenous Place Assessment

on the Need to Change the current plan in how designated areas are managed and how new ones are added in the future to address Tribal needs and desired outcomes.

N. Energy & Minerals

Acknowledging that energy and mineral development is an economic driver in Alaska, the draft Energy & Minerals Assessment provides an analysis of the energy and mineral development status quo in Southeast Alaska and how development of these resources could grow in the future. Although most of the non-wilderness Tongass is open to mineral exploration, the draft report explains that potential locations of foreseeable mining are all known and under development or permit.

Pertaining to permitting, operation, and reclamation of mining claims, the Assessment points out that "tribes have expressed that they want to work with the Forest Service in developing these reclamation plans, mitigation measures and other decisions about these claims" (draft Energy &
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Minerals Assessment, p. 15). Along with other stressors, energy and mineral development is a stressor on ecological integrity and is compromising Tribal cultural and subsistence resources suggesting a clear Need to Change the existing plan.

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The draft Assessment also has a good, albeit cursory, review of how climate change could affect all the different energy sources available into the future and how receding glaciers may allow for the staking of mineral claims in areas heretofore inaccessible. This is another potential stressor that should be addressed with plan components in the
revised plan.
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The importance of hydropower and the ability of the Tongass to generate renewable energy should not be understated. Existing hydropower developments often equate to more affordable energy for rural and urban communities. The assessment does a good job of documenting the different clean energy potential of the plan, but could include some analysis on how climate change trends and stressors, such as changes in precipitation, might impact the availability or affordability of these various energy options. This is acknowledged as a data gap but is one that the new plan should seek to address.

O. Geology and Geologic Hazards

The plan area's geology and associated hazards are well known and heavily studied. Since the 1997 Plan and subsequent changes, plan components meant to address and mitigate most of these geologic hazards seem to be working as intended.

The draft Assessment does mention repeatedly that climate change will affect (mostly increase) and, in some instances, change many of these hazards and that more adaptive measures will be needed to respond: clearly there is a Need to Change the existing plan to better address these stressors, but how the need for these adaptations will affect the Plan Revision is not discussed.

The increase in landslides is probably one of the most significant geologic hazards that is facing the health and safety of Southeast Alaskan communities and the resources that we depend on. Although the science behind the increase in landslides is still evolving, there is significant local

knowledge that deadly landslides (and non-deadly) are increasing in number, intensity, and location near communities. Many communities have drawn correlations between landslides and areas of previous timber harvest. This increase in landslides and the local knowledge surrounding it must be documented in the assessment. The Sitka Sound Science Center's Kuti project should be consulted for the data that they have gathered in collaboration with Tribes and communities.

P. Infrastructure

The draft Infrastructure Assessment identifies road maintenance and its funding are very challenging for the Forest Service. Given the Forest Service's lack of capacity and the desire on the part of some Tribes to co-steward or undertake management of some infrastructure on the Forest, the final Assessment should explore these opportunities with the objective of including them in the Need for Change analysis.

This section dovetails with the observations in the Recreation and Tourism Assessment on the need for infrastructure to respond to increasing recreation use and tourism demands. While, for example, timber infrastructure is often not matched to tourism demands, tour companies have begun making use of some roads. There are also opportunities for turning roads into motor trails. Incorporating community uses into infrastructure planning-including subsistence, recreation, and tourism uses-and working with partners will be essential. The Assessment should give a clear picture of how commercial fees are collected to offset the costs of commercial use on public infrastructure such as trails and roads.

Q. Scenic Resources

The draft Scenic Resources Assessment correctly identified even-age timber harvest as the primary activity that reduces scenic integrity. The report does not describe data or existing plan content related to this resource in an easily understandable way. Data on scenic integrity needs to be updated, and considered in context of a geographically expanding footprint of the tourism industry, and the desire of locals to reserve places without commercial use.
The Assessment offers that the current Scenic Integrity Objectives are being met on a Forest-wide scale, but does not discuss scenic integrity on a relevant scale, or provide a clear way to understand the interaction between timber management objectives and other uses. The Assessment would be strengthened by recognizing the places where concentration of timber harvests, particularly in southern Tongass, have created reduced scenic integrity across a significant portion of some islands. As the region shifts to a more tourist focused economy, it will be important to recognize that there may be significant portions of the central and southern Tongass that might not be as desirable for tourism operations. During engagement with the small cruise sector, the Forest Service acquired vessel tracking information that could be used to understand how vessels interact with scenery on the Forest.
Additionally, "Flightseeing and other air travel routes are not considered or managed as VPRs in the current Forest Plan" (Draft Scenic Resources Assessment, p. 10). Given that both the cruise industry's excursions, small cruise industry, and other local tourism industry make heavy use of flightseeing and air travel (flights to take hunters and anglers to remote camps and lodges, etc.), especially in the warmer months, consideration of these impacts to scenic resources should have been addressed in the draft Assessment. This should be rectified in the final Assessment.
We agree with the assessment that direction for scenery is complicated as written. We agree with the need to consider other types of scenic integrity, such as the volume or interaction of different

commercial tour activities, particularly in places like Misty Fjords or the Juneau Icefield that have near-constant Forest Service permitted air traffic during the long days in the summer. Finally, we note that no information in the draft report has been updated since 2006 (draft Scenic Resources Assessment, p. 12). Given the importance of the Tongass as a scenic landscape to local communities and the visitor industry, clearly the lack of current scenic resource data is an information gap that needs to inform the Need for Change. However, in order to foster adequate comment, this information really must be presented earlier in the process. We look forward to reviewing this information in the final Assessment report.

R. Drivers, Stressors, & Climate Change

Climate change is the biggest stressor facing our region that the plan needs to be changed to account for. The draft Assessment report addressing Drivers, Stressors, & Climate Change notes that climate-along with the island biogeography nature of much of the Forest-drives the vegetation and other biophysical communities on the Tongass. Because the existing forest plan does not contain plan components addressing climate change as a stressor, there is a significant Need to Change the plan to incorporate this information, which the draft Assessment does a good job of acknowledging. Several key areas necessitating Needs to Change the current Tongass forest plan include:
43

? Climate Adaptation: The current plan lacks direction on climate adaptation. The new plan must consider system drivers and stressors, including climate change, and the ability of ecosystems to adapt to these changes.
? Temperature and Precipitation Changes: Significant increases in temperature and precipitation are projected, necessitating adjustments in forest management to address these changes.
? Landslides: Landslides are increasingly deadly and threatening community safety. The Forest Plan must consider the rise in landslides and other extreme weather events.
? Insect and Disease Outbreaks: Warming climates are expected to exacerbate insect
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and disease outbreaks, requiring proactive management strategies.
? Invasive Species: The spread of invasive species is a growing concern, and the plan needs to include measures to prevent and manage these threats.
? Glacial Melt and Sea Level Change: Accelerating glacial melt and differential sea level changes due to isostatic rebound require adaptive strategies to manage new land surfaces and changing shorelines.
? Ocean Chemistry and Sea Surface Temperatures: Ocean acidification and rising sea surface temperatures will impact marine ecosystems and traditional subsistence practices, necessitating integrated management approaches.
? Fire Management: Although historically low, the risk of wildfires may increase with changing climate conditions, requiring preparedness and management plans.
? Wind Dynamics: Changes in wind patterns and increased storm frequency need to be considered in forest regeneration and management practices.
? Impact on Subsistence Resources: Climate change is expected to affect the health and availability of key resources such as fish, deer, berries, mushrooms, and cedar, which are central to the ability of rural communities and Tribes to practice subsistence and cultural lifeways.

? Habitat Degradation: Changes in climate are likely to degrade the habitats that these resources depend on, further threatening their availability at sufficient harvestable levels.
? Yellow-Cedar Decline: The decline of yellow-cedar, a culturally and economically important species, due to root freezing injury exacerbated by reduced snowpack, is a pressing issue.
? Stream Habitat for Fish: Proactive strategies must be planned to improve anadromous stream habitats for fish, which are vital for subsistence fishing, commercial and sportfishing, and ecological health.
70
Recent research suggests that sawfly and budworms are in fact causing widespread tree mortality. See, Howe M,
Graham EE, Nelson KN. Defoliator outbreaks track with warming across the Pacific coastal temperate rainforest of
North America. Ecography 2024, e07370 ht t ps : / / doi .org/ 10.1111/ e c og.07370 (2024). This is very concerning with
projected climate change as more invasive species potentially move north. See, Howe M, Graham EE, Nelson KN. A
shrinking envelope? Climate warming across the Pacific coastal temperate rainforest and its projected impact on a
native defoliator. Climatic Change 178, 31 ht t ps : / / doi .org/ 10.1007/ s 10584-025-03870-2 (2025). The Pacific Northwest Research Station Forestry Sciences Lab in Juneau will be an important research group to collaborate with
to complete this section adequately. It will be important to develop plausible scenarios and management responses to
increased outbreaks.
44

? Traditional Food Harvesting: Sea level changes, ocean acidification, and warming sea surface temperatures are expected to impact the ability to harvest traditional foods and resources, affecting the livelihoods and foodways of local communities.

Overall, the draft Assessment emphasizes the need for a comprehensive revision of the Tongass Forest plan to incorporate climate adaptation, address emerging stressors and threats, and ensure the sustainability of the terrestrial and aquatic ecosystems. We recommend highlighting the plethora of tribal concerns regarding climate change and the adaptation plans that Tribes have compiled to address these resources in their community use areas. For example, Tlingit & Haida, Sitka Tribe of Alaska, Hoonah Indian Association, and Metlakatla Indian Community are a few of the climate adaptation plans we know of. We urge the agency to incorporate actionable provisions from Tribal climate adaptation plans into the revised forest plan.

Monitoring is a critical component of adaptive management and needs to be expanded upon in the draft Assessment given the dynamic management required to adapt to emergent stressors and climate impacts. Assessing and adapting management strategies will be critical under the next forest plan and reliable information will be needed to inform those management decisions. Therefore, a more detailed description of existing monitoring programs, trends documented by current monitoring, and a discussion of what should be monitored going forward is warranted.

S. Subsistence and Other Harvest (Non-Commercial) Resources

[71] The draft Assessment on Subsistence and Other Harvest (Non-Commercial) Resources provides a substantive but incomplete synthesis of existing, available, and relevant information needed to identify a preliminary need for change and develop subsequent plan components. Subsistence uses of the forest are one of the top priorities of Southeast Alaskans, as reflected in the Voices for the Future document that was compiled to summarize input during the community [72] engagement process in 2024 . The dependence of rural communities and Native communities on subsistence resources for our economic, social, and cultural lifeways must be well reflected in the subsistence assessment. However, the USFS acknowledges in the draft Subsistence Assessment that "there is little direction in the existing plan on how best to ensure that the management of the Tongass National Forest prioritizes subsistence uses, as well as for other uses [73] of fish, wildlife, and plant resources." The 2016 Tongass Plan fails to provide substantive protection to "subsistence resources" and offers no meaningful direction for the USFS to make subsistence-related decisions. Instead, the 2016 Plan's "standards and guidelines" mostly restate [74] existing laws, regulations and the Region 10 Subsistence Management and Use Handbook. Given the importance of subsistence harvesting opportunities and healthy habitat that supports these opportunities to rural Southeast Alaska, one of the primary things that needs to change in a revised Tongass plan is the prioritization of managing for subsistence harvest and healthy

[71] U.S. Forest Service, Subsistence and Other Harvest (Non-Commercial) Resource Assessment: Tongass National Forest Plan Revision (Nov. 2024) [hereinafter Draft Subsistence Assessment]. Though we rely on the term "subsistence" to avoid confusion, we acknowledge it is merely a legal term of art and inadequately captures the import and context of the traditional and customary uses of natural resources by Indigenous peoples across what is now Alaska since time immemorial.

[72] https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd1218814.pdf

[73] Draft Subsistence Assessment, at 8.

[74] U.S. Forest Service, Tongass National Forest: Land and Resource Management Plan (2016), 4-65-4-67.

populations of subsistence resources, and associated land management actions that support those activities, especially in heavily utilized subsistence harvest areas near communities.

The revised Tongass Forest Plan will play a critical role in fulfilling or failing to honor the purposes of ANILCA's Title VIII. The Plan's desired conditions and other plan components will determine the direction by which the USFS carries out Title VIII's subsistence priority and preference scheme. Pursuant to ANILCA, that direction must ensure that forest management causes "the least adverse impact" on subsistence uses, and that the USFS protects "the continued viability of all wild renewable resources," among other requirements provided in §802 and elsewhere in ANILCA. As explained in USFS's Subsistence Handbook, subsistence-based [75] decisions often "tier" back to the Forest Plan "for prescription and desired future condition." But, as noted above, the 2016 Forest Plan provides little direction in this regard, other than the

broad requirements imposed by Title VIII and NEPA.

Practically, one example of the way in which the revised Tongass Forest Plan could improve the way in which the subsistence priority and preference scheme is operationalized is by improving the relationship between species identified in the Subsistence Draft Assessment and species identified as priorities in the draft Species of Conservation Concern Assessment. The Subsistence draft Assessment clearly lays out the importance of a number of species to subsistence, but threats or possible concerns about these species do not always translate to mention in the Species of Conservation Concern draft Assessment, which results in disconnection between important subsistence resources and what is being managed for most closely in terms of species proliferation. For example, Chinook salmon are described in the Subsistence draft Assessment as having "experienced poor productivity throughout the region in recent years" with "fisheries on Alaska-origin stocks hav[ing] been severely curtailed as a conservation measure." Despite the identification of this species as critical to subsistence and having experienced significant changes to recent management patterns, only one sub-population of Chinook salmon is identified in the Species of Conservation Concern draft Assessment. Improving the relationship between resources identified as important to subsistence and resources that are being managed for the health of future populations is one example of how the Tongass Forest Plan could more consistently meet requirements for subsistence provided in §802 and elsewhere in ANILCA.

The draft Subsistence Assessment should also be revised to incorporate additional consideration of the legal and historical framework in which the Assessment is being conducted and reflect the complex but documented ties between our current subsistence structure and Native hunting, fishing and gathering rights. The Assessment includes some important aspects of that context, such as an overview of the 2016 Forest Plan and the general structure for subsistence management required by the Alaska National Interest Lands and Conservation Act (ANILCA), but the Assessment fails to adequately consider the critical role that forest planning and the corresponding management of subsistence resources play in fulfilling the United States' longstanding trust duties to Alaska Native Tribes, which is more thoroughly laid out (from a tribal perspective) in the Tongass as an Indigenous Place draft Assessment. The Subsistence assessment should seek to capture the importance of subsistence resources to fulfilling trust duties to Tribes, as well as the food security needs and the way of life that is prevalent in many of Southeast's rural communities. Tribal feedback describing the trust responsibilities that are

75 U.S. Forest Service Handbook, 2609.25 Subsistence Management and Use Handbook, at 46.

owed to their sovereign nations and suggestions for how the subsistence framework can be improved should be considered and documented in the Subsistence draft assessment. One report that can be drawn upon is the consultations that the USDA conducted around the subsistence program in 2022, with particular emphasis on input from Southeast Alaskan Tribes[76].

T. Socioeconomic Conditions

This draft Assessment report collects and presents many various data sets and research about socioeconomic conditions in Southeast Alaska. However, it fails to adequately consider the role of the Tongass in supporting key economic drivers of the region, including fishing and tourism, and in addressing key challenges facing rural communities in the region, like access to food security. The data presented is not considered in regards to how the past plan influenced these

conditions or used to make a case for the Need to Change the current plan, which is the primary purpose of an Assessment. The Forest Service should address this shortcoming in the final Socioeconomic Conditions Assessment.

One of the biggest failings of the section is the lack of connection drawn between the wild salmon that are produced on the Forest and the region's fisheries economy. The Socioeconomic Assessment undercounts the role of the Forest supporting commercial fisheries (p. 26, Table 14). This table, along with the Aquatic Ecosystems Assessment, claims no economic contributions from the wild salmon produced by Tongass rivers, lakes, and streams. According to the U.S. Forest Service 75% of Southeast Alaska's commercial salmon catch and 22% of Alaska's [77] commercial salmon catch comes directly from the Tongass. Commercial fishing has accounted for 1 in 10 jobs in Southeast Alaska.

The Socioeconomic Assessment presents jobs that the Tongass supports that drastically undercounts the role of the Forest supporting tourism (p. 26, Table 14). The Assessment claims only 670 jobs directly supported by the Tongass National Forest in the Visitor Sector. This is misleading. At the most basic level, there is no tourism industry without the scenic draw of "Alaska," and the vast majority of Southeast Alaska lands are managed by the Forest Service. The Forest Service needs to take more credit for the economic activity that the Tongass supports.

The draft Assessment does a good job of conveying local concerns about the growth of tourism, but does not consider the complex interaction between tourism businesses, their role in rural or urban communities, or the Forest Service role in deciding which businesses get permits, where these businesses go and how they operate (draft Socioeconomic Assessment, p. 46). The Assessment notes the miles of trails, but states that they have been maintained and improved, which contradicts the Recreation and Tourism draft Assessment's observation that the agency has fallen behind on trails. The final Assessment would be improved by describing how the current Plan and Forest Service decisions have managed the growth of recreation use and tourism (draft Socioeconomic Assessment, p, 50).

[76] U.S. Department of Interior and U.S. Department of Agriculture, Federal Subsistence Policy Consultation Summary Report (June 14, 2022), ht t ps : / / www.bi a .gov/ s i t e s / de fa ul t / fi l e s / dup/ t c i nfo/ fi na l -s ubs i s t e nc e -c ons ul t a t i on-s um m a ry-re port _6.10.22_508.pdf

[77] ht t ps : / / www.fs .us da .gov/ Int e rne t / FSE _DOC UME NT S/ fs e prd918446.pdf

The Socioeconomic Assessment would be strengthened by considering how the communities of Southeast Alaska interact, socially and economically with each other and the forest around them. It is relevant that ferry service is declining and air service is the primary people mover: that there are several hub communities with jet service to Seattle and Anchorage and that other communities access hub communities via small aircraft and ferry. The assessments note that communities are not connected by roads, but it would be valuable to mention that it is not Forest Service policy preventing road connections but rather the nature of the region as an island archipelago. The chapter could document that many Southeast Alaskans and Tribes view the waterways as the 'roads' of the region and would like to see the ferry system supported similarly to federal highways.

Additionally, many roads and trails begin on community or private land. To highlight this point, the roads and trails in the mapping platform only show the Tongass roads and trails; all these layers end at community boundaries. Understanding how these communities interact with the Forest is a priority.

In the Energy Costs section, there are more words devoted to explaining how urban Alaska relies on natural gas, than there are words that document how many communities rely on hydropower produced on the Tongass National Forest. Southeast Alaskan communities do not use natural gas, but do rely on fish-friendly hydroelectric power from the Tongass National Forest to power their communities. The reliance on hydropower from the Tongass should be documented (along with the importance of energy planning in a climate insecure future); the communities that benefit from hydropower projects on federal lands (including Sitka, Juneau, Ketchikan, Wrangell, Metlakatla, Petersburg, Kake, and Hoonah), as well as the opportunity to meet more communities needs from hydropower on the Tongass and projects that are in development to do so (such as Thayer Lake in Angoon).

IV. Conclusion

Thank you for the opportunity to comment on the draft Assessment reports for the Tongass National Forest Land Management Plan Revision. The draft Assessments take a major positive step forward by considering the role of the Tongass as an Indigenous homeland that continues to support cultural practices; as a source of subsistence resources, wild foods, and way of life for rural and Native communities; as a unique, biologically diverse and productive island ecosystem; as a climate refugia; as a producer of wild salmon; and a host for unparalleled outdoor recreation opportunities. These are excellent places to focus Tongass management in the Plan Revision. The Tongass is unique in the National Forest System, and each stage of the Plan Revision must reflect the needs and priorities of communities in Southeast Alaska that depend on the responsible and balanced management of forest resources. The Plan Revision presents an opportunity to address numerous shortcomings of the existing Forest Plan, particularly the need to center Indigenous perspectives, knowledge, and priorities in the future management of the Forest, to support community and ecosystem resilience in the face of climate change, and to align management resources and approaches with the industries and community priorities that are driving Southeast Alaska's future, particularly fisheries, recreation, and tourism. Our comments contribute important information and suggestions to assist the Forest Service in

achieving these objectives and we hope the final Assessment and Need for Change is strengthened as a result. Our organizations are deeply invested in the health of the lands, waters, and communities that make up the Tongass and Southeast Alaska, and are standing by as partners to support an informed and equitable forest planning process as needed.

Sincerely,

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