



THE  
WILDLIFE  
SOCIETY



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## ALASKA CHAPTER

24 September 2026

Director

Ecosystem Management Coordination

201 14th St SW

Mail Stop 1108

Washington DC 20250-1124

### **RE: Rescinding of the 2001 Roadless Area Conservation Rule**

Dear Director Kinder,

The Alaska Chapter of The Wildlife Society strongly opposes rescinding the 2001 Roadless Area Conservation Rule (henceforth, 'the Rule') for Alaska's National Forests, under the preferred alternative (Alternative 2) of the 2001 Roadless Area Rule Rescission Draft Environmental Impact Statement (henceforth, 'the DEIS'). We support Alternative 1, which would keep the Rule in place for the National Forest System, including Alaska.

The Alaska Chapter of The Wildlife Society (henceforth, "the Alaska Chapter") is a professional society founded in 1971. With over 200 members, the Alaska Chapter is one of the largest chapters of The Wildlife Society, an international organization representing wildlife biologists and managers employed by state, federal, and borough resource agencies, academic institutions, non-governmental organizations, tribes, and private industry. Our science-based mission is to enhance the ability of wildlife professionals to conserve biological diversity, sustain productivity, and ensure responsible use of wildlife resources in Alaska for the benefit of society.

Alaska has two National Forests, the Chugach in Southcentral Alaska and the Tongass in Southeast Alaska. They are far and away the largest National Forests in the System, and together encompass approximately 21.9 million acres.<sup>1</sup> Southeast Alaska is dominated by the Alexander Archipelago, made up of thousands of islands (5,568 > 1 acre in size), and a marine shoreline of more than 18,000 miles.<sup>2</sup> There are ~15,800 miles of mapped anadromous streams on the Tongass.<sup>3</sup> Across coastal Pacific salmon watersheds, returning salmon transfer marine derived nutrients from the ocean into riparian soils, vegetation, insects and old-growth forest.<sup>4</sup>

Alaska's National Forests contained about 14.7 million acres of inventoried roadless areas (IRAs). The Tongass, alone, contains about 9.3 million acres, or ~16% of Inventoried Roadless Area acreage nationwide.<sup>5</sup>

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<sup>1</sup> U.S. Department of Agriculture [USDA] Forest Service. 2023. Special areas; roadless area conservation; National Forest System lands in Alaska. Final Rule. Federal register 88:5,252-5,271.

<sup>2</sup> Albert, D. M., and J. W. Schoen. 2007. A conservation assessment for the coastal forests and mountains ecoregion of southeastern Alaska and the Tongass National Forest. Audubon Alaska and The Nature Conservancy, Anchorage, Alaska, USA.

<sup>3</sup> U.S. Department of Agriculture [USDA] Forest Service. Tongass Salmon Factsheet. "Salmon in the Forest" U.S. Forest Service, Alaska Region. n.d.

<sup>4</sup> Reimchen, T. E., D. D. Mathewson, M. D. Hocking, J. Moran, and D. Harris. 2003. Isotopic evidence for enrichment of salmon-derived nutrients in vegetation, soil, and insects in riparian zones in coastal British Columbia. American Fisheries Society Symposium 34:59–70.

<sup>5</sup> Riddle, A. A. (2021) The Alaska Roadless Rule: Eliminating Inventoried Roadless Areas (IRAs) in the Tongass National Forest. Congressional Research Service, Report R46505, February 3, 2021.

Alaska's National Forests support many iconic wildlife species, including brown/grizzly bears (*Ursus arctos*), Bald Eagles (*Haliaeetus leucocephalus*), Marbled Murrelets (*Brachyramphus marmoratus*), wolves (*Canis lupus*), and wild salmon (5 species). Alaska's stewardship responsibility for these and other iconic wildlife species is high.

While Alaska's National Forest System encompasses both the Chugach and the Tongass, their ecological profiles and timber capacities are very different. The 5.4 million acre Chugach National Forest consists primarily of glaciers, rock, and low-volume coastal forest, containing a very small suitable timber base (~6,060 ac) under the current Forest Plan.<sup>6</sup> The practical timber-harvest implications of changes to the Roadless Rule protections are likely to be concentrated in the Tongass. For that reason, our primary focus in this comment letter is on the Tongass.

### **The Justification for Rescinding the Rule on the Tongass is Flawed**

The USDA's stated rationale for the proposed rescission of the 2001 Roadless Area Conservation Rule is to (1) reduce regulatory burden and return management decisions for Inventoried Roadless Areas to individual National Forests, and (2) help managers address local forest-health conditions and reduce wildfire risk.<sup>7</sup>

*National/Global Responsibility:* While the immediate nutritional, cultural, and economic reliance of local Alaskans on these forests is important, National Forests are ultimately national trust resources, established and maintained by all U.S. taxpayers. Local project-level forest planning inherently leads to incremental reduction and piecemeal erosion of irreplaceable national roadless values. Ad-hoc decision-making fails to evaluate cumulative national impacts resulting in "death by a thousand cuts" to intact wildlands—a systematic vulnerability that established the necessity of a uniform, nationwide Roadless Rule.

The Tongass National Forest stands as a crown jewel of America's public land system— a globally rare landscape encompassing the world's largest intact expanse of old-growth temperate rainforest. It serves as "America's Salmon Forest" generating millions of wild Pacific salmon that fuel an entire marine-terrestrial food web. From unprecedented high densities of brown bears and nesting Bald Eagles, to endemic species like the Alexander Archipelago wolf (*Canis lupus ligoni*) and the Prince of Wales flying squirrel (*Glaucomys sabrinus grisifrons*), the Tongass maintains fully functioning, large-scale ecological processes that no longer exist in the contiguous United States. Preserving its roadless watersheds is not merely a local land-management choice, but a national/global responsibility.

*Wildfire Risk Reduction:* The USDA cites woodland fuels management and firefighting access as a main justification for rescinding the Rule.<sup>8</sup> While wildfire may be a concern in some western forests, the Tongass is a temperate rainforest, a region that receives an average of approximately 154 inches of precipitation annually, with the wettest station (Little Port Walter) receiving approximately 235 inches annually.<sup>9</sup> Wildfire is virtually nonexistent in the Tongass, so there is no fire-related purpose to build roads into its roadless areas.

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<sup>6</sup> U.S. Department of Agriculture [USDA] Forest Service. 2020. Record of decision (ROD) and revised Chugach National Forest Land Management Plan for the Chugach National Forest. Publication R10-MB-829c. USDA Forest Service, Alaska Region, Anchorage, Alaska, USA.

<sup>7</sup> U.S. Department of Agriculture [USDA] 2026, August 20. Special Areas; Roadless Area Conservation. Federal Register 91 FR 53827-53832.

<sup>8</sup> U.S. Department of Agriculture [USDA]. 2026. USDA acts to remove Roadless Rule restrictions that exacerbate rising wildfire risk. Press release. U.S. Department of Agriculture, Washington, D.C., USA.

<https://www.usda.gov/about-usda/news/press-releases/2026/08/18/usda-acts-remove-roadless-rule-restrictions-exacerbate-rising-wildfire-risk>. Accessed 16 Sep 2026.

<sup>9</sup> U.S. Department of Agriculture [USDA] Northwest Climate Hub. 2021. Southeast Alaska in a changing climate. U.S. Department of Agriculture Northwest Climate Hub, Portland, OR USA. [Southeast Alaska in a Changing Climate | USDA Climate Hubs](#). Accessed 16 September 2026.

## **There is Overwhelming Public, Tribal, and Scientific Support for Keeping the 2001 Roadless Area Protections in Place**

*Public:* During the 2025 scoping period for the USDA's proposed repeal of the Roadless Rule, the agency received over 220,000 comment submissions. An analysis of the submissions found approximately 99% opposed rescinding the rule.<sup>10</sup> In a 2020 statewide poll, Alaska registered voters were more likely to oppose than support exempting the Tongass from Roadless Rule protections, 49% to 43%.<sup>11</sup> In the same poll, 70% of active hunters and fishers supported the Roadless Rule protections.

*Tribes:* The Central Council of the Tlingit & Haida Indian Tribes of Alaska, a sovereign tribal government representing more than 38,000 tribal citizens, has formally and unequivocally opposed rescission of the 2001 Roadless Rule as applied to the Tongass National Forest. Its Executive Council concluded that continued roadless protections are necessary to safeguard Alaska Native subsistence resources, cultural and spiritual use areas, biodiversity, watershed integrity, climate resilience, and intact forest ecosystems within Tlingit & Haida homelands.<sup>12</sup>

*Scientists:* There is broad scientific consensus on the ecological values of old growth in general, and IRAs in particular. Forests that remain free from substantial human degradation—often termed intact forests—typically contain more mature and older trees, store substantial carbon, provide important fish and wildlife habitat, sustain biodiversity, and supply ecosystem services that are difficult or impossible to replace once lost.<sup>13</sup>

The Alaska Chapter, other professional societies, and (at times) Forest Service leadership have been essential to creating a better understanding of old-growth ecology, and promoting old-growth conservation. This is illustrated by a brief history of scientific engagement and old-growth management in the United States:

In 1979 and 1985, the Alaska Chapter issued position statements highlighting the importance of old growth (particularly high-volume old growth) to fish and wildlife, and urging increased recognition of wildlife needs in forest management.

In 1987, The Wildlife Society convened a group of scientists to prepare a paper on the management and conservation of old-growth forests in the United States. The authors warned that *“managed forest landscapes may be ecologically inadequate to ensure long-term forest productivity and the persistence of the full array of wildlife populations.”*<sup>14</sup>

In 1999, President Bill Clinton directed the USDA and Forest Service to initiate a nationwide rule-making process to protect inventoried roadless areas.

In 2000, 330 North American scientists (including 100 Alaskan scientists) sent a letter to President Clinton urging him to include the Tongass in the Roadless Rule.

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<sup>10</sup> Center for Western Priorities. 2025. Public comment analysis: overwhelming opposition to repealing the 2001 Roadless Area Conservation Rule. CWP Policy Report. Center for Western Priorities, Denver, Colorado, USA. [Comment analysis finds over 99% opposition to repealing 2001 Roadless Rule - Center for Western Priorities](#) Accessed 16 Sept 2026.

<sup>11</sup> Poll commissioned by the Alaska Wildlife Alliance and conducted by Public Policy Polling firm, January 28-29, 2020, among 300 Alaska registered voters.

<sup>12</sup> Central Council of the Tlingit & Haida Indian Tribes of Alaska. 2026. Resolution EC 26-03: Opposing the Proposed Rescission of the 2002 Roadless Area Conservation Rule and Affirming Protection of the Tongass National Forest. Adopted January 16, 2026.

<sup>13</sup> Mildrexler, D. J., L. T. Berner, B. E. Law, and M. S. Booth. 2026. Roadless rule rescission threatens highest integrity of forest ecosystems in the United States. *Biological Conservation* 321:111950.

<sup>14</sup> Thomas, J. W., L. F. Ruggiero, R. W. Mannan, J. W. Schoen, and R. A. Lancia. 1988. Management and conservation of old-growth forests in the United States. *Wildlife Society Bulletin* 16(3):252–262.

In 2001, Chief of the Forest Service Mike Dombeck announced a directive asking Forest Service leadership over the coming year to develop regional guidance that would emphasize protecting and sustaining old-growth trees and incorporate old-growth retention into ecosystem management plans.<sup>15</sup>

In 2001, after 15 months of scoping and 1.6 million public comments, the final Roadless Area Conservation Rule was signed by Secretary of Agriculture, Dan Glickman.

In 2003, former Forest Service Chiefs Jack Ward Thomas and Mike Dombeck wrote that “...*harvest of old growth from the national forests should come to an end...*,” arguing that the remaining old-growth forests held far greater value for ecosystem health, water quality, and biodiversity than for timber production.<sup>16</sup>

In 2010, Agriculture Secretary Tom Vilsack formally introduced the Tongass Transition Framework, directing the agency to move away from old-growth logging.

In 2013, Secretary Vilsack issued Memorandum 1044-009, formally directing the management of the Tongass National Forest to phase out industrial-scale old-growth harvesting over a 10–15 year period.

In 2015, seven scientific societies<sup>17</sup> sent a letter to the Secretary of Agriculture urging a transition out of logging old growth on the Tongass, stating “*we ...express our full support for an accelerated transition away from clear-cut logging of old-growth forests on the Tongass National Forest...as rapidly as possible.*”

In 2016, a Tongass Land Management Plan Amendment (and accompanying EIS) was published, detailing a planned transition out of old-growth logging over the next 10–15 years.

In 2026, the U.S. Forest Service is actively revising the Tongass Land Management Plan. It initiated formal scoping in February 2026, and expected a draft environmental impact statement in Fall 2026. The Final revised plan and EIS were expected in May 2027, subject to changes in the project schedule.<sup>18</sup>

The revision is expected to nullify the current transition plan, greatly increase clearcutting of old growth, and eliminate roadless area protection, compliant with President Trump’s executive orders.

The Tongass has been described as the only unit of the National Forest System still operating a timber program centered on commercial-scale clearcutting of old-growth forest.<sup>19</sup>

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<sup>15</sup> Dombeck, M. 2001. Taking the long view: conservation investments for future generations. Keynote address presented at Duke University, Durham, North Carolina, USA.

<sup>16</sup> Thomas, J. W., and M. Dombeck. 2003. Declare harvest of old-growth off-limits and move on. The Seattle Times, 23 August 2003. Seattle, Washington, USA.

<sup>17</sup> Alaska Chapter of the American Fisheries Society, American Ornithologists’ Union, American Society of Mammalogists, Ecological Society of America, Pacific Seabird Group, Society for Conservation Biology, and The Wildlife Society. 2020. Joint professional scientific society statement on old-growth forest management. Bethesda, Maryland, USA.

<sup>18</sup> U.S. Department of Agriculture [USDA] Forest Service. 2026. Tongass National Forest; Alaska; Land Management Plan Revision. Federal Register 91, no. 32 (February 18, 2026). Notice of intent to prepare an environmental impact statement. Federal register document 2026-03197.

<sup>19</sup> Ecological Society of America, The Wildlife Society, American Fisheries Society, and Society for Conservation Biology. 2015. Joint scientific letter on old-growth logging transition on the Tongass National Forest. Submitted to USDA Forest Service and Executive Office of the President, Washington, D.C., USA.

## Roads and Wildlife

The 2001 Roadless Area Conservation Rule recognized the important values and significant ecological benefits that intact forests provide the American public. Scientists and land managers have long recognized that roadless areas are crucial to the protection of our nation's wildlife, fisheries, and water resources because they represent the least disturbed habitats in areas of extensive disturbance from resource development. Roads result in habitat loss, habitat fragmentation, sedimentation of aquatic water bodies, mass erosion, wildlife displacement and direct mortality, disruption of fish passage, and introduction of invasive species.

Roadless areas provide important refugia for fish and wildlife and perform valuable ecological services. These services are often diminished by roads and developments, which erode and fragment natural habitats. Roadless areas are also highly valued by many Americans as places for recreation. Roadless areas include the highest levels of intact old-growth forests, critical habitat for species of conservation concern (including threatened and endangered species), the greatest diversity of habitat types (including rare, large-tree old growth), refugia for large carnivores including brown bears and wolves, vast landscapes with naturally connected habitats, and important habitat reserves for spawning and rearing salmon and other aquatic species.

### **The DEIS Artificially Conceals Impacts by Tiering to an Outdated 2016 Forest Plan Currently Under Revision**

The DEIS fails to meet the core mandate of the National Environmental Policy Act (NEPA) to take a 'hard look' at the environmental consequences of rescinding the Rule on the Tongass. Specifically, the DEIS relies on an artificially constrained environmental baseline by evaluating the impacts of rule rescission strictly within the sideboards of the 2016 Tongass Land Management Plan.

The 2016 Forest Plan was explicitly designed to accelerate a transition from a timber program based primarily on old-growth harvest to one based primarily on young-growth, or second-growth harvest.<sup>20</sup> Consequently, evaluating the removal of roadless protections under the 2016 plan's conservation measures (e.g., Old-Growth Reserves, Wildlife Standards and Guidelines, T77 Salmon Watersheds, and Audubon/TNC high value areas) drastically understates the true, reasonably foreseeable impact of future logging on old-growth habitats and dependent fish and wildlife absent many of these measures.

This analytical framework creates a procedural disconnect. While the DEIS assumes that timber management will remain constrained by the 2016 Plan, the Tongass Land Management Plan is currently undergoing active revision,<sup>21</sup> driven by explicit Executive Order mandates to rescind roadless protections in Alaska and increase the timber volume offered from National Forest System lands.<sup>22</sup>

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<sup>20</sup> U.S. Department of Agriculture [USDA]. Office of the Secretary. 2013. Addressing sustainable forestry in Southeast Alaska. Secretary's Memorandum 1044-009. July 2, 2013. Washington, D.C., USA.

<sup>21</sup> U.S. Department of Agriculture [USDA] Forest Service. 2026. Schedule and milestone overview for the Tongass National Forest plan revision. USDA Forest Service, Alaska Region, Juneau, Alaska, USA. [Tongass National Forest | Tongass National Forest Plan Revision | Forest Service](#) Accessed 16 Sept 2026.

<sup>22</sup> Executive Office of the President. 2025. Executive Order 14153: Unleashing Alaska's extraordinary resource potential. Federal Register 90:8365. See also Executive Order 13855: Promoting active management of America's forests, rangelands, and other federal lands to improve conditions and reduce wildfire risk. Federal Register 84:45.

The fatal flaw is perfectly captured in this obviously incorrect DEIS claim: “Timber program output levels are expected to remain constant and involve a similar number of acres whether the Roadless Rule is in place or not.”<sup>23</sup>

By segmenting the nationwide removal of roadless protection from the active revision of the Tongass Forest Plan, the agency effectively hides the real-world cumulative impacts of its actions behind a plan baseline the administration is actively dismantling.

### High-Grading (Clearcutting in Stands with the Largest Trees)

Productive forest land on the Tongass is categorized into Forest Service size-density classes (SD) ranging from small-tree, low-volume stands (SD4) to relatively rare, large-tree stands (SD6/7). The large-tree stands occur mostly on well-drained soil types (alluvium, colluvium, karst), commonly associated with beach fringes, riparian corridors, outwash deltas, valley bottoms and low-elevation hillsides. Large-tree old-growth stands (SD6/7) are rare, accounting for ~11% of the productive old growth on the Tongass.<sup>24</sup> Because of their relatively easy access, large trees, and high wood volume, these stand types have always been disproportionately targeted for logging (i.e., high-grading). Assuming 80% of the ~430,000 acres of logging-initiated young growth on the Tongass was originally SD6/7, logging has reduced that forest type by approximately 40% forestwide.<sup>25</sup>

The highest rates of SD6/7 loss (~66%) have occurred in landscapes that originally contained the largest concentrations of large-tree old growth.<sup>26</sup> In the biogeographic province that originally had the highest concentration of contiguous large-tree old growth in the Tongass (north Prince of Wales Island, with 31%), logging between 1954 and 2004 reduced that type by 94%.<sup>27</sup> Researchers concluded the ongoing loss and fragmentation of rare forest types was significant enough to place some species at risk of local extirpation.<sup>28</sup>

High-grading, in simple terms, is “taking the best, and leaving the rest.” As the large-tree stands are depleted on the existing suitable timber base, the industry will naturally seek new areas that still have large-tree old growth. The Final EIS should include a clear presentation of the number of acres of large-tree old-growth SD6/7 *inside* and *outside* inventoried roadless areas (IRAs). Please also show as a percentage of Productive Old Growth (POG) in the respective areas (inside vs outside IRAs). This will help inform the likelihood of high-grading if existing roadless rule protections are rescinded.

In 1990, Congress took action to stop high-grading on the Tongass with passage of the Tongass Timber Reform Act. The Wildlife Society played a key role in gaining inclusion of a statutory “proportionality provision” intended to prevent logging companies from disproportionately logging high-volume old growth on the Tongass. Because this provision was placed in the long-term contract section of the bill, when those contracts were canceled not long after passage, the statutory guidance became moot.

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<sup>23</sup> U.S. Department of Agriculture [USDA] Forest Service. 2026. Special areas; Roadless Area Conservation Rule rescission: Draft Environmental Impact Statement. Environmental impacts within the Tongass National Forest, page 232. USDA Forest Service, Washington, D.C., USA.

<sup>24</sup> U.S. Department of Agriculture [USDA] Forest Service. 2020. Final Environmental Impact Statement. Rulemaking for Alaska Roadless Areas. Table 3.3-3. U.S. Forest Service Alaska Region R10-MB-867b. Washington DC.

<sup>25</sup> Calculations and assumptions: 80% of 430,000 acres clearcut to date equals 344,000 acres of SD6/7 removed. That, divided by the original SD6/7 (565,792 + 344,000) is approximately 38%.

<sup>26</sup> Albert, D. M., and J. W. Schoen. 2013. Use of historical logging patterns to identify disproportionately logged ecosystems within temperate rainforests of southeastern Alaska. *Conservation Biology* 27(4):774–784.

<sup>27</sup> Albert, D. M., and J. W. Schoen. 2013. Use of historical logging patterns to identify disproportionately logged ecosystems within temperate rainforests of southeastern Alaska. *Conservation Biology* 27(4):774–784.

<sup>28</sup> Albert, D. M., and J. W. Schoen. 2013. Use of historical logging patterns to identify disproportionately logged ecosystems within temperate rainforests of southeastern Alaska. *Conservation Biology* 27(4):774–784.

In 1990, The Regional Forester of the Forest Service (Alaska Region) chartered the Interagency Viable Population Committee (VPOP Committee) in response to rising concerns over old-growth timber harvest and species viability under the 1979/1986 Tongass Land Management Plan. The Conservation Strategy developed by the VPOP (and subsequently refined by the interagency Technical Team) was completed in 1993<sup>29</sup>, and formally adopted on May 23, 1997 as an integral component of the Tongass Land and Resource Management Plan (1997 Forest Plan). It included: (1) mapped large and medium old-growth reserves where timber harvest and roadbuilding are largely prohibited, (2) management “standards and guidelines” offering special protection for important habitats (e.g., beach fringe, riparian forest) and vulnerable wildlife species, and (3) a network of forest corridors connecting old-growth reserves to facilitate species movement and viability.

In 1994, an independent committee of 21 scientists with appropriate expertise from across North America were invited to review the Tongass Conservation Strategy for ensuring viable, well-distributed wildlife populations across the Tongass.<sup>30</sup> The peer reviewers concluded the VPOP strategy was scientifically sound, but noted areas where risk was underestimated. They recommended: *Keep landscape options open: do not further fragment existing large blocks of high-volume old growth and do not differentially cut low altitude, high-volume old growth.*<sup>31</sup>

There is substantial overlap between the VPOP Old-Growth Reserve network and Inventoried Roadless Areas that are the subject of the current proposed rule change. Rescinding the 2001 Roadless Rule exposes the core anchors of the reserve network to potential road construction and logging in future forest plan revisions. Losing the old-growth reserves, in addition to roadless habitat outside the reserves, would seriously impair the Forest Service’s ability to ensure “ecosystem integrity” and maintain species of conservation concern through the foreseeable future.

### Importance of Intact Old Growth to Fish and Wildlife on the Tongass

The Tongass provides important habitat for a wide array of fish and wildlife species. Repeal of the Roadless Rule and subsequent logging of old-growth areas would be detrimental to many of these species. Here we highlight a few key examples of how species would be affected if roadless areas were made available for logging.

Pacific Salmon (Chinook salmon [*Oncorhynchus tshawytscha*], Sockeye salmon [*Oncorhynchus nerka*], Coho salmon [*Oncorhynchus kisutch*], Humpback salmon [*Oncorhynchus gobuscha*], and Chum salmon [*Oncorhynchus keta*])

The temperate rain forest ecoregion along the west coast of North America is home to 5 species of Pacific salmon that support subsistence, personal-use, sport, and commercial fisheries. Alaska’s National Forests contribute 25% of Alaska’s total commercial salmon catch, having a dockside value of 88 million dollars (inflation adjusted to base year 2017).<sup>32</sup> Their abundance is sustained by healthy forest habitat, both in the immediate vicinity of forest streams and in the watershed beyond. The old-growth forest alongside salmon streams contributes large logs and root wads into the streams, moderating stream flow, reducing scouring during storm events, and creating pools and undercut banks that

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<sup>29</sup> Suring, L. H., D. C. Crocker-Bedford, R. W. Flynn, C. S. Hale, G. C. Iverson, M. D. Kirchhoff, T. E. Schenck, L. C. Shea, and K. Titus. 1993. A strategy for maintaining well-distributed, viable populations of wildlife associated with old-growth forests in Southeast Alaska. Report of an Inter-Agency Committee. USDA Forest Service, Alaska Region, Juneau, Alaska, USA.

<sup>30</sup> Kiester, A. R., and C. Eckhardt. 1994. Review of wildlife management and conservation biology on the Tongass National Forest: a synthesis with recommendations. USDA Forest Service, Pacific Northwest Research Station, Portland, Oregon, USA.

<sup>31</sup> Kiester, A. R., and C. Eckhardt. 1994. Review of wildlife management and conservation biology on the Tongass National Forest: a synthesis with recommendations. USDA Forest Service, Pacific Northwest Research Station, Portland, Oregon, USA.

<sup>32</sup> Johnson, A. C., J. R. Bellmore, S. Haught, and R. Medel. 2019. Quantifying the monetary value of Alaska National Forests to commercial Pacific salmon fisheries. North American Journal of Fisheries Management 39(6):1119–1131.

serve as important resting areas for spawning adults and rearing juveniles.<sup>33</sup> Riffles between pools help oxygenate the water and provide the sorted gravel that is essential for sustaining salmon eggs and fry.<sup>34</sup>

Road construction and associated clear-cut logging are the primary drivers of fish habitat degradation on the Tongass, contributing to a variety of threats:

*Barriers to Migration:* Roughly 30–35% of fish-bearing stream road crossings (well over 1,000) across the Tongass fail to meet state or federal standards for juvenile fish passage, fragmenting hundreds of miles of upstream rearing habitat.<sup>35</sup>

*Sedimentation:* Unpaved roads are a chronic source of sediment into streams.<sup>36</sup> Sediment can clog the interstitial spaces within spawning gravel, reduce intragravel waterflow, and deprive incubating salmon eggs and alevins of necessary dissolved oxygen.<sup>37</sup> Beyond chronic fine sediment input from roads, historical timber access and road construction across steep terrain in the Tongass National Forest increased the frequency of debris avalanches and flows compared to undisturbed natural slopes.<sup>38</sup> These road failures can deliver massive pulses of coarse and fine sediment into valley bottom channels, destabilizing spawning beds and degrading salmon habitat for decades, long after the initial clearcutting occurred.

*Hydrology:* The multi-layered canopy of the old-growth forests intercepts a significant amount of annual precipitation before it hits the ground, regulating water delivery to the forest floor and dampening peak flows that cause stream scouring.<sup>39</sup> Clearcutting reduces that buffering effect, increasing flash flooding and stream scouring during high rainfall events, and reducing streamflow and increasing stream temperature during dry periods.

*Temperature:* Unbuffered clearcut streams in Southeast Alaska experience summer water temperature increases, which may diminish dissolved oxygen.<sup>40</sup> High densities of spawning fish in these streams deplete the available oxygen, suffocating adult salmon before they can spawn.<sup>41</sup> If spawning has occurred, warm water and low flows can cause high egg mortality or complete redd (nest) collapse.

*Macroinvertebrates:* Terrestrial invertebrates dropping from multi-layered old-growth canopies provide over half of the seasonal energy intake for rearing juvenile coho salmon and Dolly Varden (*Salvelinus malma*); removing riparian timber alters canopy structure and may reduce these critical terrestrial prey subsidies compared to intact forest reaches.<sup>42</sup>

<sup>33</sup> Murphy, M. L., J. Heifetz, S. W. Johnson, K. V. Koski, and J. F. Thedinga. 1986. Effects of clear-cut logging with and without buffer strips on juvenile salmonids in Alaskan streams. *Canadian Journal of Fisheries and Aquatic Sciences* 43(8):1521–1533

<sup>34</sup> Vaux, W.G. 1968. Intragravel flow and interchange of water in a streambed. *Fishery Bulletin*, 66(3):470–489.

<sup>35</sup> U.S. Department of Agriculture [USDA] Forest Service. 2016. Tongass land and resource management plan amendment: final environmental impact statement. Chapter 3: Aquatic Resources / Fish Habitat and Road Crossings. Publication R10-MB-769e. USDA Forest Service, Alaska Region, Juneau, Alaska, USA.

<sup>36</sup> Furniss, M. J., T. D. Roelofs, and C. S. Yee. 1991. Road construction and maintenance. Pages 297–323 in W. R. Meehan, editor. *Influences of forest and rangeland management on salmonid fishes and their habitats*. American Fisheries Society Special Publication 19, Bethesda, Maryland, USA.

<sup>37</sup> Lisle, T. E. 1992. Effects of sediment transport on survival of salmonid embryos in a natural stream: A simulation approach. *Water Resources Research*, 28(10):2575–2589.

<sup>38</sup> Swanson, D. N. 1974. Slope stability problems associated with timber harvesting in mountainous regions of the western United States. General Technical Report PNW-GTR-21. USDA Forest Service, Pacific Northwest Research Station, Portland, Oregon, USA.

<sup>39</sup> Moore, R. D., and S. M. Wondzell. 2005. Physical hydrology and the effects of forest harvesting in the Pacific Northwest: a review. *Journal of the American Water Resources Association* 41(4):763–784.

<sup>40</sup> Meehan, W. R. 1970. Some effects of shade cover on stream temperature in Southeast Alaska. Research Note PNW-RN-113. USDA Forest Service, Pacific Northwest Forest and Range Experiment Station, Portland, Oregon, USA.

<sup>41</sup> Fellman, J. B., E. Hood, S. Nagorski, J. Hudson, and S. Pyare. 2018. Interactive physical and biotic factors control dissolved oxygen in salmon spawning streams in coastal Alaska. *Aquatic Sciences* 81(1):3.

<sup>42</sup> Wipfli, M. S. 1997. Terrestrial invertebrates as salmonid prey and nitrogen sources in streams: contrasting old-growth and young-growth riparian forests in southeastern Alaska, USA. *Canadian Journal of Fisheries and Aquatic Sciences* 54(6):1259–1269.

### Brown Bear (*Ursus arctos*)

The Tongass National Forest supports some of the highest densities of brown bears (~1.0/square mile or greater) in North America.<sup>43</sup> Riparian areas with intact forest stream buffers are intensively used by brown bears in late summer and fall as they feed on spawning salmon.<sup>44</sup> The proposed removal of the Roadless Rule protections poses a multi-tiered threat to the region's brown bear populations, including:

*Nutritional Deprivation:* As roads and logging diminish salmon populations (see above), the caloric intake available to bears in late summer/fall is potentially diminished. Reduced salmon intake can lead to a variety of negative effects, including delayed denning, diminished body condition, reduced overwinter survival, and reduced reproductive success.<sup>45</sup>

*Avoidance Behavior:* Evidence suggests brown bears—particularly females with young—spend more time feeding on salmon in intact riparian habitat on Chichagof Island, within the Tongass National Forest, than in clearcut habitat near logging roads (with lower fish-catching success) presumably to minimize human encounters or encounters with other bears.<sup>46</sup> This displacement effect shrinks the usable forest, increases intraspecific competition, and reduces nutritional fitness of bears.

*Road-induced Mortality:* Roads act as conduits for human-bear interactions. Increased road density provides easier access for legal hunting and illegal poaching, which can lead to unsustainable harvest rates in what previously served as safe, refuge areas. Roads with even moderate traffic volumes act as significant mortality sinks for bears from vehicle collisions and lethal human encounters. For example, on northeast Chichagof Island, in northern Southeast Alaska, as logging roads increased 6-fold during a ten-year period (1978–88) the annual killing of brown bears increased 4-fold, necessitating an emergency hunting closure.<sup>47</sup> On the Kenai Peninsula, in Southcentral Alaska, the number of bears killed in defense of life or property also increased with increasing road density.<sup>48</sup>

### Sitka Black-tailed Deer (*Odocoileus hemionus sitkensis*)

Sitka black-tailed deer are the most important big game animal in Southeast Alaska from a subsistence and sport hunting standpoint. They exist in the region at the northern extent of their natural range, limited by winter severity.<sup>49</sup> Old-growth forest plays a critical role in their ecology in Southeast Alaska,<sup>50</sup> with large-tree old growth of especially high importance

<sup>43</sup> Schoen, J. W., and L. R. Beier. 1990. Brown bear habitat preferences and brown bear logging and mining relationships in Southeast Alaska. Federal Aid in Wildlife Restoration Project Report, Grants W-22-1 through W-23-3, Study 4.17. Alaska Department of Fish and Game, Juneau, Alaska, USA.

<sup>44</sup> Titus, K., and L. R. Beier. 1999. Suitability of stream buffers and riparian habitats for brown bears. *Ursus* 11:149–156.

<sup>45</sup> Hildebrand, G. V., C. C. Schwartz, C. T. Robbins, M. E. Jacoby, T. A. Hanley, S. M. Arthur, and C. Servheen. 1999. The importance of meat, particularly salmon, to body size, population density, and reproductive success of brown bears. *Canadian Journal of Zoology* 77(1):132–138.

<sup>46</sup> Flynn, R. W., S. B. Lewis, L. R. Beier, and G. W. Pendleton. 2007. Brown bear use of riparian and beach zones on Northeast Chichagof Island: implications for streamside management in coastal Alaska. Final Research Report. Alaska Department of Fish and Game, Douglas, Alaska, USA.

<sup>47</sup> Titus, K., and L. R. Beier. 1991. Population and habitat ecology of brown bears on Admiralty and Chichagof Islands. Federal Aid in Wildlife Restoration Research Progress Report, Grant W-23-4, Study 4.12. Alaska Department of Fish and Game, Juneau, Alaska, USA.

<sup>48</sup> Suring, L. H., and G. Del Frate. 2002. Spatial analysis of locations of brown bears killed in defense of life or property on the Kenai Peninsula, Alaska, USA. *Ursus* 237–245.

<sup>49</sup> Wallmo, O. C., editor. 1981. Mule and black-tailed deer of North America. Wildlife Management Institute and Stackpole Books, Harrisburg, Pennsylvania, USA.

<sup>50</sup> Wallmo, O. C., and J. W. Schoen. 1980. Response of deer to secondary forest succession in Southeast Alaska. *Forest Science* 26(3):448–462.

because of its ability to hold snow aloft, reducing snow accumulation.<sup>51</sup> Snow on the ground plays a critical role by affecting forage availability<sup>52,53</sup> and energetic costs of travel.<sup>54</sup> Landscapes that maintain a widespread distribution of old-growth forest patches provide deer with both snow interception and forage.<sup>55</sup>

*Forage Abundance and Quality:* Clearcutting replaces multi-layered old-growth canopies with even-aged second growth. Young clearcuts, ages 0 to ~25 years, provide abundant food for deer, but no overstory, so forage plants are susceptible to burial by snow in winter. The understory plant biomass declines rapidly as tree canopies close between 25–30 years, remaining very low for 100+ years.<sup>56</sup> The winter carrying capacity for deer in closed-canopy second growth is a fraction of what it is in old growth.<sup>57</sup> Nutritional quality also varies with stand age. Plants in the young seral stages (e.g., clearcuts) have greater astringency, concentrations of phenolics, and total nonstructural carbohydrates, along with lower concentrations of nitrogen than do plants in older seral stages.<sup>58</sup>

*Roads:* Roads act as ecological traps and population sinks for deer by multiplying mortality risks. Low-traffic gravel logging roads serve as linear travel corridors for wolves, while simultaneously providing easy access for human subsistence hunters. Research indicates that predation on deer by both black bears and wolves is strongly tied to these road networks, culminating in a high-access matrix of natural and human-caused mortality that can suppress local deer populations.<sup>59</sup>

#### Alexander Archipelago Wolf (*Canis lupus ligoni*)

The Alexander Archipelago wolf is a regional endemic subspecies with a distinct evolutionary history, found only in the coastal temperate rainforests of Southeast Alaska and coastal British Columbia. Wolves on Prince of Wales Island and adjacent islands (Game Management Unit 2, or GMU 2) in the Tongass are genetically isolated from other wolves in the subspecies. While these islands historically supported localized wolf densities that rank among the highest in North America, the overall population remains small (245 in 2024).<sup>60</sup> Recent high-resolution genomic analysis demonstrates that modern habitat loss, road expansion, and harvest pressures have created inbreeding levels that mirror imperiled

<sup>51</sup> Kirchhoff, M. D., and J. W. Schoen. 1987. Forest cover and snow: implications for deer habitat in Southeast Alaska. *Journal of Wildlife Management* 51(1):28–33.

<sup>52</sup> White, K. S., G. W. Pendleton, and E. Hood. 2009. Effects of snow on Sitka black-tailed deer browse availability and nutritional carrying capacity in southeastern Alaska. *Journal of Wildlife Management* 73(4):481–487.

<sup>53</sup> Hanley, T. A., D. E. Spalinger, K. J. Mock, O. L. Weaver, and G. M. Harris. 2012. Forage resource evaluation system for habitat—deer: an interactive deer habitat model. General Technical Report PNW-GTR-858. USDA Forest Service, Pacific Northwest Research Station, Portland, Oregon, USA.

<sup>54</sup> Parker, K. L., C. T. Robbins, and T. A. Hanley. 1984. Energy expenditures for locomotion by mule deer and elk. *Journal of Wildlife Management* 48(2):474–488.

<sup>55</sup> Gilbert, S. L., K. J. Hundertmark, D. K. Person, M. S. Lindberg, and M. S. Boyce. 2017. Behavioral plasticity in a variable environment: snow depth and habitat interactions drive deer movement in winter. *Journal of Mammalogy* 98(1):246–259.

<sup>56</sup> Alaback, P. B. 1982. Dynamics of understory biomass in Sitka spruce–western hemlock forests of Southeast Alaska. *Ecology* 63(6):1932–1948.

<sup>57</sup> Wallmo, O. C., and J. W. Schoen. 1980. Response of deer to secondary forest succession in Southeast Alaska. *Forest Science* 26(3):448–462.

<sup>58</sup> Hanley, T. A., R. G. Cates, B. Van Horne, and J. D. McKendrick. 1987. Forest stand-age-related differences in apparent nutritional quality of forage for deer in southeastern Alaska. Pages 9–17 in F. D. Provenza, J. T. Flinders, and E. D. McArthur, compilers. *Proceedings—symposium on plant-herbivore interactions*. General Technical Report INT-GTR-222. USDA Forest Service, Intermountain Research Station, Ogden, Utah, USA.

<sup>59</sup> Farmer, C. J., D. K. Person, and R. T. Bowyer. 2006. Risk factors and mortality of black-tailed deer in a managed forest landscape. *Journal of Wildlife Management* 70(5):1403–1415.

<sup>60</sup> Alaska Department of Fish and Game [ADFG]. 2024. Prince of Wales Island wolf population update. Advisory Announcement / Information Release. Division of Wildlife Conservation, Region I, Douglas, Alaska, USA.

island populations like those on Isle Royale, Michigan.<sup>61</sup> Given these distinctions we focus on the island-dwelling (GMU 2) wolves below.

Sitka black-tailed deer serve as the primary prey for the Alexander Archipelago wolf, particularly on the islands where alternative ungulates like moose and mountain goats are absent. In these insular island ecosystems, wolf pack persistence, reproductive success, and spatial distribution are directly linked to deer density and winter habitat availability. The ecological impacts of clearcut logging on the Alexander Archipelago wolf and Sitka black-tailed deer can be separated into two distinct phases:

*Early clearcut phase (0 to ~25 years):* During the initial 0-to-25 year post-logging window, clearcutting produces a flush of understory vegetation that provides forage for Sitka black-tailed deer. The young clearcuts attract deer, and wolves (especially in fall and winter),<sup>62</sup> which in turn attract humans that hunt both. Wolf mortality, both from legal trapping/hunting and unreported human harvest, occurs primarily from the extensive (~3,000 mi) road system on Prince of Wales and along the marine coastline. Research in GMU 2 shows wolf harvest mortality increases directly with road density and human access, to a maximum at 1.45 miles of road per mile of area.<sup>63</sup>

After 25-40% of a wolf pack's total home range has been roaded and logged, there is a high risk that mortality will exceed reproduction and the pack area will become a population "sink".<sup>64</sup> Such packs can only persist over time if wolves from adjacent, less disturbed territories constantly immigrate into the area to replace the harvested animals. This dynamic between wolves and roads continues as long as roads are open to traffic, and is especially notable during the early clearcut phase when there is heavy concurrent use by deer, wolves and humans.

*Closed-canopy phase (~25 years to over 125 years):* Regenerating conifers in the clearcuts typically close over 20-30 years after logging, creating shaded conditions that eliminate 90% of the understory.<sup>65</sup> Deprived of understory food, deer populations decline, and this late seral stage is avoided by wolves.<sup>66</sup> The reduction in deer carrying capacity may last a century or more, and has been characterized as a "succession debt."<sup>67</sup> Low deer numbers in an expanding landscape of even-aged second growth negatively affects hunting success for sport and subsistence deer hunters as well. Residents may blame wolves for the declining deer numbers, leading to retaliatory killing. Unreported and illegal human-caused mortality represents a significant unmeasured drain on the island wolf population. Field studies tracking radio-collared wolves on Prince of Wales found that 38% (3 of 8) of human-killed wolves went unreported,<sup>68</sup> consistent with earlier long-term telemetry data showing a 47% (16 of 34)<sup>69</sup> unreported human-caused mortality rate.

<sup>61</sup> Zarn, K. E., G. H. Roffler, M. Kardos, J. M. Good, D. Vanderpool, T. Wilcox, and M. K. Schwartz. 2025. Genomic analysis reveals inbreeding in an island population of Alexander Archipelago wolves. *Evolutionary Applications* 18(8):e70144.

<sup>62</sup> Roffler, G. H., D. P. Gregovich, and K. L. Larson 2018. Resource selection by coastal wolves reveals the seasonal importance of seral forest and suitable prey habitat. *Forest Ecology and Management* 409:190–201.

<sup>63</sup> Person, D. K., and A. L. Russell. 2008. Correlates of mortality in an exploited wolf population. *The Journal of Wildlife Management*, 72(7):1540-1549.

<sup>64</sup> Person, D. K. 2001. Alexander Archipelago wolves: ecology and population viability in a disturbed, insular landscape. Dissertation, University of Alaska Fairbanks, Fairbanks, Alaska, USA.

<sup>65</sup> Alaback, P. B. 1982. Dynamics of understory biomass in Sitka spruce–western hemlock forests of Southeast Alaska. *Ecology* 63(6):1932–1948.

<sup>66</sup> Roffler, G. H., D. P. Gregovich, and K. L. Larson 2018. Resource selection by coastal wolves reveals the seasonal importance of seral forest and suitable prey habitat. *Forest Ecology and Management* 409:190–201.

<sup>67</sup> Person, D. K., and T. J. Brinkman. 2013. Succession debt and roads: short- and long-term effects of timber harvest on a large-mammal predator-prey community in Southeast Alaska. Pages 143–167 in G. H. Orians and J. W. Schoen, editors. *North Pacific temperate rainforests: ecology and conservation*. University of Washington Press, Seattle, Washington, USA.

<sup>68</sup> Roffler, G. H., J. N. Waite, R. W. Flynn, K. R. Larson, and B. D. Logan. 2016. Wolf population estimation on Prince of Wales Island, Southeast Alaska: a comparison of methods. Wildlife Research Report. Alaska Department of Fish and Game, Division of Wildlife Conservation, Region I, Douglas, Alaska, USA.

<sup>69</sup> Person, D. K., and A. L. Russell. 2008. Correlates of mortality in an exploited wolf population. *The Journal of Wildlife Management*, 72(7):1540-1549.

*Managing the Problem.*-- Managing the two elements of this wolf problem (harvest and habitat) falls to different agencies. The Alaska Department of Fish and Game is tasked with managing the legal harvest of wolves to ensure the population objective for GMU 2 is met. This is done through the Alaska Board of Game, which adjusts the season length to maintain wolves at or above a target of 150-200 animals. The ability to provide a wolf trapping/hunting season in roaded areas depends, in significant part, on adjacent roadless areas (sources) providing a surplus of young wolves to the intensively roaded areas (sinks).

The other half of the management challenge is habitat related, including where and how much roadbuilding and logging occurs on the Tongass. These matters fall to the Forest Service, and the guiding Forest Plan. Under the current (2016) Forest Plan a key prescription that benefits wolves is the network of administratively mapped large and medium Old-Growth Reserves (OGRs) across the Tongass. In addition to OGRs, the Forest Service attempts to mitigate impacts to habitat in the matrix between reserves. Relevant measures include maintaining no more than 1.0 miles of accessible road per square mile of land and maintaining a minimum deer carrying capacity of at least 18 deer per square mile.<sup>70</sup> While imperfectly applied, these elements have collectively averted a crisis for wolves on the islands. As political pressure threatens to remove these protective measures in favor of more roads and clearcuts, the future of Southeast Alaska's island wolves is threatened.

#### Prince of Wales Flying Squirrel (*Glaucomys sabrinus grisifrons*)

The Prince of Wales (POW) flying squirrel is a genetically distinct subspecies of northern flying squirrel with severely limited genetic variation that is endemic to Prince of Wales Island and some adjacent small barrier islands west of Prince of Wales in southern Southeast Alaska.<sup>71</sup> Flying squirrels in Southeast Alaska are arboreal, travelling between trees principally by gliding. They primarily eat hypogeous fungi, lichens, conifer seeds, berries, and even insects and bird eggs opportunistically. They serve a valuable ecological function in the forest by dispersing fungal spores via their fecal pellets, inoculating the soil with ectomycorrhizal fungi that facilitate nutrient uptake by tree roots, promoting forest regeneration and development. These fungi increase the effective surface area of a tree root system by 10 to 1000 times, and specialized enzymes in the fungi facilitate the uptake of key nutrients that benefit the tree.<sup>72</sup>

Flying squirrels are designated as a management indicator species under the current Tongass Land Management Plan for species categorized broadly into the Widely Distributed Group, and contributed meaningfully to the development of the Old-Growth Reserve strategy.<sup>73</sup> This selection was based on the species' observed reliance on mature old-growth forest habitats and life history traits. The flying squirrel was specifically considered in the design of small-sized Old-Growth Reserves and connectivity under the Tongass Old-Growth Reserve strategy because its small size and home range make it particularly well suited for evaluating the effectiveness of the small reserves.<sup>74</sup>

<sup>70</sup> U.S. Department of Agriculture [USDA] Forest Service. 2016. Tongass land and resource management plan: final environmental impact statement. Publication R10-MB-769i. USDA Forest Service, Alaska Region, Juneau, Alaska, USA.

<sup>71</sup> Smith, W. P. 2026. Management of the Tongass National Forest in Southeast Alaska increases extinction risk of island endemics. *Global Ecology and Conservation* 54:e04393. <https://doi.org/10.1016/j.gecco.2026.e04393>.

<sup>72</sup> Smith, W. P. 2026. Management of the Tongass National Forest in Southeast Alaska increases extinction risk of island endemics. *Global Ecology and Conservation* 54:e04393.

<sup>73</sup> U.S. Department of Agriculture [USDA] Forest Service. 2016. Tongass land and resource management plan: final environmental impact statement. Page 3-414. Publication R10-MB-769e. USDA Forest Service, Alaska Region, Juneau, Alaska, USA.

<sup>74</sup> Smith, W. P., and E. A. Flaherty. 2023. Wildlife studies on the Tongass National Forest challenge essential assumptions of its wildlife conservation strategy. *Journal of Wildlife Management* 87(6):e22450.

Introducing more roads, and more logging of old growth, on the Tongass will have disproportionate impacts on flying squirrels, especially the POW island endemic and the forest communities they help sustain. The POW flying squirrel has lost more than 40% of its primary habitat from logging.<sup>75</sup>

*Importance of Glide Distance and Isolation:* Although POW flying squirrels can travel on the ground, the energetic costs of such movement are significantly higher.<sup>76</sup> It is much more efficient for them to glide through the air. Although they do have the ability to glide across small openings, including secondary logging roads, they cannot glide across clearcuts or wider mainline roads. Those effective barriers have isolated squirrels in small forest fragments and extirpated local populations.<sup>77</sup>

*Habitat Use:* POW flying squirrels do not occupy clearcuts, second-growth stands, and old-growth fragments containing less than 73 ha of contiguous, productive, forest.<sup>78</sup> Thus, a significant portion of this island endemic's entire geographic range and primary habitat has already been lost and countless local populations extirpated across managed landscapes.<sup>79</sup> Consequently, management of the Tongass National Forest has increased the risk of extinction of the Prince of Wales flying squirrel in a significant portion of its geographic range.<sup>80</sup> Further logging and creation of roads would exacerbate these patterns.

*Large Tree Forests:* Unproductive forests with small, widely spaced trees do not support viable breeding populations of flying squirrels. Additionally, flying squirrels do not occupy and are unable to disperse through managed forests, including young clearcuts and even-aged second-growth stands.<sup>81</sup> Flying squirrels prefer the same large, old trees that have been, and continue to be, targeted for logging.

#### American Goshawk (*Astur atricapillus laingi*)

The recently renamed American Goshawk (subspecies Queen Charlotte goshawk) are found in the coastal rainforests of the Pacific Northwest of Canada through Southeast Alaska. During both the nesting and non-nesting seasons both sexes use productive old growth much more (50–80%) than any other habitat type.<sup>82</sup> When a goshawk home range included clearcuts and second growth stands, those habitats were avoided (~5% of locations).<sup>83</sup>

<sup>75</sup>Smith, W. P. 2026. Management of the Tongass National Forest in Southeast Alaska increases extinction risk of island endemics. *Global Ecology and Conservation* 54:e04393. <https://doi.org/10.1016/j.gecco.2026.e04393>.

<sup>76</sup> Smith, W. P. 2026. Management of the Tongass National Forest in Southeast Alaska increases extinction risk of island endemics. *Global Ecology and Conservation* 54:e04393.

<sup>77</sup> Smith, W. P. 2026. Management of the Tongass National Forest in Southeast Alaska increases extinction risk of island endemics. *Global Ecology and Conservation* 54:e04393.

<sup>78</sup> Smith, W. P. 2026. Management of the Tongass National Forest in Southeast Alaska increases extinction risk of island endemics. *Global Ecology and Conservation* 54:e04393.

<sup>79</sup> Smith, W. P. 2026. Management of the Tongass National Forest in Southeast Alaska increases extinction risk of island endemics. *Global Ecology and Conservation* 54:e04393.

<sup>80</sup> Smith, W. P., and E. A. Flaherty. 2023. Wildlife studies on the Tongass National Forest challenge essential assumptions of its wildlife conservation strategy. *Journal of Wildlife Management* 87(6):e22450.

<sup>81</sup> Smith, W. P. 2026. Management of the Tongass National Forest in Southeast Alaska increases extinction risk of island endemics. *Global Ecology and Conservation* 54:e04393.

<sup>82</sup> Titus, K., C. J. Flatten, and R. E. Lowell. 1999. Northern Goshawk ecology and habitat relationships on Wildlife Management Areas and adjacent lands in Southeast Alaska. Research Final Report, Federal Aid in Wildlife Restoration Grants W-24-2 through W-27-1. Alaska Department of Fish and Game, Division of Wildlife Conservation, Juneau, Alaska, USA.

<sup>83</sup> Pendleton, G. W., K. Titus, E. DeGayner, C. J. Flatten, and R. E. Lowell. 1998. Compositional analysis and GIS for study of habitat selection by goshawks in Southeast Alaska. *Journal of Agricultural, Biological, and Environmental Statistics* 3(3):280–295.

Conservation strategies for goshawks and other species include 1,000 foot no-cut beach buffers.<sup>84</sup> Adult goshawks select for beach buffers compared to areas further away from the beach.<sup>85</sup> Median home ranges of adult male and female goshawks during the nesting season are large and indicate a requirement for large intact landscapes.<sup>86</sup> Adult goshawks move over much larger areas in the winter (median home ranges >27,000 acres) to both upland old-growth stands and low elevation forest near wetlands and estuarine areas.<sup>87</sup> These habitat selection patterns suggest that large intact stands of older forests are important for maintaining nesting goshawks across the forest.<sup>88</sup> A spatially explicit analysis of breeding habitat (nest area, post-fledging area and foraging area) available to goshawks on the Tongass revealed that the Tongass Land Management Plan Wildlife Conservation Strategy (Old-Growth Reserves, standards, and guidelines) provided about 50% of the average habitat needed, of which only about 50% of that was in a protected land use designation (not available for logging).<sup>89</sup> Furthermore, the analysis corroborated the general conclusion among numerous publications throughout the goshawk's geographic range that 100-acre buffers have never been previously proposed, used, or effective as a mitigating measure in managed landscapes because the hierarchical structure and integrated nature of successful breeding territories encompassed about 5 square miles.

There are other aspects of Tongass goshawk history indicating that logging in undeveloped landscapes may be detrimental to their population. First, they rely on a limited prey base compared with other goshawk populations. Sooty Grouse (*Dendragapus fuliginosus*), Spruce Grouse (*Canachites canadensis*) (where found), red squirrels (*Tamiasciurus hudsonicus*) (where found), jays (*Cyanocitta stelleri*, *Perisoreus canadensis*), and various thrush species are key food for goshawks during the nesting season.<sup>90</sup> Key goshawk prey are strongly associated with old-growth forest. Many of the thrushes migrate seasonally out of Southeast Alaska, further limiting the prey base at various times of the year.<sup>91</sup>

Second, previous extensive logging in areas such as Prince of Wales Island may have already reduced the number of nesting goshawks in a prey poor landscape.<sup>92</sup> On nearby Haida Gwaii (formerly known as Queen Charlotte Island) in

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<sup>84</sup> U.S. Department of Agriculture [USDA] Forest Service. 1997. Tongass land management plan revision (amended 2008, 2016). Publication R10-MB-603. USDA Forest Service, Alaska Region, Juneau, Alaska, USA.

<sup>85</sup> Iverson, G. C., G. D. Hayward, K. Titus, E. DeGayner, R. E. Lowell, D. C. Crocker-Bedford, P. F. Schempf, and J. Lindell. 1996. Conservation assessment for the Northern Goshawk in Southeast Alaska. General Technical Report PNW-GTR-387. USDA Forest Service, Pacific Northwest Research Station, Portland, Oregon, USA.

<sup>86</sup> Flatten, C. J., K. Titus, and R. E. Lowell. 2001. Northern Goshawk monitoring, population ecology, and diet on the Tongass National Forest. Research Progress Report. Alaska Department of Fish and Game, Division of Wildlife Conservation, Juneau, Alaska, USA.

<sup>87</sup> Titus, K., C. J. Flatten, and R. E. Lowell. 1999. Northern Goshawk ecology and habitat relationships on Wildlife Management Areas and adjacent lands in Southeast Alaska. Research Final Report, Federal Aid in Wildlife Restoration Grants W-24-2 through W-27-1. Alaska Department of Fish and Game, Division of Wildlife Conservation, Juneau, Alaska, USA.

<sup>88</sup> Iverson, G. C., G. D. Hayward, K. Titus, E. DeGayner, R. E. Lowell, D. C. Crocker-Bedford, P. F. Schempf, and J. Lindell. 1996. Conservation assessment for the Northern Goshawk in Southeast Alaska. General Technical Report PNW-GTR-387. USDA Forest Service, Pacific Northwest Research Station, Portland, Oregon, USA.

<sup>89</sup> Smith, W. P. 2013. Spatially explicit analysis of contributions of a regional conservation strategy toward sustaining Northern Goshawk habitat. Wildlife Society Bulletin 37(3):649–658.

<sup>90</sup> Lewis, S. B., K. Titus, and M. R. Fuller. 2006. Northern Goshawk diet during the nesting season in Southeast Alaska. Journal of Wildlife Management 70(4):1151–1160.

<sup>91</sup> Titus, K., C. J. Flatten, and R. E. Lowell. 1999. Northern Goshawk ecology and habitat relationships on Wildlife Management Areas and adjacent lands in Southeast Alaska. Research Final Report, Federal Aid in Wildlife Restoration Grants W-24-2 through W-27-1. Alaska Department of Fish and Game, Division of Wildlife Conservation, Juneau, Alaska, USA.

<sup>92</sup> Titus, K., C. J. Flatten, and R. E. Lowell. 1999. Northern Goshawk ecology and habitat relationships on Wildlife Management Areas and adjacent lands in Southeast Alaska. Research Final Report, Federal Aid in Wildlife Restoration Grants W-24-2 through W-27-1. Alaska Department of Fish and Game, Division of Wildlife Conservation, Juneau, Alaska, USA.

British Columbia, goshawks have nearly been extirpated due to loss of old-growth forest.<sup>93</sup> Long-term studies from northern Europe also indicate that goshawk populations decline in highly managed (timber harvest) areas.<sup>94</sup>

Third, competition with other raptors (e.g., Great Horned Owl [*Bubo virginianus*], Red-tailed Hawk [*Buteo jamaicensis*]) that benefit from logging may be reducing goshawk nesting numbers.<sup>95</sup> Anecdotal evidence suggests that Red-tailed Hawks are now nesting on Prince of Wales and Chichagof islands where they previously did not.<sup>96</sup>

In summary, while the Tongass Conservation Strategy is likely important for contributing protected, productive old-growth forest toward the sustainability of the Southeast Alaska goshawk population, especially in portions of the forest that have had extensive areas of clearcut logging, it is insufficient on its own. Additional maintenance of the remaining old-growth stands in roadless areas and portions of the managed landscape with beach buffers, riparian no-cut areas, and other areas is important for goshawks and many other fish and wildlife species. Degradation of these areas by elimination of roadless protections will result in additional declines of nesting goshawks in these managed landscapes.

### Marbled Murrelet (*Brachyramphus marmoratus*)

The Marbled Murrelet is a small seabird that is strongly associated with the coastal temperate rainforest. Its range extends from the near-coastal waters of central California to the Aleutian Islands. The core of its range, and its greatest at-sea density, is in Southeast Alaska, likely reflecting high densities of prey close to an abundance of nesting habitat.<sup>97</sup> Unlike most seabirds, it has evolved to nest solitarily, often in old-growth trees. The Marbled Murrelet has been federally listed as threatened in California, Oregon, Washington, and British Columbia.

Nests found in Southeast Alaska occur both in trees and on the ground.<sup>98,99</sup> In a nesting study along the mainland of Southeast Alaska, 15 active nests were found within forested habitat (tree sites) and 16 were in nonforested sites.<sup>100</sup> Nests tended to be at high elevations (median 1,233 ft) and far from shore (median 6 miles).<sup>101</sup> Tree nests were mostly in old-growth western hemlock (*Tsuga heterophylla*) with moss-covered limbs. Ground nests were mostly on rock cliff faces, or on steep alpine scree near or above treeline. Three nests were adjacent to active glaciers on rock cliffs.<sup>102</sup>

<sup>93</sup> Committee on the Status of Endangered Wildlife in Canada [COSEWIC]. 2008. COSEWIC assessment and status report on the Northern Goshawk laingi subspecies (*Accipiter gentilis laingi*) in Canada. COSEWIC, Ottawa, Ontario, Canada.

<sup>94</sup> Tornberg, R., E. Korpimäki, and P. Byholm. 2006. Ecology of the Northern Goshawk in Fennoscandia. *Studies in Avian Biology* 31:14–22.

<sup>95</sup> Squires, J. R., and P. L. Kennedy. 2006. Northern Goshawk (*Accipiter gentilis*) conservation assessment. General Technical Report RMR-GTR-217. USDA Forest Service, Rocky Mountain Research Station, Fort Collins, Colorado, USA.

<sup>96</sup> Titus, K. 2026. Personal observations in Southeast Alaska. Alaska Department of Fish and Game (retired), Juneau, Alaska, USA.

<sup>97</sup> Piatt, J. F., K. J. Kuletz, A. E. Burger, S. A. Hatch, V. L. Friesen, T. P. Birt, M. L. Arimitsu, G. S. Drew, and K. S. Bixler. 2007. Status review of the Marbled Murrelet (*Brachyramphus marmoratus*) in Alaska and British Columbia. Open-File Report 2006-1387. U.S. Geological Survey, Reston, Virginia, USA.

<sup>98</sup> Quinlan, S. E., and J. H. Hughes. 1990. Location and description of a Marbled Murrelet tree nest site in Alaska. *Condor* 92(4):1068–1073.

<sup>99</sup> Piatt, J. F., K. J. Kuletz, A. E. Burger, S. A. Hatch, V. L. Friesen, T. P. Birt, M. L. Arimitsu, G. S. Drew, and K. S. Bixler. 2007. Status review of the Marbled Murrelet (*Brachyramphus marmoratus*) in Alaska and British Columbia. Open-File Report 2006-1387. U.S. Geological Survey, Reston, Virginia, USA.

<sup>100</sup> Barbaree, B. A., S. K. Nelson, B. D. Dugger, D. D. Roby, H. R. Carter, D. L. Whitworth, and S. H. Newman. 2014. Nesting ecology of Marbled Murrelets at a remote mainland fjord in Southeast Alaska. *Condor: Ornithological Applications* 116(2):173–184.

<sup>101</sup> Barbaree, B. A., S. K. Nelson, B. D. Dugger, D. D. Roby, H. R. Carter, D. L. Whitworth, and S. H. Newman. 2014. Nesting ecology of Marbled Murrelets at a remote mainland fjord in Southeast Alaska. *Condor: Ornithological Applications* 116(2):173–184.

<sup>102</sup> Barbaree, B. A., S. K. Nelson, B. D. Dugger, D. D. Roby, H. R. Carter, D. L. Whitworth, and S. H. Newman. 2014. Nesting ecology of Marbled Murrelets at a remote mainland fjord in Southeast Alaska. *Condor: Ornithological Applications* 116(2):173–184.

Marbled Murrelet populations in Southeast Alaska appear stable. Annual monitoring in Glacier Bay since 2011 shows in-bay abundance of 50,000–75,000 birds most years, with an anomalous > 2x higher survey count in 2022.<sup>103</sup>

### **Ecosystem Integrity, Ecological Sustainability, and the Roadless Rule**

Under the National Forest Management Act (NMFA) and its implementing regulations (26 CFR 219.8 and 219.9), forest management plans must maintain and restore the ecological integrity of terrestrial and aquatic ecosystems, ensuring they remain capable of supporting long-term ecological sustainability and the natural diversity of plant and animal communities. Historically, timber harvest on the Tongass has had a disproportionate focus on accessible, low-elevation, high-volume and large-tree old-growth stands. These stands, by virtue of their composition, structure, and landscape position offer important habitat for a number of key wildlife species at different times of the year (see species accounts). While the wood-fiber is readily renewed in the regenerating young-growth forest, the composition, structure, and function of the stand is largely lost forever under standard 100-year harvest rotations.

The cumulative loss and fragmentation of these high-productivity habitats threatens ecosystem integrity by altering hydrology, overstory composition and structure, and wildlife movements within fragmented forest landscapes. The areas currently protected under the 2001 Roadless Area Conservation Rule safeguard the last intact refugia on managed landscapes from roading and logging. Their loss will lead to increased forest fragmentation, reduced biodiversity, and permanent population declines in a number of key species.

### **Conclusion**

The Tongass and Chugach National Forests stand apart in the US National Forest System and their management must reflect their singular ecological and cultural reality. As noted above, the administrative rationale driving the proposed rescission of the 2001 Roadless Area Conservation Rule does not hold in Alaska. It also puts at risk a national treasure of old-growth trees, intact habitats, and many important fish and wildlife that provide crucial ecosystem services. As wildlife professionals, we are concerned about the negative impacts that would result from rescinding the Roadless Rule and opening remaining old-growth areas in the Tongass to roads and logging. We are now a decade into a 2016 Forest Plan Amendment specifically structured to transition timber harvest away from old-growth logging toward sustainable young-growth management, based on sound science. Reversing course would have strong consequences for wildlife, habitat, and people. Professional scientific societies, wildlife biologists, and former Chiefs of the US Forest Service have repeatedly urged the preservation of remaining old-growth habitats. Large-tree old-growth forest cannot be recreated on human timescales, urging caution and restraint.

For these reasons, the Alaska Chapter opposes rescinding the 2001 Roadless Area Conservation Rule and supports keeping the Rule in place for the National Forest System in Alaska and beyond.

Thank you for your consideration of these comments. We look forward to continuing to engage in this process as it moves forward.

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<sup>103</sup> Hoekman, S. T., J. N. Womble, T. R. Ziomek, and L. E. Pearson. 2024. Mystery murrelets: monitoring two elusive seabirds in Glacier Bay National Park & Preserve. Resource Brief. National Park Service, Southeast Alaska Network, Juneau, Alaska, USA.

On behalf of the Alaska Chapter of The Wildlife Society,

A handwritten signature in black ink, appearing to read "Alex Lewis". The signature is fluid and cursive, with a long, sweeping horizontal stroke at the end.

Alex Lewis

President, Alaska Chapter of The Wildlife Society