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September 19, 2025

***Submitted via public participation portal at*:** https://www.regulations.gov, FS-2025-0001

Brad Kinder
Acting Director, Ecosystem Management Coordination
United States Forest Service
Sidney R. Yates Federal Building
201 14th St SW
Washington, DC. 20227

RE: Comments on Notice of Intent to Prepare an Environmental Impact Statement, Special Areas; Roadless Area Conservation; National Forest System Lands (90 Fed. Reg. 42,179, Aug. 29, 2025)

Dear Acting Director Kinder:

On behalf of the undersigned organizations and individuals, we submit the following comments on the Notice of Intent to prepare an environmental impact statement published by the United States Forest Service ("Forest Service" or "the Agency"), 90 Fed. Reg. 42,179 (Aug. 29, 2025), RIN 2025-16581. We also enclose and incorporate by reference additional technical comments jointly authored by NRDC et al. and submitted separately through the rulemaking portal. These comments are complementary to the NRDC et al. comments and are intended to illustrate why Eastern roadless areas (and particularly the Southern Appalachian roadless areas) are unique. In brief, the available data show that the Forest Service's rationales for repeal and the effects of repeal will not apply to all Forests the same way, necessitating analysis at multiple scales (including local scales) in the EIS.

I. Introduction

The Roadless Area Conservation Rule ("Roadless Rule" or "Rule") has been an unqualified success, especially in the East, and we strongly oppose any attempt to repeal or weaken its protections. The undersigned organizations have participated for decades in stewardship of and decision-making affecting national forest lands in the East, and they have directly benefited from the Roadless Rule's adoption. They have first-hand experience to know how roadless areas were managed prior to Rule, and they know what will happen to these areas if the Rule is repealed.

It is important to place this proposal in the context of other changes over the past several months. First, the current administration announced that its overriding priorities would be production of timber, energy, and minerals.[1] Next, agency staffing was decimated by mass firings and forced attrition,[2] with more staff losses on the horizon.[3] Third, to facilitate more resource extraction with fewer staff, the Department of Agriculture tossed aside vital procedural safeguards—public notice, comment, meaningful analysis, and inter-agency coordination—that have long been successful at preventing unnecessary harms.[4]

Now, the Forest Service is taking an even more aggressive step: removing the few *substantive* protections that might otherwise impede destructive efforts to liquidate timber or mineral resources.[5] Among the few substantive limitations on Forest Service discretion, the Roadless Rule is especially important for two reasons. First, it protects a host of rare and unique values associated with the absence of roads, including water quality and other ecosystem services, biodiversity, and recreation economies. Second, it focuses the Forest Service's scarce resources on the portions of the landscape where active management causes less ecological harm and community benefits are arguably higher.

Repealing the Roadless Rule would have immediate and profound effects on the national forests of the Southeast. While a few roadless areas will still be protected by overlapping Congressional designations, the vast majority of roadless acres have no such backstop.

Chart: Southern Roadless Areas that would Lose Protection

State	Inv. Roadless Acres	Acres Losing Protection	Acres Protected by other Laws	Percent Losing Protection
Alabama	12,713	12,713	0	100%
Georgia	63,373	56,000	7,373	88%
North Carolina	172,401	143,972	28,429	84%
South Carolina	7,579	6,734	845	89%
Tennessee	84,865	65,915	18,950	78%

[1] Exec. Order 14154, *Unleashing American Energy* (Jan. 20, 2025); Exec. Order 14156, *Declaring a National Energy Emergency* (Jan. 20, 2025); Exec. Order 14225, *Immediate Expansion of American Timber Production* (Mar. 1, 2025); Exec. Order 14241, *Immediate Measures to Increase American Mineral Production* (Mar. 20, 2025).
[2] Kurtis Alexander, *Here's What's Really Going on at the Forest Service as Wildfire Season Ramps Up*, San Francisco Chronicle (Sept. 2, 2025).
[3] *See* U.S. Dep't of Agric., Sec'y Memo. 1078-015, *Department of Agriculture Reorganization Plan* (July 24, 2025).
[4] U.S. Dep't of Agric., National Environmental Policy Act Interim Final Rule, 90 Fed. Reg. 29,632 (July 3, 2025). *See also* U.S. Dep't of Agric., Sec'y Memo. 1078-006*, Increasing Timber Production and Designating an Emergency Situation on National Forest System Lands* (Apr. 3, 2025); U.S. Forest Serv., *Chief's Letter to Regional Foresters and Deputy Chiefs re Implementation of Secretarial Memo 1078-006* (Apr. 3, 2025); U.S Forest Serv., *Deputy Chief's Letter to Regional Foresters re Additional Guidance for Increasing Timber Production and Designating an Emergency Situation on National Forest System Lands* (Apr. 22, 2025).
[5] *See* 90 Fed. Reg. at 42,181 (explaining that repeal of the Roadless Rule is being proposed "pursuant to" the administration's deregulatory agenda and its timber and energy production goals).

Virginia	393,621	331,998	61,623	84%
Total	**734,552**	**617,332**	**117,220**	**84%**

Forest plans provide hit-or-miss direction for the roadless areas that would lose the Rule's protection. Some plans, like the George Washington National Forest's, provide broad direction stating that inventoried roadless areas ("IRAs") "will be managed consistent with the requirements of the 2001 Roadless Area Conservation Rule."[6] The Notice of Intent ("NOI") suggests that the Forest Service believes this kind of direction can be wiped away with an "administrative change" if the Roadless Rule is repealed.[7] (For the record, we disagree, as explained more fully in the enclosed letter.) Other plans, like the Nantahala and Pisgah Forest Plan, include standards mirroring the Roadless Rule.[8] If the Rule is repealed, however, those standards could be bypassed using either generally applicable or project-specific plan amendments.[9] Finally, some plans, like the Jefferson's, ignore the Rule entirely.[10] For those plans, loss of the Roadless Rule would immediately open roadless areas to logging and road construction, even without a plan amendment. For example, of the roadless areas on the Chattahoochee National Forest, 76% of roadless acres would immediately be opened to roads, logging, or both.

The actions that would be facilitated by repeal of the Roadless Rule would hurt the South without any countervailing benefits. The Forest Service's rationales for proposing to repeal the Roadless Rule do not make sense, especially in the South. In addition, the effects of repeal would be particularly harmful in this region. The Agency should abandon this destructive and deeply unpopular proposal. If it proceeds, it must fully account for the effects described below, including the differences in effects between individual Regions and Forests.

II. The Forest Service's Stated Rationales Do Not Make Sense in the South.

While the NOI's explanation of purpose and need is hard to parse, we discern four broad rationales for the proposal: (1) an abstract desire to provide "discretion for local land managers"; (2) the "imperative . . . to take immediate action to facilitate domestic production of [timber, energy and mineral] resources to the maximum extent possible"; (3) changed conditions (chiefly, increased wildfire risk) creating the need to suppress fires or treat fuels; and (4) the need to

[6] U.S. Forest Serv., *Revised Land and Resource Management Plan: George Washington National Forest* at 3-27 (Nov. 2014).
[7] U.S. Forest Serv., *Special Areas; Roadless Area Conservation; National Forest System Lands: Notice of intent to prepare an environmental impact statement*, 90 Fed. Reg. at 42,180 (citing 36 C.F.R. 219.13(c) for the proposition that plans may be administratively changed to conform to new regulatory requirements), Attachment 1.
[8] U.S. Forest Serv., *Nantahala and Pisgah National Forests Final Land Management Plan* at 219 (Jan. 2023) [hereinafter "NPNF Plan"].
[9] 36 C.F.R. 219.13(b)(3).
[10] U.S. Forest Serv., *Revised Land and Resources Management Plan: Jefferson National Forest* (Jan. 2004).

"effectively conserve[]" the important resource values of roadless areas.[11] These rationales do not hold water as reasons to repeal the Rule, especially in the South.

a. Local Control is Neither Necessary nor Beneficial for Southern Roadless Areas and Will Not Conserve Roadless Values.

According to the NOI, a primary purpose of repealing the Roadless Rule is to "provide discretion for local land managers to tailor management, as appropriate, to local land conditions."[12] Local decision-making, according to the Agency, would eliminate a "cumbersome national level oversight process."[13] The NOI continues by arguing that "[t]he important resource values of inventoried roadless areas can be effectively conserved through local decision making," even without a national rule.[14]

To begin with, the abstract concepts of "local control" or "flexibility" are not legitimate purposes that can constrain the selection of alternatives. As the Forest Service presents the choice, local control means getting rid of the national Roadless Rule. "Local control" is therefore the Agency's *proposal*, not the need driving that proposal. In effect, the Agency is saying that it is proposing to repeal the Rule because its purpose is to not have the Rule anymore. That unlawfully constrains the selection of alternatives.[15]

More importantly, local control does not meet the test that the Agency has set for itself—namely, "effectively conserv[ing]" roadless values. Indeed, the Roadless Rule exists because roadless values *could not* be conserved by relying solely on local discretion.[16] Moreover, the Forest Service's explanation is incoherent. It is impossible to reconcile the Agency's rationales—that local control will enable the Forest Service to "take immediate action to facilitate domestic production of [timber, energy and mineral] resources to the maximum possible extent," and at the same time provide for the "effective[] conserv[ation]" of roadless characteristics.[17] The Forest Service has created a Schrodinger's box for roadless area values: They are both sacrificed for resource extraction and effectively conserved, all by local control. But the Agency cannot have it both ways; the National Environmental Policy Act ("NEPA") requires the Forest Service to open the box. Specifically, it must disclose what degree of development in roadless areas will occur to achieve the rulemaking's purported benefits, and it

[11] 90 Fed. Reg. at 42,181.
[12] 90 Fed. Reg. at 42,181.
[13] *Id.*
[14] *Id.*
[15] *Simmons v. U.S. Army Corps of Eng'rs*, 120 F.3d 664 (7th Cir. 1997).
[16] U.S. Forest Serv., *Roadless Area Conservation Rule Final Environmental Impact Statement Vol. 3* at 80 (2001) [hereinafter "RACR FEIS"] (explaining that "the limitations of local planning were recognized as an important reason for establishing national policy on inventoried roadless areas").
[17] *See* 90 Fed. Reg. at 42,181.

must then explain how that level of development will negatively impact roadless characteristics, environmental quality, and recreation economies.

Second, it is demonstrably untrue that local control is adequate to conserve roadless values. After the Roadless Area Review and Evaluation ("RARE") II inventory was completed but before the Roadless Rule was adopted, roadless areas were degraded, fragmented, whittled down, or erased entirely by locally-initiated projects. For example, the Cheoah Bald area—once the largest roadless area in North Carolina—was degraded by local projects in the 1980s and 90s. Even though only about 300 acres were harvested during that time, the inventoried roadless area shrank from 21,400 acres to 7,800 acres due to the location of the access roads and harvest units, and the area as a whole lost its wilderness characteristics.[18] Across the border in Tennessee, the Iron Mountain roadless area met a similar fate. Once a 13,700-acre roadless area, only a 3,400-acre remnant (now known as the London Bridge IRA) now remains.[19] The Wildcat roadless area in the Pigeon River Gorge, 7,120 acres in the RARE II inventory, no longer exists at all.[20] The Forest Service cannot represent that local control is adequate to conserve roadless values without fully accounting for the effects of local control prior to the adoption of a national rule.

Third, the Forest Service cannot support the proposition that the Roadless Rule requires "cumbersome" national oversight. As the Agency is aware, implementation of the Rule has not been subject to national oversight since 2018. To be sure, use of exceptions to the Rule requires a written justification and regional oversight, but that process is a function of *separate* Forest Service policy; it is not a requirement of the Roadless Rule itself. The Forest Service could remove this supposedly "cumbersome" process by simply devolving the decision to use exceptions to the responsible local official.[21] There is no national oversight process, much less a "cumbersome" process, that requires repeal or modification of the Rule itself.

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[18] Roadless Area Review and Evaluation ("RARE II") Final EIS at Q-4 (1979) (inventoried roadless acreage in the RARE II inventory); The Southern Appalachian Assessment, *Social | Cultural | Economic Technical Report* at 181 (1996) (inventoried roadless acreage at the time of the Southern Appalachian Assessment); U.S. Forest Serv., *Nantahala and Pisgah National Forests Final Environmental Impact Statement for the Land Management Plan*, App'x E at E-63 to E-65; App'x I (describing management history and declining to recommend Cheoah Bald for wilderness in any alternative) [hereinafter "NPNF Plan FEIS"].

[19] RARE II FEIS at Q-5.

[20] *Id.* at Q-4.

[21] If the Forest Service explores this alternative, it should require that local approval be limited to projects for which the agency offers an opportunity to submit specific substantive comments and an opportunity to file a predecisional objection.

b. Road and Timber Development in Roadless Areas is not Needed to Support Multiple-Use Management.

The NOI suggests that road development and timber development are needed in roadless areas to meet resource management needs. Forest-level analyses, however, prove this to be untrue.

i. Road access in roadless areas is not needed.

The Forest Service has already made a science-based determination at the Forest-level scale that new roads in roadless areas are not needed, and it cannot now reverse that determination without undertaking a similar science-based process at the same scale.

Subpart A of the Travel Management Rule requires each Forest to use a "science-based roads analysis" to "identify the minimum road system needed for safe and efficient travel and for administration, utilization, and protection of National Forest System lands."[22] It further defines the minimum road system as "the road system determined to be needed to meet resource and other management objectives" while also "minimiz[ing] adverse environmental impacts."[23] As part of this process, Forests identify "unneeded" roads—i.e., roads "that are no longer needed to meet forest resource management objectives."[24]

Almost all Forests have now completed the Subpart A process, and they have not identified road expansions in roadless areas as being necessary for the administration, utilization, or protection of national forest lands. To the contrary, Forests in the Southern Appalachians have often identified existing roads in roadless areas as *unneeded* for resource management.[25] While this is undoubtedly true in the South, we suspect it is equally true across the country. (And, since the Agency has each unit's Travel Analysis Process report and maps, it must confirm as much.) The Forest Service cannot disregard its prior science-based conclusions without explaining why its prior Forest-level analyses were incorrect—i.e., why roads into these areas are in fact needed in light of the overall constraints on the Agency's ability to maintain its road system to protect water quality.

ii. Roadless areas are not needed for timber production.

The supposed need to ramp up timber production is not a reason to undo the Roadless Rule in the South, either. Most roadless areas in the South are concentrated in Virginia and North Carolina, and the Forest Service has ample timberland to meet its timber production ambitions

[22] 36 C.F.R. § 212.5(b).
[23] *Id.*
[24] *Id.*
[25] *See* U.S. Forest Serv., *Transportation Analysis Process maps for the Cherokee, Chattahoochee, and George Washington National Forests*, Attachments 2a to 2f.

without going into roadless areas. Take North Carolina, for example. In the recent plan revision process, the Agency found that it could increase timber production by 5x on the Nantahala-Pisgah National Forest no matter what land allocation strategy it used.[26] It could do so if it protected all areas consistent with the Roadless Rule (Alternative E), and it could do so even if it provided similar protection to *additional* unroaded areas that were not IRAs (Alternative C).

The same is true throughout the Southern Appalachians. These Forests have been producing less timber than they are capable of because of (a) inadequate staffing and (b) conflict-laden proposals. While we disagree that increased production should be the Agency's goal, it is clear that these lands can produce more timber if the Forest Service devotes the staff resources necessary to do so responsibly and works with the public to develop broadly supported proposals that do not threaten rare and unique conservation values. Going into roadless areas will only *increase* conflict and take away from the Agency's ability to get work done.

Furthermore, the Forest Service cannot assume that timber production in roadless areas will assist the restoration of degraded communities or characteristic wildfire regimes. As Chief Shultz acknowledged recently, removal of small diameter materials "doesn't pay its way out of the woods."[27] This is certainly true in the South. Timber markets in the Southeast, and especially the mountain region, are soft. Pulpwood markets are particularly weak and projected to decline further. Even sawtimber units often go "no bid." As a result, local Forest Service staff do not have the practical ability to offer sales that will remove small diameter materials or less desirable species.[28] Instead, market pressures drive the development of sales that target stands with large, valuable sawtimber and remove almost all of the basal area, including species in need of restoration. These pressures will be even higher in roadless areas, because the cost to develop access will be greater. The Forest Service cannot proceed with repeal of the Roadless Rule without accounting for the effect of projected timber markets on the kinds of timber projects that will be viable in each of its regions.

If the Forest Service insists on using timber production as one of the needs driving the repeal of the Roadless Rule, it must do its homework to understand whether roadless areas are necessary to meet that purpose and whether timber production in specific regions will further the rulemaking's other stated purposes.

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[26] NPNF Plan FEIS at 3-562 (showing that timber production could be increased from 1.9 MMCF per year to around 10 MMCF per year under any of the action alternatives).
[27] Transcript: *House Natural Resources Committee, Federal Lands Subcommittee hearing: The State of Our Nation's Federal Forests* at 33-34 (Sep. 9, 2025), Attachment 3.
[28] For example, as relevant to the Southern Appalachians, white oak commands much higher prices than species like red maple or tulip poplar, which more often are targets for removal in restoration harvests.

c. The NOI Both Overstates the Threat of Wildfire in the Southern Appalachians and Understates Existing Management Opportunities to Address Fire Risk in Roadless Areas.

The Forest Service presents this rulemaking as a zero-sum choice between protecting wildlands and protecting interface communities. But in reality, keeping roadless areas roadless is the kind of priority-setting that advances both objectives.[29] The wildland-urban interface ("WUI") in the United States covers 9.4% of the land area and is most prevalent in the eastern United States, particularly in the southern Appalachians.[30] But addressing wildfire and conservation challenges, especially in areas with prevalent interface lands, requires setting landscape-level priorities—i.e., a broad vision that accommodates both fire management needs and ecological integrity.[31] The Roadless Rule achieves both of these needs, and for the several reasons discussed below, dismantling it will directly threaten the health of wildlands without any safety benefit for rural areas in the South.

First, the Forest Service's basic assumptions are wrong. Fire suppression, logging, and increased road access (the Forest Service's practical goals in this rulemaking) are a recipe for *increased* fire risk. It is well established that fire ignition density falls steadily with increasing distance from roads. Indeed, a 30-year Forest Service dataset shows ignition density lowest in wilderness and IRAs (~1.7–1.9 fires/1,000 ha) and highest within 50 meters of roads.

When fires do occur in roadless areas, they are more likely to occur within the natural range of variation ("NRV"). The best available science demonstrates that logging tends to *increase* unnatural fire risk, including by drying out soils and increasing fine fuels via mechanical abrasion.[32] And while fire is less likely to ignite in roadless areas, data suggests that those fires which do burn in them are more ecologically appropriate and serve an important role in the broader fire landscape.[33]

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[29] *See* Alexandra D. Syphard et al., *Setting Priorities for Private Land Conservation in Fire-Prone Landscapes*, 197 Biological Conservation 198–205 (2016), https://www researchgate.net/publication/305313585_Setting_priorities_for_private_land_conservation_in_fire-prone_landscapes_Are_fire_risk_reduction_and_biodiversity_conservation_competing_or_compatible_objectives2.

[30] V.C. Radeloff et al., *The Wildland–Urban Interface in the United States*, 15 Ecological Applications 799–805 (2005), https://doi.org/10.1890/04-1413.

[31] *Id.*

[32] *See, e.g.*, Alexandro Leverkus et al., *Does Salvage Logging Mitigate Subsequent Forest Disturbances?*, 481 Forest Ecology Mgmt. 118721 (2021) (review encompassing mediterranean, temperate and boreal forests); Shawn Fraver et al., *The Efficacy of Salvage Logging in Reducing Subsequent Fire Severity in Conifer-Dominated Forests of Minnesota, USA*, 21 Ecological Applications 1895 (2011); D.C. Donato et al., *Post-Wildfire Logging Hinders Regeneration and Increases Fire Risk*, 311 Science 352 (2006).

[33] Sean A. Parks et al., *Wildland Fire as a Self-Regulating Mechanism: The Role of Previous Burns and Weather in Limiting Fire Progression*, 25 Ecological Applications 1478–92 (2015); Sean A. Parks et al., *Wildland Fire Limits Subsequent Fire Occurrence*, 25 Int'l J. of Wildland Fire 182–90 (2016).

Second, to the extent that fire risk is increasing, it is because of climate change—not an absence of roads in roadless areas. Specifically, climate change is increasing fire size, severity, and the prevalence of high-severity fire in the United States.[34] Modeled climate projections show that anthropogenic increases in temperature and vapor pressure deficit have enhanced fuel aridity, leading to a 75% increase in forested areas experiencing high fire-season fuel aridity and an average of nine additional days per year of high fire potential.[35] From 1979 to 2015, human-caused climate change accounted for approximately 55% of observed increases in fuel aridity, highlighting its role as a driver of increased wildfire potential.[36]

The Forest Service knows all this. Indeed, it recently developed a national 10-year Wildfire Crisis Strategy which explains that "[g]rowing wildfire risk is due to past fire exclusion and accumulating fuels, a warming climate, and expanding development in the wildland-urban interface."[37] Repealing the roadless rule would add fuel to the fire, literally: Fire suppression would increase fuels. Logging would remove large, more fire-resistant trees and replace them with small fuels. And the proliferation of roads would increase ignition risk for surrounding communities, as well as invite non-native and invasive species—which generally increase fire risk—deep into the forest, driving up the risk of unnatural fire behavior within roadless areas.[38] It is thus strange that the NOI claims that rescinding the Rule will "respond[] to the need for national forests to take swift and immediate action to reduce wildfire risk and help protect surrounding communities and infrastructure." In short, rather than *reduce* wildfire risk, repealing the Rule will almost certainly *increase* each of the previously identified culprits driving up the risk of uncharacteristic wildfires.[39]

Despite this evidence, the NOI notes that one of its primary purposes is to increase fossil fuel and logging production; in other words, the NOI is specifically intended to support policy initiatives aimed at increasing fossil fuel emissions and reducing carbon storage capacity. As a result, the Agency's stated justification for rescinding the Roadless Rule is inconsistent with the proposal's inevitable effects: In the Agency's own words, the NOI "is proposed pursuant to Executive Order 14192, *Unleashing Prosperity Through Deregulation*, to alleviate unnecessary regulatory burdens" on timber, energy, and mineral production "in inventoried roadless areas."[40] Increasing production in these areas will have devastating effects for fire risk. For one, producing

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[34] Tzeidle Wasserman & Stephanie Mueller, *Climate Influences on Future Fire Severity—A Synthesis of Climate-Fire Interactions and Impacts on Fire Regimes, High-Severity Fire, and Forests in the Western United States*, 19 *Fire Ecology* 43 (2023).
[35] John Abatzoglou & A. Park Williams, *Impact of Anthropogenic Climate Change on Wildfire Across Western US Forests*, 113 Proc. of the Nat'l Academy of Scis. 11770–75 (2016).
[36] *Id.*
[37] U.S. Forest Serv., *Wildfire Crisis Implementation Plan* (Jan. 2022), https://www fs.usda.gov/sites/default/files/Wildfire-Crisis-Implementation-Plan.pdf.
[38] Sean P. Healey, *Long-Term Forest Health Implications of Roadlessness*, 15 Env't Rsch. Ltrs.104023 (2020).
[39] 90 Fed. Reg. at 42,181.
[40] *Id.*

each of these resources directly *contributes* to global warming, spurring on heightened and unnatural wildfire conditions.[41] Second, as explained throughout these comments, roadless areas, especially in the Southeast, provide some of the last remaining vestiges of mature and old growth forest: ecosystems that not only sequester massive amounts of carbon, but also perform critical nitrogen fixing cycles, support biodiversity webs that carry out irreplaceable climate regulating processes, and clean the air of pollutants.[42] Replacing these important carbon sinks with young, crowded, and small-diameter fuels or—worse—fossil-fuel extraction, contributes to the conditions that make uncharacteristically severe fire more likely.

Third, fire is not the bogeyman the Forest Service makes it out to be, especially in the East. Indeed, where the Forest Service emphasizes the need for fire *suppression*, the East generally needs *more* fire. As recognized by the Nantahala-Pisgah Forest Plan, "[f]ire plays an important role in shaping the vegetation and landscape in western North Carolina," and "[r]ecurring fire has been a part of the landscape for thousands of years."[43] Specifically, "recurrent, low-intensity fires that discouraged woody regeneration but may not have killed overstory trees" occurred "across the landscape at levels high enough to support fire adapted community types, . . . open woodlands and even prairie openings across the mountains."[44] Thus, fire is critical for maintaining "ecologically-appropriate composition and structure."[45] The Nantahala-Pisgah National Forest recently concluded, however, that the current and future return interval for stand-replacing disturbance (including fire and all other causes) has *decreased* to an average return interval of 3,703 years across all ecosystems, including "frequent fire" systems like dry oak and pine-oak heath.[46] This is orders of magnitude longer than return intervals under NRV.[47] To be sure, we continue to believe that the Nantahala-Pisgah process was deeply flawed, including some of its assumptions about likely future natural disturbance rates, but the Agency cannot assume that fire is too *unlikely* as a rationale for more logging in one decision, then argue that fire is too *likely* as a rationale for undoing the Roadless Rule in another decision without at least explaining the inconsistency.[48] In the environmental impact statement for this rulemaking,

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[41] Wolf, S. et al., *Scientists' warning on fossil fuels*, Oxford Open Climate Change (2025); Zhang, B. et al., *Climate-smart forestry through innovative wood products and commercial afforestation and reforestation on marginal land*, Proceedings of the National Academy of Sciences (PNAS) (2023).
[42] Gilhen-Baker, M. et al., *Old growth forests and large old trees as critical organisms connecting ecosystems and human health,* Environmental Chemistry Letters (2022); Stephenson, N. L. et al. Rate of tree carbon accumulation increases continuously with tree size. Nature (2014); Birdsey, R. A. et al., *Assessing carbon stocks and accumulation potential of mature forests and larger trees in U.S. federal lands*, Frontiers in Forests and Global Change (2023).
[43] NPNF Plan at 98.
[44] NPNF Plan FEIS at 3-414 to 3-415.
[45] *Id.* at 3-426.
[46] S. Env't L. Ctr. et al., *Notice of Objection to the Revised Land Management Plan for the Nantahala and Pisgah National Forests* at 50 (Mar. 22, 2022), Attachment 4.
[47] *Id.*
[48] *Motor Vehicle Mfrs. Ass'n of the U.S., Inc. v. State Farm Mut. Auto. Ins. Co*., 463 U.S. 29, 42, (1983) ("[A]n agency changing its course by rescinding a rule is obligated to supply a reasoned analysis for the change beyond that which may be required when an agency does not act in the first instance.").

the Forest Service must acknowledge that the South, and particularly the Southern Appalachians, is a highly diverse landscape with both frequent- and infrequent-fire communities and that increased fire in appropriate forest communities (relative to the current baseline) is a restoration *need*, not a threat as it might be in some parts of the West.

Furthermore, fire suppression makes the problem worse, not better. The best available science demonstrates that sound management should de-emphasize aggressive fire suppression in favor of strategies that promote thoughtful fire management for resource benefit.[49] In both the east and west, it is well established that excluding natural fire from the landscape through fire suppression, makes forests "less likely to tolerate drought and temperature extremes," causes trees to be "more stressed, and insect and disease outbreaks . . . [to be] more common, potentially killing large stands of trees."[50] Studies have consistently shown that aggressive fire suppression, while reducing low-severity, beneficial fires, paradoxically increases fuel loads and selects for high-severity fires.[51] For example, in North Carolina, "[a]ggressive fire suppression, coupled with an array of other disturbances (e.g., logging . . .), has changed the historic composition and structure of the forests," priming them for more intense and unnatural wildfires.[52] By contrast, several recent studies have shown that forests in protected areas, such as roadless areas where managers have allowed natural fires to burn, are less likely to experience stand-replacing fire and can recover a self-limiting response to subsequent burning.[53] In this way, roadless areas represent a strategic and tactical fire management asset where natural fire can be safely promoted due to the low incidence of high-value assets at risk.

To that end, there are practices which are appropriately (and frequently) implemented on roadless areas to responsibly manage fuels and protect nearby communities. For example, "[p]rescribed fire use is increasing across . . . the southern Blue Ridge Mountains," including in roadless areas, "which include the mountainous portions of North Carolina, South Carolina, Georgia, and Tennessee."[54] This increase plays an important role "in the restoration and maintenance" of fire adapted communities.[55] Between 1986 and 2016, 34% of fuel reduction

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[49] Christopher Dunn et al., *A Framework for Developing Safe and Effective Large-Fire Response in a New Fire Management Paradigm*, 404 Forest Ecology & Mgmt. 184–96 (2017), https://doi.org/10.1016/j foreco.2017.08.039.
[50] *Id.*
[51] Sean A. Parks et al., *High-Severity Fire: Evaluating its Key Drivers and Mapping its Probability Across Western U.S. Forests*, 33 Landscape Ecology 1157–76 (2018).
[52] NPNF Plan at 98.
[53] Julia Berkey et al., *A History of Wilderness Fire Management in the Northern Rockies*, U.S. Forest Serv. RMRS-GTR-428 (Nov. 2021), https://www.fs.usda.gov/rm/pubs_series/rmrs/gtr/rmrs_gtr428.pdf; Mark Kreider et al., *The Scientific Value of Fire in Wilderness*, 19 Fire Ecology 36 (2022); Parks 2015, *supra* note 33 at 1478–92; Parks 2016, *supra* note 33 at 182–90; Sean A. Parks set al., *Previous Fires Moderate Burn Severity of Subsequent Wildland Fires in Two Large Western US Wilderness Areas*, 17 Ecosystems 29–42 (2014).
[54] NPNF Plan FEIS at 3-433.
[55] *Id.*

activities conducted by the Forest Service were carried out in roadless areas.[56] Simply put, roadless burns are common in the Southeast. The Forest Service has carried out prescribed fire applications in the Sarah's Creek roadless area in Georgia; Bee Cove in South Carolina; Tusquitee Bald, Cheoah Bald, South Mills (Funneltop), Jarrett Creek (Big Lost Bear), Woods Mountain, Upper Wilson Creek, Flint Mill Gap, Bald River Gorge Addition (Gravelstand) in North Carolina; and Bald River Gorge Addition, Brushy Ridge, Bald Mountain, Stone Mountain, Flint Mill roadless areas in Tennessee, just to name a few examples. These fires are conducted through a variety of techniques, ranging from traditional ignitions with established fire breaks to aerial ignitions by drones without established breaks. Even some fires which were ignited by lightning or intentionally set by humans have been managed for resource benefit in roadless areas. This flexibility is due, in large part, to the natural, undeveloped attributes of roadless areas which support natural and predictable fire dynamics, and the sheer size of areas allows for let-burn strategies. Indeed, the National Forests in North Carolina have delineated potential operational delineations ("PODs") that work *with* roadless areas, and this approach is available to surrounding forests too.

Fourth, contrary to the NOI's suggestions, the Roadless Rule is not a barrier to urgent firefighting activities in the WUI. The NOI itself explains that "there are thousands of miles of existing roads within lands designated under the 2001 Roadless Rule, and "[a]bout half of these lands are within 1 mile of a road and 31 percent are within 0.5 miles of a road." These "roaded roadless" areas overlap substantially with the small fraction of the WUI within roadless areas. In other words, there are already many miles of existing roads that the Forest Service can utilize for firefighting in the WUI, including in roadless areas.

In sum, the common sense and the best available scientific information suggest that roadless areas help moderate unnatural fire risk when managed for beneficial fire under appropriate conditions.[57] The Roadless Rule's limits on roaded infrastructure support biodiversity, enhance ecosystem services, and provide other conservation benefits, as discussed in the comments below, while simultaneously offering important opportunities for land managers to allow needed fire to play its natural role in southern forests. Degrading these areas through logging and fire suppression while increasing their risk of uncharacteristic fire is foolish. Rather than keep communities safe, this approach will decrease productive natural fire instances—driving southern forests farther out of the natural range of variation—while inviting more

[56] Healey, *supra* note 38.
[57] Malcolm P. Northet al., *Strategic Fire Zones are Essential to Wildfire Risk Reduction in the Western United States*, 20 Fire Ecology 20–50 (2024).

widespread human-caused ignition into newly roaded lands. The Agency must meaningfully engage with these realities and reconsider its proposal.[58]

d. Existing Opportunities for Management in Roadless Areas Offer Ample Discretion to Fulfill the Forest Service's Mandate under NFMA.

Contrary to the NOI's claims, the Roadless Rule does not "unnecessarily" limit management. Under the National Forest Management Act ("NFMA"), the Forest Service is mandated to "provide for multiple use and sustained yield" of the national forests, "and in particular, include coordination of outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness."[59] However, to accomplish multiple use management, "some land will be used for less than all of the resources."[60] In other words, setting aside roadless areas from roading and resource extraction is *essential* to ensure that other of the multiple uses are met. Further, the Forest Service understands its multiple-use mandate to require restoration of ecological integrity, based on the premise that *none* of the multiple uses, extractive or not, are sustainable if ecological integrity is lost.[61]

For the myriad reasons explained in these comments, the Rule's constraints on logging and roadbuilding offer protections that are very much necessary to ensure the long-term viability of ecologically significant areas home to significant recreation, wildlife, water, and wilderness resources. The Roadless Rule also expressly allows for ecologically beneficial management activities, including prescribed burning, which directly serve the Forest Service's responsibility to restore ecological integrity.

First, as explained above, the Roadless Rule allows for prescribed burning, which can be accomplished without roads through aerial ignition techniques, to manage for fuel reduction as needed to restore characteristic fire regimes within roadless areas. The Rule also allows for habitat restoration work which enhances watershed integrity, wildlife and fish habitat. For example, southern forests have conducted beneficial brook trout and red-spruce restoration projects in several roadless areas in recent years. For example, in 2019 the Pisgah National Forest both planted red spruce trees to support North Carolina flying squirrel populations and carried out several stream restoration activities, including the placement of boulders, sloping

[58] *See Sierra Club v. Eubanks*, 335 F. Supp. 2d 1070, 1073 (E.D. Cal. 2004) (faulting the Forest Service for failing to examine "scientific studies which suggest that the timber removal proposed actually increases, not reduces, fire risk") (cited with approval by *Hapner v. Tidwell*, 621 F.3d 1239, 1244 (9th Cir. 2010).
[59] 16 U.S.C. § 531(a).
[60] *Id.*
[61] *See generally* 36 C.F.R. Part 219.

streambanks, constructing vane structures, riparian plantings and various other methods, to support native brook trout restoration in the Graveyard Ridge and Sam Knob Roadless Areas.[62]

Second, when emergency conditions—including fire risk that would, without intervention, cause the loss of life or property—warrant more urgent or intrusive action, the Roadless Rule does not prevent action. Further, the Rule allows for a number of exceptions, even where there is no threat to life or property.[63] Although the Roadless Rule "generally prohibits road construction or reconstruction and the cutting, sale, or removal of timber . . ., those activities may be authorized under exceptions described in 36 C.F.R. 294.12(b) and 294.13(b) following review by the Regional Forester or Deputy Regional Forester."[64] These exceptions are used throughout the country, including in the South. For example, the Pisgah National Forest most recently used these exceptions to authorize debris removal in the Woods Mountain and Dobson Knob Roadless Areas.[65] At least some of these uses of the exceptions, including those on the Pisgah, are highly problematic from an ecological and risk management perspective. Thus, far from being an *overdeterrent*, the Roadless Rule is already allowing more than it should. The Forest Service cannot move forward with this rulemaking without first cataloguing past exceptions and explaining what *additional* actions are needed to protect communities or ecosystems but are being frustrated by the Rule.

Interestingly, despite the NOI's assertion that "[c]onditions . . . have dramatically changed over the twenty-four years since the 2001 Roadless Rule was published" and as a result that there is an urgent need to intervene, the Rule's exemptions (which have been part of the Roadless Rule since 2001) have been invoked very infrequently in the South (in contrast to the West), suggesting that the need to muck around in these roadless areas isn't nearly as urgent as the Agency now makes it out to be. To our knowledge, in the Southern Appalachians, the Forest Service has only sought approval for roadbuilding, cutting or felling in an inventoried roadless area a handful of times: for example, in the Armstrong Roadless Area in 2012 and in the Dobson Knob and Woods Mountain Roadless Areas in 2025.[66]

Moreover, the Rule's existing exceptions already align remarkably well with the alleged "changed conditions" the NOI identifies. Specifically, the NOI lists "the expanding wildland-urban interface; growing impacts of extreme wildfire, drought, and insect and disease

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[62] U.S. Forest Serv., *Graveyard Fields Project Decision Memorandum* (Sept. 26, 2024), https://www fs.usda.gov/r08/northcarolina/projects/archive/55665.
[63] *See* 66 Fed. Reg. 3244, 3273 (Jan. 12, 2001).
[64] U.S. Forest Serv., Southern Region, *Regional Forester Review of Proposed Activities in Inventoried Roadless Areas* at 1 (Mar. 10, 2025).
[65] *Id.*
[66] We do not mean this to be a comprehensive list, but merely as exceptions that prove the rule (i.e., that exceptions are both modest and sought infrequently in the South). The Forest Service has records of exceptions sought and granted and should assess different regions separately to understand these differences.

infestations; and continuing deferred maintenance needs on National Forest System roads and trails," as the primary factors necessitating repeal. The 2001 exceptions expressly give local officials the flexibility to address these exact needs. Local managers' failure to invoke the existing exceptions to confront these conditions suggests that the conditions are not as serious or widespread as the Agency now pretends. The Forest Service must confront the fact that its cited needs are not acute in Southern Appalachian roadless areas and explain, to the extent there are such needs, why the existing exceptions are not good enough to meet them.

III. Repeal would be Uniquely Harmful in the South.

The South contains several critically important roadless areas. They protect endangered and valuable ecosystems which house some of the richest biodiversity in the world. They are also uncommon in the highly developed Eastern landscape. Their rarity and their immense value mean that, in the South, local communities depend on roadless areas for solitude, cultural heritage, water quality, natural study, economic benefit, recreation, and so much more.

For all these reasons, roadless area protections are very popular in the South. In 2001, 164,330 Southerners from the 6-state southern region commented on the Roadless Rule.[67] Based on SELC data, approximately 97% supported the Rule. In a region with relatively little roadless acreage, this shows that Southerners are keenly interested in protecting roadless areas. Repealing the Roadless Rule will directly harm Southerners' interests in these areas. The Agency must engage with the unique importance of southern roadless areas in this rulemaking.

a. The South already Contains an Overabundance of Roads both on and off the National Forests.

Unroaded areas are very rare in the East. Compared to the West, most lands in the South are privately owned and heavily roaded, so unroaded areas are mostly confined to the small fraction of lands in public ownership. National Forest lands represent approximately 50% of all public lands (state and federally owned lands) in the Southeast (including Alabama, Georgia, North Carolina, South Carolina, Tennessee, and Virginia),[68] but only 3.2% of the total land base.[69] Roadless areas (735,000 acres total) make up 12.8% of those National Forest lands—just 0.41% of the total land base.[70] Zooming into the Nantahala-Pisgah National Forests in Western North Carolina, which has a relatively high concentration of IRAs, roadless areas still make up only about 15% of the Forests. Approximately 80% of these areas will immediately lose

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[67] Heritage Forests Campaign, *Public Comments in Support of the Roadless Rule* (2001), Attachment 5.
[68] Nat. Res. Council of Me., *Public Land Ownership by State*, https://www nrcm.org/documents/publiclandownership.pdf (last visited Sept. 19, 2025).
[69] U.S. Forest Serv., RACR FEIS Vol. 1, App'x A, *Inventoried Roadless Area Acreage* (2001), https://www fs.usda.gov/Internet/FSE_DOCUMENTS/fsm8_037652 htm.
[70] *Id.*

protection from road development if the Roadless Rule is repealed. Allowing roads on an additional 12% of the Nantahala-Pisgah will add up to significant impacts in terms of overall road density, agency budget, and the existing road maintenance backlog.

The difference in road density within roadless areas is marked. In the Nantahala-Pisgah National Forest, for example, there are a total of 2,382 road miles. Within all roadless areas in the Forests, there are only 77 road miles. Put differently, in roadless areas, the road density is only 0.32 miles per square mile. But outside of wilderness and roadless areas, the road density is 1.79 road miles per square mile—about 6 times higher.

Chart: Nantahala-Pisgah Road Density by Land Designation

Land Category	**Acres**	**Square Miles**	**Road Miles**	**Road Miles / Square Mile**
Roadless Losing Protection	123,243	192.6	69	0.36
All N-P Roadless	152,542	238.3	77	0.32
N-P Wilderness	66,845	104.4	0	0
Roadless + Wilderness	219,387	342.8	77	0.22
"Undesignated" Land	825,613	1290.0	2305	1.79
All N-P Land	~1,045,000	2168.2	2382	1.10

In short, a small but very important number of acres in the Southeast are protected under the Roadless Rule, and its repeal will lead to the loss of a rare and unique set of values that cannot be found on other lands in the East. Furthermore, building access into roadless areas would require a dramatic expansion of the Forest Service's already-bloated road system. In the Nantahala-Pisgah National Forests alone, developing the 80% of roadless areas that would lose protection without the Rule to the same density as roaded portions of the Forests would require a massive addition of approximately 345 new road miles, which would add over $1 million in maintenance costs annually.

Under existing policy, the Travel Management Rule should function as a backstop to ensure that the road system does not expand beyond the Forest Service's ability to maintain it, but that has not worked. The Nantahala-Pisgah, in fact, has not completed travel analysis or identified a minimum road system, but it has gathered enough data to show that its road maintenance budgets are only about 12.5% to 14% of what it needs to fully maintain existing roads.[71] Furthermore, the Forest Service intends to repeal the Travel Management Rule,

[71] Nantahala National Forest, Draft Transportation Analysis Process (TAP) Report (Sep. 2015), Attachment 6a; Pisgah National Forest, Draft Transportation Analysis Process (TAP) Report (Oct. 2012), Attachment 6b.

potentially weakening or removing even this ineffectual backstop.[72] The Forest Service cannot proceed with this rulemaking without fully analyzing the cumulative effects of likely road construction on roadless areas' unique characteristics *and* the system-wide effects of overtaxing road maintenance budgets.

b. Repealing the Roadless Rule would Harm Biodiversity.

The Southeast, including the Southern Appalachian mountains, are hotspots for biodiversity. The South's roadless areas are vitally important for recovery and persistence of the region's biodiversity, especially for imperiled and federally-listed species. Rescission of the Roadless Rule would have negative consequences for these species, which must be fully considered and disclosed in the NEPA and consultation processes.

i. The Southern Appalachian mountains host incredible biological diversity.

The Southeast is one of the most biologically diverse landscapes in the world, in large part due to the forests, wetlands, and rivers of the Southern Appalachian mountains. Inventoried roadless areas in our national forests play a vital role in supporting this biodiversity. As the Forest Service recognized when creating the Roadless Rule in 2001, roadless areas "provide large, relatively undisturbed blocks of important habitat for a variety of terrestrial and aquatic species and communities," including hundreds of threatened, endangered, or sensitive species, "function as biological strongholds and places of refuge for many species," and play a key role in maintaining "species richness and native biodiversity."[73]

On land, the Southeast contains "the largest remaining expanses of temperate broadleaf mixed forest in the world and provides habitat to a wide diversity of plants of animals, including many that listed as rare, threatened, or endangered." According 2013 information from the Landscape Partnership, the Appalachian Mountains provide habitat for over 250 birds, 78 mammals, 58 reptiles, and 76 amphibians.[74] Underwater, the Southeast is a global center of aquatic biodiversity, hosting a majority of the United States' mussels, crayfishes, and aquatic snails, as well as half of the nation's freshwater fishes.[75] The Landscape Partnership reported in 2013 that "as a measure of aquatic species richness, 290 fish species are known from Tennessee,

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[72] U.S. Off. of Info. & Reg. Affs., *Travel Management Rule Repeal*, https://www reginfo.gov/public/do/eAgendaViewRule?pubId=202504&RIN=0596-AD70 (last visited Sept. 18, 2025).
[73] RACR FEIS at 3-142–143.
[74] J.R. Pickering et al., *The Appalachians*, *in Wilderness–Earth's Last Wild Places*, 458–467 (R.A. Mittermeier & C.G. Mittermeier eds. 2002).
[75] Bill McLarney, *Protection of Aquatic Biodiversity in the Southern Appalachian National Forests and Their Watersheds*, Report of the Southern Appalachian Forest Coalition and Pacific Rivers Council (1999).

more than all of Europe." [76] For these and other reasons, the Appalachian mountains are considered "one of the most resilient, diverse and productive ecosystems on Earth."[77]

ii. Roadless areas play a critical role in protecting the rich biodiversity of the Southeast.

Keeping the Roadless Rule is vital to protecting this globally significant biodiversity. Data underlying the Roadless Rule explores the "well documented" ecological effects of roads.[78] Roads negatively impact natural terrestrial and aquatic ecosystems in many ways, including increased erosion, air pollution, water pollution, habitat fragmentation, spread of non-native invasive species, roadkill, and road avoidance.[79] Fragmentation can lead to genetic isolation that can leave the isolated populations susceptible to decline.[80] Additionally, roads cause animals to change their home ranges and movement, and alter their reproductive success, escape response, and physiological state.[81] And roads, of course, also provide access for human disturbances like logging and mining that may have a variety of negative ecological impacts, including on biodiversity.[82]

As just one example, roads invite non-native species into areas where they otherwise would not have spread. The Forest Service recognizes the serious threat that non-native invasive species ("NNIS") pose to biodiversity. For example, Forest Service staff in Virginia's George Washington and Jefferson National Forest explained: "[i]n the United States, invasive species are reported to be the second-most critical threat to conservation of biodiversity (Wilcove et al. 1998). Nonnative plants are known to occur across Southern and Central Appalachian forests, often accounting for 25% or more of the documented flora. While not all non-native species are known to disrupt native ecosystems, of particular concern are those that are successful at invading and rapidly spreading through natural habitats. Invasive plants create a host of harmful environmental effects to native ecosystems including: displace native plants; degrade or eliminate habitat and forage for wildlife; threaten endangered species; impact recreation; affect fire frequency; alter soil properties; decrease biodiversity; and more. Invasive plants spread

[76] Pickering et al., *supra* note 74.
[77] The Nature Conservancy, *Species of the Allegheny Front* (2023), https://www.nature.org/en-us/about-us/where-we-work/priority-landscapes/appalachians/stories/allegheny-front-biodiversity-climate-corridor/.
[78] RACR FEIS Landscape Analysis and Biodiversity Specialist Report, landscape_res_rpt_ed_112100.PDF.
[79] James Stritholt & Dominick DellaSala, *Importance of Roadless Areas in Biodiversity in Forested Ecosystems: Case Study of the Klamath-Siskiyou Ecoregion of the United States*, 15 Conservation Biology 1743 (2001); Alison Ochs et al., 2024, *A Comprehensive Review of the Effects of Roads on Salamanders*, 39 Landscape Ecology 77 (2024), https://doi.org/10.1007/s10980-024-01867-3.
[80] Ochs et al., *supra* note 79.
[81] Stephen Trombulak & Christopher Frissell, *Review of Ecological Effects of Roads on Terrestrial and Aquatic Communities*, 15 Conservation Biology 18–25 (2000).
[82] Stritholt & DellaSala, *supra* note 79.

across landscapes, unimpeded by ownership boundaries."[83] And roads, as well as openings created by logging, are the primary vectors for the spread of NNIS.[84] In fact, a 2020 research paper indicated that in national forests in nine states, NNIS are twice as common within 500 feet of a road as farther away.[85]

But NNIS are just one danger among many caused by roads and other ground-disturbing activities. A plethora of scientific studies show that many of our region's species experience significant population declines when faced with habitat destruction caused by logging and road construction. On the other hand, roadless areas are refuges from the ecological harm associated with roads and provide additional ecological benefits. Data in a 2021 report demonstrates that roadless areas remain "important as refugia for biodiversity, as areas of high ecological integrity, and as bulwarks against the direct effects of roads and motor vehicles—such as habitat loss, noise disturbance, and roadkill—and indirect effects—such as habitat fragmentation, invasive species, and resource extraction."[86] They are particularly important to support animal species that require large areas free of human disturbance.[87]

1. Roadless areas in the Southern Appalachian mountains host many rare communities.

Roadless areas host many rare communities. These areas contain groupings of species that occupy a small portion of the landscape but contribute significantly to biodiversity. Roadless areas in western North Carolina provide a good example of the rare communities protected by roadless areas. 2015 data from North Carolina's Natural Heritage Program shows that these roadless areas include a significant number of several rare communities, including 58 areas (containing nearly 9,000 acres) of the rarest and most important natural communities in the state, as shown in the table below.

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[83] U.S. Forest Serv., *Environmental Assessment- Forest-Wide Non-Native Invasive Plant Control, George Washington and Jefferson National Forests* (2010).
[84] Healey, *supra* note 38.
[85] *Id.*
[86] Matthew Dietz et al., 2021*, The Importance of U.S. National Forest Roadless Areas for Vulnerable Wildlife Species*, 32 Global Ecology and Conservation e01943 (2021), https://doi.org/10.1016/j.gecco.2021.e01943; Colby Loucks et al., 2003, *USDA Forest Service Roadless Areas: Potential Biodiversity Conservation Reserves*, 7 Conservation Ecology 5 (2003), https://www.jstor.org/stable/26271942.
[87] Dietz et al., *supra* note 86.

Rare Communities within Roadless Areas of Western North Carolina[88]				
Community Category	**Community Name**	**Roadless Area**	**S Rank**	**G Rank**
High- and Mid-elevation Conifer Forests	Carolina Hemlock Forest (Mesic Subtype)	Linville Gorge Addition	S1	G1G2
	Carolina Hemlock Forest (Pine Subtype)	Linville Gorge Addition	S1S2	G2
		Mackey Mountain	S1S2	G2
	Fraser Fir Forest (Herb Subtype)	Balsam Cone	S1	G1
	Fraser Fir Forest (Rhododendron Subtype)	Balsam Cone	S1	G1
		Sam Knob (addition)	S1	G1
	Pine--Oak/Heath (High Elevation Subtype)	Jarrett Creek	S2	G2
	Red Spruce--Fraser Fir Forest (Birch Transition Shrub Subtype)	Balsam Cone	S1	G1
	Red Spruce--Fraser Fir Forest (Herb Subtype)	Balsam Cone	S2	G2
		Middle Prong Addition	S2	G2
		Bearwallow	S2	G2
	Red Spruce--Fraser Fir Forest (Low Rhododendron Subtype)	Balsam Cone	S1	G2
	Red Spruce--Fraser Fir Forest (Rhododendron Subtype)	Balsam Cone	S1S2	G1
		Sam Knob (addition)	S1S2	G1
		Bearwallow	S1S2	G1
Northern Hardwood Forest	High Elevation Red Oak Forest (Orchard Forest Subtype)	Laurel Mountain	S2	G2
		Tusquitee Bald	S2	G2
	High Elevation Red Oak Forest (Rich Subtype)	South Mills River	S3	G2
		Balsam Cone	S3	G2
	High Elevation Red Oak Forest (Stunted Woodland Subtype)	Laurel Mountain	S2	G2
	Montane Oak--Hickory Forest (Low Dry Subtype)	Wilson Creek	S2	G2G3
	Northern Hardwood Forest (Beech Gap Subtype)	Sam Knob (addition)	S1S2	G1
Open Communities (Balds and Outcrops)	Heath Bald (Catawba Rhododendron Subtype)	Balsam Cone	S2	G2
	Heath Bald (Low Elevation Subtype)	Bald Mountain	S1	G2G3

[88] Rare communities were identified from Natural Heritage Program data by filtering for G1/G2 rankings and using professional judgment to include a few important communities with lower global rankings. G1 and G2 rankings apply to communities that are at critically imperiled or imperiled (i.e., at a very high or high risk of being eliminated) worldwide. G3-ranked communities are globally vulnerable.

	Heath Bald (Southern Mixed Subtype)	Sam Knob (addition)	S1	G1
	High Elevation Granitic Dome	Barkers Creek (addition)	S3	G2G3
		Laurel Mountain	S3	G2G3
	High Elevation Rocky Summit (High Peak Lichen Subtype)	Balsam Cone	S1	G2
	High Elevation Rocky Summit (High Peak Subtype)	Balsam Cone	S1	G1
	High Elevation Rocky Summit (Typic Subtype)	Sam Knob (addition)	S2	G2
		Lost Cove	S2	G2
		Balsam Cone	S2	G2
	Low Elevation Rocky Summit (Basic Subtype)	Harper Creek	S1	G1
		Cheoah Bald	S1	G1
	Low Elevation Rocky Summit (Quartzite Ledge Subtype)	Linville Gorge Addition	S1	G1
Wetland Communities	High Elevation Boggy Seep	Balsam Cone	S2	G2
		Sam Knob (addition)	S2	G2
	Low Elevation Seep (Bedrock Subtype)	Sam Knob (addition)	S1	G1
	Low Elevation Seep (Montane Subtype)	South Mills River	S2S3	G2G3
	Montane Alluvial Forest (Small River Subtype)	Tusquitee Bald	S1	G3
		Wilson Creek	S1	G3
		South Mills River	S1	G3
	Rich Montane Seep	Balsam Cone	S3	G3
		Tusquitee Bald	S3	G3
		South Mills River	S3	G3
	Southern Appalachian Bog (Low Elevation Subtype)	Little Indian (addition)	S1S2	G1G2
		South Mills River	S1S2	G1G2
	Spray Cliff	Harper Creek	S2	G2
		Balsam Cone	S2	G2
	Swamp Forest--Bog Complex (Spruce Subtype)	Sam Knob (addition)	S1	G2?
	Swamp Forest--Bog Complex (Typic Subtype)	Big Indian (addition)	S2	G2
		Chunky Gal (addition)	S2	G2
		Laurel Mountain	S2	G2

2. Roadless areas in the Southeast contain many species listed under the Endangered Species Act and habitat for such species.

Moreover, over 78% of inventoried roadless areas in the eastern US include threatened, endangered, critically imperiled, or imperiled species.[89] The best available science indicates that habitat destruction and degradation imperil 88% of the threatened and endangered species.[90]

NatureServe identified element occurrences and modeled habitat for Endangered Species Act ("ESA") listed, proposed, and candidate species within roadless areas of the Chattahoochee, Cherokee, Croatan, Francis Marion, George Washington and Jefferson, Nantahala-Pisgah, Sumter, and Talladega national forests that would lose protection if the Roadless Rule were repealed. The occurrences are summarized in Appendix 1. In total, there are 22 different endangered species, 19 threatened, and 18 proposed or candidate species represented within the portions of these roadless areas that would lose protection. They span the entire geography included in the analysis, and the overlap between several of these species' habitats and roadless areas reflects the extraordinary importance that roadless areas serve for biodiversity in the Southeast.

The Forest Service's NEPA analysis and consultation with the U.S. Fish and Wildlife Service and National Marine Fisheries Service ("the Services") for this rulemaking must fully account for the impacts to each of these species, including the likely impacts of road construction, associated extractive activities, and poaching/collection, at a minimum. Notably, this analysis identified element occurrences and habitat *within* roadless areas, but the protective benefits of roadless areas extend beyond roadless boundaries, especially for aquatic species that depend on clean water. Therefore, the Forest Service must also consider impacts to species found downstream of roadless areas.

The biodiversity present in these roadless areas is proportionately much higher than roaded areas, as evidenced by a 2021 study that indicates that roadless areas in national forests provide a larger proportion of suitable habitat for multiple wildlife species of conservation concern ("SCC")[91] than roaded lands in the continental United States.[92] In fact, while roadless areas cover only 2% of the contiguous United States, over 50% of SCCs have suitable habitat in these areas.[93] Roadless areas experience lower rates of invasive species spread, reduced edge

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[89] Loucks et al., *supra* note 86.
[90] *Id.*
[91] In this study "species of conservation concern" is defined as any terrestrial vertebrate species that is: (1) listed as threatened or extinct or is a candidate species under the US Endangered Species Act, (2) listed as extinct in the wild, critically endangered, endangered, or vulnerable by the International Union for Conservation of Nature, or (3) classified by NatureServe as possibly extinct, critically imperiled, imperiled, or vulnerable.
[92] Dietz et al., *supra* note 86.
[93] *Id.*

effects, and are of higher structural integrity compared to roaded landscapes.[94] These conditions promote long-term ecosystem stability (along with other benefits).[95]

In addition to providing habitat for so many species, roadless areas enhance landscape connectivity and reduce habitat fragmentation.[96] As described by The Nature Conservancy: "[T]he Appalachian Mountains rise to form a natural superhighway for species to move. Whether seeking refuge from warming temperatures and extreme weather events, or migrating along an ancient flyway, the Appalachians can provide wildlife with a healthy and connected network of lands and waters – but only if we protect it."[97]

Inventoried roadless areas are providing profound protective benefits to the rich biodiversity of the Southeast. According to a 2003 research paper, "the vast majority of eastern IRAs are found in the ecoregions with the greatest amount of biodiversity and the least amount of protection." [98] This paper indicates that around 70% of the inventoried roadless areas in the eastern United States are located within globally or regionally outstanding ecoregions.[99] Over 50% of these forests occur in two Appalachian ecoregions, the Appalachian–Blue Ridge forests and the Appalachian mixed mesophytic forests.[100] Both of these are considered globally outstanding for their diverse endemic species.[101]

iii. Many imperiled or economically valuable species in the Southeast benefit from inventoried roadless areas.

Roadless areas are particularly important to support the rare species listed above. To illustrate, we focus here on a few of the most iconic (and for many, imperiled) species in the Southeast—like native brook trout, hellbender, black bear, and migratory songbirds—that require large areas free of human disturbance like roadbuilding and logging.

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[94] Healey, *supra* note 38.
[95] *Id.*
[96] Michele Crist et al., *Assessing the Value of Roadless Areas in a Conservation Reserve Strategy—Biodiversity and Landscape Connectivity in the Northern Rockies*, 42 J. of Applied Ecology 181–91 (2005), https://doi.org/10.1111/j.1365-2664.2005.00996.x.; *see also* R. Travis Belote et al., 2016, *Identifying Corridors among Large Protected Areas in the United States*, 11 PLoS ONE e0154223, 10.1371/journal.pone.0154223.
[97] The Nature Conservancy, *Priority Landscapes- Appalachians*, https://www nature.org/en-us/about-us/where-we-work/priority-landscapes/appalachians/.
[98] Loucks et al., *supra* note 86.
[99] *Id.*
[100] *Id.*
[101] *Id.*

1. Brook trout

The eastern brook trout is the only salmonid native to the eastern United States.[102] As the Eastern Brook Trout Joint Venture ("EBTJV") explains, "brook trout survive in only the coldest and cleanest water." [103] For that reason, strong populations of brook trout indicate that a stream or river is healthy and that water quality is excellent.[104] Conversely, a decline in brook trout populations can indicate that the water is not healthy.[105]

Although brook trout were once present in nearly all coldwater streams and rivers in the eastern United States, they began to decline with the emergence of timber and other economies that led to vast deforestation and sedimentation in trout streams and rivers.[106] Still today, brook trout face significant threats due to habitat degradation. A comprehensive assessment revealed that intact brook trout populations are rare, with only 5% of subwatersheds supporting healthy populations, while over 20% are extirpated.[107] Surviving populations are almost exclusively located in the extreme headwaters of streams, isolated from one another.[108] Several states have listed the eastern brook trout as imperiled (South Carolina) and/or a species of greatest conservation concern (e.g., Virginia, North Carolina, Maryland). Trout Unlimited's 2015 State of the Trout report indicates that brook trout in the Mid-Atlantic region (includes part of VA) and the Southeast (includes part of VA and TN, NC, SC, GA) occupy only 59% and 55% of their historical habitat, respectively.[109]

Roadless areas, however, provide critical strongholds for brook trout in the Central and Southern Appalachian mountains, as evidenced by both the table and map below. Analysis from Trout Unlimited shows the high degree to which roadless areas protect native brook trout. Just under 75% of the subwatershed acres in in Georgia, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia roadless areas are native trout waters:

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[102] Eastern Brook Trout Joint Venture, *Eastern Brook Trout—Status and threats: Eastern Brook Trout Joint Venture* at 24 (2006), https://easternbrooktrout.org/science-data/reports/eastern-brook-trout-status-and-threats%20%282006%29, (last visited Sept. 10, 2025) [hereinafter "EBTJV 2006"].
[103] The Eastern Brook Trout Joint Venture (EBTJV) is a partnership of various organizations that aims to restore brook trout populations by improving habitat and addressing these threats. In addition to other agencies, the EBTJV includes fish and wildlife agencies from 17 states and federal support from the U.S. Forest Service and U.S. Fish & Wildlife Service.
[104] EBTJV 2006, *supra* note 102.
[105] *Id.*
[106] *Id.*
[107] *Id.*
[108] *Id.*
[109] Trout Unlimited, *State of the Trout: A Report on the Status and Trends of Native Trout in the United States* (2015), www.tu.org/wp-content/uploads/2019/02/State_of_the_Trout_2015_web.pdf.

Table: Native Trout Waters in Southern Roadless Areas

State	Roadless areas-appx. acres	Native trout subwatersheds-appx. acres	Percent of roadless acres that are native trout subwatersheds
Georgia	63,400	20,300	32%
North Carolina	172,400	123,800	72%
South Carolina	7,600	5,900	78%
Tennessee	84,900	70,300	83%
Virginia	393,700	294,400	75%
West Virginia	201,700	166,500	83%
Totals	923,700	681,200	74%

The importance of roadless areas for brook trout is not surprising—both roads and logging pose serious threats to brook trout. The EBTJV identifies sedimentation from roads as the third largest threat to brook trout.[110] Sand and silt runoff from roads in poor condition can smother brook trout eggs and the insects that fish eat.[111] Stream fragmentation from roads is the eighth largest threat to brook trout.[112] The seriousness of threats that roads pose to brook trout can be seen throughout the Southeast and beyond. Sedimentation from roads is a significant threat in 87% of trout subwatersheds in Georgia and South Carolina. Stream fragmentation from roads is a significant threat in 60% of Virginia's trout subwatersheds, due in part to frequent stream crossings for forestry roads.

In addition to threats posed by roads, the EBTJV identifies forestry as another notable threat to brook trout.[113] In West Virginia, forestry is a significant threat in 54% of trout subwatersheds, chiefly due to poorly designed and maintained dirt roads and skid trails that reduce water quality.[114]

The benefits that the Roadless Rule provides for brook trout is clear in Virginia, which hosts the largest populations of brook trout south of the Mason-Dixon line.[115] Many of Virginia's mountain trout streams flow within portions of the George Washington and Jefferson National Forests which are protected by the Roadless Rule.[116] It is imperative to retain the Roadless Rule to counter the significant threats that roadbuilding and logging pose to eastern brook trout.

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[110] EBTJV 2006, *supra* note 102.
[111] *Id.*
[112] *Id.*
[113] *Id.*
[114] *Id.*
[115] *Id.*
[116] *Id.; see also* "Roadless Rule Protections and Eastern Brook Trout Populations," Attachment 7.

The Roadless Rule is also critical for the protection of the Southern Appalachian strain of brook trout. As the State of the Trout report summarizes, following agricultural development and especially widespread logging in the region in the 1900s, Southern Appalachian brook trout declined as sedimentation degraded habitats.[117] Northern-strain brook trout, rainbow and brown trout were often stocked in their place, displacing the local strain or swamping their genes.[118] As that report explained: "Genetic analysis has confirmed the unique nature of the historical brook trout strain of this region and there has been an increasing appreciation for those pure Southern Appalachian populations that remain for just how rare they are."[119]

National forest lands, and inventoried roadless areas specifically, are likely critical to the survival of the unique Southern Appalachian brook trout. Remaining Southern Appalachian brook trout populations very likely occupy far less than even the 55% of historical habitat in this region that is currently occupied by some form of brook trout. Opening roadless areas to habitat fragmentation by roads and culverts and to habitat degradation by sedimentation from logging and road construction would likely place the survival of the Southern Appalachian strain at significant risk. If the Forest Service persists in this rulemaking, the environmental impact statement should thoroughly assess the impacts of Roadless Rule rescission to Eastern brook trout generally and to the Southern Appalachian strain in particular. The Forest Service itself has information about the distribution and health of Southern Appalachian brook trout populations, as do state wildlife agencies, scientists, and knowledgeable fisheries conservation organizations; such information should be obtained, analyzed, and considered in the environmental impact statement.

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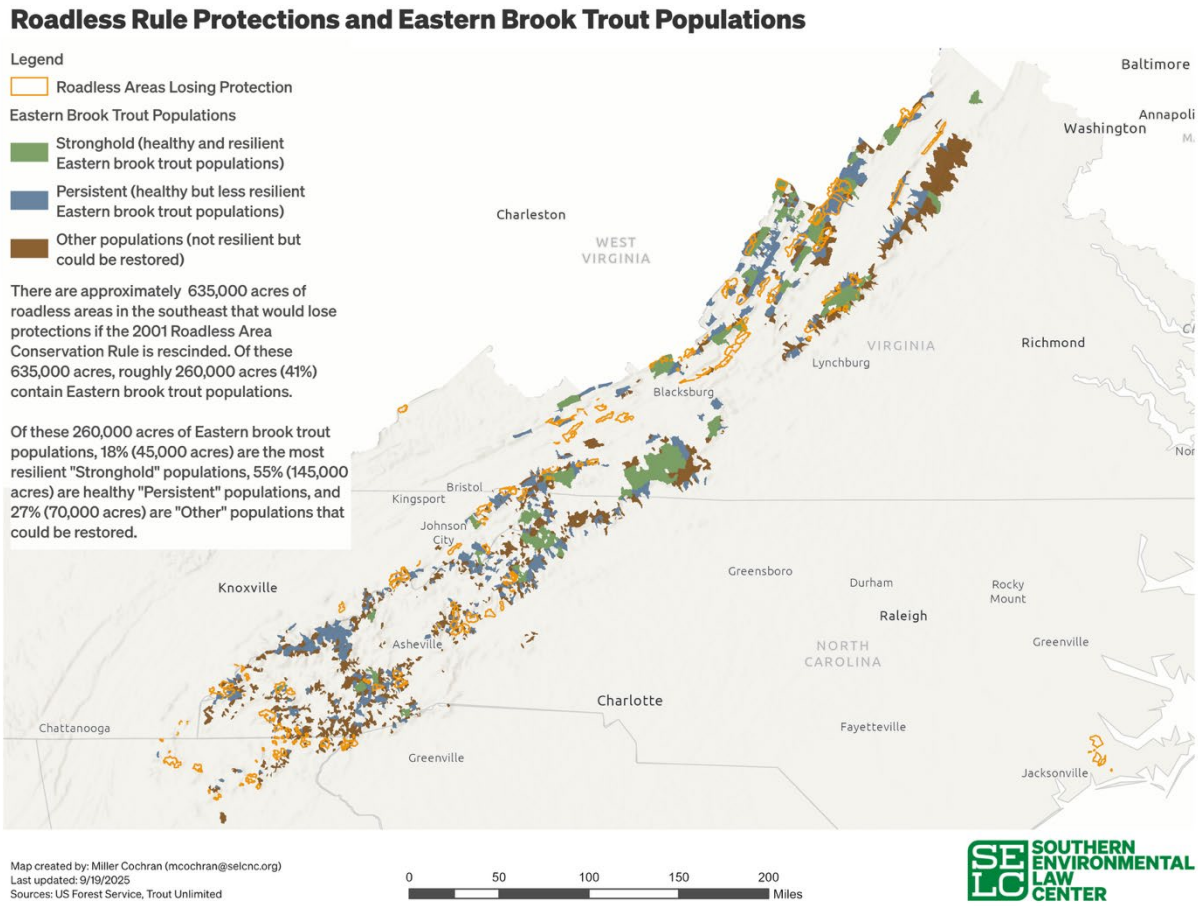
[117] Trout Unlimited, *supra* note 109.
[118] *Id.*
[119] *Id.*



2. Terrestrial and aquatic salamanders, including the eastern hellbender

The Southern Appalachian mountains are a global hotspot for salamander diversity, hosting more species of salamanders than anywhere else on Earth.[120] Many of these species are endemic to the region and of high conservation concern.[121] The Roadless Rule plays an essential role in protecting this rich diversity of salamanders in the Southeast. For example, the Cheoah Bald salamander is an endemic protected by the Cheoah Bald roadless area and found nowhere else. Similarly, the Cow Knob salamander exists only on Shenandoah Mountain in Virginia and

[120] *See* Walter H. Smith, *Herpetofaunal Inventory of the Guest River Gorge, Jefferson National Forest, Clinch Ranger District, Virginia*, U.S. Forest Serv. Tech. Rpt. (Jan. 2014), https://www.researchgate net/publication/279515713_Herpetofaunal_Inventory_of_the_Guest_River_Gorge_Jefferson_National_Forest_Clinch_Ranger_District_Virginia; William Sutton et al., *Climatic and Landscape Vulnerability of the Eastern Hellbender Salamander (*Cryptobranchus alleganiensis alleganiensis*)*: 46 Global Ecology & Conservation e02554 (2023), https://doi.org/10.1016/j.gecco.2023.e02554; W. Carolina Univ. Highlands Biological Station, *Biodiversity of Highlands, NC*, https://highlandsbiological.org/biodiversity-of-highlands-2/

[121] *See* Smith, *supra* note 120.

West Virginia, and most of its habitat is found within roadless areas.[122] Roads pose an enormous threat to terrestrial and aquatic salamanders, and a 2009 study indicates that the loss of headwater-riparian habitat through timber harvest is one of greatest threats to salamanders.[123]

A 2024 paper examined 155 studies of road effects on salamanders and concluded that "roads have strong negative effects on salamander populations. These effects threaten many salamander populations with extirpation, and may have long-lasting effects on habitat and population connectivity."[124] Higher road density corresponds with lower abundance of salamanders and declines in salamander diversity, occurrence, stream salamander density, and embryonic survival.[125] Road effects on salamanders may result from habitat fragmentation, canopy loss, and sedimentation and increased flow rates of nearby waterways.[126]

The study also found both paved and unpaved roads directly harmed salamanders. Terrestrial salamanders near paved roads were lower in number, and stream salamanders near paved roads occurred less frequently, egg masses were smaller, and overall salamander diversity was lower near paved roads.[127] Unpaved roads were associated with lower area of cover objects that salamanders may use as refuges, lower soil moisture, higher soil temperature, and increased sedimentation of nearby streams, all of which can contribute to declines in salamander abundance.[128]

Even low-standard logging roads, which are less permanent and less maintained, reduce nearby salamander abundance.[129] Logging roads and skid trails can impact nearby populations for decades, with observed negative effects of skidder trails 3 years after last use and of logging roads abandoned 80 years previously.[130] Additionally, a 2000 study shows that logging roads significantly curtailed salamander movement—both home range movements and adult dispersal—which impacts population connectivity.[131]

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[122] To avoid listing the Cow Knob salamander as endangered, the Forest Service signed an agreement with US Fish and Wildlife Service in 1993 regarding habitat protection. *See* U.S. Fish & Wildlife Serv. & U.S. Forest Serv., *Conservation Agreement for the Cow Knob Salamander* (Jan. 25, 1994), https://fis fws.gov/docs/plan_documents/ccaa/ccaa_679.pdf; *See also* William Flint, *Ecology and Conservation of the Cow Knob Salamander,* Plethodon punctatus, James Madison Univ. Dep't of Biology Masters Thesis (2004).
[123] William Peterman & Raymond Semlitsch, *Efficacy of Riparian Buffers in Mitigating Local Population Declines and the Effects of Even-Aged Timber Harvest on Larval Salamanders*, 257 Forest Ecology & Mgmt. 8–14 (2009), https://doi.org/10.1016/j foreco.2008.08.011.
[124] Ochs et al., *supra* note 79.
[125] *Id.*
[126] *Id.*
[127] *Id.*
[128] *Id.*
[129] *Id.*
[130] *Id.*
[131] *Id.*

Road impacts on salamanders are numerous and wide-ranging, including:

- Road mortality due to low dispersal ability and slow movement rate, lack of behavioral responses to traffic, and strong site fidelity;[132]
- Habitat loss and changes to the landscape;
- Interruption to the large migrations that many semi-aquatic salamander species make or direct mortality from vehicles on roads;[133]
- Loss of forest cover and other changes to the environment;[134]
- Isolated populations and negative effects on gene flow and genetic diversity due to changes in salamander movement and behavior.[135]

Beyond these impacts, culverted stream crossings are also a major barrier to aquatic salamander movements. A 2015 study of roads on the Nantahala-Pisgah showed that only 28 of 192 surveyed crossings were passable by salamanders—an abysmal 14.5%.[136]

These threats are cumulative with other stressors that salamanders face in more developed portions of the landscape. Stream salamanders and aquatic larvae may be strongly affected by sedimentation due to runoff from impervious road surfaces.[137] Runoff and soil erosion causes scouring in streams, which leads to mortality and loss of important habitat features.[138] In addition, road salt runoff leading to mass mortality events[139] and increased salt and chloride concentrations in nearby waterways above levels tolerated by adult or larval stream salamanders.[140] Runoff from coal tar sealant runoff leads to decreased growth rates and swimming ability.[141] Fire retardant runoff leads to decreased survival and prey consumption and longer larval period.[142] And increased chemical contaminants in salamander tissue from ponds near impervious surfaces like roads.[143] Given this host of threats, public lands, and roadless areas in particular, are therefore essential to protect the strongest remaining populations of rare salamanders.

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[132] *Id.*
[133] *Id.*
[134] *Id.*
[135] *Id.*
[136] Grosse, et al., *Analysis of Forest Road Conditions and the Impact on Water Quality and Aquatic Organisms in the Pisgah-Nantahala National Forests* (2015), Attachment 8. (Field data available on request.)
[137] Ochs et al., *supra* note 79.
[138] *Id.*
[139] *Id.*
[140] *Id.*
[141] *Id.*
[142] *Id.*
[143] *Id.*

Roads and logging pose tremendous threats, particularly to aquatic salamanders like the eastern hellbender. The eastern hellbender is one of only three giant salamanders in the world. eastern hellbenders require perennial streams with swift, cool, and oxygenated water, suitable breeding and shelter habitats, and abundant prey.[144]

The U.S. Fish and Wildlife Service listed eastern hellbender populations in Missouri as endangered in 2021.[145] In 2024, the Service proposed to list the eastern hellbender as endangered throughout its entire range due to threats from sedimentation, water quality degradation, habitat destruction, disease and direct mortality.[146] Of the 626 known historical populations, 41% are believed to be extirpated, and another 36% are declining.[147] Addition of the eastern hellbender, range-wide, to the endangered species list would help prevent extinction and facilitate conservation of this unique animal.[148]

Sedimentation, water quality degradation, and climate change are the top threats to eastern hellbender populations, with sedimentation being the most significant influence.[149] Predictions indicate a decline in stable and recruiting populations, with a significant increase in extirpated populations over the next 25 years.[150]

Sedimentation is the most significant threat to the eastern hellbender, impacting habitat and water quality.[151] It reduces interstitial spaces, degrades habitat for both larvae and adults, and increases exposure to pollutants.[152] Water quality degradation, primarily from agricultural runoff, sewage, and chemical spills, is the second most impactful threat, causing direct mortality and altering physiological processes.[153] Channelization and riparian vegetation removal accelerate erosion, decrease habitat diversity, and destabilize channels, further harming eastern hellbender populations.

Hellbenders face cumulative threats, too. Endocrine-disrupting chemicals ("EDCs") and increased conductivity, often from coal mining and road construction, pose significant threats to

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[144] U.S. Fish and Wildlife Serv., *Species Status Assessment report for the Eastern Hellbender* (Cryptobranchus alleganiensis alleganiensis), Version 2.1 (2024), https://iris.fws.gov/APPS/ServCat/DownloadFile/263350 [hereinafter "USFWS 2004"].
[145] *Id.*
[146] *Id.*
[147] *Id.*
[148] *Id.*
[149] *Id.*
[150] *Id.*
[151] *Id.*
[152] *Id.*
[153] *Id.*

eastern hellbenders.[154] These pollutants, which can accumulate in the long-lived salamanders, negatively impact their health and survival.[155]

Climate change is expected to negatively impact eastern hellbenders through rising temperatures, increased drought, and intense rainstorms, leading to reduced dissolved oxygen, habitat loss, and increased predation risk.[156] Small, isolated populations face additional threats from inbreeding, reduced genetic diversity, and limited recolonization potential.[157] Increased predator abundance, including native and non-native species, further exacerbates the risk of local extirpations.[158]

As a result, protected areas are crucial for eastern hellbender conservation, providing habitat and climate refugia.[159] However, additional strategies like stream restoration, assisted migration, and population-based management are needed to address vulnerabilities, especially in areas with limited connectivity or climate suitability.[160] Expanding land protection, restoring stream connectivity, and protecting areas with known populations are recommended to enhance hellbender resilience to climate change.[161]

Given the dire risks that roadbuilding and loss of habitat from logging to salamanders throughout the Southeast, it is imperative to keep the Roadless Rule intact.

3. Black bear

The black bear is another important species that relies on protection from human disturbance provided by inventoried roadless areas. As the Forest Service explained when creating roadless areas, "remoteness from human activity is a key characteristic of black bear habitat." [162]

Black bears are highly mobile animals, capable of moving great distances for various reasons like changing weather, food supplies, habitat conditions, disturbance, and internal

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[154] *Id.*
[155] *Id.*
[156] *Id.*
[157] *Id.*
[158] *Id.*
[159] Sutton et al., *supra* note 120.
[160] *Id.*
[161] *Id.*
[162] RACR FEIS Specialist Report for Terrestrial and Aquatic Habitats and Species at 11, https://www fs.usda.gov/Internet/FSE_DOCUMENTS/fsm8_035777.pdf; *see also* RACR FEIS at 3-144.

population pressures.[163] In light of this mobility, it is vital to maintain connected corridors between forested tracts.[164]

Logging and associated road construction, however, can fragment black bear habitat, reduce connectivity, and increase road mortality.[165] It also reduces mast, which is an important food source for black bears. By avoiding these detrimental impacts, the Roadless Rule helps protect black bear habitat. For that reason, the Forest Service explained in 2000 that "[t]he conservation of inventoried roadless areas, would contribute to high quality game species habitat by providing areas where disruptions and disturbances are relatively low compared to roaded areas…[T]he black bear is increasing in the eastern United States in part because of security within [national forest] lands."[166]

4. Migratory songbirds requiring interior forest

Several other important species in the Southeast require connected, unfragmented forest. For example, the cerulean warbler, hooded warbler, and wood thrush are migratory songbirds that breed in Appalachian hardwood forests and require large, unfragmented tracts of mature forest to do so.

Neotropical migratory songbirds that require interior forest are particularly sensitive to disturbances created by logging. In Southern forests, which are critical neotropical migratory songbird breeding habitat and migration flyway, roads and timber activities fragment forest and create edges which facilitate cowbird parasitism of the nests of other birds.[167] Research has found that this cowbird behavior has contributed to the population declines of many neotropical

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[163] Keith Weaver, *Black Bear Ecology and the Use of Prescribed Fire to Enhance Bear Habitat*, in *Proceedings—Workshop on Fire, People, and the Central Hardwoods Landscape* 12–14 (Yaussy, D.A., ed. 2000), U.S. Forest Serv., Northeastern Research Station, General Technical Report NE–274, https://www.fs.usda.gov/ne/newtown_square/publications/technical_reports/pdfs/2000/274%20papers/weaver274.pdf]

[164] *Id.*

[165] Allan Brody & Jeff Stone, *Timber Harvest and Black Bear Population Dynamics in the Southern Appalachians*, 51 J. of Wildlife Mgmt. 148–53 (1987), https://doi.org/10.2307/3872631.

[166] RACR FEIS Specialist Report, *supra* note 162, at 99.

[167] Michael Baker & Michael Lacki, *Short-Term Changes in Bird Communities in Response to Silvicultural Prescriptions*, 96 Forest Ecology & Mgmt. 27–36 (1997); Therese Donovan & Curtis Flather, 2002, *Relationships Among North American Songbird Trends, Habitat Fragmentation, and Landscape Occupancy*, 12 Ecological Applications 364–74 (2002), https://doi.org/10.2307/3060948; Scott Robinson & David Wilcove, *Forest Fragmentation in the Temperate Zone and its Effects on Migratory Songbirds*, 4 Bird Conservation Int'l, v. 4, p. 233–49 (1994), https://doi.org/10.1017/S0959270900002793.

migrant bird species.[168] General nest predation rates in Southern Appalachian forest fragments has also been found to increase as forest fragment size decreases.[169]

Keeping the Roadless Rule in places is critical to providing the habitat and connectivity needed to support these and many other species in the Southern Appalachian mountains of North Carolina and other Southeast states.

c. The Southeast is Unique Because of its Abundant Water and Sensitive Watersheds, and it is Peculiarly at Risk from Losing Roadless Protection for the Same Reasons.

The Forest Service justifies the repeal of the Roadless Rule in part because "local decision making and active land management" can "benefit. . . clean water."[170] Remarkably, the Agency even argues that repealing the Rule is necessary to combat "continuing deferred maintenance needs" affecting water quality.[171] But this justification fails to hold water, especially in the Southeast. To the contrary, the Roadless Rule is critical to protecting high quality streams that have not been degraded by roads. Roadless areas are crucial for watershed health, aquatic biodiversity, drinking water supplies, and the economic benefits of clean water, such as flood reduction.

i. Waterways In and Downstream of Roadless Areas are of Higher Watershed Integrity and Quality.

Roadless areas contain uniquely high integrity watersheds. Watersheds in roadless areas are disproportionately intact and generally contain minimally disturbed hydrology as compared to other forested areas.[172] The best available scientific information supports that the Roadless Rule protections improve watershed health. For example, a white paper by The Wilderness Society showed a correlative relationship between IRAs and watershed condition, with almost two-thirds of IRA watersheds rated as "properly functioning" under the Forest Service's Watershed Condition Framework.[173] Most of the watersheds in roaded lands were either "functioning-at-risk" (58%) or "impaired" (5%).[174] Loss of watershed function is a reasonably

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[168] *See* Baker & Lacki, *supra* note 167*; see also* Kenneth Rosenberg et al., *Effects of Forest Fragmentation on Breeding Tanagers: A Continental Perspective*, 13 Conservation Biology 568–83 (1999).
[169] Amber Keyser et al., *Effects of Forest Fragment Size, Nest Density, and Proximity to Edge on the Risk of Predation to Ground-Nesting Passerine Birds*, 12 Conservation Biology 986–94 (1998).
[170] 90 Fed. Reg. at 42,181.
[171] *Id.*
[172] Dominick DellaSala et al., *National Forest Roadless Areas and Clean Water*, Geos Institute (2011), https://geosinstitute.org/wp-content/uploads/2010/08/FINAL_Clean_Water_report_6.30.11.pdf.
[173] 16 U.S.C. § 6543; Mike Anderson et al., *Watershed Health in Wilderness, Roadless, and Roaded Areas of the National Forest System,* The Wilderness Society (2012), https://www.wilderness.org/sites/default/files/media/file/Report-WatershedHealthinWildernessEtc_2012.pdf.
[174] Anderson, *supra* note 173.

foreseeable impact of Roadless Rule rescission, and it deserves rigorous analysis in the environmental impact statement.

Indeed, because roadless areas are mostly undisturbed, they provide the baseline for comparison to understand how badly degraded other watersheds are:

> Inventoried roadless areas… serve as valuable reference points for comparison of the effects of past activities on adjacent lands; especially in larger areas adjacent to wilderness or parks. Comparison of long-term effects that roads have had on watersheds, recreation, forest health, and other resources is only possible if roadless areas are available as a basis for comparison.[175]

The environmental impact statement should assess potential loss of watershed function associated with repeal, as there is now 25 years of experience with which to support how the Roadless Rule has protected watershed integrity compared to roaded lands.

ii. Roads Interrupt Hydrological Connectivity and Create Barriers for Aquatic Species.

1. Roads Threaten Hydrological Connectivity and Health.

Connectivity and water quality are immensely impacted by road construction. The presence of Forest Service roads has been shown to alter hydrologic connectivity at the basin scale.[176] Research demonstrates that even a small percentage of road coverage can substantially influence runoff and flood rates.[177] This is because roads significantly alter not only the volume of runoff, increasing runoff totals, but also the timing of runoff flows.[178] Roads intercept subsurface flow and create artificial drainage networks, meaning that water takes new and shorter paths to reach rivers and streams, increasing the "flashiness" of runoff.[179] These impacts are particularly acute during storm events or on steep slopes.[180]

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[175] RACR FEIS Vol. 1 at 3-191.
[176] Beverly Wemple et al., *Channel Network Extension by Logging Roads in Two Basins, Western Cascades, Oregon*, 32 Water Res. Bulletin 1195–1207 (1996), https://andrewsforest.oregonstate.edu/sites/default/files/lter/pubs/pdf/pub2314.pdf.
[177] Aristeidis Kastridis, *Impact of Forest Roads on Hydrological Processes—A Review*, 11 Forests 21 (2020) https://doi.org/10.3390/f11111201.
[178] Drew Coe, *The Hydrologic Impacts of Roads at Varying Spatial and Temporal scales: Cooperative Monitoring, Evaluation and Research (CMER) Program Report* at 76, Washington State Department of Natural Resources (2004), https://ucanr.edu/sites/forestry/files/143019.pdf.
[179] Kastridis, *supra* note 177; Wemple et al., *supra* note 176.
[180] Kastridis, *supra* note 177; Wemple et al., *supra* note 176.

Watersheds in roaded forests also experience large-scale disruption of woody debris dynamics and increased sediment delivery.[181] Sedimentation is perhaps the most ubiquitous of the threats to forested watersheds. As the Forest Service acknowledges, "[r]oads affect watershed condition because more sediment is contributed to streams from roads and road construction than any other land management activity."[182] In the Southeast, "[e]rosion and sedimentation are noted as primary forest management concerns." [183] Indeed, "[d]etrimental impacts from roads in these regions and locations can be inevitable, and the extent of such impacts is large as is the legacy of past road building."[184]

2. Roads Create Barriers for Aquatic Species.

Additionally, road crossings act as barriers, limiting fish movement and gene flow, and increasing aquatic species' vulnerability to environmental disturbances.[185] This is because poorly designed, maintained, or otherwise degraded culverts reduce habitat connectivity, leading to population fragmentation and reduced resilience of aquatic wildlife.[186] They block daily and seasonal movements of fish, disrupting access to habitat and resources and leading to biodiversity loss.[187]

Road-stream culverts on Forest Service lands epitomize this problem, and the Forest Service lacks the funding to even fully catalogue, much less replace, culverts that are blocking aquatic organism passage. A 2015 survey of roads in the Nantahala-Pisgah National Forest of North Carolina found that *zero* surveyed pipe-culverted streams with summer flow depth of 4 inches or greater were passable for small fish.[188] The Forest Service's own researchers have found similar results across the region. The Southern Research Station's Center for Aquatic Technology Transfer ("CATT") undertook similar aquatic organism passage surveys in 2005 and 2006, assessing 728 stream crossings in 8 states. Those surveys revealed that approximately 65%

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[181] DellaSala et al., *supra* note 172172.
[182] John Potyondy & Theodore Geier, *Watershed Condition Classification Technical Guide*, U.S. Forest Serv. Rpt. FS-978 (July 2011), https://research.fs.usda.gov/sites/default/files/2023-02/rmrs-watershed_classification_guide2011fs978.pdf.
[183] Great Lakes Env't Ctr., *National Level Assessment of Water Quality Impairments Related to Forest Roads and Their Prevention by Best Management Practices, Final Repor*t (2008), Prepared for: U.S. Environmental Protection Agency Office of Water Office of Wastewater Management Permits Division Virginia Garelick, Task Order Project Manager. (Attachment 9).
[184] *Id.*
[185] Matthew Diebel et al., *Effects of Road Crossings on Habitat Connectivity for Stream-Resident Fish*, 31 River Rsch. & Applications 1251–61 (2014), https://www researchgate.net/publication/264829027.
[186] Richard Lehrter et al., *Effects of Culverts on Habitat Connectivity in Streams–A Science Synthesis to Inform National Environmental Policy Act Analysis*, U.S. Geological Survey Scientific Investigations Report, 2023–5132, p.45 (2023), https://doi.org/10.3133/sir20235132.
[187] *Id.*
[188] Grosse K., et al., *supra* note 136.

of stream crossings were conclusively impassable for at least some species, and only 19% were passable for all relevant species.[189,190]

Southern Research Station Stream Crossing Survey Results (2005-2006)

Forest	Filter A: Crossings Impassable for Strong Swimmers, Leapers			Filter B: Crossings Impassable for Moderate Swimmers and Leapers			Filter C: Crossings Impassable for Weak Swimmers and Leapers		
	Impassable	Passable	Indeterminate	Impassable	Passable	Indeterminate	Impassable	Passable	Indeterminate
George Washington-Jefferson NF (n=152)	48	19	85	114	12	26	125	11	16
Daniel Boone NF (n=83)	18	24	41	50	12	21	72	8	3
Ozark-St. Francis NF (n=35)	4	18	13	22	7	6	27	5	3
NFs in Alabama (n=147)	11	65	71	68	36	43	90	28	29
Cherokee NF (n=59)	15	14	30	47	3	9	53	3	3
Francis Marion-Sumter NF (n=91)	4	58	29	18	42	31	33	38	20

[189] U.S. Forest Serv., Southern Research Station, *Fish Passage Status of Road-Stream Crossings on Selected National Forests in the Southern Region* (2005), https://research.fs.usda.gov/sites/default/files/2023-04/srs-2005_aop_catt_report.pdf.

[190] U.S. Forest Serv., Southern Research Station, *Fish Passage Status of Road-Stream Crossings on Selected National Forests in the Southern Region* (2006). https://research.fs.usda.gov/sites/default/files/2023-04/srs-2006_aop_catt_report.pdf.

NFs in Mississippi (n=69)	5	37	27	19	21	29	26	19	24
NFs in Texas (n=92)	10	58	24	28	41	23	46	29	17
Total (n=728)	115	293	320	366	174	188	472	141	115
Total as a percentage	16%	40%	44%	50%	24%	26%	65%	19%	16%

The Forest Service estimates that there are "at least" 20,000 problematic stream crossings on national forest lands,[191] which is certainly an underestimate given that the vast majority of stream crossings have not even been assessed.[192] Even still, given the average price tag of $60,000 to replace each of these culverts,[193] this is at least a $1.2 *billion* problem. And the Forest Service is only just beginning to recognize the problem of undersized culverts, with a "pilot" project to assess culvert vulnerability on two experimental forests.[194] As explained in the enclosed NRDC et. al letter, these widespread design and maintenance problems are systemic violations of the Clean Water Act.

Roadless areas have largely escaped these impacts, making them the best refugia for aquatic species, which explains their importance to biodiversity.[195] As a result, repeal of the Roadless Rule would only exacerbate these problems by allowing for roadbuilding in areas which have been protected from these impacts. This would lead to both short- and long-term damage of the Southeast's extraordinary aquatic biodiversity. The environmental impact statement must disclose these impacts in detail.

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[191] U.S. Forest Serv., *Aquatic Organism Passage Program Overview*, https://www.fs.usda.gov/restoration/Aquatic_Organism_Passage/overview.shtml#:~:text=Regional%20and%20Forest%20assessments%20of,document%20success%20of%20AOP%20projects (last visited Aug. 22, 2025).
[192] The National Aquatic Barrier Inventory and Prioritization Tool shows that there are over 6 million potential aquatic barriers from road-stream crossings in the U.S. (all lands), but only about 1% have been assessed for impacts to aquatic connectivity.
[193] *Id.*
[194] U.S. Forest Serv., *Culverts for Climate Resilience: Developing the CULVERT tool*, https://research.fs.usda.gov/srs/projects/culvert-resilience-tool (last visited Aug. 25, 2025).
[195] *See supra* sec. III.b.ii-iii.

iii. Repeal of the Roadless Rule Would Diminish Availability and Quality of Drinking Water.

In addition to the ecological impacts discussed above, repeal of the Roadless Rule would threaten the quantity and quality of drinking water for millions of Americans, leading to increased economic burden associated with cleaning and processing this lower-quality water. Indeed, protection of drinking water sources was one of the primary reasons for adopting the Rule in 2001.[196]

Because forested watersheds provide the highest water quality, forest conservation enhances resilience of drinking water supplies.[197] A 2023 study analyzed water quality at 1,746 surface water supply intake facilities across the South, concluding that forested upstream watersheds and reservoir intakes generally had lower concentrations of pollutants.[198] That same study found that even a 1% change in land cover could impact the concentration of those contaminants, and thus, the drinking water downstream.[199]

Inventoried roadless areas, as some of the highest quality, most intact forested lands in the nation, are crucial for providing clean, abundant, and inexpensive water to millions.[200] There are hundreds of drinking water sources areas that overlap with roadless areas.[201] The Roadless Rule provides crucial protection to these water sources.[202]

Degradation of these watersheds would have immense economic consequences. A 2011 report found that the value of high-quality drinking water provided by roadless areas is in the billions of dollars annually and that water treatment plants and highway departments save as much as $18 billion annually by avoiding sedimentation that would otherwise be caused by

[196] 66 Fed. Reg. 3244, 3244 (Jan. 12, 2001), https://www.govinfo.gov/content/pkg/FR-2001-01-12/pdf/01-726.pdf
[197] Peter Caldwell et al., *Forested Watersheds Provide the Highest Water Quality Among All Land Cover Types, But the Benefit of this Ecosystem Service Depends on Landscape Context*, 882 Sci. of The Total Env't 163550 (2023), https://doi.org/10.1016/j.scitotenv.2023.163550; *see also* Ning Liu et al., *Forested Lands Dominate Drinking Water Supply in the Conterminous United States*, 16 Env't Rsch. Ltrs. 084008 (2021), https://doi.org/10.1088/1748-9326/ac09b0.
[198] *Id.*
[199] *Id.*
[200] DellaSala et al., *supra* note 172 at 3–16, 24–26.
[201] RACR FEIS Vol. 1 at 3-50, 3-52.
[202] McKinley Talty et al., *Conservation Value of National Forest Roadless Areas*, 2(11) Conservation Sci. & Prac. e288, https://doi.org/10.1111/csp2.288.

logging in roadless area watersheds.[203] In total, the value of roadless areas to the nation's water supply is estimated to be worth as much as $27 billion.[204]

The per-acre value of roadless areas to drinking water is even higher in the South, where population density is high. We analyzed Forest Service data to understand the effect of repealing roadless protections in Alabama, Georgia, North Carolina, South Carolina, Tennessee, and Virginia. In those states, approximately 617,000 acres of roadless areas are not otherwise protected by Congressional designation and would lose protection if the Roadless Rule were repealed. Based on Forest Service data, approximately 14.5 million people get their drinking water directly from the watersheds that contain those roadless areas, as shown in the following map.[205] Additionally, in the Forest Service's nationwide ranking of HUC12 watersheds based on importance to drinking water, the median Southeastern watershed containing these at-risk roadless areas ranks in the 83rd percentile.[206] Southern roadless watersheds are therefore among the most important watersheds in the nation for drinking water.

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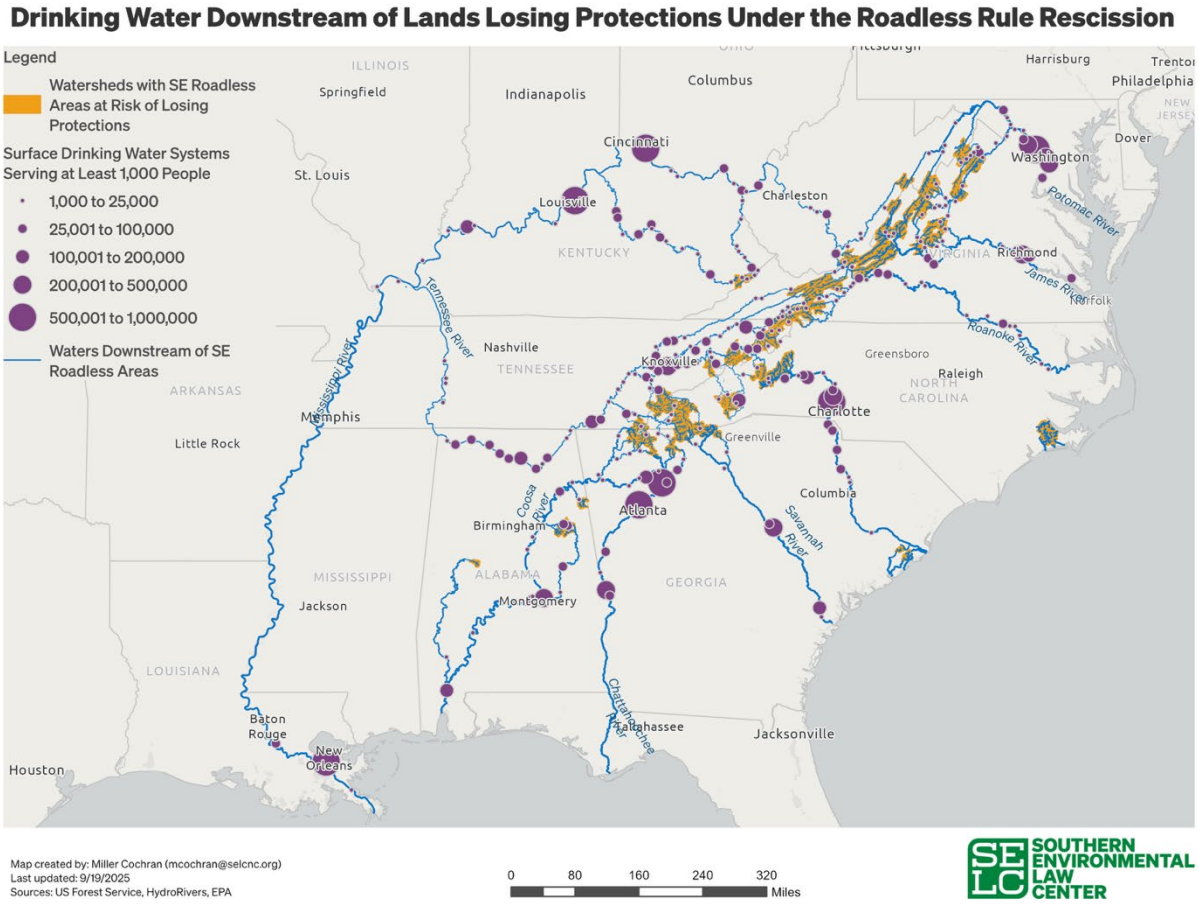
[203] DellaSala et al., *supra* note 172; *see also* John Loomis, *Updated Outdoor Recreation Use Values on National Forest and Other Public Lands*, U.S. Forest Serv. Gen. Tech. Rpt. PNW-GTR-658 (2005), https://www.fs.usda.gov/pnw/pubs/pnw_gtr658.pdf; John Loomis & Robert Richardson, *Economic Values of Protecting Roadless Areas in the United States*, Colo. State Univ., Dep't of Agric. & Res. Econ. (2000), https://www.sierraforestlegacy.org/Resources/Conservation/FireForestEcology/ForestEconomics/Economics-Loomis00.pdf.

[204] Dominick DellaSala et al., *Roadless Areas and Clean Water*, 66 J. of Soil & Water Conservation 78A - 84A (2011), https://doi.org/10.2489/jswc.66.3.78A.

[205] Data queried from U.S. Forest Serv., *Forests to Faucets*, https://www fs.usda.gov/ecosystemservices/FS_Efforts/forests2faucets.shtml. Analysis available on request and depicted in Attachment 10, "Drinking Water Downstream of Lands Losing Protections Under the Roadless Rule Rescission."

[206] U.S. Forest Serv., *supra* note 205.



Repealing the Roadless Rule would put both the quantity and quality of water supplies in jeopardy, risking millions to billions of dollars of damage, especially in the Southeast. These impacts, including to the communities and municipalities that rely on water from roadless areas, must be thoroughly disclosed in the Forest Service's forthcoming EIS.

iv. Repeal of the Roadless Rule Would Increase Landslide Risk and Flood Risk, Harming Both Human and Non-Human Populations.

The Southeast and especially Southern Appalachia would be put at risk of landslides and flooding by roadbuilding and logging in steep roadless watersheds.

Disturbing forested areas through logging and road building increases the risk of flooding and sedimentation.[207] On mountain slopes, the balance between infiltration of water into the soil and runoff is heavily influenced by vegetation and root structure,[208] which when intact reduces

[207] DellaSala et al., *supra* note 172.
[208] Carol Harden & P. Delma Scruggs, *Infiltration on Mountain Slopes—A Comparison of Three Environments*, 55 Geomorphology 5–24 (2003), https://doi.org/10.1016/S0169-555X(03)00129-6.

surface runoff and protects slopes from erosion.[209] Therefore, land-use changes can significantly decrease infiltration rates and increase denudation.[210] Indeed, recent scholarship has shown that clear-cutting forest vegetation can increase flooding by up to 18 times and make floods twice as large.[211] Risks of increased flood frequency and intensity are attributable to changes in both vegetation composition and roadbuilding.[212] And these changes to forest hydrology can persist long after the vegetation itself recovers, according to a study of North Carolina forests.[213] Southern Appalachia is at particular risk for magnified flooding and landslides after forest-cover removal and road building, due to the region's steep slopes and heavy rainfall.[214]

Roadless areas in the Southern Appalachians contain a relatively large proportion of steep, high-elevation lands as compared to surrounding roaded lands, which greatly increases the probability of sediment delivery to streams resulting from roads and logging through processes such as mass failure, debris flows, erosion and incision.[215] Indeed, in some instances "hazardous conditions are at least three times more prevalent in remaining roadless areas than they are on the already-roaded portion of the national forests."[216] As a result, roadbuilding and logging in roadless areas creates a much greater risk than elsewhere. These risks must be fully explored and disclosed in the EIS.

v. The Chesapeake Bay is an Example of the Immense Economic and Ecological Toll Repeal of the Roadless Rule Would Take.

Nowhere is the economic and ecological toll of a potential repeal of the Roadless Rule better illustrated than in the Chesapeake Bay. The Chesapeake Bay is the largest estuary in the United States.[217] The area encompasses a 64,000 square mile watershed with 18 million residents

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[209] *Id.*
[210] *Id.*
[211] Henry Pham et al., *Stochastic Framework Reveals the Controls of Forest Treatment–Peakflow Causal Relations in Rain Environment*, 661 J. of Hydrology 133704 (2025), https://doi.org/10.1016/j.jhydrol.2025.133704; J.A. Jones & G.E. Grant, *Peak Flow Responses to Clear-Cutting and Roads in Small and Large Basins, Western Cascades, Oregon*, 32 Water Res. Rsch. 959–974 (1996), https://doi.org/10.1029/95WR03493.
[212] Jones & Grant, *supra* note 211.
[213] Pham et al., *supra* note 211.
[214] David Gaffin & David Hotz, *A Precipitation and Flood Climatology of the Southern Appalachian Mountains*, Nat'l Oceanic & Atmospheric Admin., Weather Forecast Off. (2000), https://www.weather.gov/mrx/heavyrainclimo; *see also* Douglas Miller et al., *A Study of Two Impactful Heavy Rainfall Events in the Southern Appalachian Mountains during Early 2020, Part I; Societal Impacts, Synoptic Overview, and Historical Context*, 13 Remote Sensing 2452 (2021), https://doi.org/10.3390/rs13132452. It is worth noting that these studies pre-date the historic flooding and landslides of Hurricane Helene in 2024.
[215] Chris Frissell & Gary Carnefix, *The Geography of Freshwater Habitat Conservation: Roadless Areas and Critical Watersheds for Native Trout*, in *Wild Trout IX: Sustaining wild trout in a changing world* 210–17 (R.F. Carline & C. LoSapio eds., Wild Trout Symposium, 2007), https://www.wildtroutsymposium.com/proceedings-9.pdf.
[216] *Id.*
[217] U.S. Geological Survey, *Chesapeake Bay Activities*, https://www.usgs.gov/centers/chesapeake-bay-activities (last visited Sept. 19, 2025)

who live, recreate, and drink water in the area.[218] The Chesapeake Bay is responsible for an annual economic value estimated at over $100 billion,[219] stemming from the area's tourism draw for recreational boating, fishing, and observation of scenic beauty.[220] It also produces "about 500 million pounds of seafood each year, supporting jobs in both commercial and recreational fishing and bolstering the regional economy."[221]

The ecological and economic productivity of the Chesapeake Bay is threatened by overfishing, habitat destruction, and degraded water quality.[222] Recent decades have shown "sharp declines" in economically important species in the area, like native oysters.[223] To combat these threats, Bay states (Delaware, Maryland, New York, Pennsylvania, Virginia, and West Virginia) and the District of Columbia have agreed to the "largest and most complex" pollution discharge limitation agreement in the nation.[224] These pollutant maximums are implemented in each state at the watershed level and overseen by the federal Environmental Protection Agency ("EPA").[225]

Land protection is a vital part of these state and federal efforts to halt degradation of the Bay's watershed. The Chesapeake Assessment Scenario Tool ("CAST") is used to calculate predicted sediment and pollutant outputs in order to tailor discharge limits accordingly.[226] One factor the tool accounts for is land use in the affected area.[227] Changes to land use on hundreds of thousands of currently roadless acres of public lands will reduce the Bay's assimilative capacity and result in a drain on economic activity.

The federal government has continued to invest in preserving and improving water quality in the Chesapeake Bay beyond these pollutant limits. A 2009 Executive Order on the topic orders federal agencies to "protect and restore the health, heritage, natural resources, and social and economic value of the Nation's largest estuarine ecosystem and the natural

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[218] Nat'l Oceanic & Atmospheric Admin., *Chesapeake Bay*, https://www.fisheries noaa.gov/topic/chesapeake-bay (last visited Sept. 19, 2025)
[219] U.S. Geological Survey, *supra* note 217.
[220] Nat'l Oceanic & Atmospheric Admin., *supra* note 218.
[221] *Id.*
[222] *Id.*
[223] *Id.*
[224] U.S. Env't Prot. Agency, *Frequent Questions About the Chesapeake Bay TMDL*, https://www.epa.gov/chesapeake-bay-tmdl/frequent-questions-about-chesapeake-bay-tmdl#:~:text=Bay%20jurisdictions%20include%20Delaware%2C%20Maryland,of%20the%20Bay%20TMDL%20itself (last visited Sept. 19, 2025).
[225] U.S. Env't Prot. Agency, *EPA Oversight of Watershed Implementation Plans (WIPs) and Milestones in the Chesapeake Bay Watershed*, https://www.epa.gov/chesapeake-bay-tmdl/epa-oversight-watershed-implementation-plans-wips-and-milestones-chesapeake-bay (last visited Sept. 19, 2025).
[226] Chesapeake Bay Program, *Chesapeake Assessment Scenario Tool*, https://cast.chesapeakebay net (last visited Sept. 19, 2025).
[227] *Id.*

sustainability of its watershed."[228] The Order tasks federal agencies with an obligation to "conserve landscapes and ecosystems of the Chesapeake Bay watershed."[229] The Order, which is still in effect, goes further, requiring agencies "with land . . . management responsibilities affecting ten or more acres within the watershed" to "implement land management practices to protect the Chesapeake Bay and its tributary waters."[230]

Intact roadless areas are essential to these land protection strategies because so much of the Bay watershed is developed. The Chesapeake Bay watershed consists of many densely populated areas which are privately owned and consistently growing through urban sprawl, increasing loss of private forests in the area.[231] These population dynamics make public lands, and public land management, even more important. Forest Service lands make up less than 3.5% of the land in the Chesapeake Bay watershed.[232] Of these Forest Service lands, however, almost a quarter (or 348,700 acres) is an inventoried roadless area. And of those roadless areas, 89% (313,000 acres) would lose protection if the Roadless Rule were rescinded, as illustrated in the map below.[233]

The Forest Service must consider the potential impact of such a drastic reduction in protections for these highly conserved areas on the pollutant reduction efforts in the Bay. Such an analysis should disclose the effects of rescission on long-term federal and state efforts to improve water quality, including the economic impact of the loss in assimilative capacity caused by land use change. The Forest Service must also consult with EPA regarding the impact to its investment of time, expertise, and resources to improve water quality in this vital watershed.

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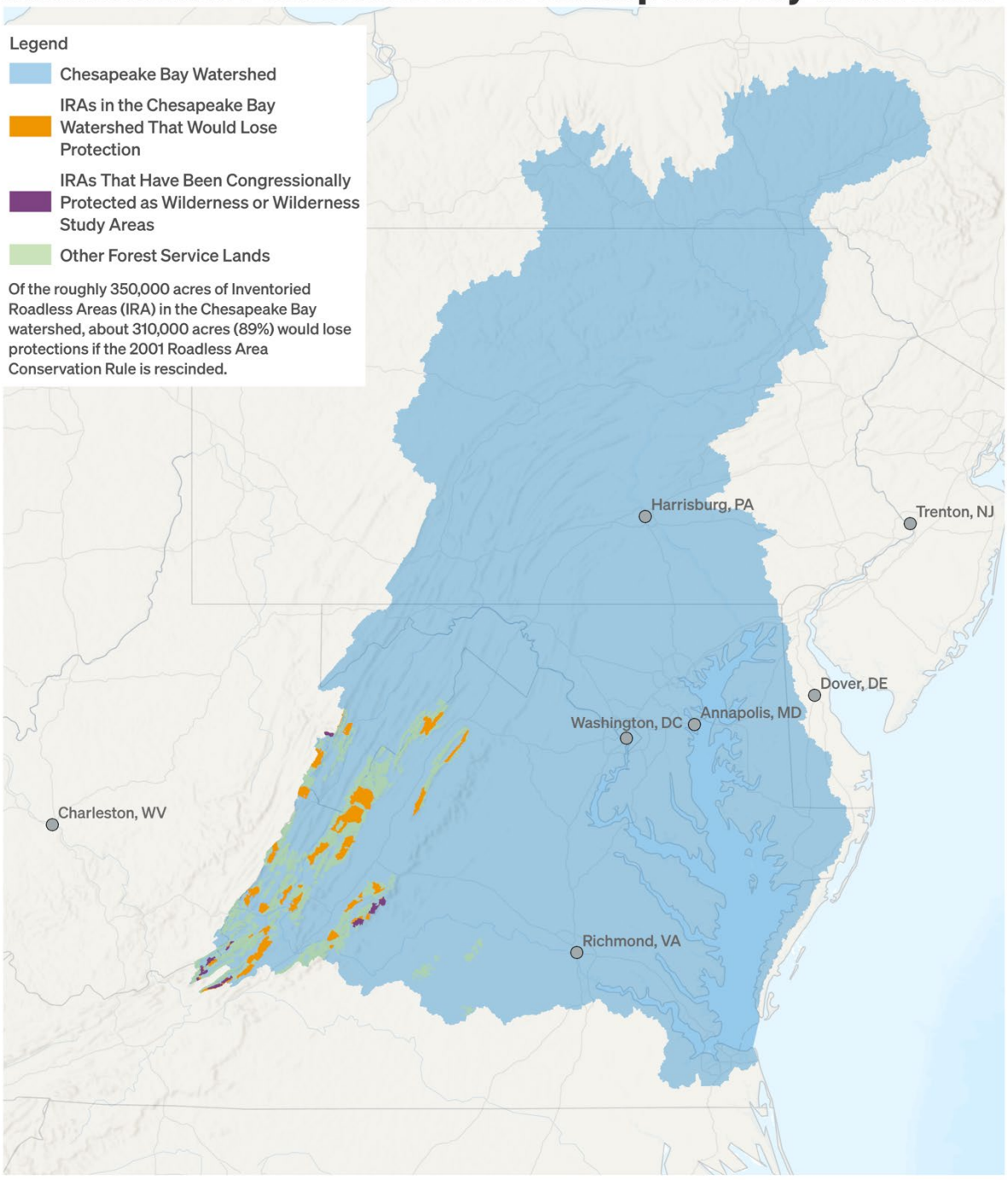
[228] Exec. Order 13508, *Chesapeake Bay Protection and Restoration* (May 12, 2009), 74 Fed. Reg. 23,099 https://www federalregister.gov/documents/2009/05/15/E9-11547/chesapeake-bay-protection-and-restoration
[229] *Id.* § 202(e).
[230] *Id.* § 501.
[231] U.S. Forest Serv., *State of Chesapeake Forests 2.0*, https://storymaps.arcgis.com/stories/cb5b91c1c6fd43478f01cf8e8a7d6e9d (last visited Sept. 19, 2025).
[232] Of the approximately 44 million acres in the Chesapeake Bay watershed, a little under 1.5 million are managed by the Forest Service.
[233] "Roadless Rule Protections in the Chesapeake Bay Watershed," Attachment 11.

Roadless Rule Protections in the Chesapeake Bay Watershed



Map created by: Miller Cochran (mcochran@selcnc.org)
Last updated: 9/19/2025
Sources: US Forest Service, Wilderness Connect, USGS, US Census

0 25 50 75 100 Miles

SOUTHERN ENVIRONMENTAL LAW CENTER

d. Southerners and Visitors to the South depend on Roadless Areas for Recreation.

The Roadless Rule both directly and indirectly supports myriad recreation interests in the South. Because backcountry recreation opportunities are so uncommon in the East, roadless areas provide some of the most sought-after recreation destinations. In particular, they offer rock climbing, whitewater paddling, backcountry hiking and backpacking, mountain biking, and more. Roadless areas attract visitors from around the world and support local economies. For example, Mountaintop Shuttles of Old Fort, NC introduces mountain bikers to the famous Heartbreak Ridge trail in the Jarrett Creek roadless area. In the Nantahala-Pisgah National Forests alone, rock climbing contributes an estimated $13.9 million to the local economy per year and supports the presence of 170 full-time jobs and $4 million in job income;[234] mountain biking brings in an estimated $30.2 million per year in and supports the presence of 366 full-time jobs and $9 million in job income;[235] non-commercial paddling contributes an estimated $3.2 million annually across seven rivers while commercial paddling contributes an estimated $36 million annually across three rivers in the Nantahala-Pisgah.[236] Relatedly, non-commercial paddling tourism supports the presence of 35 full-time jobs and $827,000 in job income whereas commercial paddling may support an estimated 446 full-time jobs and $10 million in job income.[237] Several of the routes, rivers, and trails which contribute to these statistics are located in roadless areas and participants in these activities uniquely depend on the remote and rugged nature of roadless areas for their pursuits.

The lack of roads and development also make these places world-class destinations for hunters and anglers, who come from all over to visit the south's roadless areas for some of the best trout fishing streams in the region. For example, locals enjoy the South Mills River roadless area and guides from Pisgah Outdoors take visitors to fish for trout there. According to studies by Trout Unlimited, roadless areas serve host "most of the last best coldwater fish habitat" in the country.[238] Indeed, based on Trout Unlimited data, approximately 72% of roadless acres in North Carolina, 83% in Tennessee, 78% in South Carolina, and 75% in Virginia protect native trout

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[234] James Maples & Michael Bradley, *Economic Impact of Rock Climbing in the Nantahala and Pisgah National Forests*, Outdoor Alliance (2017), https://static1.squarespace.com/static/54aabb14e4b01142027654ee/t/59d5452c12abd93de5f7b021/1507149106153/OA_NPNF_ClimbingStudy.pdf.

[235] James Maples & Michael Bradley, *Economic Impact of Mountain Biking in the Nantahala and Pisgah National Forests*, Outdoor Alliance (2017), https://static1.squarespace.com/static/54aabb14e4b01142027654ee/t/5a996697652dea576a855021/1520002715468/OA_NPNF_MtnBikingStudy_Final_2.pdf.

[236] James Maples & Michael Bradley, *Economic Impact of Non-Commercial Paddling and Preliminary Economic Impact Estimates of Commercial Paddling in the Nantahala and Pisgah National Forests*, Outdoor Alliance (2017), https://static1.squarespace.com/static/54aabb14e4b01142027654ee/t/59d545dcd2b857af3a8f1af5/1507149284387/OA_NPNF_PaddleStudy.pdf.

[237] *Id.*

[238] Michael Anderson, *The Roadless Rule: A Tenth Anniversary Assessment*, The Wilderness Society (2011), https://www.wilderness.org/sites/default/files/media/file/Roadless-Rule-paper-10th-anniversary.pdf.

subwatersheds. And of course, trout fishing is a major contributor to the South's economy and sense of place, with a $1.38 *billion* impact and support for 11,808 jobs in North Carolina alone.[239] Rescinding the roadless rule will put all these benefits at risk.

More broadly, a national analysis of the economic value of roadless areas concluded that, on average, "[p]rotecting 10,000 acres in the eastern portion of the country" as roadless areas "yields approximately 11,000 visitor days per year, with an annual recreation value to visitors of $462,000."[240] Brought to scale, the 735,000 acres of roadless areas in the Southeast alone can be expected to yield 808,500 annual visitor days, amounting to $33,957,000 annually. That is too valuable to risk, but if the Forest Service moves ahead, it must analyze how the loss of this economic contribution will affect local communities that depend on roadless recreation.

e. Roadless Areas Contain a Disproportionate Amount of the South's Remaining Old Growth.

Old-growth forests are extremely rare relative to their natural range of variation, especially in the Eastern United States. At least half the Southern Appalachian landscape should be in old-growth condition,[241] but recent scholarship estimates that approximately three percent of the Southern Blue Ridge Region is currently in old-growth condition.[242]

Of the little remaining old growth, much is located in the relatively small fraction of the landscape in roadless areas. The National Forest System contains about 193 million acres of land, but only 144 million acres of forest.[243] And according to the NOI, about 63% of roadless acres (37 million) are forested.[244] Nationwide, only 24,738,364 acres of forested land have been inventoried as old growth, and 9,380,903 acres of those old-growth forests are found in roadless

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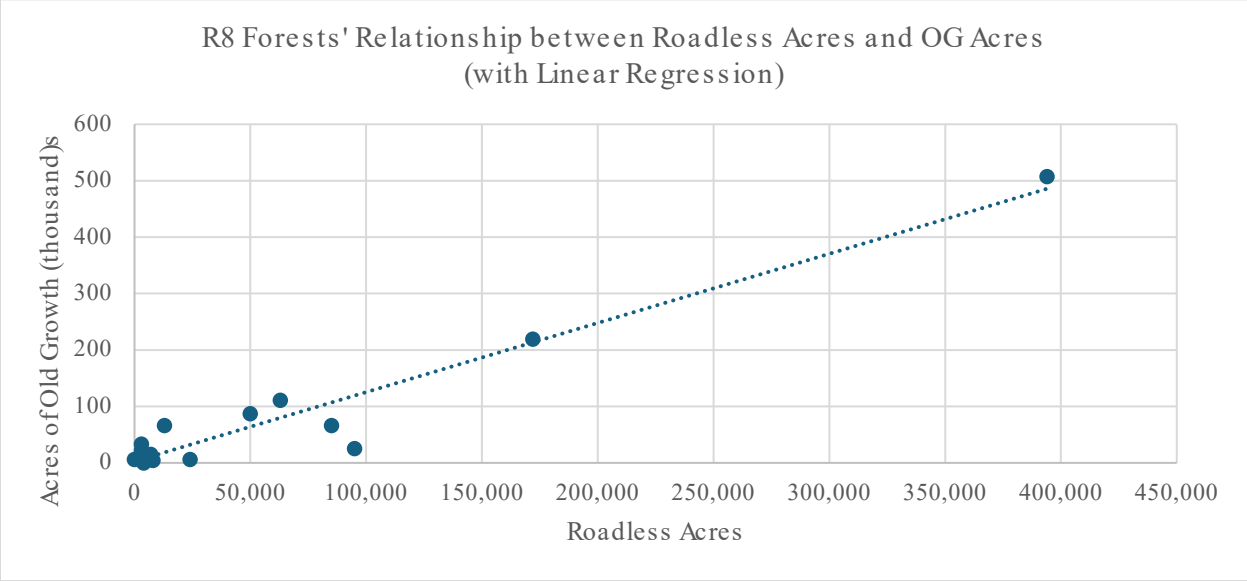
[239] N.C. Wildlife Res. Comm'n, *The Billion Dollar Impact of North Carolina's Mountain Trout Fishing* (Dec. 8 2023), https://www.ncwildlife.gov/news/press-releases/2023/12/08/billion-dollar-impact-north-carolinas-mountain-trout-fishing.
[240] Loomis & Richardson, *supra* note 203.
[241] The Forest Service's most recent estimate of NRV in the Southern Appalachians, developed for the revised Nantahala–Pisgah Forest Plan, describes NRV for old growth as between 430,000 and 560,000 acres for an approximately 1 million-acre landscape. NPNF Plan at 66 tbl.3. The best available science indicates that NRV may be considerably higher. *See* C.G. Lorimer & A.S. White, *Scale and Frequency of Natural Disturbances in the Northeastern US: Implications for Early Successional Forest Habitats and Regional Age Distributions*, 185 Forest Ecology & Mgmt. 41–64 (2003) (estimating NRV for northern hardwood forests—a common forest type throughout the Appalachians—at 70–89% old growth).
[242] Robert E. Messick & Sam L. Davis, *Global Importance of Imperiled Old-Growth Forests With an Emphasis on the Southern Blue Ridge Mountains*, *in* Imperiled: The Encyclopedia of Conservation (Dominick A. DellaSala & Michael I. Goldstein eds., 2022).
[243] U.S. Forest Serv., *Mature and Old-Growth Forests: Definition, Identification, and Initial Inventory on Lands Managed by the Forest Service and Bureau of Land Management* at 7 (Apr. 2024) [hereinafter "MOG Inventory"].
[244] 90 Fed. Reg. at 42,180.

areas.[245] In other words, while about 25% of forested lands in the NFS are roadless, those roadless acres contain 38% of old growth in the NFS.[246]

The relative importance of roadless areas is even greater in the Southern Appalachians. To begin with, the Southern Appalachians punch above their weight when it comes to the importance to old-growth conservation efforts. According to the Forest Service's inventory, the Southern Appalachian national forests contain about 1/3 of the total acres in Region 8 but more than 3/4 of total old growth.[247] Adding in Region 9, the Southern Appalachians contain about 62% of all old growth on NFS lands in the East.[248]

The Southern Appalachians have a greater share of old growth because they have more roadless acreage than other Eastern forests. Southern Appalachian roadless areas were less accessible and retained old-growth forests when other Eastern lands were cut over. Accordingly, the amount of old growth in each Forest is proportionate to its share of roadless acreage:



Tabular Summary of Roadless and OG acreages - R8			
R8 Forest	**Roadless Acres[249]**	**Acres OG (thousands) [250]**	**Percent of OG in R8**
Chattahoochee-Oconee	63,000	111	10%

[245] MOG Inventory, *supra* note 243.
[246] *See id.*
[247] U.S. Forest Serv., *Draft Ecological Impacts Analysis Report for the Draft EIS for Amendments to LMPs to Address Old-Growth Forests Across the NFS* at App'x 2 tbl. 21-1 (June 2024).
[248] *Id.*
[249] U.S. Forest Serv., *Roadless Areas Inventoried by State*, https://www.fs.usda.gov/managing-land/planning/roadless/state-maps (last visited Sept. 19, 2025).
[250] U.S. Forest Serv., *supra* note 247 at App'x 2 tbl. 21-1.

Cherokee	85,000	66	6%
Daniel Boone	3,000	22	2%
El Yunque	24,000	6	1%
FM-Sumter	8,000	4	0%
GW-Jeff	394,000	507	43%
Kisatchie	7,000	15	1%
Land between the Lakes	0	6	1%
NFsAL	13,000	66	6%
NFsFL	50,000	87	7%
NFsMS	3,000	33	3%
NFsNC	172,000	219	19%
NFsTX	4,000	0	0%
Ouachita and Ozark-St Francis	95,000	25	2%
Total	**921,000**	**1167**	**100%**

The relationship between roadless areas and old growth is borne out by on-the-ground inventories of old growth in North Carolina. Fully 53.4% of the Nantahala-Pisgah's field-verified old growth is contained within the 21% of the Nantahala-Pisgah designated as roadless, wilderness, or wilderness study area.[251] Moreover, 32.5% of the Nantahala-Pisgah's field-verified old growth is contained within the 12% of the Nantahala-Pisgah that would lose protection if the Roadless Rule is repealed.[252] In other words, the roadless areas at issue in this rulemaking process are about 3 times more important for old growth conservation than other national forest lands.

The data show that roadless areas are important for old-growth forests, especially in the East. The Agency's environmental impact statement must therefore disclose and consider the impact of repealing the Roadless Rule for old-growth forests. Specifically, without the protections of the Rule, old growth is threatened by the Forest Service's own "past and current management practices, including ecologically inappropriate vegetation management."[253] As the Agency is aware, the vast majority of forest plans do not prohibit timber production in old growth forests.[254] As a result, opening roadless areas (with disproportionate levels of old growth) to logging will cause disproportionate impacts to old growth. The Forest Service has the tools to quantify these likely losses,[255] and it must do so under NEPA.

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[251] "Field-Verified Old Growth in North Carolina IRAs," Attachment 12.
[252] *Id.*
[253] 88 Fed. Reg. at 24,503.
[254] U.S. Forest Serv., *Amendments to Land Management Plans to Address Old-Growth Forests Across the National Forest System: Draft Environmental Impact Statement* App'x C (June 2024).
[255] *E.g.*, U.S. Forest Serv., *Mature and Old-Growth Forests: Analysis of Threats on Lands Managed by the Forest Service and Bureau of Land Management*, App'x 8 at A.68 (June 2024) (projecting increased harvest of old growth).

To be clear, it is reasonably foreseeable that the proposed repeal would result in the loss of old growth by timber harvest. Precisely *where* those acres would be cut may be a project-level issue, but that isn't the point. The programmatic environmental impact statement must disclose the *fact* that old growth will be disproportionately impacted by the loss of roadless protections, and it must disclose the degree of the cumulative impact.

f. Roadless Areas Boost Climate Change Resilience.

The increasing risks of climate change compound many of the harms posed by roadbuilding and logging in otherwise intact areas of southeastern Appalachian forests. Also, logging of mature, stable forests like those found in the Southern Appalachians exacerbates the severity and progression of global warming.

The Intergovernmental Panel on Climate Change reports that human activities are estimated to have already caused approximately 1.1°C (1.98°F) of global warming above pre-industrial levels, and global warming is likely to reach 1.5°C (2.7°F) between 2030 and 2052 if temperatures continue to increase at the current rate.[256] Indeed, in 2024, every Southeastern state experienced the warmest or second-warmest extreme temperatures on record.[257]

Logging contributes to global warming. For one, "[p]oorly managed forests, degraded or fragmented forests," affected by logging, "store far less carbon than 'intact' forests."[258] "This is largely due to the total volume of biomass, which is far larger in an intact forest due to larger trees, multiple canopy levels, and symbiosis between innumerable organisms within a natural ecosystem. . . . Intact forests also create a far richer soil, which, in turn, stores more carbon over an even longer horizon." Further, "[t]imber harvesting and its associated road construction

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[256] Intergovernmental Panel on Climate Change, *Climate Change 2023 Synthesis Report: Summary for Policymakers* (2023), https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf. The current 2024 SSA for the eastern hellbender utilizes climate change data from the IPCC's 2014 report. SSA at 47. Compared to the 2014 report, the 2023 report includes updated predictions, data, and studies which collectively contribute to the report's description of an increasingly dire situation. For example, compared to the 2014 report, the 2023 report predicts increased global "high risks" at lower levels of warming than previously predicted. Intergovernmental Panel on Climate Change, *Climate Change 2023 Synthesis Report*, https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_FullVolume.pdf, at 75. The increasingly rapid deterioration of our climate that is explained in the 2023 report appears likely to continue in the coming years. For instance, coal, oil, and gas production are by far the largest contributors to climate change. *See id*. The Executive Order which, according to the NOI, in part inspired this rulemaking, declaring an energy emergency pledges to dramatically increase coal, oil, and gas production in the United States. The White House, "Declaring a National Energy Emergency," January 20, 2025. While the specific effects of this remain to be seen, the approach appears destined to further exacerbate climate change.

[257] Nat'l Oceanic & Atmospheric Admin. Nat'l Ctrs. for Env't Info., *Monthly National Climate Report for Annual 2024* (Jan. 2024), https://www.ncei noaa.gov/access/monitoring/monthly-report/national/202413.

[258] Patrick Duggan & Ryan Connors, *How Enforcing U.S. Laws Against Illegal Logging Can Mitigate the Impacts of Climate Change*, 69 DOJ J. Fed. L. & Prac. 3, 4–5 (2021).

disturb soils [directly] and can release substantial amounts of soil carbon."[259] On the other hand, because the Roadless Rule restricts these activities, roadless areas provide a buffer against some of the most severe aspects of climate change, offering a sanctuary for at-risk species and ecological communities, as well as natural reference points to evaluate how forests recover from severe climate events without heavy human disturbance, such as salvage logging. Repealing the Roadless Rule will effectively decrease forest resilience while accelerating climate change: in other words, it cuts the brake line while throwing a brick on the gas pedal. This is not a balanced approach to forest management.

At a high level, as evidenced by Hurricane Helene, climate change is already affecting and will continue to affect the South in a myriad of ways, including by causing: higher temperatures, extreme precipitation, increased drought, rising sea levels, increased flooding, higher invasive species prevalence, and increased storm severity.[260] Climate change is expected to affect several important habitat conditions for notable southern aquatic species such as the eastern hellbender and the brook trout: namely, it will likely result in higher stream temperatures and lower summer stream-flows.[261] Lower summer stream-flows will affect the character of waterways, likely reducing the availability of in-stream habitat for myriad aquatic species. In addition to temperature increases in downstream reaches, many streams in the southern Appalachians are projected to be impacted by increasing acidity in their upper, cooler reaches, due to atmospheric deposition of nitrogen and sulfur and low buffering capacity of the region's rocks and soils; these two factors are projected to act synergistically to constrain the suitable habitat of coldwater species even further.[262] A climate vulnerability analysis based on predictions of changing climatic suitability, landscape integrity, and land protection status found that the eastern hellbender, for example, is moderately to highly vulnerable to climate change over its entire range—which encompasses most of the southeast; in particular, climate suitability in many of the species' current strongholds in the southern Appalachians is likely to substantially decrease by 2050–2070.[263] The Roadless Rule provides both direct and upstream protection to many of the current strongholds, and removing its protections will exacerbate the already dire threats these places and watersheds face.

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[259] Ross G. Gorte, Cong. Rsch. Serv., R41144, *Deforestation and Climate Change* (2010), https://sgp fas.org/crs/misc/R41144.pdf.
[260] *See generally*, Keith Ingram et al., *Climate of the Southeast United States*, Nat'l Climate Assessment Regional Tech. Input Rpt. (Island Press 2013).
[261] Bibi S. Naz et al., *Effects of Climate Change on Streamflow Extremes and Implications for Reservoir Inflow in the United States*, 556 J. of Hydrology 359–70 (2018), https://doi.org/10.1016/j.jhydrol.2017.11.027.
[262] T.C. McDonnell et al., *Downstream Warming and Headwater Acidity May Diminish Coldwater Habitat in Southern Appalachian Mountain Streams*, 10 PLoS ONE 0134757 (2015), https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0134757.
[263] Sutton, *supra* note 120.

The Roadless Rule also protects several entire ecosystems that are at a heightened risk of harm or even disappearance from climate change. For example, high-elevation Southern Appalachian forests face a heightened risk from climate change; a three-degree Celsius increase in July temperature could result "in the extirpation of the rare red spruce-Fraiser fir [forests] growing at the highest elevations in North Carolina and harboring federally endangered animal species, including the North Carolina flying squirrel."[264] Well known occurrences of these habitats are currently protected in the Stone Mountains and Slide Hollow Roadless Areas. Also, "many of the mid-elevation cove forests, which are currently dominated by mesic, fire-intolerant tree species, are extremely diverse in terms of canopy trees, spring ephemeral wildflowers, and amphibians," but climate change "could lead to substantial change in [cove forest] structure and function."[265] Notable cove forest ecosystems are located in the Brushy Ridge and Sycamore Creek Roadless Areas, to name a few examples.

Compounding the issue even further, as climate change affects important habitats and ecosystems, species will be forced to migrate to new locations. The corridors and pockets of viable habitats that exist within roadless areas are presently some of the most resilient ecosystems within the South. Roadless areas thus offer both destination refuges and critical migration corridors. Many dispersal-limited species—including various amphibians, reptiles, and aquatic species—are unlikely to be able to shift along lines of latitude to more suitable habitats in pace with the changes brought by global warming, but they may have more luck shifting up elevational gradients into the high-elevation areas where roadless areas are disproportionately located. Even for more mobile species, reduced habitat availability from logging and roadbuilding will hamper their ability to move in response to climate driven threats. In other words, if the Roadless Rule is repealed, these existing climate refuges will increasingly disappear, leaving fewer and fewer places for species to weather climate change or corridors to escape it.

In addition to these broader climactic changes, forests will also suffer from the occurrence of stochastic climate events such as flooding and increasingly severe storms which are projected to become more frequent with climate change.[266] For one, flooding will exacerbate water quality threats by adding significant amounts of sediment and other forms of physical pollution to waterways. In Southern Appalachian forests, roadless areas help buffer acidic deposition. In coastal lowland areas, like in the Francis Marion and the Croatan National Forests, roadless areas provide important water quality benefits by "maintain[ing] a connective system of

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[264] Keith Ingram, *supra* note 260 at 168.
[265] *Id.*
[266] *See* NPNF FEIS at 3-20 to 3-21 ("The potential for severe storms is expected to increase in the future, including more intense hurricanes making landfall in the southern US, with potential increases in flooding and landslides in mountainous landscapes. . . . Increases in heavy downpours and more intense hurricanes can lead to greater erosion and more sedimentation in our waterways.").

landscape corridors which "[f]ilter strips for adjacent water run-off to maintain high water quality."[267] Also, regardless of landscape type, roadless areas of course are significantly less likely to act as vectors for harmful runoff pollutants. Inviting roads (which *are* vectors for runoff) into these once pristine, water quality enhancing areas will reduce resilience to stochastic events.

These effects are not merely hypothetical. Hurricane Helene, which passed over Western North Carolina as a tropical storm on September 27, 2024, brought a catastrophic 31 inches of rain to the hardest hit parts of the region and set record-breaking flood levels for several rivers.[268] The storm caused an estimated 117,000 acres of vegetation loss across the Nantahala-Pisgah National Forests. Countless trees were uprooted during the storm, which destabilized banks and shifted the ecological condition of several waterways and riparian areas. Many streams, specifically, the Nolichucky River subbasin—including the North Toe River, the South Toe River, and the Cane River—the Watauga River, and the Upper French Broad subbasin, sustained severe direct damage. The storm also caused significant landslides. Many of these were initiated at roads, especially in areas with steep slopes.

Several months after the storm, the importance of roadless areas is obvious. Roadless areas, even those with heavy disturbance, appear to be regenerating successfully. Because they lack roads—which act as corridors of nonnative and invasive species dispersal—the species growing back in roadless areas are compositionally appropriate. By contrast, roaded areas are regenerating with significant amounts of non-native and invasive species, which not only "alter fuel levels and promote future fires" but also "slow the recovery of native plants."[269] In this way, roadless areas are notably more able to ecologically recover from climate change fueled disturbance.

In sum, while facing down a future almost certain to be plagued with more climate change-fueled super storms, the protections of the Roadless Rule are critical. Roadless areas offer shelter from the storm, so to speak, for countless vulnerable species. They provide important reference points for understanding how disturbance plays out in natural areas. And, they mitigate some of the most harmful aspects of climate change.

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[267] U.S. Forest Serv., *Croatan National Forest Land and Resource Management Plan* at 48 (2002).
[268] Hurricane Helene's impacts were exacerbated by heavy rains which inundated the region for days prior to the storm. In this way, even unnamed and more "ordinary" weather events can cause or contribute to serious flooding and the resulting habitat impacts.
[269] David Lindenmayer, Philip Burton & Jerry Franklin, *Salvage Logging and Its Ecological Consequences* at 64 (Island Press 2008).

IV. The Forest Service Must Consider Reasonable Alternatives

NEPA requires consideration of reasonable alternatives—i.e., alternatives that are technically and economically feasible and meet the agency's purpose and need.[270] Notably, alternatives may be reasonable even if they do not meet the agency's purpose and need to the same degree as the proposed alternative.[271] Indeed, even repeal of the roadless rule could not fully meet the Forest Service's lofty purposes of solving the "energy emergency" or the wildfire crisis or "effectively conserv[ing]" roadless characteristics, so the inability of other alternatives to fully meet all those same purposes cannot justify excluding them. Relatedly, an agency cannot attempt to define its purpose and need narrowly to rule out otherwise reasonable alternatives.[272]

The Forest Service's NOI identifies several themes: a supposed need for local control; changed conditions (primarily increased fire risk, especially in the WUI); timber production and other extractive uses; and conservation of "important roadless values."[273] To begin with, the first of these purposes (local control) is too narrow to serve as a legitimate statement of purpose. As conceived by the Forest Service, local control simply means getting rid of the Roadless Rule, and it is circular to argue that a proposal's purpose is to do what is being proposed. To the extent that there is a more specific need to make local decisions more nimbly, that need can be met without modifying the Roadless Rule, which does not specify whether decisions should be made locally, regionally, or nationally.

That leaves timber, prevention and suppression of wildfire, and conservation of roadless values. Because the Forest Service is trying to have it both ways (i.e., arguing that without the Rule local officials can both ramp up timber production and conserve roadless values), these other stated purposes for the rulemaking are in tension with each other. As a result, any alternative will involve tradeoffs between them. For example, more timber production will mean less conservation of important roadless values. More timber production will also mean less effective fuels mitigation. And suppressing fires now will mean more fire risk in the future. The Forest Service therefore must consider reasonable alternatives that would explore these tradeoffs.

- First, the Forest Service must consider *adding* other unroaded areas to the protections of the Roadless Rule. The inventories used to develop the Rule omitted large unroaded areas that are comparable to inventoried areas in terms of ecological importance. In the Southern Appalachians, these areas have been

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[270] 42 U.S.C. § 4332(2)(c)(iii).
[271] *E.g.*, *Nat. Res. Def. Council v. Hodel*, 865 F.2d 288, 295 (D.C. Cir. 1988); *see also North Buckhead Civic Ass'n v. Skinner*, 903 F.2d 1533, 1542 (11th Cir. 1990) (explaining that "a discussion of alternatives that would only partly meet the goals of the project may allow the decision maker to conclude that meeting part of the goal with less environmental impact may be worth the tradeoff with a preferred alternative that has greater environmental impact").
[272] *Simmons*, 120 F.3d 664.
[273] 90 Fed. Reg. at 41,181.

delineated as our Mountain Treasures, provided with these comments.[274] For example, several of these Mountain Treasures "represent the top 10% highest global priorities for terrestrial protected area expansion on the planet."[275]

- Second, and relatedly, the Forest Service should consider developing a locally driven, science-based collaborative process for updating roadless area boundaries to incorporate additional unroaded lands and to exclude portions of inventoried roadless areas that have high densities of open roads. Consistent with the intent of the Roadless Rule, this process should ensure that boundary modifications do not result in a net loss of roadless characteristics. Modifications should be considered only when they are recommended by an inclusive and transparent collaborative group. The Forest Service should maintain up-to-date maps and publish a record of all modifications.

- Third, to address the Forest Service's stated concern about "cumbersome" review processes, the Forest Service should consider devolving decisions about whether to utilize an exception to the Roadless Rule to the responsible official for the project. The Rule itself does not require any particular review process, and this change can be made by changing internal Agency policy without need of a rulemaking. Decisions exempt from additional review should be limited to those for which there has been a public opportunity to submit substantive comments and seek pre-decisional administrative review.

- Fourth, the Forest Service should consider an alternative that retains the Roadless Rule and establishes a collaborative process for science-based evaluation of restoration needs to support local decision-making for restoration. This process should include assessment of IRAs in which 1) vegetative conditions are significantly departed from natural condition and firesheds have high exposure ranks or 2) watershed conditions are significantly degraded by roads, and those vegetative or watershed conditions cannot be improved without restoration. Based on those assessments, restoration action plans would be collaboratively developed and implemented consistent with best practices for ecological restoration, such as those published by the Society for Ecological Restoration.

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[274] Mountain Treasures maps for Southern Appalachian States, Attachment 13.
[275] R. Travis Belote & G. Hugh Irwin, *Quantifying the National Significance of Local Areas for Regional Conservation Planning: North Carolina's Mountain Treasures*, 6 Land 1–16 (May 2017), https://www mdpi.com/2073-445X/6/2/35.

- Fifth, the Forest Service should consider adding direction to the Forest Service Manual (e.g., at FSM 195, which is currently reserved for precisely this reason). The FSM could provide specific direction for the other alternatives described above. It could also clarify the relationship between the Rule's exceptions and best practices for restoration and fuels projects that have been refined since 2001.

These reasonable alternatives would address the Forest Service's stated needs with fewer environmental harms. They would allow for more nimble local decisions applying the Rule and its exceptions; they would facilitate effective and broadly supported fuels treatments; they would address the continuing problem of road maintenance backlogs by limiting road system expansion; and they would better conserve unique and important roadless values. Further, they are compatible with the purpose of increasing energy and timber production, because those needs can be met outside of roadless areas (and, indeed, cannot be met in roadless areas without undermining the Forest Service's other stated goals of reducing fire risk and conserving important roadless values).

V. Conclusion

The Roadless Rule is an integral part of the social compact that produces a broad base of support for the Forest Service's multiple-use mission. These places, and the unique opportunities they offer, are vitally important to national forest users, as shown by the overwhelming public support that the Rule has always enjoyed. The availability of roadless areas for backcountry recreation makes it possible for those forest users to tolerate extractive uses in other parts of the federal estate. Remember: the Roadless Rule was the solution to intractable conflict. If the Forest Service reneges on its promise, the backlash will be even more bitter.

We do not have the luxury to waste years or decades in renewed conflict. Our shared lands are under increasing stress, and they need us to work together. Accordingly, we urge the Forest Service to abandon this deeply divisive proposal.

Thank you for considering our comments.

Sincerely,

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